

be sure of Quality

specify **RMC**

DISCAPS

Manufactured under strict quality controls and checked by trained technicians, RMC DISCAPS provide the utmost in ceramic capacitor performance. Every DISCAP must meet the highest standards for power factor, capacity, leakage resistance, and breakdown to assure long service under all conditions of operation.

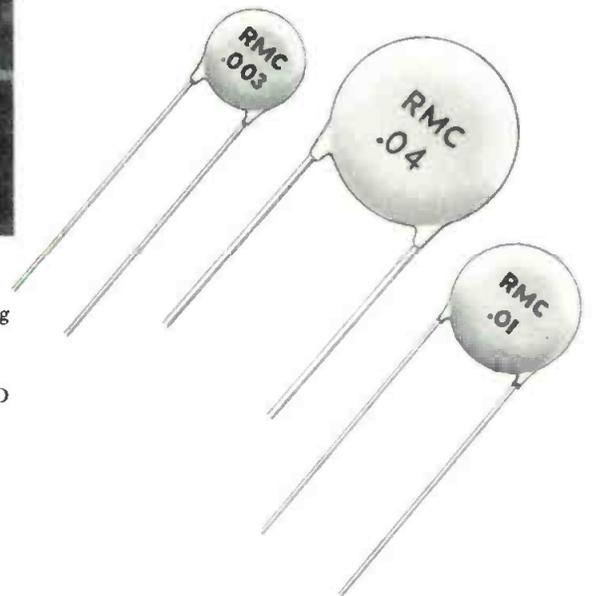


"HEAVY DUTY" BY-PASS DISCAPS

RMC Type B DISCAPS are designed for by-pass or filtering applications. They meet or exceed the proposed RETMA REC-107-A specifications for type Z5U ceramic capacitors.

Rated at 1000 V.D.C.W., in capacities between .00047 MFD and .02 MFD., you will benefit by specifying RMC Type B DISCAPS throughout the entire chassis as they cost *no more* than ordinary units.

Write today on your company letterhead for complete information on the design and use of RMC's complete line of DISCAPS.



DISCAP
CERAMIC
CAPACITORS

RMC

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**ELECTRONIC
INDUSTRIES**

Vol. 15, No. 6

June, 1956

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Axel



RADIO NOISE SUPPRESSION FILTERS

- Maximum attenuation from 14 kc to 22,000 mc
- Low impedance and voltage drop, minimum heating
- Maximum vibration and shock resistance
- Standard, miniature and sub-miniature sizes
- Operating temperatures -55° C. to 125° C.



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- Hermetically sealed welded cases with solder-seal bushings
- Completely filled with purified high-strength dielectric fluid
- Stable performance at high temperatures
- Widest range and combination of electrical parameters

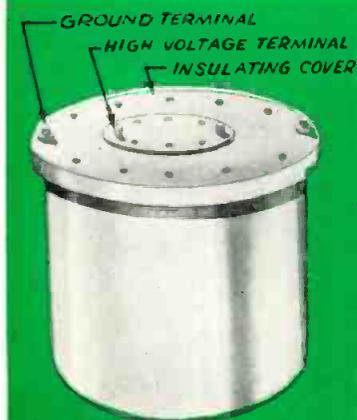


DELAY LINES

(Lumped-Constant-Fixed)

Low attenuation

- Minimum pulse distortion
- Hermetically-sealed
- Constant delay over wide temperature range
- 100% production tested for all parameters



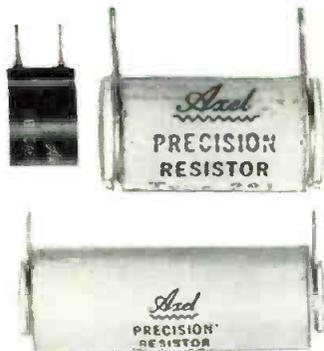
LOW INDUCTANCE CAPACITORS

- Low inductance, high ringing frequency
- High voltage ratings
- High energy content per unit
- Hermetically-sealed, liquid-filled
- Minimum cost per joule



ENERGY STORAGE CAPACITORS

Catalog No.	Capacitance	Rated Voltage
2ES11	120 mfd	2 kv
3ES11	120 mfd	3 kv
4ES11	30 mfd	4 kv
6ES11	30 mfd	6 kv
8ES11	30 mfd	8 kv
10ES11	5 mfd	10 kv
15ES11	5 mfd	15 kv
20ES11	5 mfd	20 kv
20ES12	1.25 mfd	20 kv
30ES11	1.25 mfd	30 kv
40ES11	1.25 mfd	40 kv



PRECISION WIRE-BOUND RESISTORS

- Maximum loads from 0.1 to 2.0 watts
- Resistance from 0.1 ohms to 10 megohms
- Non-inductive, low-capacitance winding
- Tolerances as close as 0.2%
- Standard, miniature and sub-miniature types



MINIATURE ROTARY ELECTRIC SWITCHES

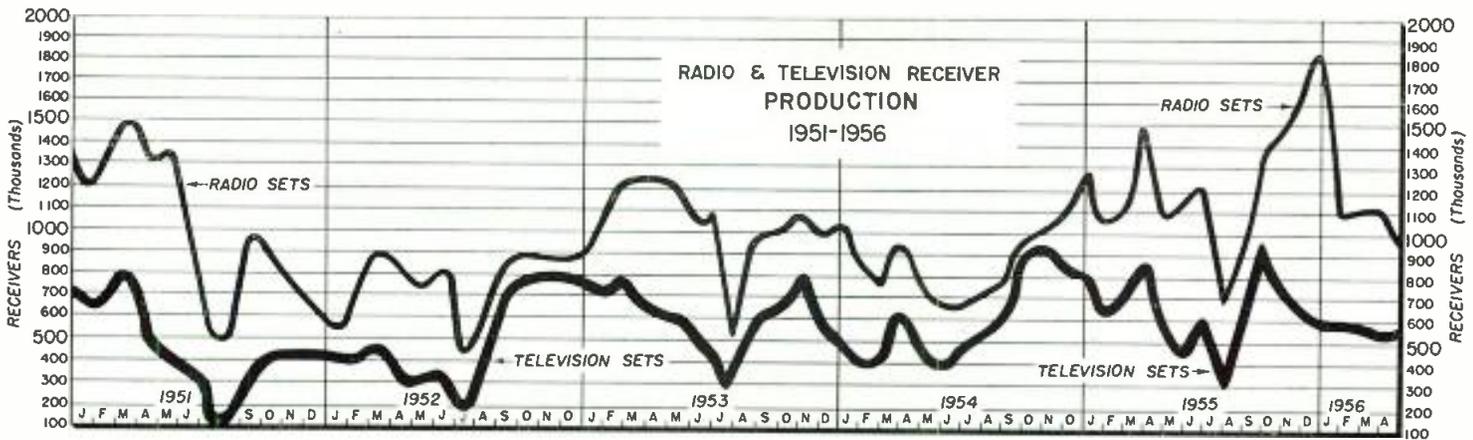
- Low-resistance beryllium copper contacts
- High insulation resistance
- 1 to 5 poles, 2 to 10 positions
- Shorting or non-shorting contacts
- Surpasses MIL-5-3786 environmental specs

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The most rigid quality controls, ultra-modern testing facilities, engineering and production skill combine to make AXEL the superior source for quality, precision components. Send us your specifications, application or performance requirements for the fastest service... engineering prototypes are our specialty.

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Trends in Engineering Education—1946-47 to 1955-56*

Engineering Enrollments and Degrees Compared with Total College Enrollments and Degrees
(in Thousands)

Academic Year	Freshman			Total Enrollment			Bachelors Degrees			
	Total No.	Engineering		Total No.	Engineering		Total No.	Engineering		
		No.	% of Total		No.	% of Total		No.	% of Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1946-47	696.4	93.0*	13.3	2,078.1	267.4	12.9				
1947-48	592.8	64.0*	10.8	2,338.2	244.4	10.4	(272.3)	28.9	16.8	
1948-49	568.8	53.0*	8.3	2,408.2	241.6	10.0	366.7	45.2	12.3	
1949-50	557.9	41.8	7.5	2,456.8	218.7	8.9	433.7	52.7	12.2	
1950-51	516.8	(34.3)	(6.6)	2,296.6	180.3	7.8	384.4	41.9	10.9	
1951-52	(472.0)	39.6	8.4	(2,116.4)	(165.6)	(7.8)	331.9	30.3	9.1	
1952-53	536.9	51.6	9.6	2,148.3	176.5	8.2	304.9	24.2	7.9	
1953-54	571.5	60.5	10.6	2,250.7	193.3	8.6	292.9	(22.2)	(7.6)	
1954-55	642.4	65.5	10.2	2,499.7	214.4	8.6	287.4	22.6	7.9	
1955-56	689.6	72.8	10.5	2,720.9	243.2	8.9				

*Estimates based on reports of American Society for Engineering Education (ASEE).
Engineering figures prior to 1949-50 are from reports of ASEE.
All other figures are from reports of U. S. Office of Education.
Highest value in each column is underlined.
Lowest value in each column is enclosed in parentheses.

National Radio Week

As their contribution towards the recognition of May 13-19 as National Radio Week, executives at CBS-Columbia have assembled the following radio "shorts" for the edification of the trade.

In 1955 there were 132,400,000 radios in the United States.

During 1955 total factory sale of radio sets increased 42% over 1954.

33.4% of American homes have a radio in the kitchen. 35.5% of homes have a radio in the bedroom

Industry output of transistors three years ago was 100,000 of the kernel-corn sized units. Anticipated 1956 production—12,000,000.

From 1946-1956, 132,000,000 radio sets were sold. These sales amounted to more than the combined total of all units sold in the lines of refrigerators, broilers, heaters, air conditioners, toasters, automatic washers and ranges.

More than 96% of all families are radio families,

There are 2½ radios in the average home.

GOVERNMENT ELECTRONIC
CONTRACT AWARDS

This list classifies and gives the value of electronic equipment selected from contracts awarded by government agencies in April 1956.

Actuators	177,341
Amplifiers	123,427
Antenna Systems	1,490,071
Batteries	2,480,922
Calibrators, Frequency	285,214
Computers	3,903,102
Computers, Airborne	3,386,612
Connectors	225,394
Controls, Antenna	217,321
Controls, Power Transfer	439,664
Controls, Submarine	395,648
Controls, Torpedo	279,975
Converters, Analog	34,700
Converters, Frequency	285,214
Converters, Single Sideband	291,286
Crystals	31,080
Diodes	303,939
Direction Finders	69,881
Generators	3,117,517
Generators, Pulse	119,065
Generators, Signal	136,431
Headsets	977,475
Indicators	6,835,384
Inverters	303,491
Loudspeakers	51,816
Machmeters	158,470
Meters, Frequency	793,475
Motor-Generators	372,597
Multimeters	108,335
Plotters	66,278
Power Supplies	180,424
Radar	5,545,582
Receivers, Radio	4,804,223
Receivers, Telephone	344,720
Receiver-Transmitters	1,213,465
Recorder-Reproducers	47,940
Recorders	36,295
Rectifiers, Selenium	34,000
Relays	299,567
Resistors	230,859
Sets, Coordinate Data	167,320
Sets, Public Address	74,070
Sets, Telephone	6,880,174
Sets, Test	269,819
Solenoids	138,994
Sonar	65,350
Switches	1,133,457
Synchros	56,925
Transmitters, Radio	580,539
Transmitters, Rate of Flow	1,018,266
Tubes, Electron	3,820,618
Tuners, Radio Receiver	96,673
Wire and Cable	1,827,529

PICTURES OF

Airpax has recently expanded its line of choppers and introduced a miniature circuit breaker, a wide-band audio-frequency detector, and a magnetic amplifier.

Miniature Circuit Breaker

Types 401 and 410 Circuit Breakers make possible a new flexibility in equipment protection. This miniature breaker illustrated to the left fits in the same space on your front panel as a conventional toggle on-off switch—yet it protects your equipment as well as controls the power to it. With an Airpax breaker, the same protection heretofore available only at power distribution centers and large power supplies is now entirely feasible on individual chassis; breakers are available rated up to 10 amperes at 120 volts rms.

The magnetic inverse time delay of the Airpax breaker allows normal transients to pass without tripping the breaker. Trip level is independent of ambient temperature. The single-phase series circuit breaker is wired into an equipment exactly as is a spot on-off switch. The toggle is used exactly as an on-off switch and in addition it snaps to the off position if the breaker trips to show the operator which chassis is out. Action is trip free; the equipment cannot be forced on while the fault persists.

Time delay and trip level of each breaker are tested before the unit is shipped to assure you of the utmost in reliable equipment protection.

Frequency Detector

Another new Airpax product is the Magmeter. This wide-band frequency detector is designed to simplify your equipment. Type F-948 operates from 0 to 500 cps; other types are available with ranges from 0-50 to 0-2000 cps. Wherever frequency is to be indicated instantaneously over a wide band, the Magmeter offers a means for improving the performance of your equipment.

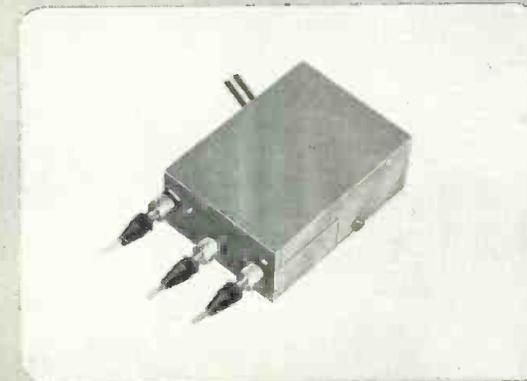
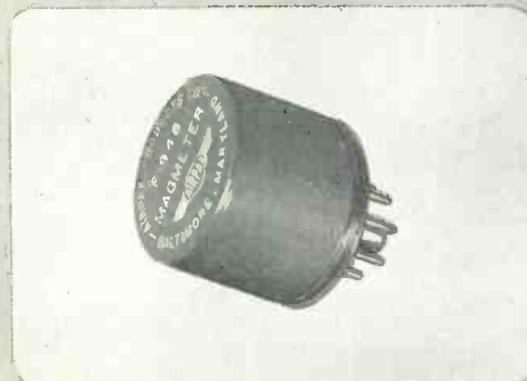
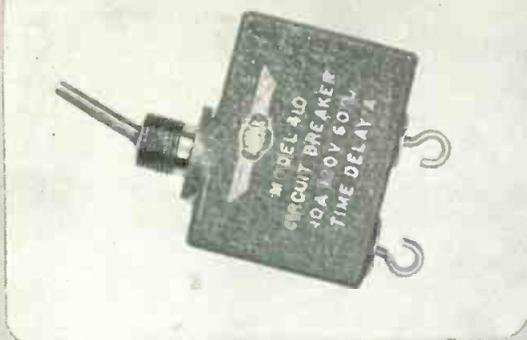
The signal whose frequency is to be measured is fed through a current limiting resistor to an Airpax Magmeter. The output from the Magmeter is connected through a calibrating rheostat to a d'Arsonval meter. A 500 microampere movement is used with Type F-948. Meter deflection is then directly proportional to frequency over the full frequency range. No regulated reference voltages are needed; the Magmeter is relatively insensitive to signal waveform and tolerates wide fluctuations in signal voltage.

Once calibrated, a Magmeter retains an accuracy of 2 per cent of full scale despite changes in service conditions. Operated within its ratings, it has a life of many years without being recalibrated.

Each Magmeter is standardized before leaving the factory. So stable is this magnetic component that it can be used with the data on its individual calibration card as a secondary frequency reference.

Coaxial Chopper

Toward the opposite end of the spectrum is the Airpax Type 199 Coaxial Chopper. This unit is driven at 100 cps (other drive frequencies can be provided on special order) and switches coaxial 50-ohm lines. One 50-ohm line (moving line) is alternately connected to



PROGRESS

either of two other 50-ohm lines (fixed lines). During intervening intervals, the fixed lines are terminated in their characteristic impedances. From 200 Mc to 400 Mc the SWR looking into any of the three lines does not exceed 1.3. The unit is 2-1/8 by 1-9/16 by 13/16 inches.

Chopper Driver

Operating characteristics of some control equipments could be improved by the use of a 400-cps chopper such as Airpax Type 300. To provide the necessary 400-cps drive, Airpax has developed the compact vacuum-tube plug-in oscillator shown here. Type 202 Chopper Driver operates from voltages usually available in electronic equipment and provides a sinusoidal output of 6.3 volts at 400 cps. Thus, where only dc power is available or where, to avoid possible interference from 60-cps pickup, you prefer to use a 400-cps chopper, Type 202 Chopper Driver provides a convenient inverter. The transformer output is balanced to ground for minimum interference from the drive power.

Magnetic Amplifier

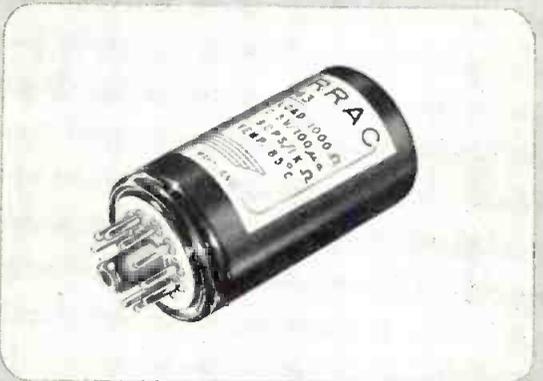
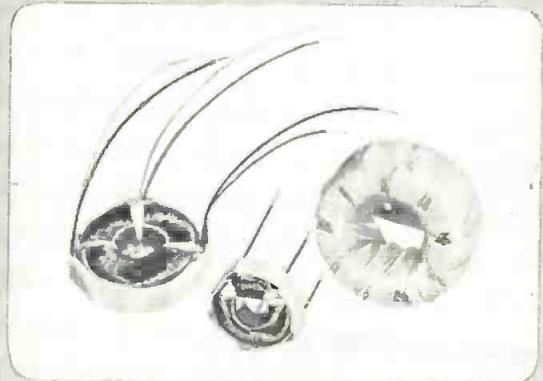
The right-hand film strip tells the newest Airpax story: development and production of an instrument magnetic amplifier. Ferrac is a ferromagnetic analog computer amplifier of exceptional stability. Airpax engineers have decreased the initial standoff and null errors of this magnetic amplifier to such an extent that you can use this reliable component in the low-level computing portions of your automatic controls and guidance equipment.

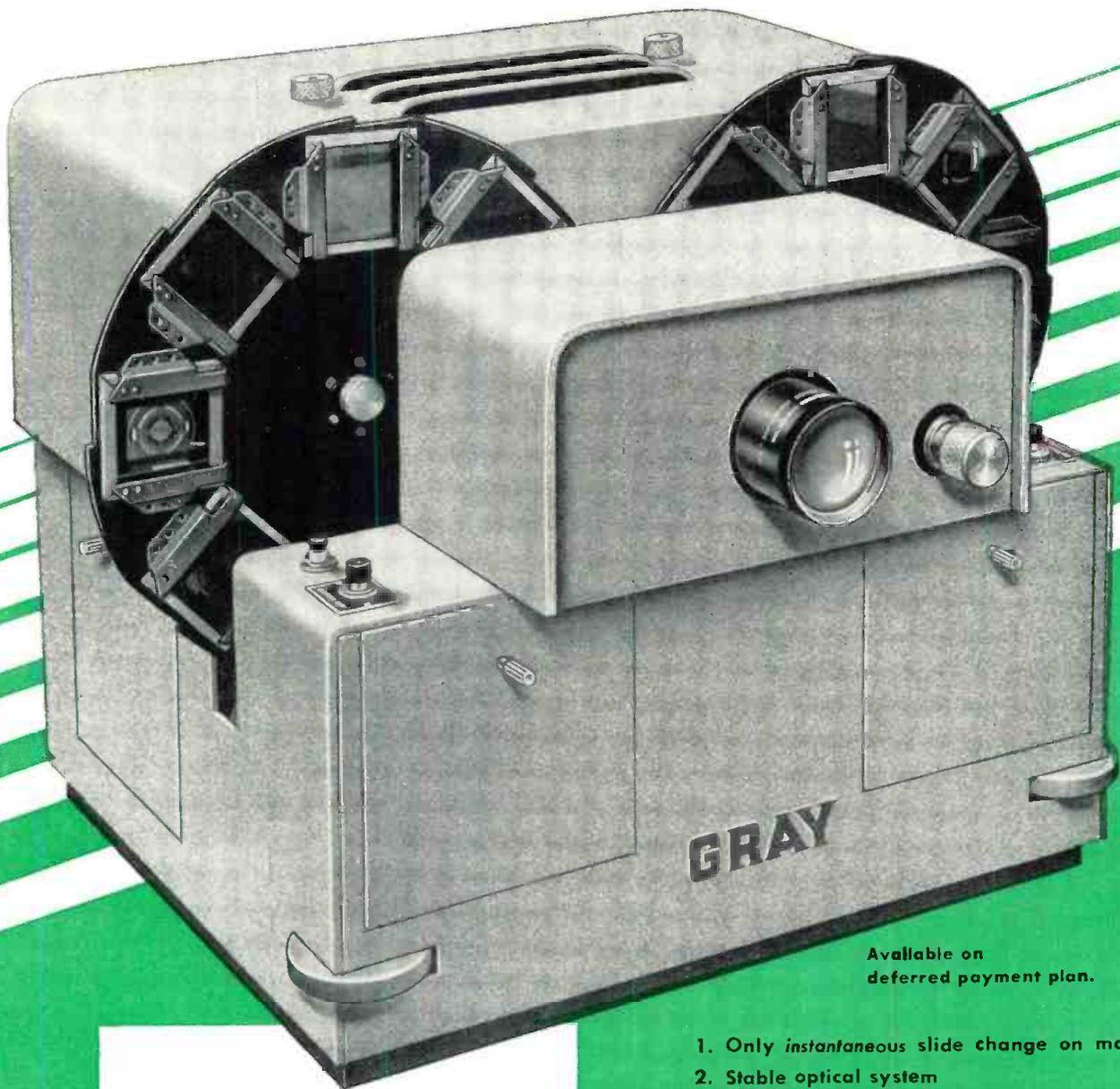
Type M-943 Ferrac has two independent control (input) windings and separate output and power supply windings. Characteristics are tabulated below.

Characteristic	Rating
Input	dc, polarity reversible
Output	unfiltered dc, polarity reversible
Power Requirement	less than 3 watts at 115 volts and 400 cps
Linear Output	at least 7.5 volts of output under all operating conditions into 1000-ohm load
Nominal Gain	100 microamperes into either control winding produces 2.5 volts of output, gain is stable within 2 db with operating conditions
Frequency Response	approximately 8 cps for each 1000-ohms in one control loop under standard conditions
Initial Standoff Error	5 microamperes or less, which corresponds to about 2 parts in 10,000 of full power output
Null Error	5 microamperes or less with changes in environmental and operating conditions

The Ferrac is hermetically sealed to withstand humidity and is potted to withstand vibrations of 10 G at 10-55 cps and 11-millisecond shocks of 30 G. It can be stored at -65 to +100 C and operated at -55 to +85 C. It weighs only about 8 ounces.

Because the Ferrac operates at low internal voltages and impedances and requires so little operating power, it can be expected to outlive many other types of electronic components. As with all Airpax components, the Ferrac is the outcome of thoughtful engineering and is produced and inspected with conscientious care to assure you of a uniformly reliable product in which we can be proud and of which you can be fully satisfied.





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4. Jam free, precision lock slide positioning
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11. Pre-focused Lamp Bulbs
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Gray also manufactures a complete line of High Fidelity Audio Equipment for Radio and TV Stations. Literature available on request.

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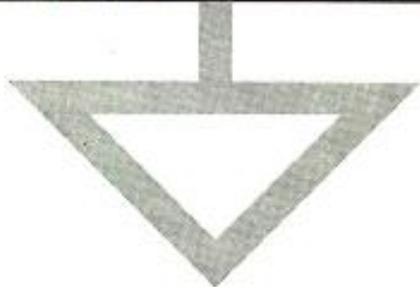
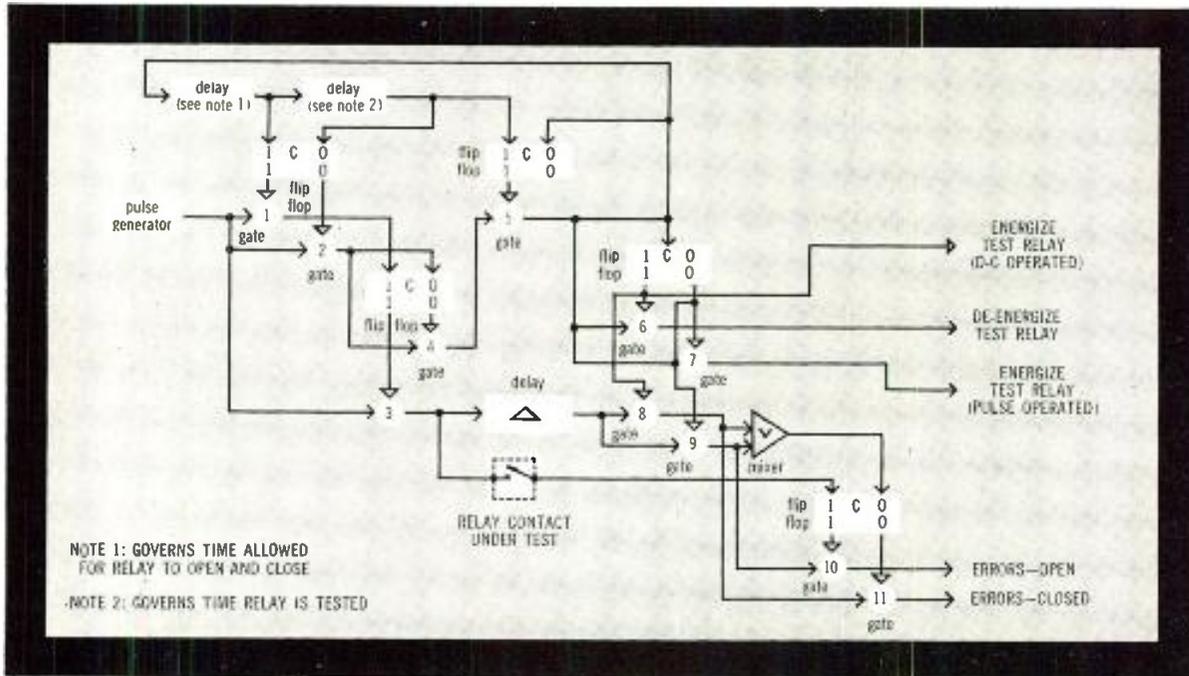
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Cables: ARLAB

modern methods for testing relays



TOOLS FOR ENGINEERS



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Small-signal sensitive relays, the backbone of many of today's high-speed computers, instruments, and other electronic devices, must meet exacting specifications of uniformity and performance. Until now, the testing of such relays has often been complicated by procedures which require time-consuming processing before results are known. This has generally reduced comprehensive testing to a sample basis rather than individual testing, a courageous procedure considering the possible down-time cost incurred by the equipment in which such relays are installed.

Burroughs Pulse Control Systems are minimizing this short-coming for leading relay manufacturers and users by providing a simple means of comprehensively testing each relay produced or purchased. Such factors as closing time, opening time, bounce, etc., are checked against a set of operating characteristics to a precise degree by digital methods which automatically indicate acceptance or rejection of the relay. When conditions require a change in relay operating characteristics, the Burroughs Testing System can be changed at will to meet new requirements.

Shown here is a typical example of how some of these manufacturers use a Burroughs Pulse Control System to test ultra-sensitive fast-acting relays. An interesting booklet describing relay testing in greater detail is yours for the asking. But if you have another component which you think can be tested better, faster, by digital techniques, just tell us about it. We'll be glad to work out a Pulse Control Testing System, at no cost, and show you how to avoid hours of engineering time and production headaches.

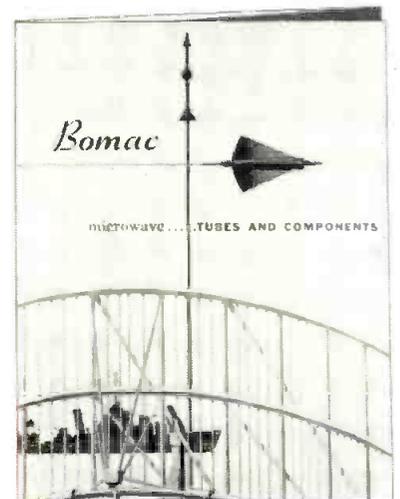
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FIRST

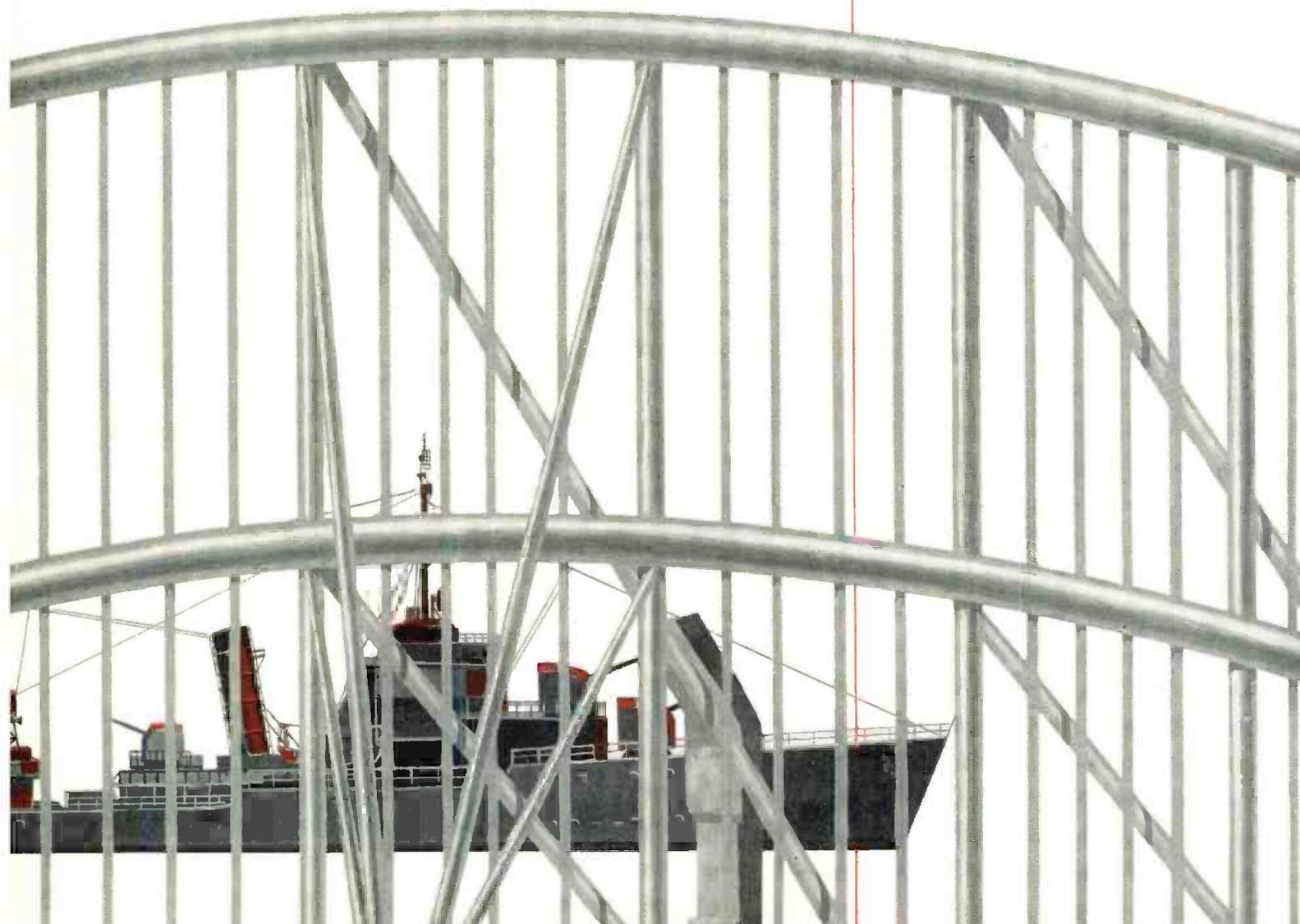
in microwave tubes and components

Here are three important reasons why more buyers insist on BOMAC microwave tubes and components: *first*, because every tube, every component is 100% tested for peak performance and maximum uniformity . . . *second*, BOMAC offers a complete line — over 500 microwave tubes and components . . . *third*, BOMAC offers a complete engineering and development service.

Whatever your needs — a single tube, a modification, or a completely new product — BOMAC, one of the nation's largest designers and manufacturers in this highly specialized field, has the men and the means to meet your most exacting requirements.



FOR MORE INFORMATION
write for Bomac's free, six page file-size folder containing details and specifications on more than 300 different microwave tubes and components.



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TR

A type for every known application — all bands — fixed-tuned or tunable — special types: shorted, dual and triple.



ATR

All standard types and many more developed in our laboratories — nearly all fixed-tuned — highly specialized as required: low Q or high Q, miniaturized, special shapes and mounts.



PRE-TR

Several L-band and X-band types, fixed-tuned — for operation at power levels of 550 and 3000 KW peak.



SHUTTERS

Bomac was the first to develop shutter tubes and integral TR combinations for continuous crystal protection. Today, the line includes a wide variety of tubes for the C, Ku, K, S and X bands.



REFERENCE CAVITIES

High precision, fixed-frequency, vacuum-sealed, transmission type for use in pressurized waveguide systems. Temperature compensated to ± 0.3 MC from 0° C to 100° C.



HYDROGEN THYRATRONS

Bomac thyratrons provide the following advantages: — precise triggering — high repetition rates — high power levels — zero bias operation — electrical stability.



SILICON DIODES

The most sensitive, uniform and stable diodes available (1N23D). Also available in matched pairs for X-band and S-band. Can also be supplied as mixer diodes with either normal or reverse polarity.

MAGNETRONS

High frequency, tunable and fixed-tuned magnetrons are a Bomac specialty. Frequencies range from Ku to millimeter bands that are classified. Special types designed to meet your particular requirements.



KLYSTRONS

Bomac klystrons offer maximum performance at high altitudes without pressurization, and can be installed in existing systems without disrupting the associated equipment.



DUPLEXERS

Bomac will design, develop, and produce complete duplexers to customer specifications.



PRESSURIZING WINDOWS

Bomac has windows available for all wave guide sizes, broad band characteristics with low insertion loss, temperature range — 55° C to 100° C and 30 lb./sq. in. gage pressure in either direction.



TRAVELING WAVE AMPLIFIER TUBES

These Bomac tubes are designed to meet conditions where wide band high gain operations are required. Two types are available now — others will be available shortly.



SYSTEMS

Bomac engineers design, manufacture and assemble complete systems for any microwave band to meet your specific requirements.



SURGE PROTECTORS

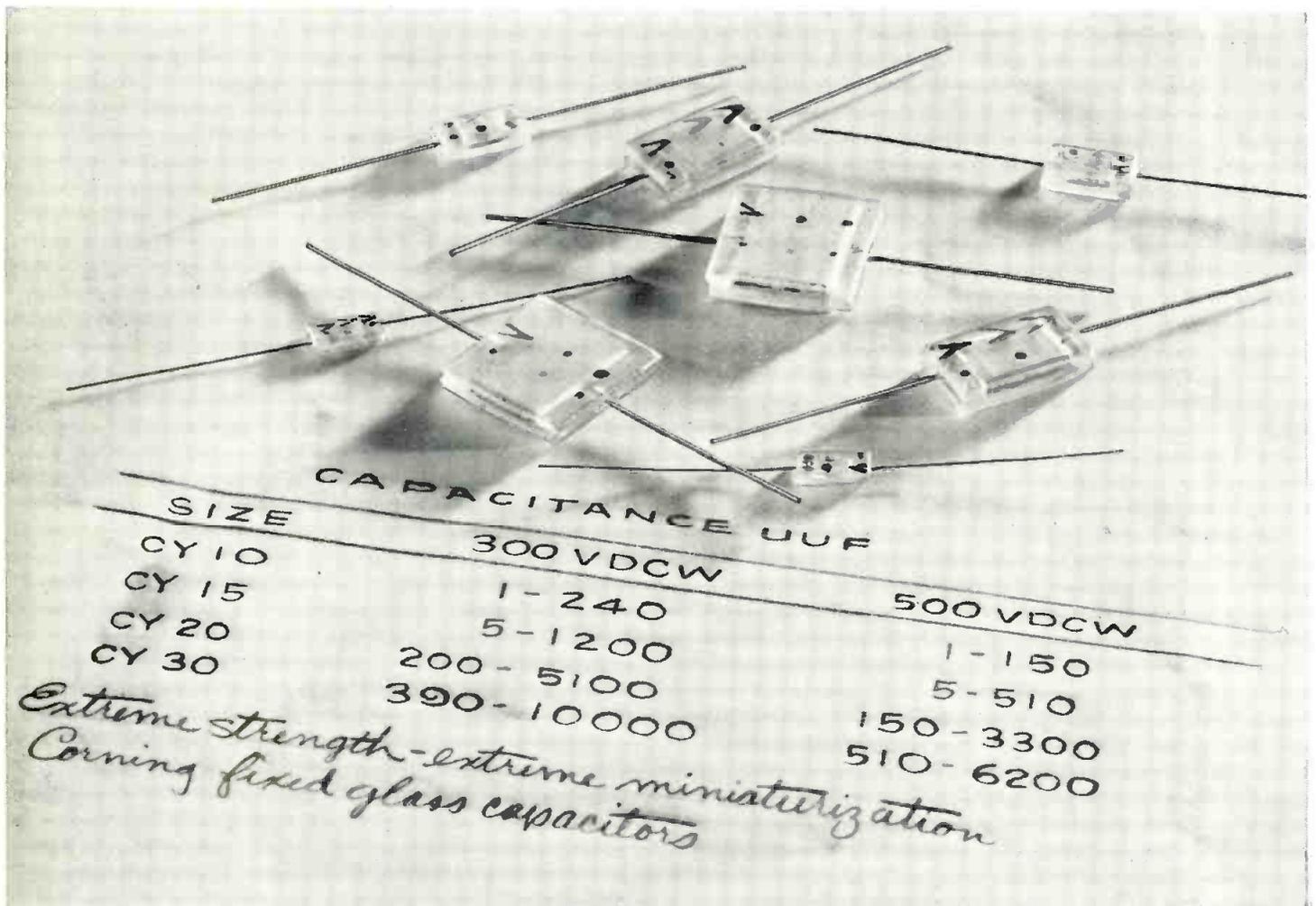
Bomac surge protectors are hold-off diode tubes. A wide range of breakdown voltages is available: from 100 to 33000. Consult our engineering department for your particular applications.



Bomac

LABORATORIES, INC.
Beverly, Massachusetts

See our advertisement on Inside Back Cover



You'd have to smash a Corning Capacitor before you could alter its values by mechanical shock

That's how rugged these miniature fixed glass capacitors are. ("Miniature" means about one-third smaller than other kinds of equal capacitance.)

Their strength comes from the way we make them. Layers of conductor and dielectric are sealed together under heat and pressure into a monolithic structure. No mechanical shock short of shattering the seal alters the value. Speaking of values, the table illustrated above shows them.

Because everything is sealed in the same material as the dielectric, nothing outside can get inside.

You can use these capacitors to tem-

peratures of 125° C. and higher with proper voltage derating. Even after repeated temperature cycling, the TC remains the same. And TC stays within close limits over a wide temperature range, varies little between capacitors. Capacitance drift is so close to zero that it's generally less than the error of measurement.

We can make capacitors to your electrical and physical specifications over an unusually varied range. Single, self-supported units can be designed for high voltages or high capacitances. Series parallel combinations still further extend the range.

Circle the reader service of this publication, or write direct for more information about Corning Fixed Glass Capacitors, prices and samples.

Ask for information on these other Corning Capacitors:

Medium Power Transmitting—CY-60 and CY70. Ideal for mobile RF transmitters.

Canned High Capacitance—provide the advantages of rugged glass design to your specifications.

Subminiature Tab-Lead—up to 90% less volume compared to pigtail types. To your specifications.

Special Combinations—the performance and benefits of glass in infinite shapes, sizes and leads. To custom order.

Other electronic products by Corning Components Department:

Fixed Glass Capacitors*, Transmitting Capacitors, Canned High-Capacitance Capacitors, Subminiature Tab-Lead Capacitors, Special Combination Capacitors, Direct-Traversal and Midget-Rotary Capacitors*, Metallized Glass Inductances, Resistors.

*Distributed by Erie Resistor Corporation



CORNING GLASS WORKS, 95-6 Crystal Street CORNING, N. Y.

Components Department, Electrical Products Division

Corning means research in Glass

Amperex[®]

all-glass GERMANIUM DIODES

a complete line by a world leader in electron tubes and semiconductors

STABLE • UNIFORM • TIGHT-TOLERANCE

Each AMPEREX germanium diode is all-glass . . . fusion sealed . . . and available in both a clip-in ('GA') and a solder-in ('G') version.

Preferred ENTERTAINMENT DIODES

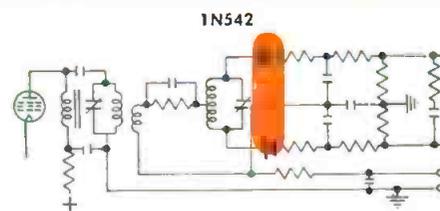
- video detector types
1N60G, 1N87G, and OA73
- DC restorer type 1N88G
- AGC and AM detector type 1N541
- matched-pair ratio detector
for TV and FM receivers — type 1N542

COMPUTER DIODES

- recovery-time and high-temperature tested types
- tight-tolerance, point-contact, high-temperature guaranteed types.

GENERAL PURPOSE and REPLACEMENT DIODES

- 100 volt types
- high back-resistance types
- 1 megohm back types
- video detector types



RATIO DETECTOR

	DIODE TYPE		DIODE TYPE
	1N480	1N490	1N476 & 1N478
Solder-In			1N477 & 1N479
Clip-In	1N119	1N120	
Back Resistance at -20 to -50 volts at 55°C.	400K	200K	Min. and Max. characteristic limits specified at both 25°C. and 60°C. Replace most point-contact types.
Forward Current	5 ma at +1 volt		

including . . .

1N34G	1N54G	1N63G	1N68GA
1N34GA	1N54GA	1N63GA	1N87GA
1N38G	1N58G	1N67G	1N89G
1N38GA	1N58GA	1N67GA	1N89GA
1N48G	1N60GA	1N68G	1N90G
1N48GA			1N90GA

. . . and other specially tested types

AMPEREX also has available a complete line of audio and switching *transistors* of all-glass construction.

For detailed data or applications-engineering consultation, write to
Semiconductor and Special Purpose Tube Department

Amperex ELECTRONIC CORP.

230 DUFFY AVENUE, HICKSVILLE, LONG ISLAND, N. Y.



Electronics Around the World

Continuing research and development adds constantly to the Eimac products list. For latest information, contact our Technical Services Department.

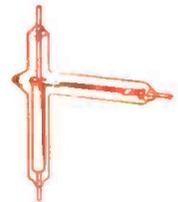


AIR SYSTEM SOCKETS

SK-300 SK-610
SK-400 SK-406
SK-500 SK-506
SK-600 SK-606



HR HEAT DISSIPATING CONNECTORS



VACUUM SWITCH

VS-2, 5, 6



CONTACT FINGER STOCK

17 32 13 16
31 32 1-17/32
1-3 8 2-1/4

VARIABLE VACUUM CAPACITORS

VVC60-20
VVC2-60-20
VVC4-60-20

VACUUM CAPACITORS

VC6-20 VC25-20
VC6-32 VC25-32
VC12-20 VC50-20
VC12-32 VC50-32

TUBE EXTRACTOR

4X150

RECTIFIERS

TYPE	FILAMENT VOLTAGE	HIGH VACUUM TYPES			
		FILAMENT CURRENT AMPS.	PEAK INVERSE VOLTAGE	CURRENT PEAK PLATE AMPS.	AVERAGE PLATE CURRENT MA.
2-01C	6.3	0.4	1,000	0.010	...
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
2-2000A	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	275
8020(100R)	5.0	6.5	40,000	1.5	100
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	750
RX21A	2.5	10.0	11,000	3	750
866A	2.5	5.0	10,000	1	250
872A	5.0	7.5	10,000	5	1250

VACUUM CAPACITORS

TYPE	VARIABLE		FIXED		
	CAPACITY	RF PEAK	TYPE	CAPACITY	RF PEAK
VVC60-20	10-60 mmfd	20-KV	VC6-20	6 mmfd	20-KV
VVC2-60-20	Split Stator	40-KV	VC6-32	6 mmfd	32-KV
			VC12-20	12 mmfd	20-KV
	Parallel	20-KV	VC12-32	12 mmfd	32-KV
			VC25-20	25 mmfd	20-KV
VVC4-60-20	Split Stator	40-KV	VC25-32	25 mmfd	32-KV
			VC50-20	50 mmfd	20-KV
	Parallel	20-KV	VC50-32	50 mmfd	32-KV

AIR SYSTEM SOCKETS & CHIMNEYS

SOCKETS (WITHOUT CHIMNEY)
SK-300 (4X5000A/4001)
SK-400 (4-400A/4001)
SK-500 (4-1000A/4001)
SK-600 (4X150A/4001)
SK-610 (4X150A/4011)

CHIMNEYS
SK-406 (4-400A/4006)
SK-506 (4-1000A/4006)
SK-606 (4X150A/4006)

HEAT DISSIPATING CONNECTORS

TYPE	HOLE DIA.
HR-1	.052
HR-2	.0625
HR-3	.070
HR-4	.1015
HR-5	.125
HR-6	.360
HR-7	.125
HR-8	.570
HR-9	.570
HR-10	.500

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.

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	Price	Double Edge	Width	Price
CF-100	17/32	1.65/ft.	CF-200	13/16	2.10/ft.
CF-300	31/32	1.80/ft.	CF-400	1-17/32	2.55/ft.
CF-500	1-3/8	2.00/ft.	CF-600	2-1/4	2.95/ft.

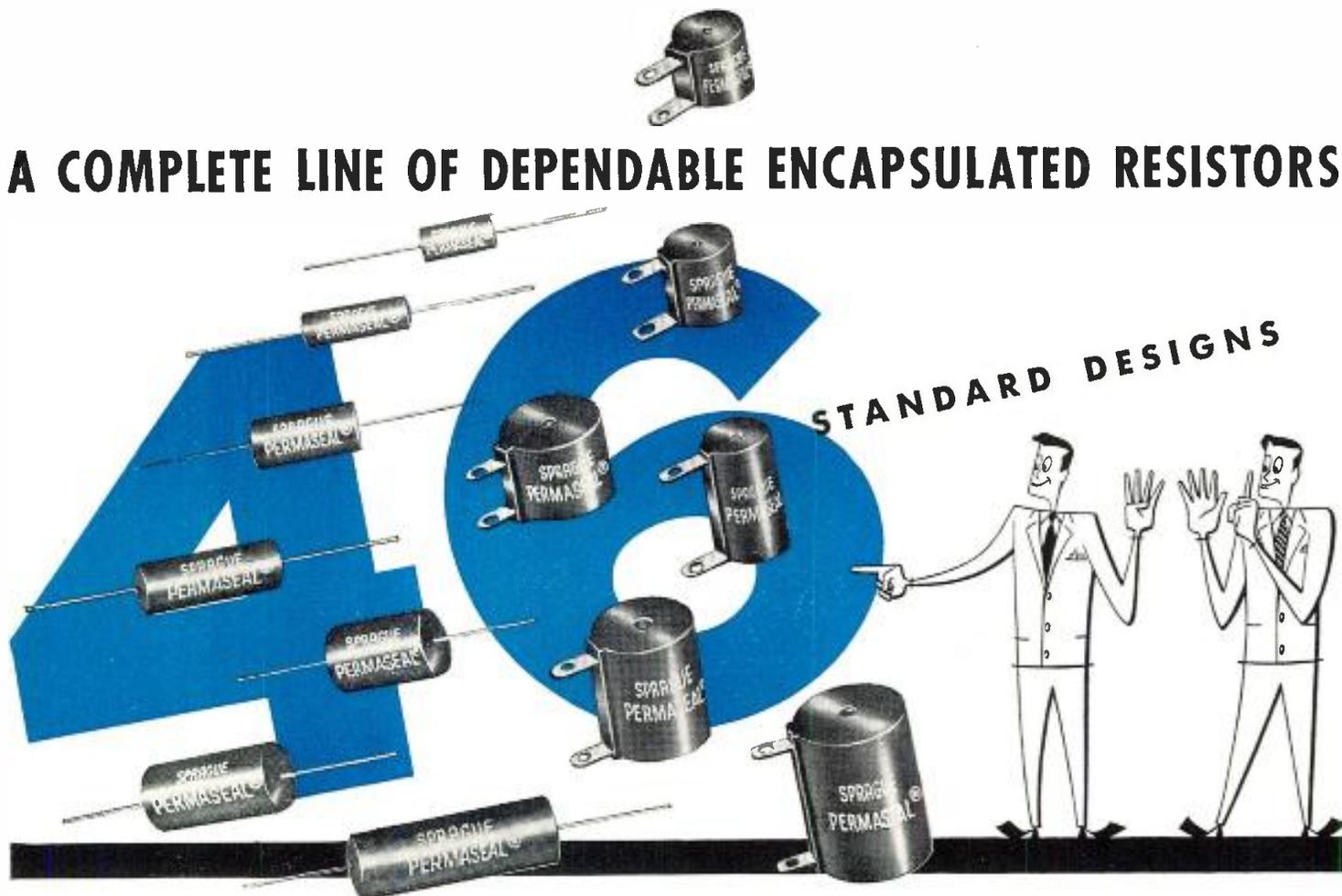
Klystron Types
CF-700 1.90/ft. Used as contact between klystrons and
CF-800 1.85/ft. klystron amplifier circuit assemblies.

4X150 TUBE EXTRACTOR

A spring steel extractor for use with the 4X150 series and 4X250 series.

EITEL-McCULLOUGH, INC.
SAN BRUNO, CALIFORNIA

A COMPLETE LINE OF DEPENDABLE ENCAPSULATED RESISTORS



PERMASEAL®

PRECISION WIREWOUND RESISTORS FOR 85C AND 125C AMBIENTS

For applications requiring accurate resistance values at 85C and 125C operating temperatures—in units of truly small physical size—select the precise resistor you want from one of the 46 standard PermaSeal designs in tab or axial lead styles.

Winding forms, resistance wire and embedding material are matched and integrated, resulting in long term stability at rated wattage over the operating temperature range. The embedding material is a

special plastic that extends protection well beyond the severe humidity resistance specifications of MIL-R-93A and Proposed MIL-R-9444 (USAF).

These high-accuracy units are available in close resistance tolerances down to $\pm 0.1\%$. They are carefully and properly aged by a special Sprague process so that they maintain their accuracy within the limits set by the most stringent military specifications.

SPRAGUE

FOR COMPLETE DATA
WRITE FOR COPY
OF SPRAGUE
ENGINEERING
BULLETIN NO. 122A



SPRAGUE ELECTRIC COMPANY • 233 MARSHALL ST. • NORTH ADAMS, MASS.



As We Go To Press...



Data Transmission Net Links SC Supply Depots

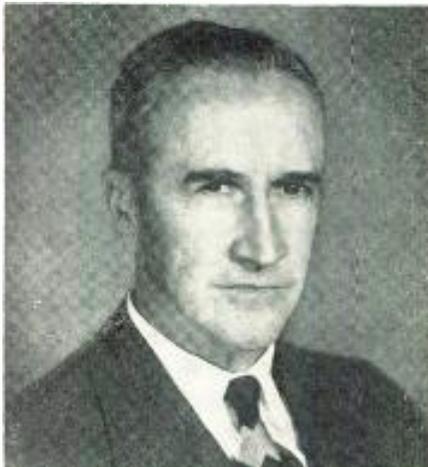
Key Army Signal Corps depots throughout the nation and The Army Supply Agency in Philadelphia have been linked together by an electronic data transmission system forming a network which will speed the reporting of logistical requirements.

By means of this network, information on stock levels of Army signal supplies is electronically interchanged between depots through transceivers, using ordinary telephone circuits that transmit and receive data on punched cards.

At the close of each day "short-ages" at a given depot are tabulated electronically on punched cards and placed on the transceiver. The data is transmitted to a depot capable of filling the requisition. If no station in the network can fill the order the Signal Supply Agency in Phila. is notified and a procurement is initiated from there. The exchange of data is handled at night. During the day the circuits are used for ordinary telephone communication.

The Signal depots tied into the new system are at Sacramento, Calif., Decatur, Ill., Lexington, Ky. and Tobyhanna, Pa., and also the Signal Corps Stock Control Point at Orlenas, France.

NEW IT&T PRES.



Edmond H. Leavey, elected president of International Tel. & Tel. Corp.

No Govt. Frequencies For Commercial TV

A study group composed of technical representatives of the Defense and Commerce Depts. and the FCC has turned thumbs down on a proposal to release portions of the VHF spectrum presently occupied by government agencies for commercial TV broadcasting.

The frequency bands in question are in the range from 50 to 300 MC. The classified report pointed out that among the services presently using these frequencies are the guided missile program, radar networks, earth satellite program and other defense necessities.

RCA Releases Color TV Plans To Industry

Complete blueprints and detailed mass-production "know-how" developed by RCA for color TV receivers are now being made available for immediate use by other television manufacturers.

At the same time, RCA is reducing the manufacturer's price of their 255-square-inch color picture tube from \$100 to \$85.

Details of the RCA developments were presented by Frank M. Folsom, RCA president at a symposium in Chicago for representatives of most of the nation's television receiver manufacturing companies.

CAA Sets \$246 Million For Airway Electronics

New five-year program developed by Commerce Dept.'s Civil Aeronautics Administration to modernize the federal air traffic control system will involve the expenditure of \$246 million or more for new electronic installations. Planned spending includes radar, peripheral communications, navigation and air traffic control equipment and other safety measures.

Among the specific equipment are: 40 additional traffic control towers, 383 VHF omnidirectional radio ranges (VOR) with associated distance measuring service; 28 instrument landing systems; 49 standard approach lighting systems; 106 lead-in lighting systems; and sequenced flashing lights at 32 high intensity approach light installations.

The complete program is described in "Federal Airway Plan—Fiscal Years 1957-1961," available from the Government Printing Office, Washington 25, D. C. at \$1 each.

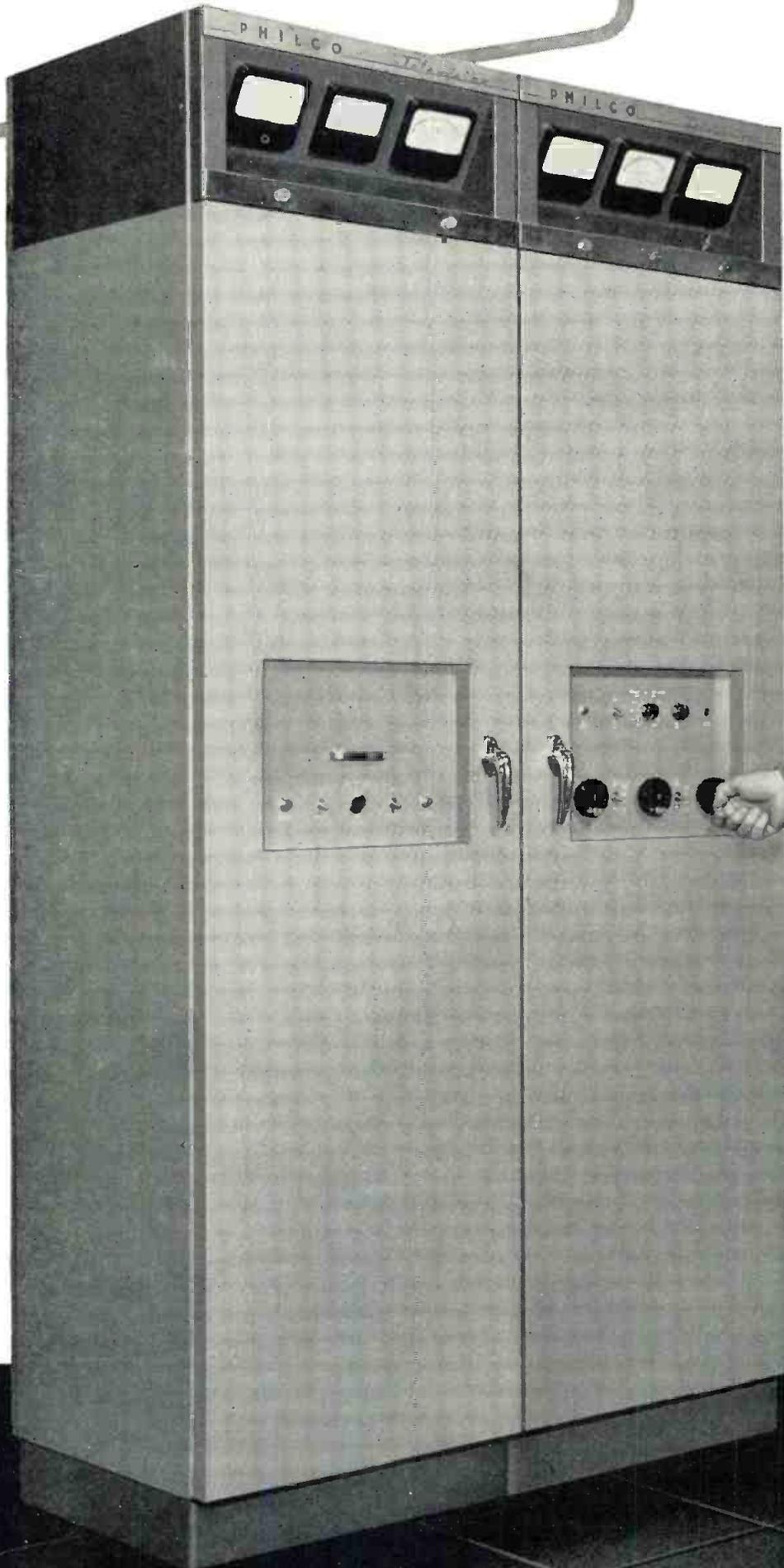


Punched card data transmission link coordinates Signal Corps bookkeeping

More News on page 18

HERE IT IS!

Philco



Low-Power TV Broadcast Transmitter

THE perfect answer to the recent FCC ruling which permits low-power operation of TV broadcast stations. This tested and proved Philco transmitter incorporates advanced design circuitry. A crystal controlled exciter feeds picture and sound outputs to a 20-watt linear amplifier which, in turn, drives a final power amplifier . . . *150 watts peak output visual and 75 watts aural!*

Complete Low-Cost TV Station "Package"

This new transmitter is the "heart" of Philco's compact, economical TV station package . . . including film and live pickup cameras, switching and monitoring facilities. And . . . Philco also offers an *entirely new Microwave* for relaying programs from remote sources! Write Dept. TT for specifications and complete information.

- ★ Exciter utilizes conventional receiving tubes.
- ★ 150 watts visual . . .
75 watts aural.
- ★ Compact . . . occupies minimum floor space.
- ★ Economical to operate.
- ★ Available for VHF and UHF channels.



PHILCO CORPORATION

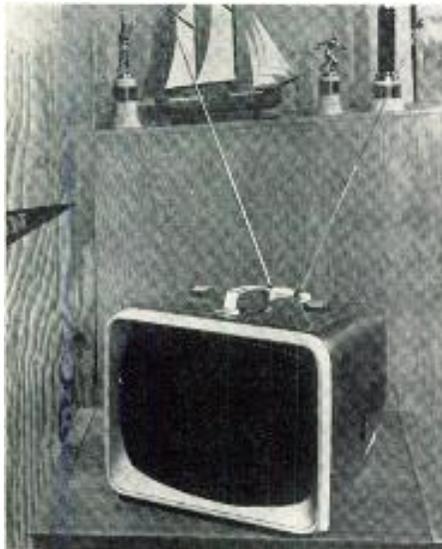
Government and
Industrial Division

Philadelphia 44, Pennsylvania



As We Go To Press . . . (Continued)

NEW PORTABLE TV



Philco Corp. unveils their new line of portable TV receivers this month. The first models will be 14-in. and 17-in., housed in aluminum or steel cabinets, and weighing 26 and 32 lbs. respectively. Features include a new "solorized" safety glass filter lens and a fully adjustable "fold-away" antenna. A variety of color combinations are available.

UHF Crash Program

In a speech before the NARTB in Chicago, FCC Chairman George C. McConaughy suggested that industry begin a crash research and development program on UHF immediately, the results of which could be a sound technical basis upon which long-term decisions could be made by the Commission on the merits of UHF.

Galvin To Receive RETMA 1956 Medal

Paul V. Galvin, president of Motorola Inc., and a director of the Radio-Electronics-Television Manufacturers Assoc. for 22 years, will receive the 1956 Medal of Honor during RETMA's convention June 12-14 in Chicago.

Mr. Galvin was nominated by the Annual Awards Committee, headed by Leslie F. Muter, who cited his long leadership in Association activities and called particular attention to his work in behalf of the industry during World War II. Mr. Galvin was president of RETMA from 1942 through 1944.

Russian TV Growing Under New 5-Year Plan

A British journalist, recently returned from the USSR, reports that the Soviet Government has decided to give its full support to the development of television. Half-a-dozen major stations are already in operation, and another dozen are under construction. Over 40 stations are to be built under the sixth 5 year plan which has just started.

In 1955, TV production is said to have been 600,000 sets, with 1,000,000 promised for this year. A second station is scheduled for Moscow later this year, and experimental color transmission has been promised by 1958.

The price of a small screen set approximates the price of a respectable suit of clothes, and demand far exceeds supply. Projection sets for clubs are being built, and several TV theatres are said to be in operation.

Philco, IT&T Sign Patent Agreement

A patent licensing agreement has been signed between the Philco Corp. and International Telephone and Telegraph Corp.

The agreement, which is for a minimum of five years from its effective date of January 1, 1956, gives each company the right to use the other's patents on radio, television, and electron tubes, including home radio and television receivers. IT&T has reserved from the agreement its patents on selenium rectifiers, aerial navigation systems (such as TACAN), and semi-conductor diodes; Philco has reserved its patents on color television, semi-conductor diodes and transistors.

Micamold Acquisition

General Instrument Corp. has reached an agreement to purchase all the outstanding capital stock of Micamold Electronics Mfg. Corp., manufacturers of capacitors for military and commercial uses.



Pilot of company plane points to autopilot on control panel

Tubeless Autopilot For Small Aircraft

What is reported to be the first application of the tubeless philosophy in electronic equipment in the small aircraft field is evidenced by the new autopilot system developed by Federal Telephone and Radio Co., Clifton, N. J.

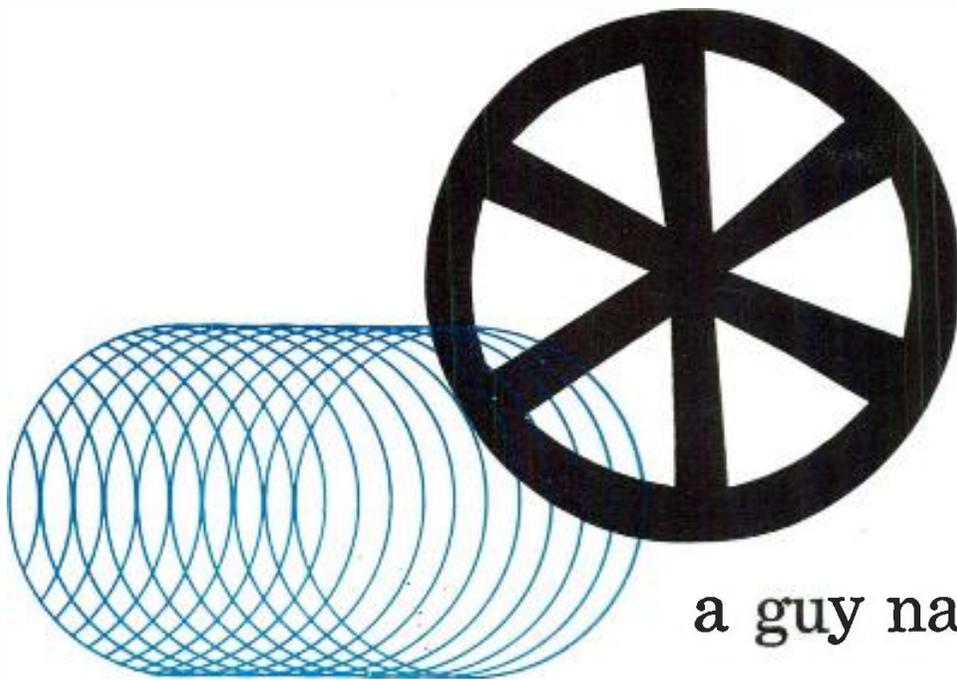
The autopilot consists of a gyro-servo assembly, a control unit, and a turn-bank indicator. This system permits selection of roll or pitch stabilization or both, giving positive control at all times. The system is also capable of being adapted to accept control signals from a radio coupler, controlling both radio range and ILS systems.

The unit works on either 12 or 24 v. input, and consumes no power when the system is at null. There are no tubes, transistors, etc., so there is no warm up time required. A 2-axis unit is available for single engine aircraft which have coordinated ailerons and rudder (\$1,995), and a 3-axis unit is available for 2 engine planes or for single engine planes with uncoordinated ailerons and rudder (\$2,325).

IT&T Sells Capehart

International Telephone & Telegraph Corp. has announced the sale of their radio-TV and phonograph manufacturing subsidiary, the Capehart-Farnsworth Co., to Ben Gross Corp. The sale includes the Capehart name and other assets, including the plant at Flora, Ind.

More News on page 22



a guy named Og

Once your name was Og. You tired of shouldering
mastodon steaks...of dragging your mate by her hair.
You invented the wheel.

Later, your name was Watt. Steam made your kettle-lid
dance...and the Industrial Revolution was on.

Yesterday, you were a bicycle mechanic named Henry...today,
your brainchild's descendants are counted in millions.

Your name is legion. You created every linkage...
every device...every system.

You're an engineer.

You make things work better...faster...more accurately
...more economically.

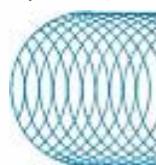
Next week...next month...next year...some system will need
a better, faster, more accurate or more economical
means of recording...or indicating...or computing...or
controlling a process.

You'll want precision potentiometers.

You'll discover that Helipot makes the most complete line...
linear and non-linear versions...in the widest choice
of sizes, mounting styles and resistances.

many models of HELIPOT
precision potentiometers are
stocked for immediate shipment
...our engineers will gladly
adapt standard HELIPOTS to your
requirements...or build
entirely new HELIPOTS for you.*

*for information and specifications
...write for data file 604*

 **Helipot** *first in precision potentiometers*

*Helipot Corporation/South Pasadena, California
Engineering representatives in principal cities
a division of BECKMAN INSTRUMENTS, INC.*



You're an engineer.
Your career is in
the making.
Helipot would like
to hear from you.

FIXED Composition RESISTORS

In all standard ranges and tolerances for industrial and military uses

The widespread use of Stackpole 1/2-, 1-, and 2-watt fixed composition resistors in much of today's finest equipment clearly attests their dependability. Accurate, stable electrical ratings combined with firmly anchored, readily soldered leads assure maximum reliability and ease of use. Types available to MIL-R-11A Specifications in styles RC20, RC30, RC31, and RC42.

PACKAGED FOR AUTOMATION—All Stackpole resistors are available packaged in strips, stacked layers, or reels to suit your automation program.

NOW AVAILABLE FROM LOCAL PARTS DISTRIBUTORS

Stackpole resistors are stocked by local parts distributors throughout the country. For the name of the distributors nearest you, write: Distributors' Division, Stackpole Carbon Co., 26 Rittenhouse Place, Ardmore, Pennsylvania.

VARIABLE Composition RESISTORS

- Metal or Phenolic Shafts
- Midget types for Transistor Sets
- Lug, Printed-wiring, or Wire-wrap terminals
- Choice of 9 Switch Types

Single, and dual concentric-shaft Stackpole controls are offered in one of the largest selections available today . . . and in the smallest sizes consistent with real dependability.

Write for the new "Quick Guide to Stackpole Variable Resistors" for complete list of types, features, and readily available modifications.

FIXED Composition CAPACITORS

Cost-Saving, Low-Value Types for VHF or UHF
Originated by Stackpole, these tiny capacitors not only represent the simplest, most inexpensive composition capacitor design yet produced—but likewise have characteristics that make them more desirable than larger, higher-priced capacitors for many uses. 47 standard types, 0.1 to 10.0 mmf. Write for full details.

NEW CeraMAGNET®

... the low-cost all-ceramic permanent magnet material

By combining the low-cost and light-weight of non-critical ceramic with fully available magnetic energy, exceptional resistance to demagnetization, and almost infinite electrical resistance, Stackpole Ceramagnet opens new engineering possibilities in many fields—mechanical as well as electrical. Important new developments using this unique new Stackpole permanent magnet material are daily being engineered in television, aviation, automotive, heavy-duty electrical, and allied fields.

A full description of Ceramagnet, with detailed graphs of characteristics is available in Bulletin RC-10A.

TYPICAL CHARACTERISTICS

Coercive Force	1650 oersteds
Residual Induction	2010 gauss
Energy product	0.915x10 ⁶ gauss-oersteds (Max.)

Electrical Resistance	6x10 ¹⁰ ohm/cm ³ @ 25° C
Linear Temp. Characteristics (including retrace)	to 400° C
Specific Gravity	4.85



IRON CORES

Insert cores

Side-molded Cores

Sleeve Cores

Cup cores

Threaded cores

"EE" CORES . . . STANDARDIZED FOR ECONOMY

Stackpole "EE" Cores meet over 80 percent of all engineering requirements with cost savings up to 300 percent over conventional cores that require set-up charges. More than 18 standard insert and threaded core types are stocked for same-day delivery in any quantity.

"CUSTOM" CORES . . . for special requirements

. . . in practically any desired size, shape, or iron grade and with assured uniformity of both electrical and mechanical characteristics.

Write for data on any type.

Ceramag®

FERROMAGNETIC CORES

High Perm, Low Loss Cores for TV, Radio, and Industrial Electronics

Look to Stackpole Ceramag for the latest cost-saving grades and types that set new higher standards of efficiency in flyback transformers, deflection yokes, width control, and other applications. Regardless of size, shape, grade, or production quantity, Ceramag characteristics are maintained with remarkable uniformity so that each production unit is like the engineering sample. Write for full details on the latest available grades.

IRON COIL FORMS

Real Space-Savers for High-Q Coils.

Stackpole Coil Forms reduce coil sizes and cut assembly costs through simplified point-to-point wiring with fewer soldered connections. Carefully molded of high resistance powdered iron and with easily soldered leads firmly anchored to the body.

Write for handy chart giving complete specifications on all sizes and grades.

SLIDE & SNAP SWITCHES

. . . for real switch economy and versatility in less space.

Standard Stackpole Slide Switches cover practically every circuit configuration needed for instruments, record players, radios, small motors, appliances, TV, electrical toys and similar uses. Over 15 inexpensive types with AC and/or DC ratings from 0.5 to 15.0 amperes . . . many UL inspected. Stackpole Snap-Switches with outside toggles provide dependable, snap-action switching for a host of applications—from push button tuners, record changers, to other indirectly-operated switching assemblies.

For complete details write for Bulletins RC-10B and RC-10D.



STACKPOLE

Electronic Components Division **STACKPOLE CARBON COMPANY** St. Marys, Pa.

As We Go To Press . . . (Continued)

High-Speed Camera Takes 5000 Pix/Sec.

When important action is too fast for the mind and eye to record, the question of "What happened and why?" can probably be answered by Fairchild Camera and Instrument Corporation's new Motion Analysis Camera. Using any of the conventional variety 16mm films, or the new special emulsion films, MAC, as it is called, is capable of taking from 32 to 5,000 pictures per second. Time can be magnified from 2 to 200 times in black and white or in full color, without corrective filters.

According to designer John H. Waddell, one of the biggest advantages of the camera is its ruggedness. MAC, riding on the floor of a rocket propelled sled traveling at supersonic speeds, operated successfully during an initial acceleration of 200 g's. During another test, deceleration forces



Camera is shown at test location

were in excess of 60 g's when the sled shot by at 600 mph. Timed to study the ejection of a pilot's seat, the camera, at a rate of 800 pictures per second, clearly recorded the ejection as it occurred.

The camera has four speed ranges, 32 to 200, 100 to 1,000, 300 to 3,000, and 500 to 5,000 pps. The motors, operating from 28 vdc, are easily interchangeable. The camera takes a 100-ft. spool of film, and may be daylight loaded. Interchangeable lenses available range from 13 to 152mm.

INDUSTRIAL TV



RCA "TV Eye" closed-circuit system is used at Cincinnati Machine Shop of American Can Co. for remote microscopic inspection of thin scraper blades used in Canco lithography coating presses. Camera projects magnified image of blade on a receiver marked with vertical lines to indicate tolerance limits.

Sees 100 Million TV Sets in Next Decade

Ross D. Siragusa, pres. of Admiral Corp., predicts that the next decade will see sales of more than 100 million TV receivers, doubling the industry's first 10-year record.

A major factor in this sales boom, said Siragusa, will be the new lightweight personal TV sets. He forecast the production of from 1,500,000 to 2,000,000 personal sets by the entire TV industry during the remainder of 1956, adding that he anticipates a vast overseas market for the lightweight receivers because of their low cost.

Canadian Radar Chain

A \$5,000,000 contract for radar equipment for a coast to coast commercial air navigation and traffic control radar network has been awarded by the Canadian government to Raytheon Mfg. Co.

The units will be installed at 15 locations stretching from Vancouver, B. C. on the West to New Brunswick on the East. Delivery is scheduled for 1958.

When completed the radar chain will provide almost unbroken observation of aircraft flying coast-to-coast.

Air Force Tightens R&D Planning Funds

Additional research and development will not be approved unless funds are available or can be made available for the job, states recently released Air Force Regulation AFR 80-30, which goes on to say, "It is incumbent on those responsible for the issuance of directives initiating R&D to insure availability of funds and other resources needed for the initial year's effort and to include such requirements in appropriate planning documents for each subsequent year, projecting all such requirements to the termination or completion of the project."

"In no case will an additional R&D workload be created without due regard to and provision for resource availability."

Radio Telescope To Test Sun's Atmosphere

A new type of radio telescope will soon begin the task of exploring the sun's turbulent atmosphere. The Air Research and Development Command's Air Force Office of Scientific Research has financed the construction of this new apparatus, after conception of the idea by Stanford Univ.

Called a microwave spectroheliograph, the device will carry on its explorations from an observation point on the Stanford University campus. It consists of 32 parabolic aluminum antennas which will be aligned in two rows to form a huge cross occupying a level, two-acre meadow. The device will pick-up solar microwave radiations in the 3,000 megacycle region.

As the dish antennas scan the sun's surface, the photograph produced shows the "chromosphere"—a hitherto mysterious billowing layer of incandescence, rising to heights of 6,000 miles above the sun's surface.

A primary accomplishment will be the scanning of solar regions as small as three-thousandths of one square degree.

More News on page 24



for the HIGHEST in RELIABILITY

UTC products are the most copied in the world. This is only natural, since we maintain the largest laboratories and engineering staff in our field. However, copying alone cannot provide the measure of uniformity and reliability inherent in UTC units. To provide for the maximum in quality and reliability, continuous programs of quality control and quality improvement are constantly maintained in our laboratories.

WHAT MAKES A TRANSFORMER FAIL?
 Illustrated are a few views of the UTC Reliability Laboratory in action... finding the answers.



Qualitative micro analysis.

Vibration stress analysis.

Torque testing of standard assemblies.



Checking uniformity of thermoplastic compounds.



Quantitative checking of weld strength.



Hermetic terminals on microscope check.



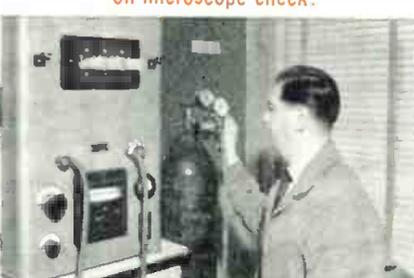
Chemical section analyzing new materials.



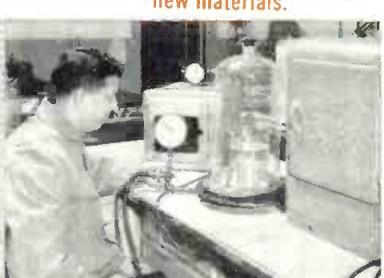
Microscope analysis of dissected units.



Calibration to primary standards.



Pilot plant hydrogen annealing.



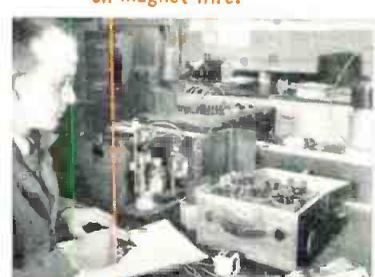
Seal tests under extremes of cold, heat, and altitude.



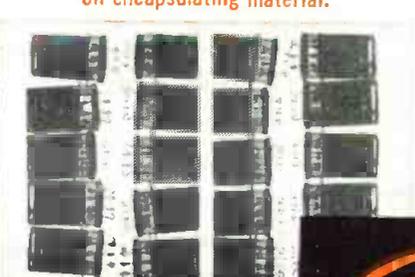
Abrasion and mercury tests on magnet wire.



Pilot plant run on encapsulating material.



Corrosion testing on insulating materials.



Non-destructive quality control by x-ray.

IS THIS PROVEN RELIABILITY AND UNIFORMITY IN THE COMPONENTS OF YOUR EQUIPMENT?

A large aircraft company... "Our vendor analysis for past year (thousands of tests) shows zero rejects."

A large electric company... "Consistent quality has placed you as our #1 source... are grateful for the aid you have given our own quality control staff."

A large military electronics company... "Switching from former vendor to UTC has saved us 18% of transformer and filter cost by reducing manufacturing costs."

A large instrumentation company... "We haven't had one field failure in fifteen years' use of UTC parts*."

*Over 100,000 units.

United Transformer Co.
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 EXPORT DIVISION: 13 EAST 40th STREET, NEW YORK 16, N. Y. CABLES: "ARL"

As We Go To Press

(Continued)

Airborne TV System For Supersonic Speeds

An airborne TV system to be used in jet aircraft reconnaissance by the U. S. Air Force has been developed at Philco's Gov. & Industrial Div. for the Aerial Reconnaissance Lab. at Wright Air Development Center.

The new airborne TV system will provide ground control points with an active picture of troop movements or terrain. It can operate not only from near ground level, but from the stratosphere, beyond reach of antiaircraft gun fire.

The new airborne reconnaissance system is a complete, self-contained, broadcasting station, so compact that it may be carried in single-seat aircraft.

To cover a wide area, two unmanned, studio-quality TV cameras are used in the plane. Signals from the plane are transmitted to the ground control point where they are picked up by a receiver. There, the picture may be instantaneously photographed on 35mm film which can be processed in less than a minute. Immediately, the picture may be projected on theater-size screens at the control point, or relayed to other locations. Also, pickups from slower-moving aircraft may be observed, live, on standard fine-line monitors.

The inherent difficulties of obtaining a clear, sharp picture from aircraft traveling at supersonic speeds has been overcome by the development of unique transmitter circuitry and the method of transmitting a high-quality picture. It is now possible to slow, or stop, TV pictures taken at high speeds without a blur of ground movement.

Data, such as time and position, may be automatically printed on the film. In addition to on-the-spot coverage, a permanent reconnaissance record may now be maintained.

More News on page 28

Coming Events

A listing of meetings, conferences, shows, etc., occurring during the period June through October, 1956 that are of special interest to electronic engineers

June 5-6: Spring meeting of the RTCA, in cooperation with the Boston sections of the IRE and the IAS; at the Hotel Statler, Boston, Mass.

June 6-8: Second Annual Meeting, American Nuclear Society; Palmer House, Chicago, Ill.

June 11-15: Fourth annual Technical Writing Institute; at Rensselaer Polytechnic Institute, Troy, N. Y.

June 25-27: Symposium on the methods, materials and processes involved in the uses of high temperature in science and industry, sponsored jointly by Stanford Research Institute and the Univ. of Calif., on the University's Berkeley, Calif., campus.

Aug. 20-21: The National Telemetering Conference, sponsored jointly by the IRE, the AIEE, the IAS, and the ISA, in Los Angeles, Calif.

Aug. 21-24: WESCON Show, Pan Pacific Auditorium, Los Angeles, Calif.

Aug. 22-Sept. 1: 23rd Annual (British) National Radio Show, sponsored by the Radio and Electronic Component Manufacturers Federation, at Earls Court, London, England.

Sept. 11-12: Second RETMA Conference on Reliable Electrical Connections, at Irvine Auditorium, University of Penn., Philadelphia, Pa.

Sept. 12-14: Third National Conference on Tube Techniques, sponsored by the Working Group on Tube Techniques of the Advisory Group on Electron Tubes; in New York, N. Y.

Sept. 17-21: Symposium on radiation effects on materials, sponsored jointly by The Atomic Industrial Forum and ASTM; at ASTM Pacific Area National Meeting, Los Angeles, Calif.

Sept. 17-21: 11th Annual Instrument-Automation Conference and Exhibit, sponsored by the ISA, at the New York Coliseum, New York, N. Y.

Oct. 1-3: 12th Annual Conference of the NEC; at the Hotel Sherman, Chicago, Ill.

Oct. 8-9: Second National Symposium on Aeronautical Communications, sponsored by the IRE Prof. Gp. on Communications Systems; at the Hotel Utica, Utica, N. Y.

Oct. 9-10: Conference on Computer Applications, sponsored by Armour Research Foundation of Illinois Institute of Technology, Chicago, Ill.

Oct. 15-17: Radio Fall Meeting, sponsored jointly by the IRE and RETMA, at the Hotel Syracuse, Syracuse, N. Y.

Oct. 16-18: Conference on Magnetism and Magnetic Materials, sponsored by the Magnetics Subcommittee of the Basic Science Committee of AIEE, at the Hotel Statler, Boston, Mass.

Oct. 29-30: Third Annual East Coast Conference on Aeronautical and Navigational Electronics, sponsored jointly by the Baltimore Section of IRE and the IRE Prof. Gp. on Aeronautical and Navigational Electronics; at the Fifth Regiment Armory, Baltimore, Md.

Oct. 31-Nov. 2: 20th Anniversary National Time and Motion Study and Management Clinic, sponsored by the IMS, at the Sherman Hotel, Chicago, Ill.

Abbreviations:

ASTE: American Society of Tool Engineers
ASTM: American Society for Testing Materials
AIEE: American Institute of Electrical Engineers
IAS: Inst. of Aeronautical Sciences
IMS: Industrial Management Society
IRE: Institute of Radio Engineers
ISA: Instrument Society of America
NEC: National Electronics Conference
RETMA: Radio-Electronics-TV Manufacturers Assoc.
RTCA: Radio Technical Commission for Aeronautics
WESCON: Western Electronic Show and Convention

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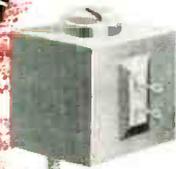
Variable Inductors

- inductance values up to 1000 henrys
- variable over a range of $\pm 10\%$
- high Q, small size
- for low-frequency tuning applications



Molded Toroids

- inductance precision within 1%
- high Q because molded construction minimizes distributed capacity
- subminiature to standard sizes
- compact and sturdy



Subminiature Adjustoroids

- precise continuous adjustment of inductance over a 10% range
- no external control current needed
- hermetic sealing
- low cost



Encapsulated Toroids

- hermetically sealed
- high Q
- center mounting permits stacking
- miniature to standard sizes

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- nominal cost
- excellent delivery
- frequency range 50 kc to 5000 kc
- high stability



Tom Thumb Telemetry Filters

- miniaturized for guided missiles
- high temperature stability
- designed to withstand shock and vibration
- hermetically sealed



Delay Lines

- for audio and low radio frequency applications
- constancy of time delay
- flat frequency response
- low insertion loss

Get on the **GOLD** standard with



**RADIO
RECEPTOR**

Gold Bonded Subminiature

**High Conductance Germanium
GLASS DIODES**



DIMENSIONS
Diameter098" max.
Length256" max.
Lead diameter . .020"-.019"
Lead length . .1.125" min.

DIODE CHARACTERISTICS . . . All values measured at 25°C unless otherwise noted

CODE NO.	MIN. FWD. D.C. CUR. AT 1 VOLT (MA)	MAX. CONT. REV. D.C. OPER. VOLTS	MAX. REV. D.C. CURRENT UA AND CORRESPONDING RESIST. (OHMS) AT INDICATED VOLTAGES
1N67A	4	80	5 (1 meg) @ 5V; 50 (1 meg) @ 50V
1N68A	3	100	625 (160K) @ 100V
1N89	3.5	80	8 (625K) @ 5V; 100 (500K) @ 50 V
1N90	5	60	500 (100K) @ 50V
1N95	10	60	500 (100K) @ 50V
1N96	20	60	500 (100K) @ 50V
1N97A	20	80	8 (625K) @ 5V; 100 (500K) @ 50V
1N98A	40	80	8 (625K) @ 5V; 100 (500K) @ 50V
1N99A	20	80	5 (1 meg) @ 5V; 50 (1 meg) @ 50V
1N100A	40	80	5 (1 meg) @ 5V; 50 (1 meg) @ 50V
1N116A	10	60	100 (500K) @ 50V
1N117A	20	60	100 (500K) @ 50V
1N118A	40	60	100 (500K) @ 50V
1N126	5	60	50 (200K) @ 10V; 850 (59K) @ 50V
1N127	3	100	25 (400K) @ 10V; 300 (167K) @ 50V
1N128	3	40	10 (1 meg) @ 10V
1N198	5	45	75 (133K) @ 10V; 250 (200K) @ 50V-@ 75°C
DR301	400	100	100 (500K) @ 50V
DR302	400	80	100 (500K) @ 50V
DR303	400	60	50 (400K) @ 20V
DR305	200	100	100 (500K) @ 50V
DR306	200	80	100 (500K) @ 50V
DR307	200	60	50 (400K) @ 20V
DR310	100	120	50 (2 meg) @ 100V
DR311	100	120	100 (1 meg) @ 100V
DR312	100	100	20 (5 meg) @ 100V; 5 (2 meg) @ 10V
DR314	100	80	50 (1 meg) @ 50V
DR315	50	120	50 (2 meg) @ 100V
DR316	50	100	100 (1 meg) @ 100V
DR317	50	80	50 (1 meg) @ 50V
DR319	50	60	5 (2 meg) @ 10V
DR321	200	100	125 (400K) @ 50V-@ 75°C
DR322	100	100	200 (250K) @ 50V-@ 75°C
DR323	100	50	200 (250K) @ 50V-@ 75°C
DR324	100	50	500 (100K) @ 50V-@ 75°C
DR325	100	45	75 (133K) @ 10V; 250 (200K) @ 50V-@ 75°C

In addition to the diodes shown above, the electrical characteristics of the following types are available in the subminiature hermetically sealed case.

1N34	1N43	1N47	1N54	1N56	1N63	1N69	1N86	1N113	1N297
1N34A	1N44	1N48	1N54A	1N56A	1N64	1N70	1N88	1N114	1N298
1N38	1N45	1N51	1N55	1N58	1N65	1N75	1N111	1N115	1N355
1N38A	1N46	1N52	1N55A	1N58A	1N66	1N81	1N112	1N294	

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Other Radio Receptor products: Selenium Rectifiers, Thermatron Electronic Heat Sealing Generators & Presses, Radar, Navigation & Communications Equipment

RADIO RECEPTOR



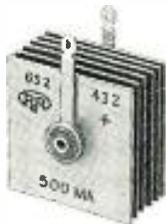
SELENIUM RECTIFIERS

*Choice of thousands in diversified industry
— as original equipment and replacements!*



INDUSTRIAL TYPE RECTIFIERS

Years of service in every kind of application have proved the long life and dependability of these rugged units. Available in various voltage and current combinations up to several hundred kilowatts, they are useful in a multitude of industrial and power circuits such as power supplies, magnetic amplifiers, electro-plating, battery charging, etc.



RADIO TYPE RECTIFIERS

Millions of these stacks are in service in radio and TV circuits as well as many small power applications. Thoroughly dependable under all types of grueling conditions, they are specified by an increasing number of engineers in the U. S. and throughout the world. Available for black and white as well as color TV in ratings up to 750 MA.



EMBEDDED RECTIFIERS

For top protection in military and other applications calling for the strictest requirements. Recommended for use where size and weight are important considerations such as in aircraft.



HIGH TEMPERATURE TYPES

High temperature rectifiers are now available in the larger cell sizes up to 5" x 6" to operate without derating at 125°C. Radio Receptor research has brought the cost down so that the field is now wide open for use in many applications once considered prohibitive because of size and price.



HERMETICALLY SEALED UNITS

Built to special requirements to meet unusually severe conditions. Designed to meet individual needs.

If you have a problem involving rectification, submit your requirements and our engineering department will be glad to aid you in the solution without obligation, of course. Write for our latest bulletin no. T-7.

RECTIFIERS FOR MAGNETIC AMPLIFIERS

Special designs will be submitted to meet individual requirements. However in many cases standard Radio Receptor stacks will give highly satisfactory performance in mag-amp applications, saving both time and money. Let us study your specs and make recommendations.

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RADIO RECEPTOR COMPANY, INC.
Radio and Electronic Products Since 1922

Really



Reliable

240 WYTHE AVENUE, BROOKLYN 11, N. Y., TELEPHONE EVERGREEN 8-6000

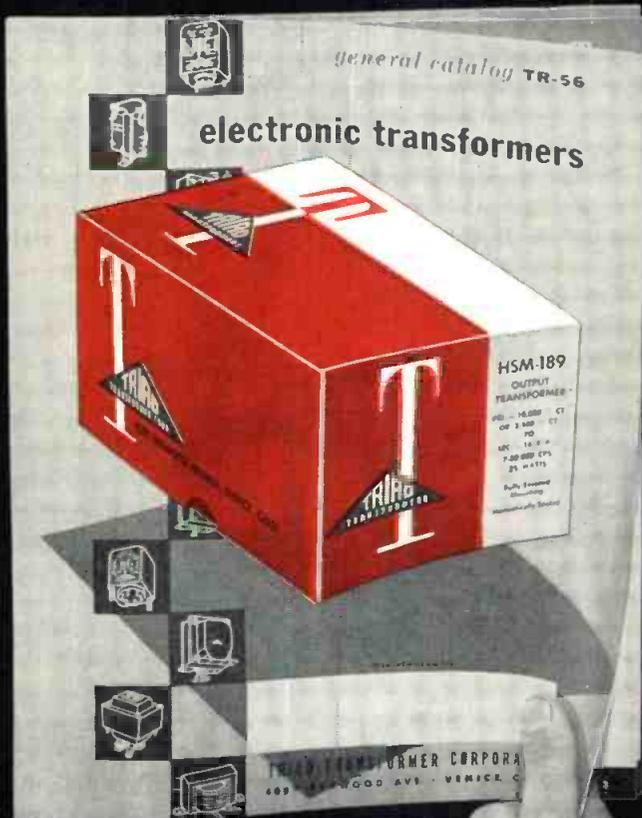
Other Radio Receptor products: Germanium & Silicon Diodes, Theratron Electronic Heat Sealing Equipment, Radar, Navigation & Communications Equipment

Tele-Tech & ELECTRONIC INDUSTRIES • June 1956

For product information, use inquiry card on pages 209-210.

27

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NEW TRIAD GENERAL CATALOG TR-56
Listing the complete line of transformers that have made TRIAD "the symbol of quality"... including 76 new items.

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MIT Offers Summer Program on Modern Communications

As part of the 1956 Summer Session MIT will present a 2-week program on Modern Communications which should be of special interest to engineers, mathematicians, and others concerned with the presentation, transmission, and assimilation of information. The program extends from Aug. 20 through Aug. 31.

Engineers Wanted!

The U. S. Civil Service Commission has announced that electronic engineers are needed for employment in the Army Ballistic Missile Agency and Redstone Arsenal in Huntsville, Ala. Starting salaries range from \$4,345 to \$11,610 a year. To qualify, applicants must have had appropriate college study or pertinent engineering experience.

Applications should be filed with the Exec. Secy., Board of U. S. Civil Service Examiners, Redstone Arsenal, Huntsville, Ala.

MIL-S-3928 Amendment

Amendment 1, dated March 1, 1956, makes the following changes to MIL-S-3928, Switches (Coaxial), Radio Frequency Transmission Line:

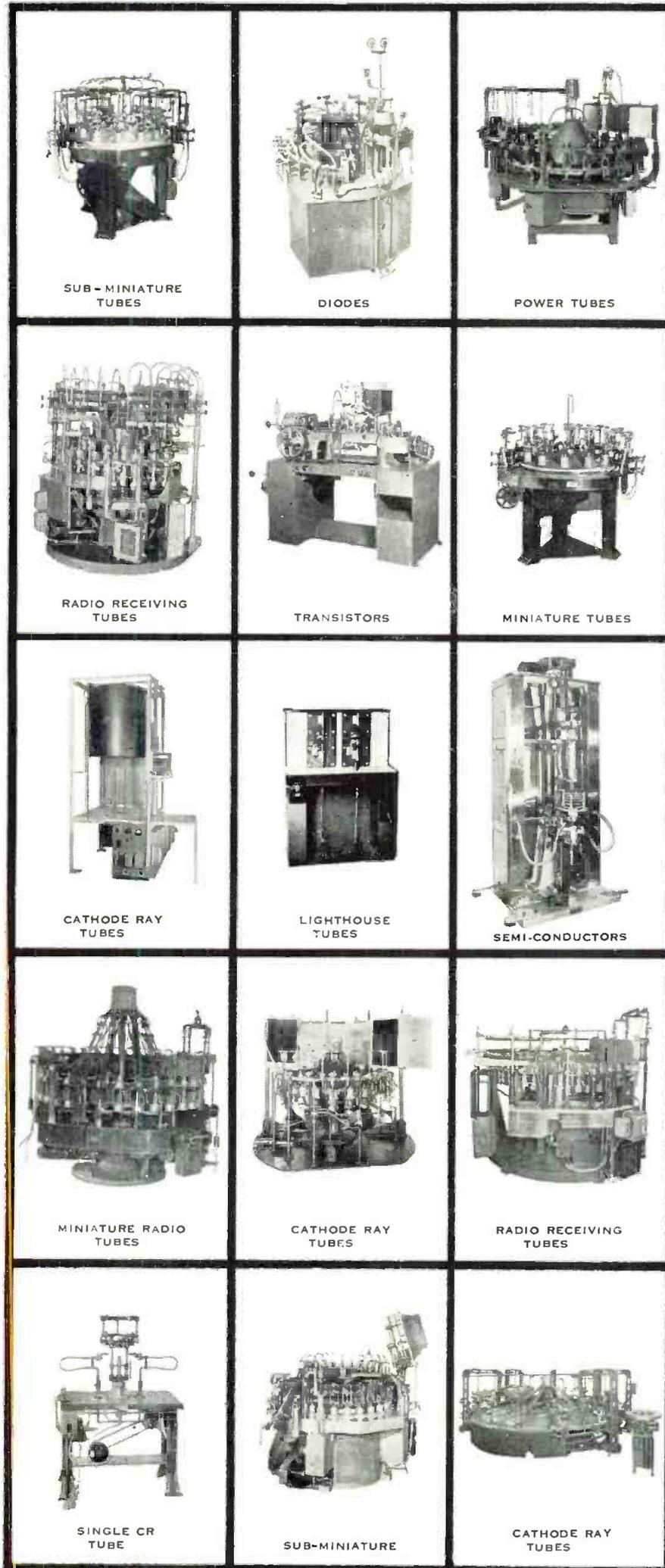
Rotary-type manual control switches are now required to be constructed with a detent mechanism which will insure positive positioning.

The note relating to explosion proof test, reading "(applicable only to Bureau of Aeronautics and Air Force purchases)" has been deleted and replaced by "(when specified (see 3.18))" in paragraphs 3.10 and 4.6.8, and Table I.

A reference power level of 1 milliwatt has been specified under Crosstalk Level test, paragraph 4.6.4.

The three "MS" Military Standards, MS90140, MS90141, and MS90142 have been revised editorially, and the word "(Rotary)" has been added in the title of each after "Manual Control."

More News on page 48



there is a
KAHLE
MACHINE
to speed
every
operation
in the
manufacture
of

- **DIODES**
- **TRANSISTORS**
- **ELECTRONIC TUBES**

Illustrated are typical examples of Kahle machines that give maximum production efficiency, speed and economy.

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all industrial operations.

CAMERA PICK-UP TUBES FROM WESTINGHOUSE



Image Orthicon (WL-5820), left

Vidicon (WL-6198), right

For superlative tube performance in your television cameras, you'll find this worth remembering.

The same fine quality you have learned to count on in all other Westinghouse Tubes is available to you in the Vidicons and Image Orthicons that are in production today at Westinghouse. Improved versions for military and industrial applications are under development.

Born of Westinghouse experience and workmanship, these precision-built TV pick-up tubes are absolutely unexcelled for clarity and brightness of image and for long, economical life.

Whether you build TV cameras or use them—for commercial, industrial or defense applications—we invite your inquiries. Simply write our Commercial Engineering Department at the address below.

ENGINEERS! For challenge, security, growth potential, investigate career opportunities now being offered by Westinghouse Electronic Tube Division. Write Technical Placement Director today.

Westinghouse  **RELIATRON Tubes**

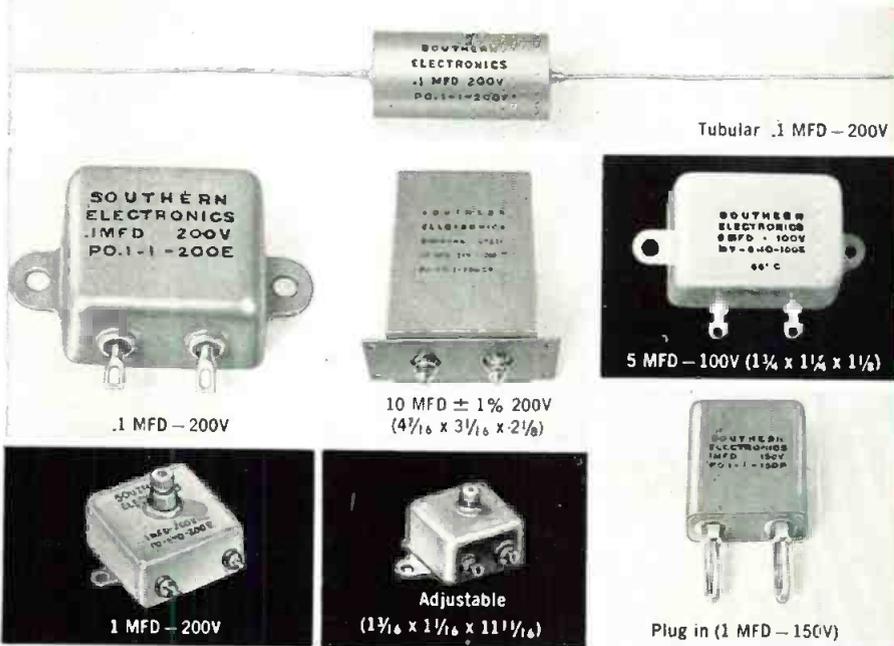
6ET-1113

WATCH WESTINGHOUSE WHERE **BIG THINGS** ARE HAPPENING FOR YOU!

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where precision counts — it's S.E.C. first!

PLASTIC PRECISION CAPACITORS



I. POLYSTYRENE

with these outstanding properties:

- Tolerances as close as 0.1%
- Insulation Resistance as HIGH as 1×10^{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!

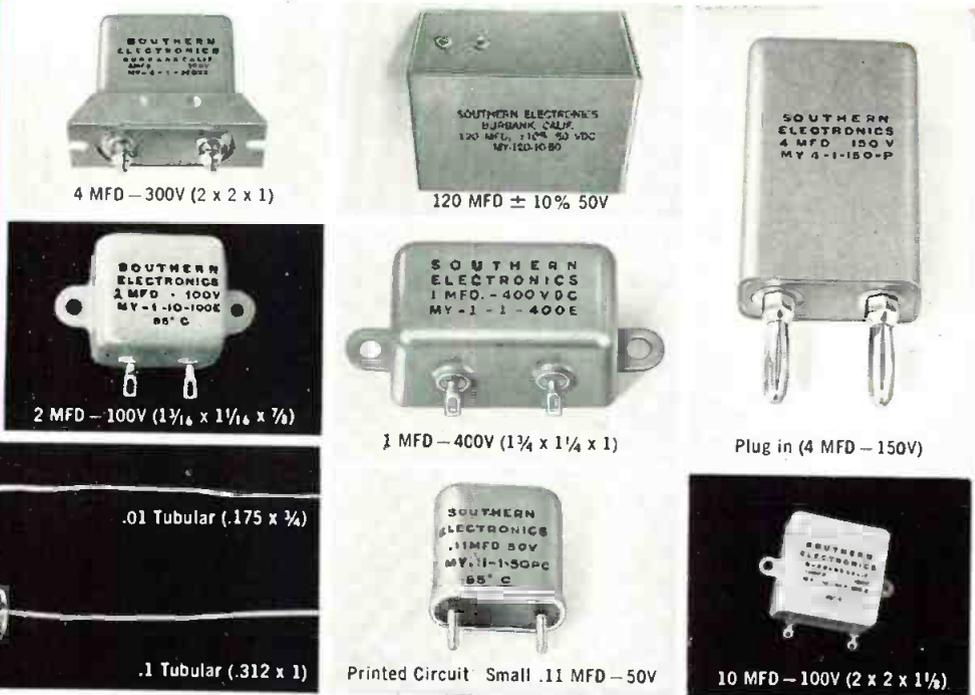
also available:

- 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 1×10^{11}
- Dielectric Absorption as LOW as .001
- Dissipation Factor as LOW as .003
- Temperature Coefficient... 800 PPM per °C
- Temperature range..... to 150°C.
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- Close tolerances
- Hi-grade precision resistors
- Potted units
- Meet mil specs
- Many other types of precision RC Networks available!

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I beware

PLEASE
START BY
WE HAVE LOST
OUR VIDEO!

CONTRACT

TIME

Should a component failure cause down time on TV transmitting equipment, stations utilizing S-E TRANSMITTING EQUIPMENT WITH EXCLUSIVE PATCHOVER can return to the air more quickly and prevent the nightmare of complaint calls from sponsors, agencies, viewers . . . minimize loss of station revenue!

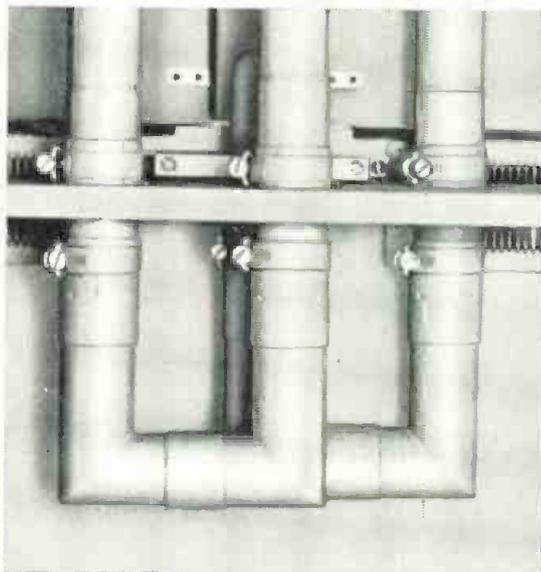
of the telecasting *dt's**

**down time on transmitting equipment*

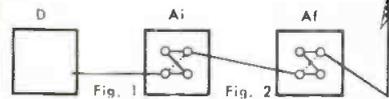
The unique Patchover System incorporated in Standard Electronics transmitting equipment enables stations to re-route RF signal the moment an amplifier fails. This system is based on identical impedances at the input and output of S-E amplifiers. The inoperative amplifier can be immediately patched out and the remaining transmitting equipment then connected to the antenna for temporary reduced power operation . . . all in a matter of seconds! Thus, telecasting can continue while amplifier maintenance is performed.

With this system, a station can also utilize an S-E Driver for full power standby service . . . eliminating the need for a costly transmitter line-up solely for standby! And the savings that result from the first time you might be called upon to use Patchover . . . may more than offset the cost of the entire transmitter!

There is less likelihood of transmitting failures with superbly engineered Standard Electronics transmitters and amplifiers. Will you be prepared should failure occur with your present equipment? Insure your operation against costly air time loss . . . with Standard Electronics Transmitting Equipment—featuring exclusive Patchover. Complete details on request.

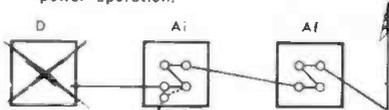


HOW PATCHOVER WORKS



WITH AMPLIFIER FAILURE

Dotted line in Fig. 1 shows patch-out of inoperative amplifier A1. Similar procedure shown in Fig. 2 applies if failure occurs with amplifier A2. The entire diagram shows patch-out procedure in the event both amplifiers should fail; driver is connected to antenna for reduced power operation.



WITH DRIVER FAILURE

Dotted line indicates patch-over procedure called for by driver failure. Patch-over is made from amplifier A1 to the standby driver. Patch-over is done in seconds . . . requires just a screw driver!

standard electronics corporation

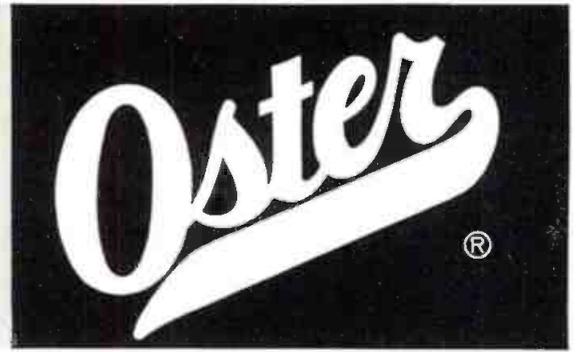
A SUBSIDIARY OF DYNAMICS CORPORATION OF AMERICA, INC.

VHF TV Transmitters	high band	500 W	10 KW	25 KW	50 KW
	low band	500 W	10 KW	25 KW	50 KW
VHF TV Amplifiers	high band		10 KW	25 KW	50 KW
	low band		10 KW	25 KW	50 KW



285-289 EMMETT STREET
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These high performance 400 cycle servos conform dimensionally with Bu Ord specs in many models. Greater efficiency, minimum air gaps and extremely high torque-to-inertia ratio is attained by precision manufacturing. 60 cycle units can be made available.

Type Number	Size	Length	Mounting	Minimum Stall Torque in Oz.	No Load Speed Minimum	Power Input at Stall Total Watts	Rated Voltage		Special Features
							Fixed Phase	Control Phase	
1916	10	3/4"	Flange	.15	9,000	3.	28	28	
2409	10	1 3/16"	Flange	.13	9,000	2.3	18	18	Hi Temp application
2155	10	3 7/32"	Synchro	.24	4,800	4.5	52	52	
2162	10	3 1/32"	Synchro	.24	4,800	5.5	26	26	
2201	10	3 1/32"	Synchro	.24	5,000	5.	26	52	
2442	10	1.156"	Synchro	.13	10,000	3.2	18	18	
3009	10	1.156"	Synchro	.13	10,000	2.5	18	54	1400 OHM cont. ph. Z
3040	10	.975"	Synchro	.149	10,000	2.6	18	54	1400 OHM cont. ph. Z
3053	10	.975"	Synchro	.15	10,000	2.6	18	18	
3185	10	.968"	Synchro	.3	6,000	6.2	26	26	avall. up to 125°C
2156	.980" OD	.965"	Synchro	.15	6,000	5.	27.5	14	125°C
2307	1" OD	1.5"	Synchro	.25	10,000	10.	115	115	
3188	1" OD	1.611"	Flat	.35	10,000	12.6	115	115	
3199	11	1.703"	Synchro	.63	6,200	7.	115	115	Mark 14 Mod O
3161	15	1.312"	Flange	.45	5,000	5.8	26	50	
3148	15	1.640"	Synchro	1.45	4,800	12.2	115	115	Mark 7 Mod O
2287	15	1.640"	Synchro	1.45	4,800	12.2	115	115	avall. up to 150°C
3159	15	1.640"	Synchro	1.45	4,800	12.2	115	230	
3271	15	1.640"	Synchro	1.0	10,000		115	115	
3272	15	1.640"	Synchro	1.0	10,000		115	230	
3273	18	2."	Synchro	2.35	4,800	18.4	115	115	
3217	18	2."	Synchro	2.35	4,800	18.5	115	282	
3270	18	2."	Synchro	1.4	9,800	18.0	115	115	
2094	2" OD	2.718"	Flange	3.5	7,200	40.	115	115	Damping Generator
2237	2 1/8" OD	4.750"	Synchro	23.	10,000	130.	115	115	

Many of the above units can be supplied with gear train to your specifications. Other servos to your requirements.

Write for further details, giving type number.

Other products include Actuators, AC Drive Motors, DC Motors, Motor-Gear-Trains, Fast Response Resolvers, Servo Torque Units, Synchros, Reference Generators, Tachometer Generators, and Motor Driven Blower and Fan Assemblies.

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BRIEF SPECIFICATIONS

-hp- 130A

Sweep Range: 1 $\mu\text{sec}/\text{cm}$ to 15 sec/cm .
Calibration: 21 sweeps: 1-2-5-10 sequence, 1 $\mu\text{sec}/\text{cm}$ to 5 sec/cm . 5% accuracy.
Triggering: Internal, line voltage or external 2 v or more. Pos. or neg. slope, +30 to -30 v trigger range.
Preset Trigger: Optimum setting for automatic stable triggering.
Input Amplifiers: (Similar Vert. and Horiz. Amps) Sensitivity 1 mv/cm to 50 v/cm ; 14 ranges, continuous vernier. Pass band dc to 300 KC.
Amplitude Calibration: 1 KC square wave. 5% accuracy.
Price: \$450.00.

-hp- 150A

Sweep Range: 0.02 $\mu\text{sec}/\text{cm}$ to 15 sec/cm .
Calibration: 24 sweeps: 1-2-5-10 sequence, 0.1 $\mu\text{sec}/\text{cm}$ to 5 sec/cm . 3% accuracy.
Triggering: Internal, line voltage or external 0.5 v or more. Pos. or neg. slope, +30 to -30 v trigger range.
Preset Trigger: Same as -hp- 130A.
Horizontal Amplifier: Magnification 5, 10, 50, 100 times. Vernier selects any 10 cm part of sweep. Pass band dc to over 500 KC. Sensitivity 200 mv/cm to 25 v/cm .
Vertical Amplifier: Pass band dc to 10 MC. Optimum transient response and rise time less than 0.035 μsec . Signal delay of 0.25 μsec permits leading edge of triggering signal to be viewed.
Amplitude Calibration: 18 calib. voltages, 2-5-10 sequence, 0.2 mv to 100 v peak-to-peak. Accuracy 3%. Approx. 1 KC square wave, rise and decay approx. 1.0 μsec .
Prices: -hp- 150A High Frequency Oscilloscope, \$1,000.00.
 -hp- 151A High Gain Amplifier, \$100.00.
 -hp- 152A Dual Channel Amplifier, \$200.00.
 Data subject to change without notice.
 Prices f.o.b. factory.

-hp- 130A Low Frequency Oscilloscope

High sensitivity, dc to 300 KC. Sweeps 1 $\mu\text{sec}/\text{cm}$ to 15 sec/cm .

-hp- 150A High Frequency Oscilloscope

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

As a result of a totally new design philosophy, -hp- 130A and 150A Oscilloscopes set revolutionary standards for oscilloscope usefulness, convenience and rugged dependability. The instruments' wide versatility is indicated in the specifications at left. Their greater convenience and reliability is inherent in such unique features as: Universal automatic triggering system wherein one preset adjustment provides optimum triggering for almost all conditions. Unitized circuits, easily isolated for testing. Etched circuits, mounted on translucent plastic for "see-through" serviceability. Complete accessibility of all circuits and tubes. Highest quality components. Ultra-conservative design, with circuits operating well below ratings. Concentric, color-coded controls, grouped by function and simplified. Direct sweep time selection—no mental gymnastics. A new low capacitance clip-on probe (for -hp- 150A) has 10 megohm impedance.

Get complete data on the most important oscilloscope improvements in history! Call your -hp- representative now, or write direct!

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Type ML-6A. This unit is identical to Type ML-6 except that it is provided with pins of large diameter. See drawing.
Pin diameter: $.093 \pm .002$
Pin Length: $.400 \pm .030$

Type ML-10. Range: 15.0–50.0 mc. Supplied per mil type CR-24 when specified.
Pin diameter: $.062 \pm .002$
Pin length: $.188 \pm .005$

Type ML-14. Range: 3.0 mc–75.0 mc. Identical in performance to Type ML-6 except for height of the metal can.
Pin diameter: $.050 \pm .002$
Pin length: $.238 \pm .010 - .015$

Type ML-6. Range: 1.0 mc–125.0 mc. Supplied per mil Type CR-18, CR-19, CR-23, CR-27, CR-28, CR-32, CR-52, CR-54, CR-33, CR-35, CR-36, CR-48 when specified. Hermetically sealed metal holder with glass and metal base.
Pin diameter: $.050 \pm .002$
Pin length: $.238 \pm .010 - .015$

Midland CRYSTALS pay off in plus performance

Accuracy...uniformity...stability under toughest working conditions. Everything you want in a crystal is guaranteed you by Midland's Critical Quality Control. It's the system of checks and tests that guards the quality of every Midland crystal from selection of the raw quartz to final sealing of the unit.

Midland makes more frequency control crystals than anybody else. Only a product of the highest quality rates that kind of demand. That's why with Midland crystals you can be sure of the finest in frequency control.

Our engineering staff is ready to help you with any crystal problem, including development and production of specials for individual requirements.

Type ML-6W. Range: 2.0 mc–75.0 mc. Same as Type ML-6 except wire leads are provided, eliminating the need for a crystal socket.
Pin diameter: $.030 \pm .002$
Pin length: $2.000 \pm .250$



Type ML-5. Range: 80–200 Kc. Black phenolic holder—gasket sealed. Wire-mounted, silver-plated. The three pin base fits standard 3-pin mounting socket.
Pin diameter: $.156 \pm .003$
Pin length: $.594 \pm .032$



Type ML-1A. Range: 2.0 mc–15.0 mc. Supplied per mil Type CR-1A when specified. Holder is phenolic, gasket-sealed.
Pin diameter: $.125 \pm .005$
Pin length: $.625 \pm .030$

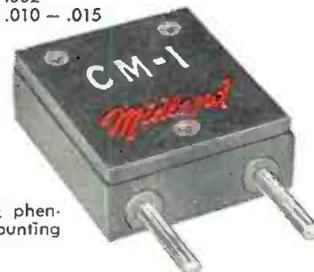
Type ML-4. Range: 2.0 mc–10.0 mc. Supplied per mil Type CR-5, CR-6, CR-8, CR-10 when specified. Holder is phenolic, gasket sealed.
Pin diameter: $.093 \pm .002$
Pin length: $.400 \pm .030$

Type ML-13. Range: 90 Kc to 300 Kc. Hermetically sealed. Can is taller to accommodate the low frequency crystal blank.
Pin diameter: $.050 \pm .002$
Pin length: $.238 \pm .010 - .015$

Type ML-171. Range: 1.5 mc–10.0 mc. Black phenolic holder. Pressure mounted, stainless steel electrodes. Banana plug pins.
Pin diameter: Not Applicable
Pin length: $.825$



Type CM-1. Range: 1.0–15.0 mc. Black phenolic holder. Fixed airgap or pressure mounting with stainless steel electrodes.
Pin diameter: $.125 \pm .005$
Pin length: $.656 \pm .030$



Type ML-1G. Range: 10.0–150.0 mc. Especially adapted to limited-space assemblies. Provided with two wire leads, eliminating need for a crystal socket. All glass, hermetic seal. No grounding problems.
Pin diameter: $.018 \pm .002$
Pin length: $1.625 \pm .125$



Type ML-2G. Range: 200 Kc–150.0 mc. An all glass 7-pin miniature of the same dimensional proportions as the 6AK5 miniature receiving tube.
Pin diameter: $.040 \pm .002$
Pin length: $.250 \pm .030$



ML-300 Series
For color television. All-glass. 7-pin base ideal for printed circuits.

Type ML-18. Range: 5.0 mc–150.0 mc. This unit is a metal counterpart of the ML-1G. Hermetically sealed holder with glass and metal base. Available with fixed pins if desired instead of the wire leads illustrated here.
Pin diameter: $.040 \pm .002$ Pin length $.234 \pm .030$
Wire: $.017 \pm .001$ Dia. by $1.500 \pm .062$ long

THE Midland MINIATURE SERIES

... for every crystal application

Developed to serve the growing trend to miniaturization, Midland miniatures are now available for every crystal need, including color television. They'll do an outstanding job for you.

Whatever your crystal need—conventional or highly specialized—when it has to be exactly right, contact Midland.

FAST SERVICE on many regular stock types, available from inventory or on short order.



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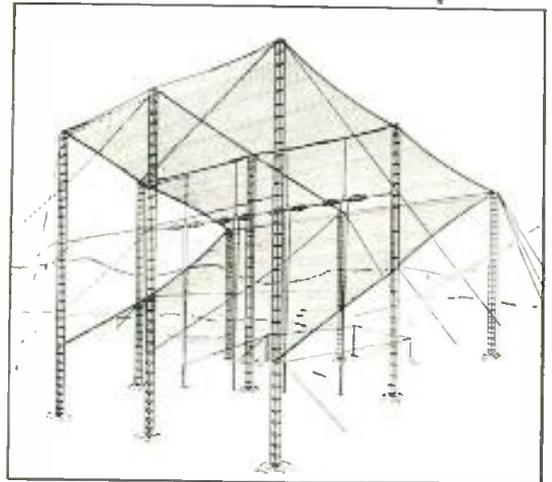
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TWO IF BY SEA...

38* IF BY AIR!



TOWER'S DEW LINE INSTALLATIONS GUARD US AROUND THE CLOCK

Paul Revere had a snap when it came to warning the countryside of impending attack. A fleet-footed horse, a feeble lantern or two, and a sharp eye cocked seaward were all that he needed to alert an infant nation's defenses. Today, danger moves swiftly on lightning wings, from any direction. Our security is measured not with an hour glass . . . but with a stop watch!

TOWER designed, fabricated and erected major elements of the Distant Early Warning (DEW) line spanning the frigid wastes of northern Canada. Instant warning of any aerial attack is flashed from this radar barrier to assure our nation of those precious extra seconds.

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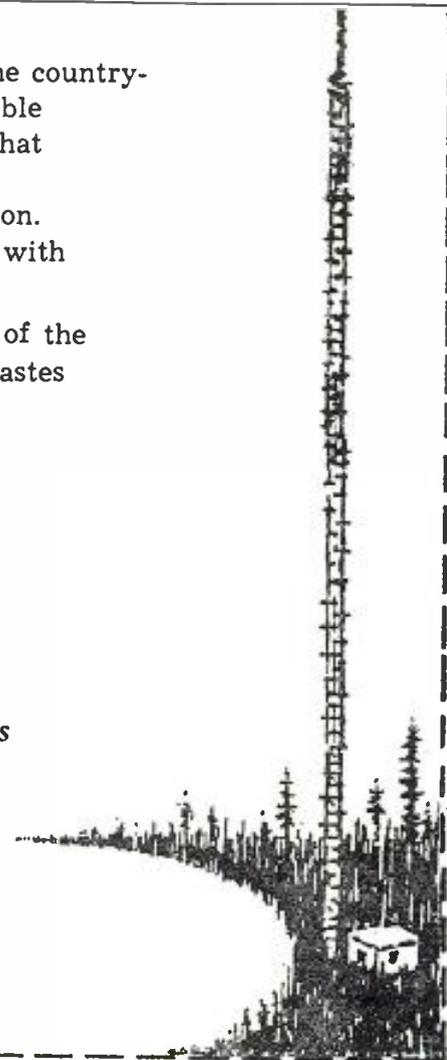
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SILICON

RECTIFIERS

MILITARY TYPES

Available in voltage ratings up to 570V PIV, Transitron's military type rectifiers are preferred types for new designs in all rectifier applications. *Write for Bulletin TE-1336.*

STUD MOUNTED TYPES

High current ratings are achieved through efficient conduction cooling. Rugged construction and rigid mountings give high shock and vibration resistance. *Write for Bulletin TE-1321.*

LEAD MOUNTED TYPES

The proven performance and dependability of the stud mounted types are now available in a versatile lead mounting arrangement. High forward conduction assures both high efficiency and good regulation. *Write for Bulletin TE-1335.*

MINIATURE TYPES

Ideal for low current power supply and magnetic amplifier circuits, the miniature rectifiers are particularly useful in aircraft, missile, or other critical applications requiring small size and high temperature reliability. *Write for Bulletin TE-1338.*

MEDIUM POWER TYPES

Transitron's medium power silicon rectifiers are rated up to 20 amperes per cell at 125°C. Their small size and high efficiency permits the design of compact lightweight circuits. Complete environmental protection is assured through hermetic sealing and rugged construction. *Write for Bulletin TE-1337.*

HIGH POWER TYPES

Transitron's high power silicon rectifiers are designed for reliable high temperature service in power supply and magnetic amplifier circuits requiring up to 35 amperes per cell. Their heavy duty flexible anode lead and 3/8" stud offer a high degree of mechanical ruggedness. *Write for Bulletin TE-1337.*

RATINGS AT 135°C CASE TEMPERATURE

Type	Peak Recurrent Inverse Voltage (volts)	Maximum Average Forward Current (ma)	Peak Recurrent Forward Current (amps)
1N253*	95	1000	4.0
1N254*	190	400	1.2
1N255*	380	400	1.2
1N256*	570	200	0.6
*JAN Types			
1N332	400	400	2.5
1N334	300	400	2.5
1N336	200	400	2.5
1N338	100	1000	6.0

RATINGS AT 100°C AMBIENT

Type	Peak Recurrent Inverse Voltage (volts)	Maximum Average Forward Current (ma)	Peak Recurrent Forward Current (amps)
TL-12	100	350	2.0
TL-22	200	350	2.0
TL-42	400	350	2.0
TL-61	600	200	1.0
TJ-5	50	100	.5
TJ-10	100	100	.5
TJ-20	200	100	.5
TJ-30	300	100	.5

RATINGS AT 125°C CASE TEMPERATURE

Type	Peak Recurrent Inverse Voltage (volts)	Maximum Average Forward Current (ma)	Peak Recurrent Forward Current (amps)
1N248A	50	20	90
1N249A	100	20	90
1N250A	200	20	90
1N411A	50	35	140
1N412A	100	35	140
1N413A	200	35	140

DIODES

HIGH CONDUCTANCE TYPES

Transitron's subminiature glass silicon diodes feature high forward conductance and reliable operation at high temperatures. They are ideal for miniaturized circuitry and other applications requiring high voltage ratings and low inverse current. *Write for Bulletin TE-1339.*

HIGH FREQUENCY TYPES

The silicon bonded diodes are small area junction diodes specifically designed for high frequency circuits up to 1000 mc, and fast switching applications requiring recovery times of .15 microseconds or less. They are particularly useful in detector, discriminator, logic and high speed transistor circuitry. *Write for Bulletin TE-1308-A.*

SPECIFICATIONS AT 150°C

Type	Maximum Forward Voltage @ 100 ma @ 25°C (volts)	Inverse Current at Specified Voltage (μa @ volts)	Minimum Saturation Voltage (volts)
1N482B	1.0	5 @ -30	40
1N483B	1.0	5 @ -60	80
1N484B	1.0	5 @ -125	150
1N485B	1.0	5 @ -175	200
1N486A	1.0	25 @ -225	250

SPECIFICATIONS AT 100°C

Type	Forward Current at +1V (ma, min.)	Inverse Current at Specified Voltage (μa @ V)	Maximum Operating Voltage (volts)
1N251	2	10 @ -10	30
1N252	4	10 @ -5	20
S5G	1	10 @ -10	30
S6G	4	50 @ -5	15

In addition to the above products, a wide variety of standard, as well as special, types are also available. Transitron's special engineering group is available to help with specific applications. Inquiries concerning your particular problems are invited.

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GERMANIUM

SPECIFICATIONS AND RATINGS AT 25°C

Type	Minimum Common Emitter Current Gain, B	Maximum Power Dissipation (milliwatts)	Maximum Collector Voltage (volts)
2N200	30	100	30 @ 75°C
2N204	15	100	30 @ 75°C
2N205	50	100	30 @ 75°C
2N195	100	100	12
2N196	50	100	25
2N197	40	100	25
2N198	30	100	25
2N199	15	100	25
2N43	33	150	45
2N44	15	150	45
2N45	9	150	45

SPECIFICATIONS AND RATINGS AT 25°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

TRANSISTORS

Transitron's PNP junction transistors are designed for high reliability applications requiring exceptional performance under severe operating conditions. Welded hermetic sealing and 100% inspections for shock, vibration and moisture resistance insure dependability and permanent environmental protection.

A variety of types are available covering a wide range of uses. Included is the type 2N200, which is specifically intended for military applications where ambient temperatures up to 75°C are encountered. Other types feature low I_{co}, high gain and low noise figure. Write for Bulletin TE-1320.

POWER TYPES

Transitron's power transistors are intended for use in Class A or Class B output stages, servo motor drivers and similar applications requiring up to 30 watts load power at 25°C. Operation up to 75°C is possible at reduced ratings. Low saturation voltage and useful current gain up to 3 amperes permits efficient switching. Write for Bulletin TE-1320.



SPECIFICATIONS AND RATINGS AT 25°C

Type	Forward Current at +1V (ma)	Inverse Current at Specified Voltage (µa @ V)	Maximum Operating Voltage (volts)	Description
1N270	200	100 @ -50	80	JAN TYPES
1N277	100	250 @ -50 75 @ -10 @ 75°C	100	
1N281	100	500 @ -50 30 @ -10	60	
1N126	5	850 @ -50 50 @ -10	60	
1N127	3	300 @ -50 25 @ -10	100	
1N128	3	10 @ -10	40	
1N198	5	250 @ -50 75 @ -10 @ 75°C	50	
1N38A	4	500 @ -50 6 @ -3	100	
1N69	5	500 @ -50 30 @ -10	60	
1N70	3	300 @ -50 25 @ -10	100	
1N81	3	10 @ -10	40	
1N283	200	20 @ -10	20	COMPUTER TYPES
T16G	40	100 @ -50 20 @ -10	60	
1N191	5	125 @ -50 25 @ -10 @ 55°C	60	HI TEMPERATURE TYPES
1N278	20	125 @ -50 @ 75°C	50	
T20G	20	500 @ -50 30 @ -10 @ 75°C	50	
T22G	40	20 @ -10 @ 75°C	15	HI RESISTANCE TYPES
T9G	100	20 @ -50 2 @ -10	60	
T13G	40	2 @ -10	20	
1N67A	5	50 @ -50 5 @ -5	80	

GOLD BONDED DIODES

Features

- Complete Reliability.
- Superior Forward Conductance.
- Higher Inverse Resistance
- More Uniform Characteristics.
- Greater Ruggedness.

The proven performance and superior characteristics of Transitron's gold bonded germanium diodes are available in a wide variety of military and commercial types. Millions of these gold bonded diodes are in use in such applications as airborne computers, high temperature magnetic amplifiers, and business machines. They have established an outstanding record of dependability in critical applications.

Mechanical and electrical ruggedness is "built in" to the Transitron diode through the unique gold bonding process and close manufacturing control. An all-glass hermetically sealed case insures complete environmental protection. All Transitron diodes are subjected to rigid 100% inspections, including shock, vibration and temperature and humidity cycling. Write for Bulletins TE-1300 and TE-1319.



Transitron

electronic corporation

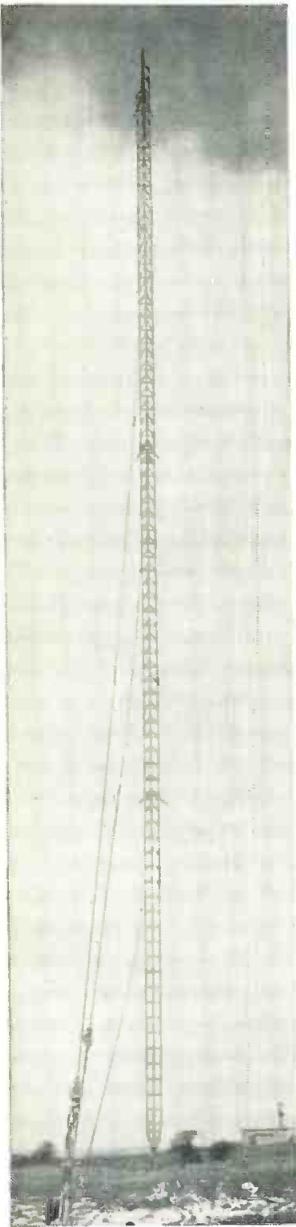
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MELrose 4-9600

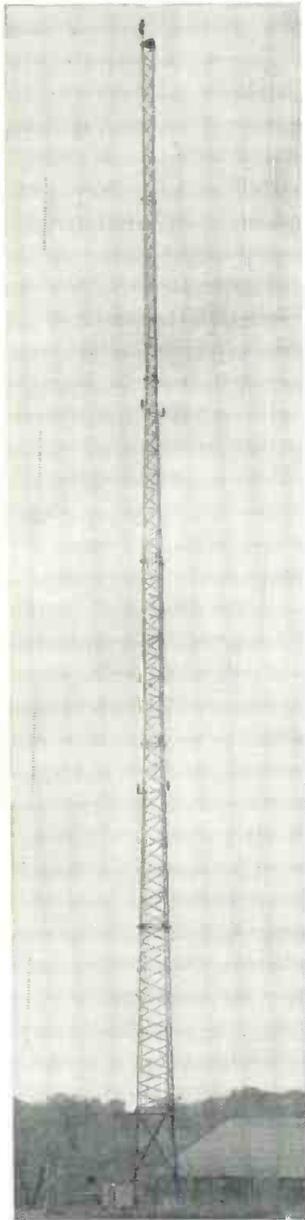


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Our Youngstown "Showroom" has a variety of Truscon Towers in full operation



WFMJ-TV
Truscon Triangular
Guyed Tower
1000-Feet Tall



WBBW
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We can't bring a steel tower to you; but the next time you're in Youngstown, you can see and inspect several Truscon Steel Towers in actual operation—study their features—and select the one that can do the best job for you.

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3. Six 350-foot self-supporting towers in directional array for AM broadcasting with one supporting an FM antenna
4. A 539-foot self-supporting tower sustaining both an FM and a TV antenna
5. A 1000-foot guyed tower with TV antenna.

Of course, Truscon will engineer and construct a tower to suit your specific requirements—whether tall or small . . . guyed or self-supporting . . . tapered or uniform in cross section, for AM, FM, TV, or Microwave transmission.

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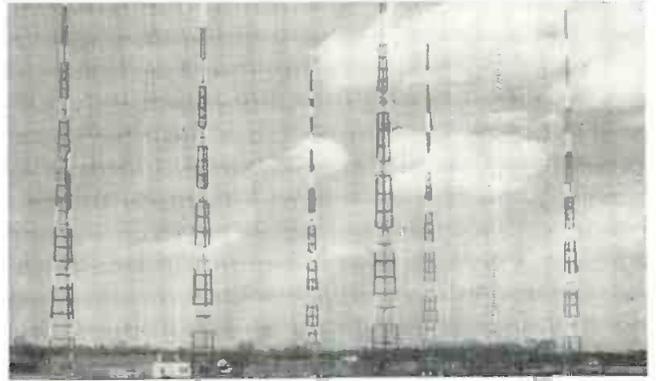


A NAME YOU CAN BUILD ON

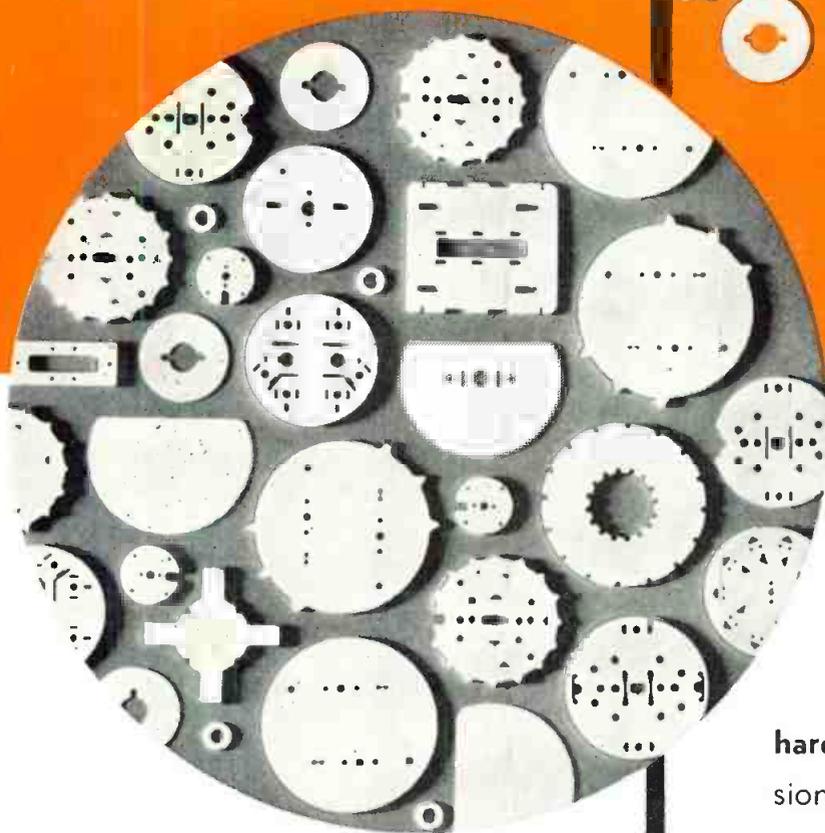
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Here's 1% accuracy in an extremely stable non-wire wound resistor at a price low enough to permit its use wherever the characteristics of composition carbon resistors are not fully suited. IRC's unmatched experience in producing film type resistors has led directly to the superior reliability and stability of IRC Deposited Carbons. Outstanding characteristics include load, environmental and age stability and ability to operate at higher temperatures than MIL specification requirements, low wattage coefficient, and low capacitive and inductive reactance in high frequency applications.

3 SMALL SIZES—DCC ½ WATT
DCF 1 WATT and DCH 2 WATTS

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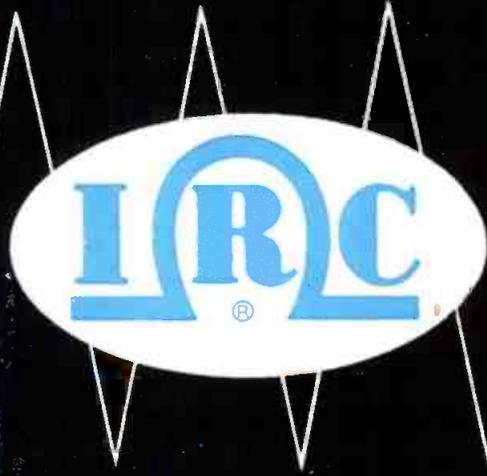
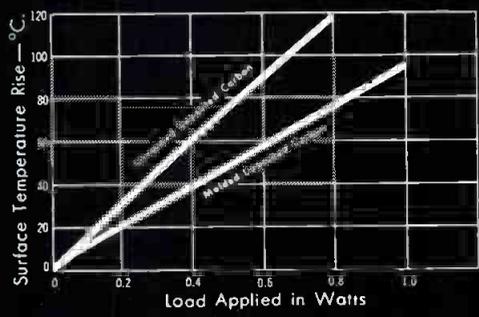
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Molded Deposited Carbon

Molded Deposited Carbon resistors are now available from IRC in 5 sizes: Types MDA—¼ watt, MDB—¼ watt, MDC—½ watt, MDF—1 watt, MDH—2 watts. The molded plastic housing provides complete mechanical protection, minimizes the effect of moisture and improves load life characteristics. These 1% precision film type units exceed MIL-R-10509A specifications.

COMPARISON SURFACE TEMPERATURE RISE VS. LOAD
Molded vs. Unmolded Deposited Carbon Resistors



Boron Carbon

Where a high degree of accuracy under widely varying temperatures is required, IRC Boron Carbons offer an ideal combination of characteristics. Their superior temperature stability is provided in 3 sizes: Types BOC—½ watt, BOF—1 watt and BOH—2 watts—all 1% accuracy. Considering weight, size and cost factors, plus lower capacitive and inductive reactance, these film type precision resistors can satisfactorily replace wire wounds.

IRC TYPE	BOC	BOF	BOH
Equivalent MIL Style	RN 20R	RN 25R	RN 30R
Wattage (40°C. Ambient)	½	1	2
Max. Continuous Voltage	350 V.	500 V.	750 V.
Minimum Ohms	10	20	30
Maximum Ohms (IRC)	0.5 meg	2.0 meg	5.0 meg

makes them all... can recommend without bias...

HYCOR DIVISION of IRC, Sylmar, Calif.

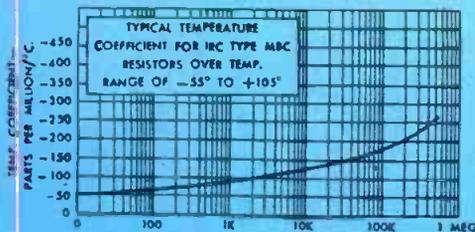
TOLERANCE RESISTORS than any supplier in the industry



Molded Boron Carbon

Only from IRC can you obtain Boron Carbon resistors with the protection of a molded plastic housing. Any risk of mechanical damage to the coating or of insulation breakdown is overcome. Any need for special handling is eliminated, and moisture and load life characteristics are improved. 5 sizes—Types MBA— $\frac{1}{4}$ watt, MBB— $\frac{1}{4}$ watt, MBC— $\frac{1}{2}$ watt, MBF—1 watt, MBH—2 watts. All exceed MIL-R-10509A specifications.

TYPICAL TEMPERATURE COEFFICIENT



MANY COMBINATIONS OF CHARACTERISTICS AND OPPORTUNITIES FOR COST REDUCTION ARE INVOLVED WHEN SPECIFYING CLOSE TOLERANCE RESISTORS. NO OTHER SINGLE SOURCE CAN OFFER YOU THE SCOPE OF TECHNICAL GUIDANCE AVAILABLE FROM IRC.

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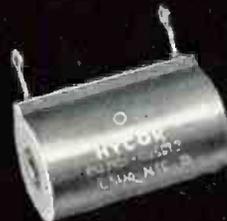


Wire Wound

IRC's winding skills and automatic assembly equipment provide precision windings to exacting standards. Continuous inspections at every stage of manufacture assure maximum reliability in each finished resistor. Available in 7 sizes including tiny Type WW10J— $1\frac{1}{32}'' \times \frac{1}{32}''$. Standard tolerance $\pm 1\%$; minimum tolerances are shown below.

Minimum Tolerances

Resistance	Types WW2, 3, 4, 5, 8 and 11J	Type WW10J
10 ohms & up	0.1%	
5 ohms & up	0.25%	
1 ohm & up	0.5%	
1500 ohms & up		0.1%
200 ohms & up		0.25%
65 ohms & up		0.5%



Encapsulated Wire Wound

Series "PH" Encapsulated resistors are produced to IRC's high standards and represent many years' experience in the development and manufacture of precision wire-wound resistors. Available in many types and styles, including types for use in printed wiring assemblies and subminiature Type 128A. Standard tolerance $\pm 1\%$. Also, $\pm 1\%$, 0.5%, .25% and .05% can be supplied. Series "PH" offers the most complete selection of Encapsulated precision wire-wound resistors available, all designed to meet MIL-R-93 specifications.

INTERNATIONAL RESISTANCE COMPANY

Dept. 584, 401 N. Broad St
Philadelphia 8, Pa.

SEND ME TECHNICAL BULLETINS ON—

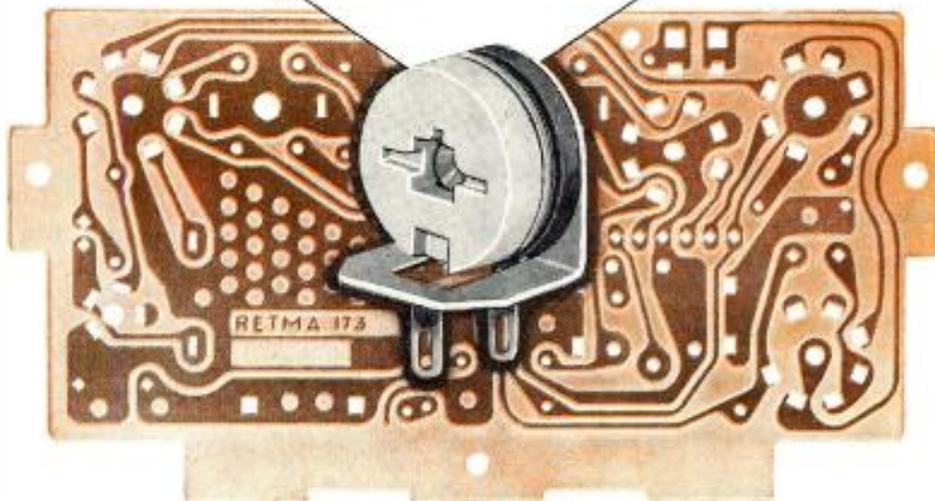
- Deposited Carbon
- Molded Deposited Carbon
- Boron Carbons Molded Boron Carbons
- Type WW Precisions Series PH

Name _____
 Company _____
 Address _____
 City _____ State _____

HERE IT IS!

A NEW Plug-In Trimmer for Printed Circuit Boards

Another FIRST by ERIE



The ERIE 3192 Plug-In Trimmer keeps pace with current design trends while maintaining the qualities for which ERIE Trimmers have long been notable—fidelity to specifications, rugged stability, and straight-line capacity change throughout the total range. All the features of the popular Style 557 are embodied in this new trimmer.

Note these features:

- Designed specifically for Printed Circuit Boards
- Ideal for critical vibration applications
- Compact and convenient for application in miniaturized circuits
- Available with zero or negative temperature characteristics
- Custom built assemblies to suit the customer's needs

ERIE has been a leader since 1940 in the manufacture of Printed Circuits. The ERIE Printed Circuit Board shown above has these special features:

- Approved by Underwriters' Laboratories
- Unusually rigid construction
- Boards do not come in contact with acids of any type while being produced
- Custom designed to meet your requirements

Write for Engineering Bulletin on the ERIE 3192 Plug-In Trimmer and ERIE Printed Circuit Boards.

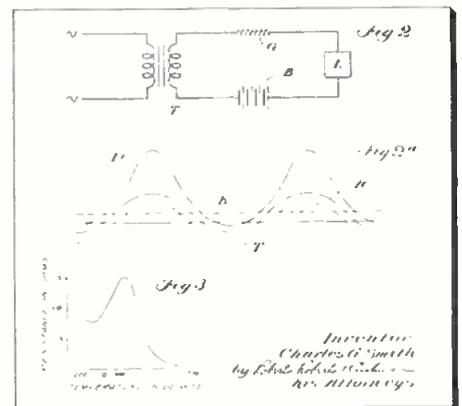
ERIE ELECTRONICS DIVISION
ERIE RESISTOR CORPORATION
 Main Offices and Factories: ERIE, PA.
 Manufacturing Subdivisions
 HOLLY SPRINGS, MISSISSIPPI • LONDON, ENGLAND • TRENTON, ONTARIO

ELECTRONIC Vignettes

Germanium Milestones

CONTRARY to general belief, germanium has been used in electronic circuits long before the advent of the transistor. As long ago as 1923, Dr. Charles G. Smith of Raytheon applied for a patent on the use of germanium as a rectifying element. This patent, No. 1,679,448—Electrical-Current Modification, awarded in 1928, is described below.

The invention involves the use of a resistance element whose resistance changes rapidly in response to temperature changes. The temperature coefficient may be either positive or negative and preferably has both a positive and negative range so that it may be changed from positive to negative by a relatively slight change of temperature. Germanium is such an element. See Fig. 3.



In rectifying alternating current, the temperature of the resistance element is varied in synchronism with an alternating current so that it offers greater resistance to the passage of the ac in one direction than in the other. (Greater resistance during the positive half-cycle than during the negative, or vice versa.) The temperature may be varied directly by the ac or by an auxiliary source of heat whose frequency of application is synchronized with the ac.

A typical circuit showing the use of germanium as a rectifying element is seen in Fig. 2. The battery will oppose alternate half-cycles of the current and aid the other half-cycles. The resultant of the individual currents produced by the battery (B) and the transformer (T), in the absence of the germanium element (G), is represented by curve H of Fig. 2a. By properly coordinating the circuit elements, the relatively large half-cycles of current (positive cycles of curve H) may be caused to heat the resistance element G to the range where its coefficient is negative. Resultant current is curve D.

SOMETHING NEW FROM VARIAN...

HIGH STABILITY

WITHOUT ELECTRONIC COMPONENTS



VA-1281
Stalo Cavity
with VA-201 klystron



VA-1282
Stalo Cavity
with X-26 klystron



VA-1280
Stalo Cavity
with VA-201 klystron

Now—with Varian's new line of high Q Cavities, frequency stabilized local oscillators (Stalos) utilizing direct cavity stabilization are commercially practical. Varian Stalo Cavities provide a very high degree of short time frequency stability. Stabilization is completely independent of the frequency of oscillator fluctuations and external disturbances... an inherent advantage over electronic stabilization systems utilizing the feedback principle. Elimination of all electronic components except the klystron oscillator also affords greater reliability and longer life.

The ratio of the oscillator modulation sensitivity to the modulation sensitivity of the stabilized oscillator defines the stabilization factor of the cavity. Varian Stalo Cavities are available in three models—VA-1280, 1281 and 1282—offer stabilization factors from 15 to 160... cover a wide range of important applications, including stabilization of signal sources in high power klystron transmitters... airborne uses in conjunction with receiver local oscillators... laboratory testing. When used with Varian's new highly stable reflex klystron oscillators, stability comparable to that of many crystal controlled oscillators can be obtained.

THE
MARK OF
LEADERSHIP



COMPLETE TECHNICAL
DATA and specifications
are now available.

Your inquiry is cordially invited.

VARIAN associates
PALO ALTO 10, CALIFORNIA
Representatives in principal cities

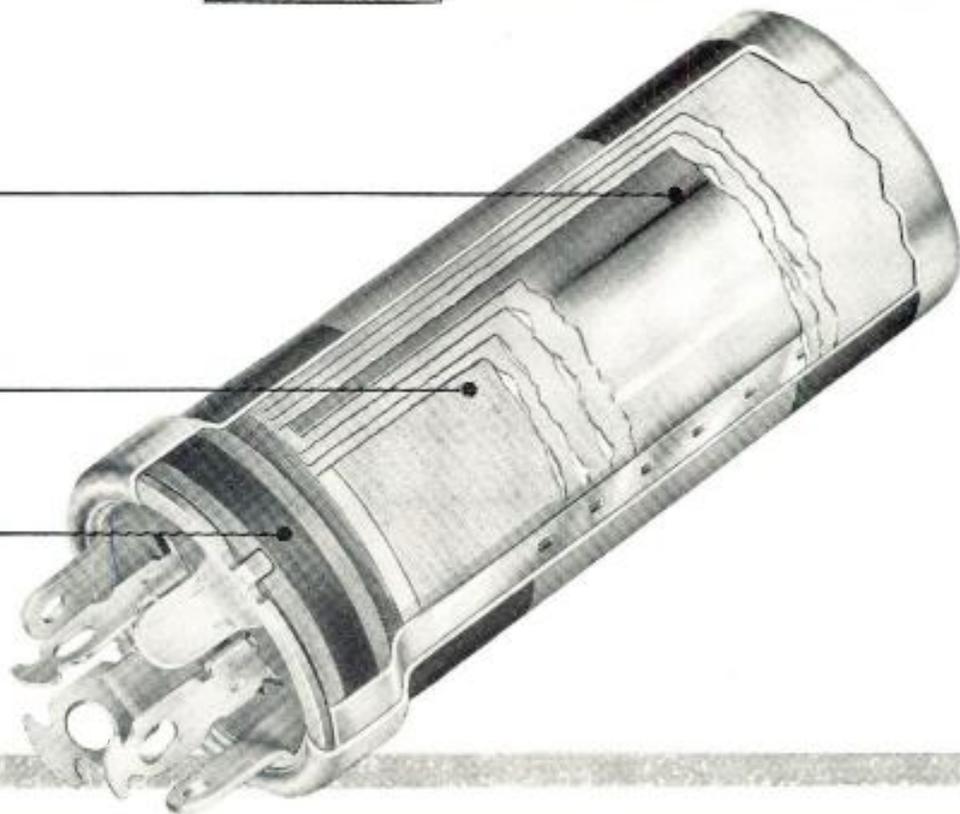
KLYSTRONS, TRAVELING WAVE TUBES, BACKWARD WAVE OSCILLATORS, R. F. SPECTROMETERS, MAGNETS, STALOS, UHF WATERLOADS, MICROWAVE SYSTEM COMPONENTS, GRAPHIC RECORDERS, RESEARCH AND DEVELOPMENT SERVICES

MALLORY

Etched cathode

FP plate for
85° C service

Leakproof seal



Look Inside to See Why FP Capacitors Perform Better

OUTSIDE similarity can be deceiving, with electrolytic capacitors. To find out why Mallory FP Capacitors have long been the leader in their field, you need to look *inside* the can . . . to see these extra value features of design:

Genuine fabricated plate anode, originated by Mallory, provides high capacitance in small volume . . . to give superior heat dissipation, handle high ripple current and provide low inter-section coupling.

Etched cathode prevents capacitance loss in service, helps reduce r-f impedance.

85° C construction, standard in FP capacitors for

years without premium cost, eliminates need for voltage de-rating.

Carefully integrated design assures extremely stable characteristics throughout entire life.

Strict quality control in manufacturing assures you complete dependability of every capacitor. Plan to use this high standard of quality and uniformity in the equipment you are now designing, or already have in production. A Mallory capacitor specialist can give you valuable help not only in selection of appropriate ratings and sizes, but also in coordinating capacitors with design of related components. Write today for our latest Technical Bulletin.

Serving Industry with These Products:

Electromechanical—Resistors • Switches • Television Tuners • Vibrators
Electrochemical—Capacitors • Rectifiers • Mercury Batteries
Metallurgical—Contacts • Special Metals and Ceramics • Welding Materials

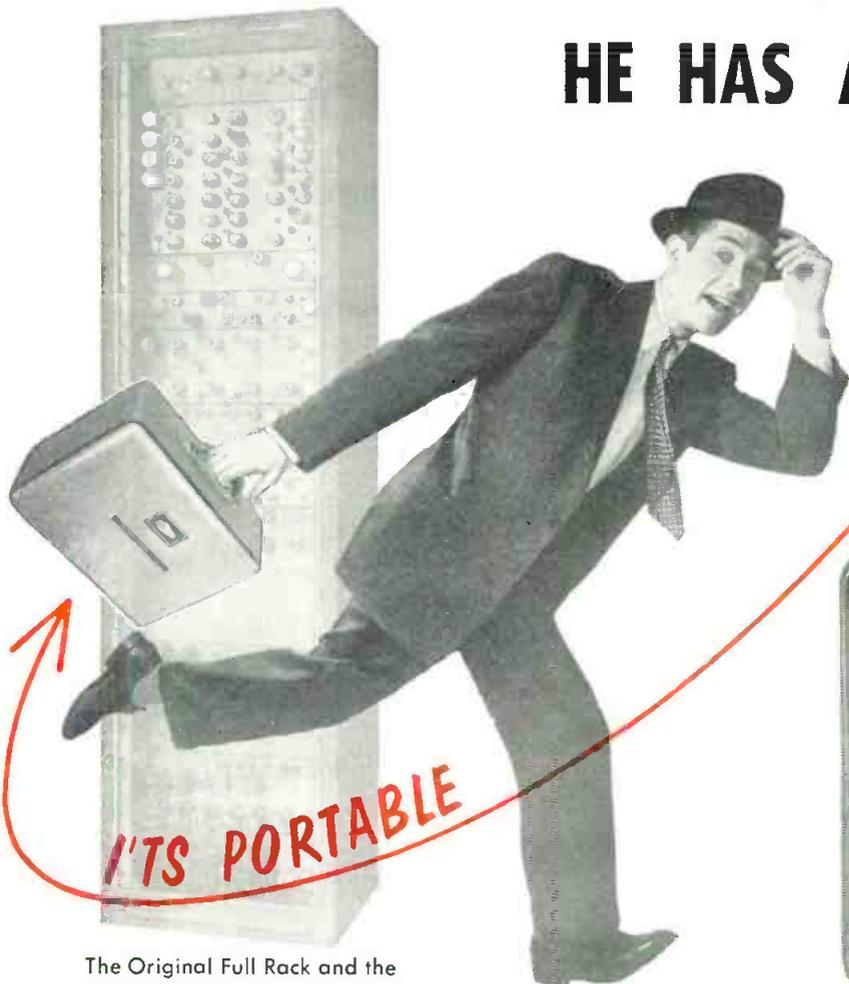
Parts distributors in all major cities stock Mallory standard components for your convenience.

Expect more . . . get more from



HE CAN CHECK VIDEO ANYWHERE

HE HAS A **NEW** VIDEO TRANSMISSION TEST SET



IT'S PORTABLE

The Original Full Rack and the Portable Unit Produce the same Precise Test Signals.



Model 1003-A

Video Transmission Test Signal Generator

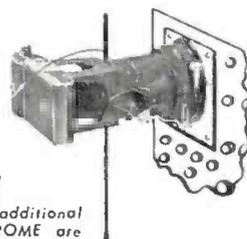
★ Completely self contained ★ Portable ★ Multi-frequency burst ★ Stair-step ★ Modulated stairstep ★ White window ★ Composite sync ★ Regulated power supply.

Now, Telechrome Video Transmission Test Equipment is available as a completely portable 12 1/4" standard rack mounting unit.

Everyday these Test Signals generated by Telechrome equipment, are transmitted Coast-to-Coast by NBC, CBS, ABC, the Bell System, Canadian Bell and leading independent TV stations throughout the U. S. and Canada. Hundreds of network affiliated TV stations and telephone TV centers thus check incoming video signals.

The compact, inexpensive, portable Model 1003-A is all that is required to generate signals for local and remote performance checking of your entire video, cable, or micro-wave facilities.

1521-A OSCILLOSCOPE CAMERA
—Polaroid type for instantaneous 1 to 1 ratio photo-recording from any 5" oscilloscope.



DELIVERY 30 DAYS

Literature on these and more than 150 additional instruments for color TV by TELECHROME are available on request.



The Nation's Leading Supplier of Color TV Equipment
88 Merrick Road Amityville, N. Y.
Amityville 4-4446



MULTI-FREQUENCY BURST

AMPLITUDE vs FREQUENCY. Check wide band coaxial cables, micro-wave links, individual units and complete TV systems for frequency response characteristics without point to point checking or sweep generator.



WHITE WINDOW

LOW & HIGH FREQUENCY CHARACTERISTICS. Determine ringling, smears, steps, low frequency tilt, phase shift, mismatched terminations, etc. in TV signals or systems.

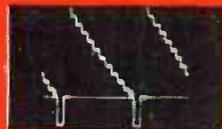


STAIRSTEP SIGNAL modulated by crystal controlled 3.579 mc for differential amplitude and differential phase measurements. Checks amplitude linearity, differential amplitude linearity and differential phase of any unit or system.

Model 608-A HI-LO CROSS FILTER for signal analysis.



MODULATED STAIRSTEP signal thru high pass filter. Checks differential amplitude.



MODULATED STAIRSTEP signal thru low pass filter. Checks linearity.

Electronic Industries News Briefs

Capsule summaries of important happenings in affairs of equipment and component manufacturers

EAST

ANACONDA WIRE AND CABLE COMPANY, is now installing extensive equipment for the production of paper-insulated, lead-covered telephone cable. The new facilities are expected to be in production during the 2nd half of '56.

ARROW ELECTRONICS, INC., has moved their Industrial Department to larger quarters at 525 Jericho Turnpike, Mineola, L. I., N. Y.

BARRY CONTROLS, INC., Watertown, Mass., has arranged to purchase all physical assets of the U. S. Sheet Metal Products Co., Burbank, Calif.

CORNING GLASS WORKS, Corning, N. Y., has formed an Electronic Components Dept. in the Electrical Products Div. to manufacture and sell fixed glass capacitors, EC film type resistors, trimmer capacitors and metallized glass.

EMERSON & CUMING, INC., has added an additional 15,000 sq. ft. of manufacturing space to their plant at 869 Washington St., Canton, Mass.

FAIRCHILD CAMERA & INSTRUMENT CORP., Syosset, N. Y., has received a contract for an undisclosed quantity of valve position indicators and detectors from the Bettis plant, U. S. Atomic Energy Comm., Pittsburgh, Pa.

GENERAL ELECTRIC COMPANY, Schenectady, N. Y., is planning long-term financing through an issue of \$300 million of debentures. The public offering, scheduled for later in the spring, will rank among the largest debenture offerings by an industrial company.

GENERAL PRECISION LABORATORY INC., Pleasantville, N. Y., has broken ground for a new Environmental Test Laboratory, which will contain 23,200 sq. ft. of floor space, and will house equipment capable of duplicating the climates and weather conditions found anywhere on the face of the globe.

KENT MFG. CORP. has opened a new plant for the manufacturing of fine electrical devices, in Newton, Mass.

MAGNAVISON ELECTRONICS CORP., Garwood, N. J., has opened a new plant devoted exclusively to the manufacture of TV replacement tubes.

THE NEW LONDON INSTRUMENT CO., New London, Conn., change in ownership announcement previously reported actually took place more than a year ago. The company advises that the announcement was primarily intended to make public the names of the owners.

OTARION, INC., Dobbs Ferry, N. Y., has announced the appointment of Dr. Fred W. Kranz, one of the nation's leading authorities on acoustics and hearing, as consultant to the firm.

THE POLYMER CORP., OF PENNSYLVANIA, Reading, Pa., has opened an office and warehouse at 168 Ninth Ave., N. Y. C.

REEVES INSTRUMENT CORP. has established a Greater New York area sales office at 215 E. 91st St., New York, N. Y.

SYLVANIA ELECTRIC PRODUCTS, INC., New York, N. Y., has embarked upon a multi-million dollar expansion program in the atomic power field. The program will extend over the next five years.

UNITED TECHNICAL LABORATORIES, INC., Morristown, N. J., has announced that their KLIPZON line of self-holding prods and connectors has been taken over jointly by General Cement Manufacturing Co., Rockford, Ill.; and Walsco Electronic Corp., Los Angeles.

VISUAL ELECTRONICS CORP., New York, N. Y., has been appointed national distributors for complete microwave facilities of Lambda-Pacific.

MID-WEST

ARMOUR RESEARCH FOUNDATION of Illinois Institute of Technology, Chicago, Ill., is leading 19 industrial companies in a cooperative venture to determine how nuclear research can be of value in their operations.

BATTELLE INSTITUTE, Columbus, Ohio, has established a Systems Engineering Division for research in the development and design of automatic processing and control systems.

DU MONT ILLINOIS INC., a wholly-owned Du Mont corporation in Chicago, Ill., has been established to handle sales of Du Mont TV receivers, hi-fi phonograph units, and radios in the Chicago area.

GRUEN WATCH COMPANY, Cincinnati, Ohio, has been awarded four defense contracts totalling \$2,239,000. Largest of these is with the Convair Division of General Dynamics Corp. for the design, development, and pilot production of electro-mechanical gyro test equipment.

MINNEAPOLIS-HONEYWELL REGULATOR CO., aeronautical division, will design and manufacture a reference guidance system to help guide Project Vanguard towards upper atmosphere.

INTERNATIONAL BUSINESS MACHINE CORP., has installed an IBM 705 Electronic Data Processing Machine, the first in the petroleum industry, in the Baton Rouge, La., refinery of Esso Standard Oil Company.

THE W. L. MAXSON CORP. has established a district office at Arlington, Tex. Grant A. Dove has been named as Rep and will handle sales activities for the company in the area.

OGDEN COIL & TRANSFORMER COMPANY, has moved its facilities to 3323 W. Cermak Rd., Chicago, Ill. The new quarters consist of over 50% more floor space than was previously occupied.

SHURE BROTHERS, INC., has recently moved into a new building at 222 Hartrey Ave., Evanston, Ill. The new plant is situated just north of the Chicago city limits.

WESTERN UNION TELEGRAPH CO. has placed an order with Raytheon Manufacturing Co. for the construction of all of the necessary terminal and repeater station equipment for the extension of its multi-channel microwave facilities from Pittsburgh to Chicago.

WEST

THE BENSON-LEHNER CORP., Los Angeles, Calif., data reduction equipment manufacturer, has announced the introduction of a complete service program, available to customers throughout the world.

FEDERATED METALS DIVISION of American Smelting and Refining Co. has established a West Coast core solder manufacturing facility in San Francisco, Calif.

GENERAL ELECTRIC COMPANY's Carboloy Department's Pacific district offices are now located at 2106 W. Washington Blvd., Los Angeles, Calif.

LOGISTICS RESEARCH INC., Redondo Beach, Calif., has delivered an ALWAC electronic digital computer to North American Aviation Inc., marking the third ALWAC delivery in the first quarter of 1956.

NUCLEAR CORPORATION OF AMERICA, INC., has acquired Isotope Specialties Co., of Burbank, Calif., in exchange for 47,991 shares of Nuclear's Class A stock. In a similar transaction, involving the exchange of 22,222 shares of Class A stock, Nuclear has also acquired the assets and business of Research Chemicals, Inc., Burbank, Calif.

PACIFIC AUTOMATION PRODUCTS, INC., Glendale, Calif., has been awarded a contract in excess of \$2.3 million by General Dynamic's Convair Division in San Diego, Calif.

RESIN INDUSTRIES, Santa Barbara, Calif., has been acquired by the Borden Company, New York, N. Y. The acquisition includes the consolidated activities of Resin Industries, Resinite Sales Corp. and Grant Chemical Corp., all of Santa Barbara.

SNYDER ANTENGINEERS, INC., West Coast affiliate of Snyder Mfg. Co., has opened a large warehouse at 2724 Leonis Blvd., Los Angeles, Calif.

FOREIGN

CORPORACION NACIONAL DISTRIBUIDORA, S. A., Mexico City, Mexico, has received a manufacturing and sales license for Du Mont TV receivers and radios for Mexico.

MARCONI'S WIRELESS TELEGRAPH CO. LTD., Chelmsford, Essex, England, has been awarded a contract by the Iraq Posts and Telegraphs for the building of a complete new high power broadcasting station near Baghdad.

LEAR, S. A., Geneva, Switzerland, and Lear Electronic, GmbH, Reim, Germany, have been established as operating companies abroad to support the expanded European operation of Lear, Inc., Santa Monica, Calif.

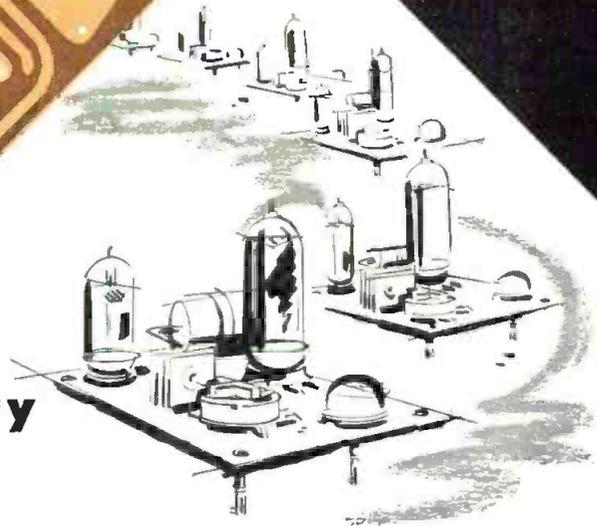
RADIO STATION ONDAS del LAGO, Maracaibo, Venezuela, has purchased TV broadcasting facilities from RCA. The station will serve a potential audience of 130,000 with an effective radiated power of 12 kw.

SORENSEN LTD., Zurich, Switzerland, subsidiary of Sorensen & Co., Inc., Stamford, Conn., has merged with Applied Research and Development Ltd., also of Zurich.



Textolite® COLD PUNCH 11570

a laminate
for today's
automation
trends...



new precision registry for printed circuits

G-E TEXTOLITE Cold Punch 11570, a phenolic paper-base laminate, adds new concepts to mechanized printed circuitry. This high insulation resistance XXXP laminate can be punched at normal room temperatures—eliminating dimensional changes in the material, as is the case of grades that are heated prior to punching.

The cold fabricating quality of G-E TEXTOLITE 11570 makes possible precision registration of printed circuits, and affords manufacturers the opportunity to use automatic assembly equipment in mounting components.

Other outstanding features of G-E TEXTOLITE 11570 include high flexural strength, very low power factor, high heat resistance, and optimum uniformity. The translucency of TEXTOLITE 11570 permits a visual check for accuracy of circuit registration.

This new G-E TEXTOLITE Cold Punch 11570, with superior electrical and mechanical properties, now offers new opportunities to electrical and electronic manufacturers.

Progress Is Our Most Important Product

GENERAL  ELECTRIC

- G-E Textolite® Laminated Sheets, Rods & Tubes •
- Irrathene® Irradiated Polyethylene • Silicone Insulation •
- Mica and Mica Mat Insulation • Insulating Varnishes •
- Varnished Cloth and Tapes • Sealing and Filling Compounds •



*when the properties have to be right
specify G-E Textolite*

SEE THE DISPLAY OF G-E TEXTOLITE COLD PUNCH 11570
AT THE IRE SHOW BOOTH 526-530—KINGSBRIDGE ARMORY

General Electric Company
Laminated and Insulation Products Department
Section TTL-66, P. O. Box 5911, Cleveland Ohio

- Please send me your new booklet,
"A Laminate for Automation."
- Please have your representative call.

Name _____

Firm _____

Street _____

City _____ Zone _____ State _____

EIMAC X600 Klystron covers 1700-2400mcs at 10kw/cw with less than one watt drive

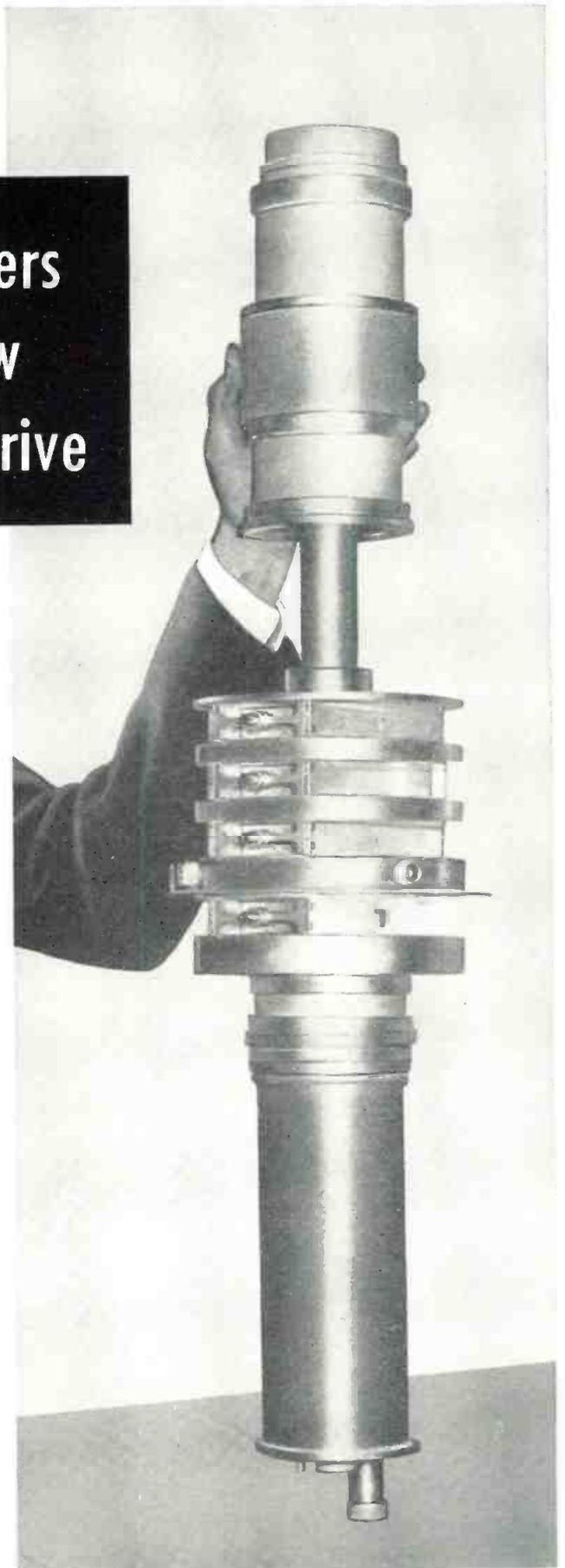
Delivering 10 kilowatts at 1700-2400mcs., the Eimac X600 opens another portion of the spectrum to high power forward-scatter communications. This new four cavity klystron operates at 40% efficiency with power gains up to 50 db.

Exceptionally wide range tuning over 700mc., giving one tube coverage between 1700 and 2400 megacycles, and a large, conservatively rated oxide cathode are bonus features of the Eimac X600. The exclusive Eimac modulating anode makes it desirable for pulse and amplitude modulation applications.

As is the case in all Eimac UHF klystrons RF circuitry is completed outside the vacuum envelope giving equipment manufacturers the exclusive advantages of readily adjustable input and output coupling and individual intermediate cavity loading. Users benefit through accessible tuning elements, ease of maintenance and operating economy.



For information on the X600 and other Eimac klystrons for high power tropospheric scatter and MTI radar systems, contact our Application Engineering Department.



Eimac

EITEL-McCULLOUGH, INC.

SAN BRUNO • CALIFORNIA

The world's largest manufacturer of transmitting tubes



HUGHES MEMOTRON

A NEW TYPE OF
CATHODE RAY TUBE

MAINTAINS brilliant traces indefinitely.

Now you can examine nonrecurrent phenomena without resorting to photography. The Memotron, a direct display cathode ray storage tube, retains transients—permits leisurely examination on the tube face itself.

There is no blooming or fading. And the high tube brilliance permits its use without a hood, even in well-lighted surroundings.

DISPLAYS successive transient writings.

Even the most complex patterns can be superimposed or shifted in position. The Memotron tube thereby enables you to make convenient comparisons and analyses.

INSURES superior file records.

When a file record is needed, photography is greatly simplified because all displays occur at a constant, uniform brightness regardless of differences in writing speeds. Therefore, a single camera exposure setting is sufficient.

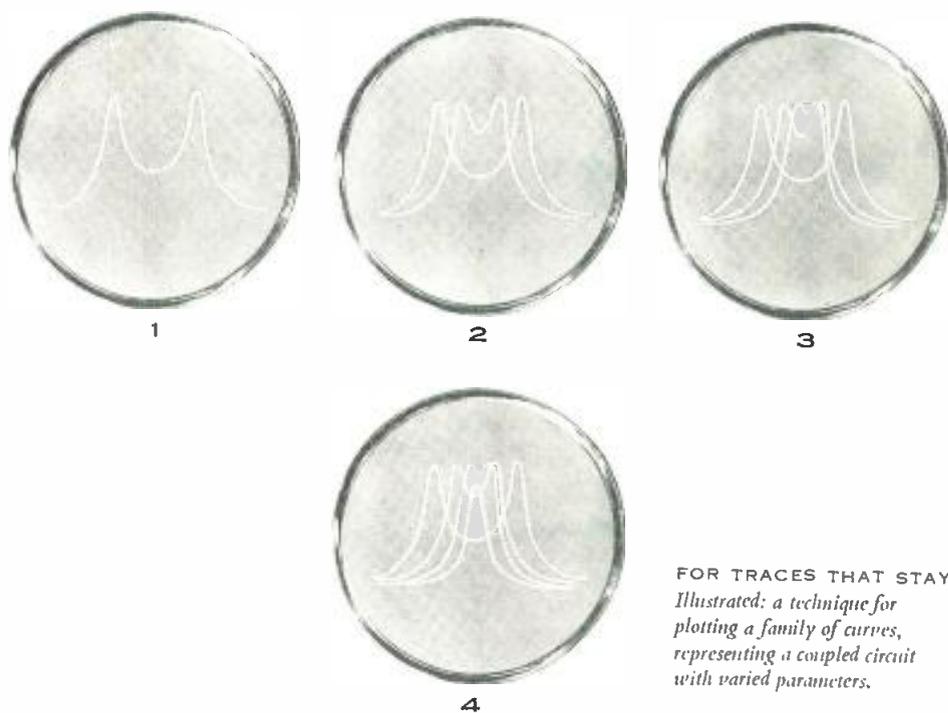
FUNCTIONS as curve plotter.

An oscillograph equipped with a Memotron combines, into one instrument, pen-recorder performance at low frequencies and oscillograph performance at high frequencies. Successive writings may be stored to produce a family of curves.

TYPICAL APPLICATIONS: As a read-out device for the display of solutions produced by an analog computer . . . for recording shock transients during shock testing . . . in medicine for electrocardiography and vector-cardiography. Our engineers are available for consultation on special Memotron applications.

GENERAL SPECIFICATIONS

RESOLUTION . . . 50 to 60 written lines per inch.
 WRITING SPEED . . . 0 to at least 100,000 inches/second (selected tubes in excess of 100,000 ips).
 BRIGHTNESS . . . 50 foot-lamberts.
 USABLE SCREEN DIAMETER . . . 4 inches, maximum.
 DIMENSIONS . . .
 Over-all length: 18 1/2 inches, ± 1/2-inch.
 Bulb diameter: 5 5/8 inches, maximum.
 Neck diameter: 2 1/4 inches, ± 3/32-inch.



FOR TRACES THAT STAY.
Illustrated: a technique for plotting a family of curves, representing a coupled circuit with varied parameters.

HUGHES PRODUCTS

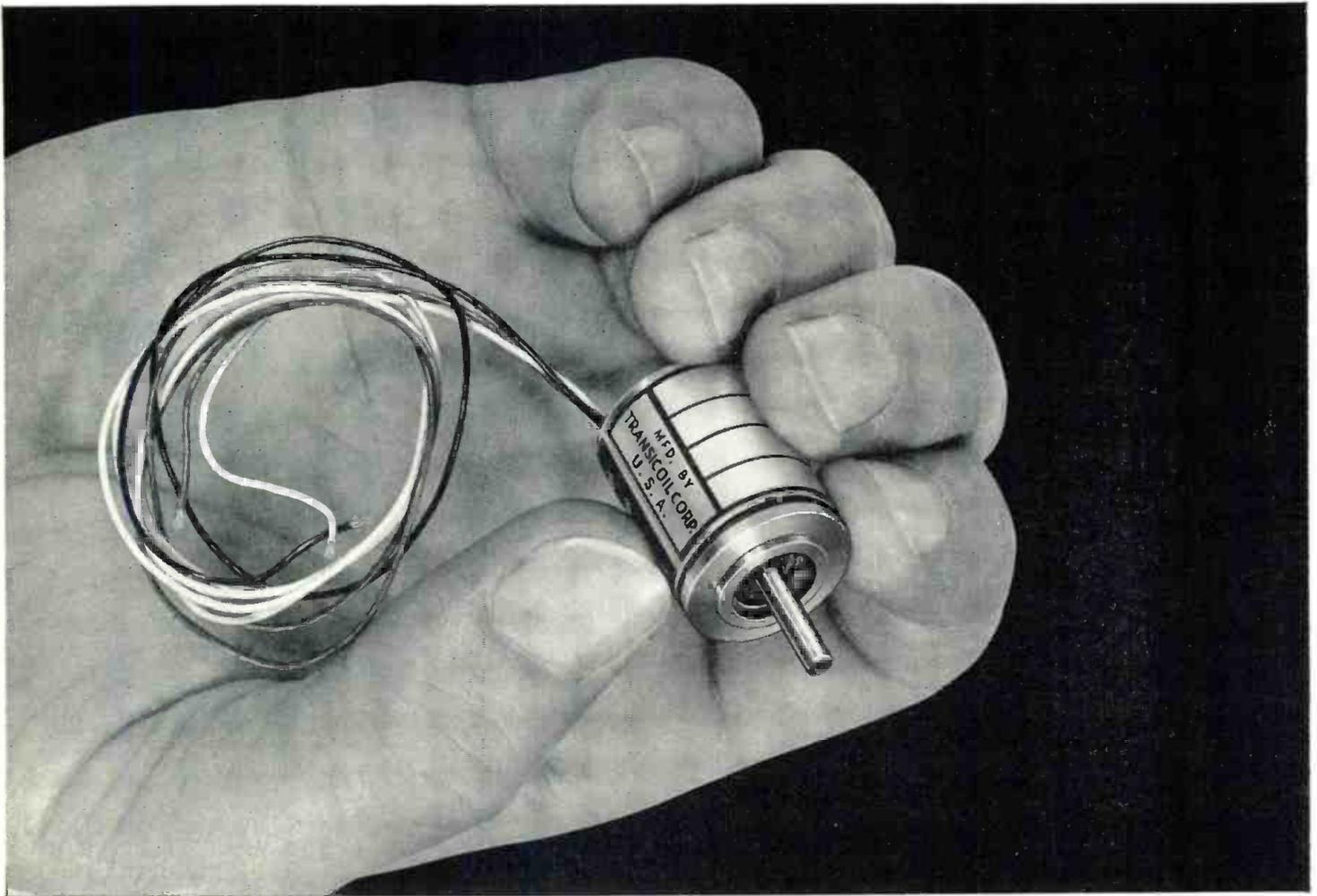
A DIVISION OF THE HUGHES AIRCRAFT COMPANY

For descriptive literature and information on commercially available oscilloscopes featuring the Memotron, please write:

HUGHES PRODUCTS
 ELECTRON TUBES

Los Angeles 45, California

© 1956, H. A. C.



NEW Size 8 servo combination rivals Size 9 performance

Here, no bigger than your thumb, is the smallest *practical* servo control motor currently produced. Combined with Transicoil's new Size 8 motor driven induction generator, and powered by a new completely-transistorized servo amplifier, this motor offers you the unusually high torque-to-inertia ratio of 28,000 radians/sec².

Compared with a Size 9 control motor—until now, the smallest practical unit available—Transicoil's new Size 8 measures only 0.75 inches in diameter, 10% smaller, and weighs only 1.4 oz., 40% lighter. Yet it operates on standard voltages from 26 to 52 volts, and 52 volts with center tap, at 400 cps, permitting push-pull transistor application.

Hence, just as Transicoil's introduction of plate to plate wiring eliminated the transformer, once necessary in servo systems, the Size 8 units and transistor amplifiers mark another milestone in miniaturization.

This is just one more example of how Transicoil can



Size 8 Motor Driven Induction Generator and Transistor Amplifier. All units of the Size 8 system have been designed for maximum performance in minimum space.

solve your control problems whether they involve miniaturization or control complexity, and go on to manufacture systems and components of the utmost precision and accuracy. You pay only for results—on a fixed fee basis for equipment delivered and performing properly.

Technical data on the new Size 8 combination and the transistorized amplifier is yours for the asking. But you'll end up with a better system if you write outlining your servo control problem.



TRANSICOIL CORPORATION
Worcester, Montgomery County · Pennsylvania



COURTESY GENERAL ELECTRIC CO

... it's **G-R Type 970 Potentiometers** where performance and reliability count

The recently announced Carboloy Machinability Computer promises to make the life of the tool engineer much less complicated. This compact instrument provides quick, simple answers to specific metal-cutting problems. Seventeen variables, including cutting speed, depth of cut, tool life, feed, metal removal rate and horsepower, can be determined accurately through use of the Computer.

Every part and component built into this "machining computer" had to meet stringent electrical-performance standards. In particular, General Electric engineers had to be certain that all known quantities would be correctly conveyed to the computer input circuits. That is why General Radio Type 970 Precision Potentiometers were specified for all fifteen of the panel function controls used to establish the input conditions.

Dependable, trouble-free operation is of necessity high on the list of specifications for any computer. Precision G-R Potentiometers are suited for computer use: because, they are sturdy and versatile... have superior resistance characteristics... feature a-c performance which is substantially better than that found in higher-precision types... and finally, they are very low in cost for value received.

GENERAL RADIO Company 

275 Massachusetts Avenue, Cambridge 39, Massachusetts, U.S.A.

90 West Street NEW YORK 6 • 8055 13th St., Silver Spring, Md. WASHINGTON, D. C.

1150 York Road, Abington, Pa. PHILADELPHIA

920 S. Michigan Ave. CHICAGO 5 • 1000 N. Seward St. LOS ANGELES 38

We Sell Direct. Prices are net,
f.o.b. Cambridge or West Concord, Mass.



Not "Just Another Potentiometer!"

The high quality built into these Potentiometers at very reasonable prices is a result of a unique simplicity of design. Today's new materials and manufacturing techniques are used to the utmost. This thoroughly engineered product provides performance previously not available at low cost.

- ★ Linearity Better Than $\pm 0.2\%$ for Larger Units
Graded to $\pm 2\%$ for smaller sizes
- ★ Seventeen Stock Resistances from 2 to 500,000 ohms
- ★ Ratings from 2 to 20 Watts at 40° Ambient
- ★ $1\frac{1}{4}$ " Diameter to $4\frac{1}{4}$ "
- ★ Prices from \$3.10 to \$10.00
- ★ High Resolution ★ Low Electrical Noise ★ External Phasing
- ★ Total Enclosure ★ No Pressure Connections

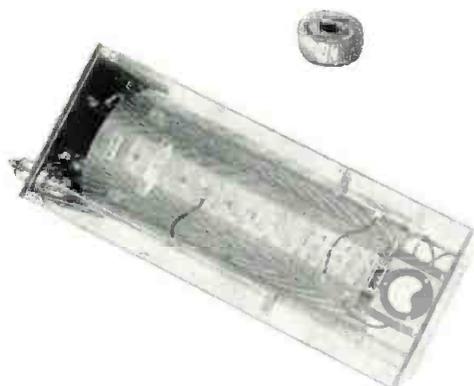
VERSATILITY — In addition to potentiometers normally stocked, units will be provided on special order with: 360° mechanical rotation — taps as close as $\frac{1}{4}$ " apart along entire winding — special all-metal or metal-filled shafts — resistance values other than standard — resistance functions other than linear — resistance and linearity tolerances better than standard. Attractive prices can be offered when quantities are sufficient to warrant special production.

Write for **POTENTIOMETER Bulletin**

IF YOU USE COILS

like these

or these



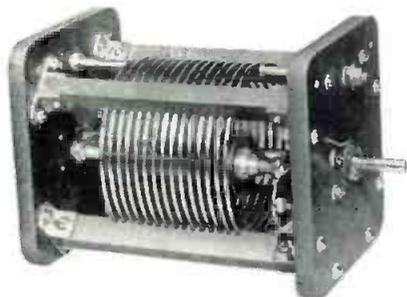
toroids



single layer



universal



edgewound



filters



LOOK TO B&W! Barker & Williamson's versatility—the ability to come up with exactly the right coil for every need—can mean immediate savings to you in time, trouble and expense.

B&W coil specialists will design to meet *your special requirements* . . . in less time and at less cost. Then a top plant team will take the design and produce coils to meet your delivery schedule.

Write, describing your coil problems. B&W will be happy to solve them with you.

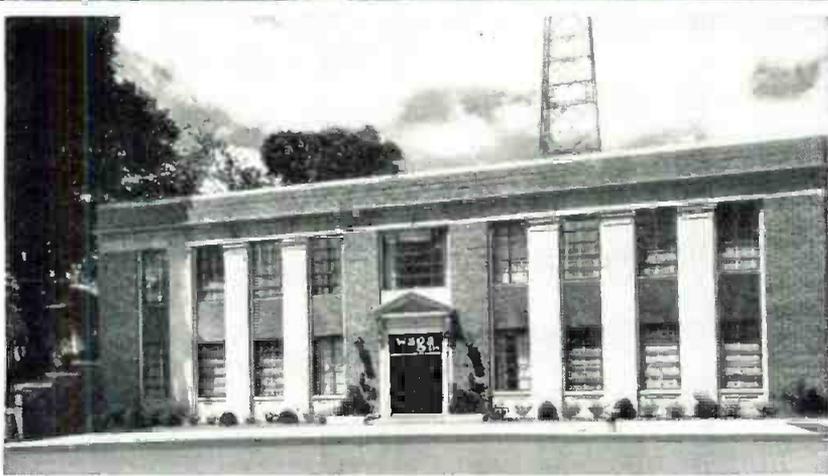
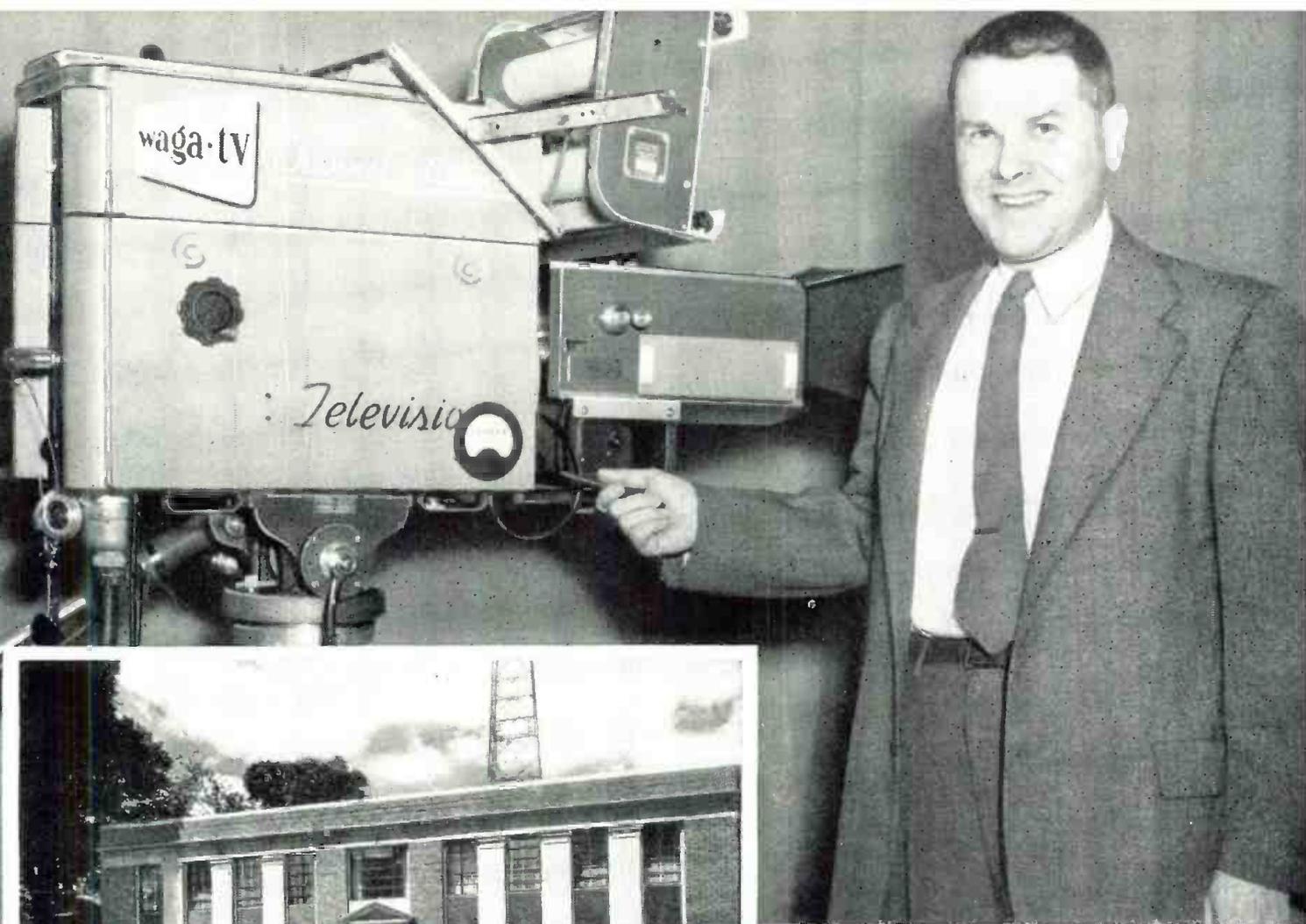
Whatever kind or size of coil or coil assembly you require, from simple single-layer coils and miniature toroids to large filters and transformers, you'll find Barker & Williamson the ideal source.

B&W has had longer experience engineering and winding coils than any other manufacturer . . . dating back to B&W's introduction of the world's first Air-Inductor.

B&W

BARKER & WILLIAMSON, INC.

237 Fairfield Avenue, Upper Darby, Pennsylvania



Hugo Bondy, Chief Engineer,
WAGA-TV, Atlanta

Says:

**“G-E image orthicons pay us a bonus
in extra hours of top-grade performance!”**

“The first General Electric tube that WAGA-TV bought has clocked over 800 hours, and image reproduction is as sharp and clean as the day we put it in the camera. Other G-E 5820’s are showing the same long-life efficiency.

“In all ways, General Electric image orthicons are proving a good investment. Even the packaging is professional—the square containers won’t roll off shelves, and damage to the tubes from handling is prevented by cushioning, so

that the tubes are protected top and bottom.

“Plenty of research, manpower, and money went into G-E Broadcast-Designed camera tubes. That’s evident to satisfied users like Station WAGA-TV!”

* * *

Phone your local G-E tube distributor . . . he stocks Broadcast-Designed image orthicons, gives fast delivery service! *Tube Department, General Electric Company, Schenectady 5, N. Y.*

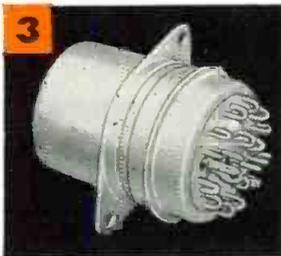
Progress Is Our Most Important Product

GENERAL  ELECTRIC

1G1-1F3

UNION

Miniature Relays with the type of mounting you need



Mountings are no problem when you select UNION Miniature Relays. You can choose from these eight standard mountings, or, if necessary, special adaptations can be made.

1. Plug-in mount
2. Single screw mount
3. Center of gravity flange mount
4. Double screw mount
5. Top flange mount
6. Clamp mount
7. Bottom flange mount
8. Flange mount

In addition to a wide variety of mountings, UNION Relays are made with a variety of other features such as—

Gold alloy or palladium contacts for unsurpassed contact reliability.

Gold alloy contacts especially fitted for dry-circuitry use.

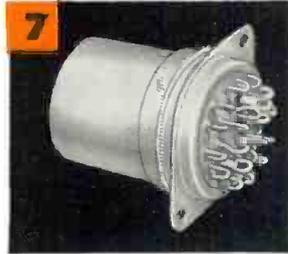
Coil resistances up to 10,000 ohms for a wide variety of applications.

High vibration and shock resistance available up to 2,000 cycles at 15 G's and shock in excess of 50 G's.

High life expectancy. Tested through 1,000,000 operations.

DC or AC MODELS with identical quality.

Write for complete information, bulletin 1010.



TELE-TIPS

HAPPIEST (HIC) STATION. Two ingenious police radio operators in Chicago made a 30-ft. antenna for their 700-watter by soldering together 77 beer cans. For an insulator, they used a ginger-ale bottle. (No standing waves, we presume.)

THE RECORDING INDUSTRY is already enjoying its greatest boom ever, and they have hardly scratched the surface. Of the 11 million owners of 3-speed phonos 12.5% account for 87% of all record purchases.

SIMPLE BUT EFFECTIVE approach was taken by American Air Filter Co. to explain the economics of manufacturing to their employees. Pocket-sized "Diary" provides this breakdown of a year's operation.

152 days' work to pay salaries, commissions, benefits

127 days' work to pay for materials

42 days' work to pay for supplies, services

24 days' work to pay for taxes

8 days' work to pay dividends to the 2223 AAF stockholders

DEFINITION OF AUTOMATION, offered by RETMA, goes: "Automation is the technique of improving human productivity in the processing of materials, energy and information by utilizing various degrees, elements of self-control and of automatically executed product programming."

TOO MUCH TALK? Dr. William L. Everitt demonstrated to the NARTB Engineering Conference that when the human voice is tape recorded at its natural speed, it can be shortened or condensed by 20% without any noticeable distortion. In fact, the message can be condensed as much as 90% and still make sense.

SILVER CONTACT STAINS that might affect solderability can be removed with a solution of 8% thiourea in 5% hydrochloric acid. (Continued on page 59)

75 Years

1881



1956

OF EQUIPMENT AND SYSTEMS ENGINEERING

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY
PITTSBURGH 18, PENNSYLVANIA

Indiana Permanent Magnets undergo **13** quality and uniformity tests!

.. to help maintain a steady flow on *YOUR* production line

.. to help reduce rejects on *YOUR* final product assemblies



World's Most Complete Line of Permanent Magnets!

all shapes .. all sizes .. all grades .. cast Alnico ..
sintered Alnico .. Hyflux Alnico V .. ceramic Indox
.. Cunife .. and other special magnet materials

Yes, Indiana Permanent Magnets undergo a wide range of tests .. Spectograph tests .. chemical analyses .. Zygo tests .. 13 tests in all to assure precise magnetic characteristics, sound structure, exact physical dimensions .. in short, to assure uniformity and high quality.

Maintaining the high quality of Indiana Permanent Magnets is not just a one-man or one-department responsibility. Teams of physicists, engineers, technicians and experienced craftsmen supervise and keep a constantly critical eye on all stages of production. Quality control is this group's most important single job .. by far!

To be sure of better permanent magnets, take advantage of the experience of permanent magnet specialists. Indiana maintains the World's largest staff of engineers devoted solely to the design and application of permanent magnets .. the World's largest and most complete research and production facilities.

Indiana engineers, with almost a half century of experience in "tailoring" permanent magnets for more than 35,000 designs, will welcome the opportunity to work with your technical men in the development of your permanent magnet designs.

We invite you to contact your nearest Indiana sales engineer .. in Boston, HAncock 6-2323 .. in Chicago, FRanklin 2-1114 .. in Cleveland, CHerry 1-4163 .. in New York, VAnDerbilt 6-1898 .. in Los Angeles, DUnkirk 4-0465 .. in Philadelphia, KIngsley 5-2036 .. in Rochester, HAmilton 8990.

Write, today, for your copy of magnet catalog # 11-N6. This 8-page booklet details the wide range of Indiana cast permanent magnets available for immediate delivery in sample quantities.



.. Manufacturers of permanent magnets for the electronics,
electrical, instrument and communications industries

**THE INDIANA STEEL PRODUCTS COMPANY
VALPARAISO, INDIANA**

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**INDIANA
PERMANENT
MAGNETS**

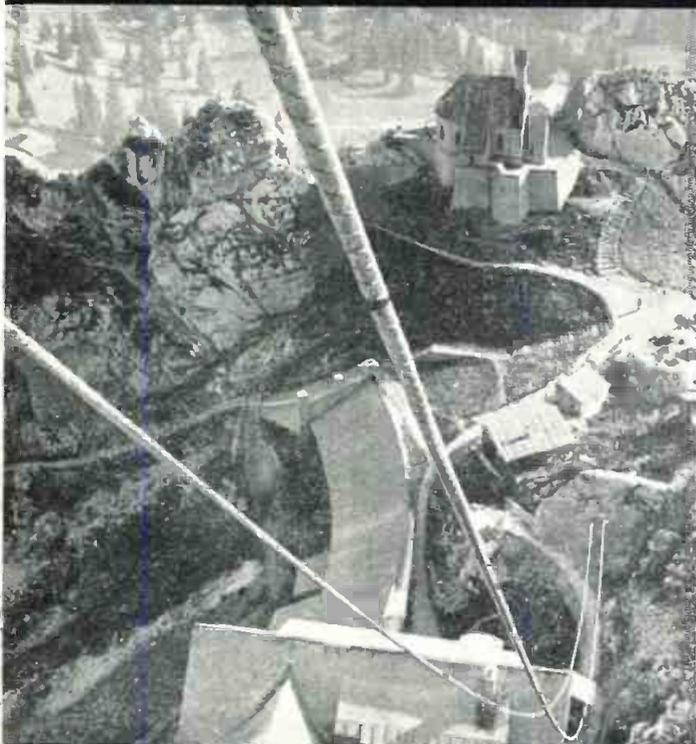
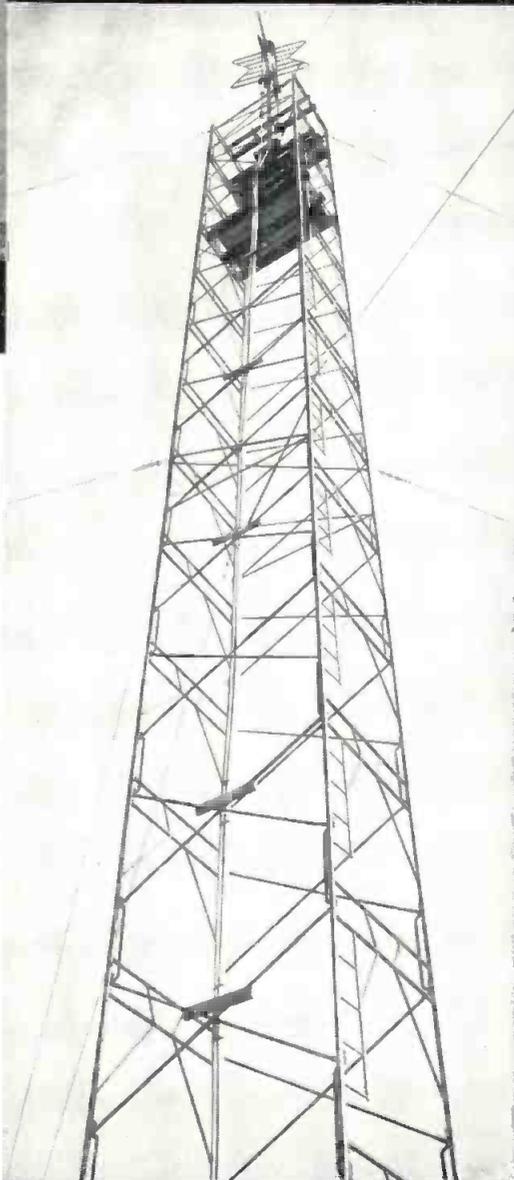
Styroflex Coaxial Cable

**IS GOING PLACES—DOING THINGS
in the Broadcast Field!**

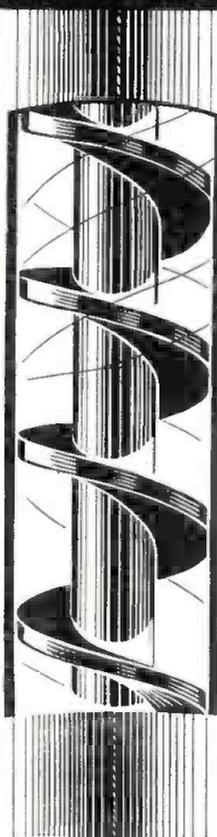


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Inquiries welcomed by our engineering staff.



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CORPORATION

300 PARK AVENUE, NEW YORK 22, N. Y.

TELE-TIPS

(Continued from page 56)

RUSSIAN "FIRST" (they say) exhibited at the Leipzig Fair was a "kerosene-lamp-operated" all wave radio. Designed for rural areas where no electricity is available, it is powered by a series of thermocouples packed in asbestos and heated by the lamp flame. The power generated is 3 watts, enough to light the low-current filaments.

LONG-DISTANCE WIRE. One pound of tungsten makes 8.5 mi. of filament wire.

AUTOMATION ENGINEERS at Minneapolis-Honeywell couldn't resist a dig at the promotion side of the industry. They put together a 20-page booklet, a honey-of-a-well-told-tale (their words), relating the saga of Dragonry, Ltd. and one Paunchworthy Frothingham who went bankrupt trying to cope with "tempers, temperatures and pressures." All of which leads to the solution—M-H's line of transmitters.

21-IN. PICTURE TUBES make up 38% of all replacement tube sales. Second most popular size is 17-in., which constitutes 23% of sales.

"YOUNG TIMERS' CLUB." Plans are in the mill for a new social organization open to all in the electronics industry and "devoted to dances, golf matches, and other activities, where nobody is permitted to talk shop." All those interested in joining should contact Hank Russell, sales manager of United Transformer Co., 150 Varick St., New York 13, N. Y.

OPERATION BOOTSTRAP. Top N. Y. ad agency found itself in a dilemma—a 2-day option on a TV show, and their client conventioning in Florida. Reasoned the company execs. "Why not use TV to sell TV?" The show was thrown on a closed-circuit TV link to Florida and the delighted client, after one look, immediately accepted.



New concept for HIGH-SPEED TESTING

In just 1 to 2 seconds average, using Hycon's new Model 625 Ratiometer, you can measure directly the ratio of two related DC voltages. It's a real money-saver for quality-control testing on component production lines... brings new accuracy and speed to telemetering, measuring VSWR and reading remote transducers. Although completely new, there's no special training needed, for error-free readings are made *directly* on the fast, reliable* 3-digit counter.

*Hycon counters are specially engineered for long service... prototypes have been continuously cycled in excess of 1,000 hours... the equivalent of at least 20 years of average use. Counters backed by unqualified, 500-hour continuous-use service guarantee.

Another Hycon test help...



MODEL 615 DIGITAL VTVM

Features fast, error-free readout on a reliable, illuminated decimal point 3-digit counter.

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A Subsidiary of Hycon Mfg. Company

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HYCON ELECTRONICS, INC., Dept. L
P. O. Box 749
Pasadena, California

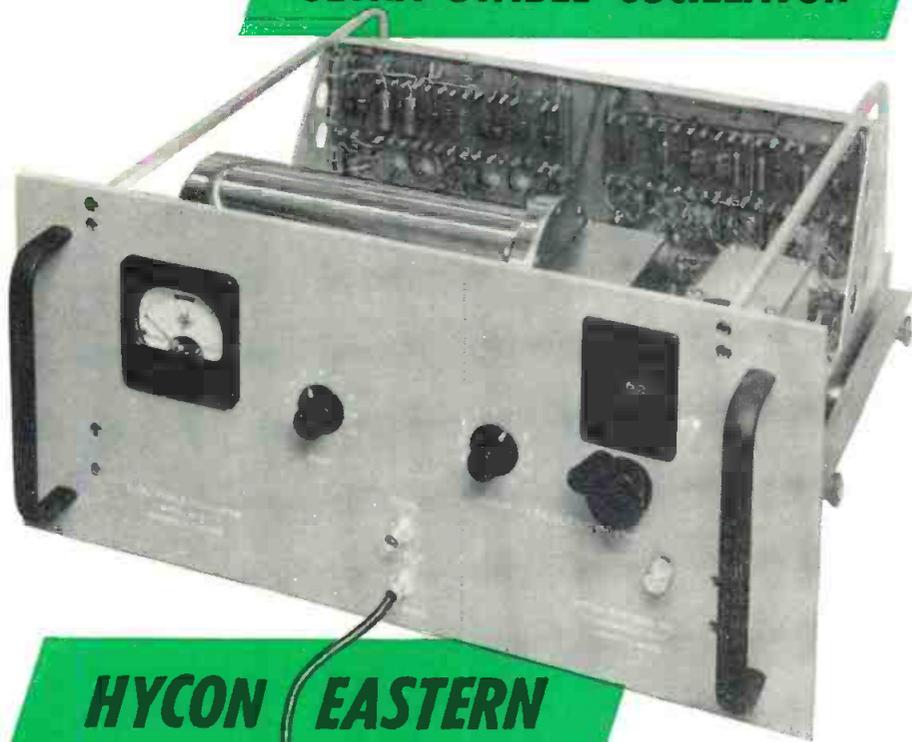
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ULTRA STABLE OSCILLATOR



HYCON EASTERN

Hycon Eastern's new Ultra Stable Oscillator is a one megacycle signal source of exceptional stability. It 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.

STABILITY: 1 PART IN 10^9

- **FREQUENCY STABILITY:** DRIFT RATE LESS THAN 1 PART IN 10^9 PER DAY AFTER ONE MONTH'S OPERATION.
- **FREQUENCY:** 1 MEGACYCLE, VARIABLE OVER A RANGE OF 1 CYCLE. AVAILABLE AT OTHER FREQUENCIES ON SPECIAL ORDER.
- **CRYSTAL OVEN:** STABILIZED TO BETTER THAN 0.01°C BY TEMPERATURE-SENSITIVE RESISTANCE BRIDGE. OVEN CONTAINS NO MOVING PARTS.
- **DISSIPATION IN OSCILLATOR CRYSTAL:** STABILIZED AT A POWER LEVEL LESS THAN ONE MICROWATT.
- **2 OUTPUTS:** SINE WAVE—4 VOLTS RMS; PULSE—1 VOLT.
- **OUTPUT IMPEDANCE:** APPROXIMATELY 250 OHMS.

Write for Ultra Stable Oscillator Bulletin

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75 Cambridge Parkway Dept. E-6 Cambridge 42, Mass.
Affiliated with HYCON MFG. COMPANY, Pasadena, California

BOOKS



**Modern Physics:
A Textbook for Engineers**

By Robert L. Sproull. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. 491 pp. Hard cover. \$7.75.

The need for nuclear-trained electronic engineers is so acute that the very title of this book should make it required reading for every well-informed engineer in the industry.

The author, who is assoc. professor of physics at Cornell Univ., developed this book from notes used in a course for engineering undergraduates at Cornell, and in courses for practicing engineers at Westinghouse, Corning Glass and Sylvania. The approach is analytical, with emphasis on crucial experiments, and the elementary theory underlying the properties of atoms, molecules, solids, and nuclei is based on this analysis.

Each of the chapters opens with a clear-cut and fundamental discussion of the material to follow. Mks units are used throughout.

Chapter headings include: fundamental particles, assemblies of particles, atoms and nuclei, wave-particle experiments, introductory quantum mechanics, atomic structure and spectra, molecules, binding and energy bands in solids, semiconductors, physical electronics, and applied nuclear physics.

The sections on solid-state physics and semiconductors will be invaluable to electronics engineers.

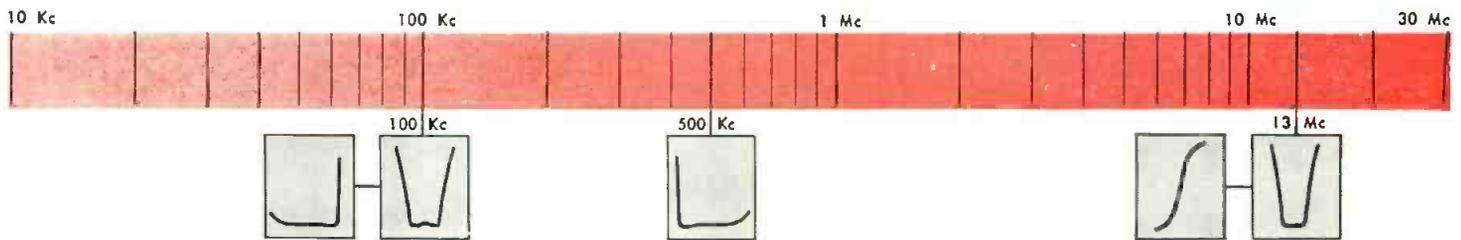
**Electronic and Radio
Engineering**

By Frederick E. Terman. Published 1955 by McGraw-Hill Book Co., Inc., 330 West 42nd St., New York 36, N. Y. Hard cover. 1078 pages. Price \$12.50.

The new title on this fourth edition of Terman's "Radio Engineering" reflects the increased emphasis on the general techniques of electronics. The book is divided into 3 parts. The first deals with transmission lines, and the basic circuit theory peculiar to electronics; the second, with electronic engineering—electronic devices and their applications; and the third, with radio engineering.

Many additions have been made to the text, among them a chapter on microwaves, presenting an explanation of how the backward-wave oscillator (carcinotron) and the traveling-wave tube operate, as well as a chapter on transistors and semiconductors. The material on nonlinear waveforms and pulse techniques has been expanded, and the chapter on TV thoroughly revised. Increased attention is also placed on propagation involving the troposphere.

(Continued on Page 62)



*From a Wide
Frequency Spectrum*

select a
**STANDARD
CRYSTAL
FILTER**

HYCON EASTERN



The accompanying table lists Hycon Eastern Standard Crystal Filters which are available for immediate delivery. This line of Standard Crystal Filters is expanding daily. If the exact type required for your application is not listed, it may now be available. Otherwise it can be custom engineered at any frequency from 10 Kc to 30 Mc.

APPLICATION	1 FREQUENCY	2 BANDWIDTH	MODEL NO.	INSERTION LOSS	3 SELEC- TIVITY	OUTSIDE DIMENSIONS		
						L	W	H
SSB (upper)	100 Kc	6 Kc	100 KUA	13 db	1.12	3 ¹ / ₁₆	2 ³ / ₄	3 ⁷ / ₈
SSB (lower)	100 Kc	6 Kc	100 KLA	13 db	1.12	3 ¹ / ₁₆	2 ³ / ₄	3 ⁷ / ₈
Carrier Pass (SSB)	100 Kc	50 cps	100 KPA	3 db	3	3 ¹ / ₁₆	2 ³ / ₄	2
SSB (upper)	500 Kc	6 Kc	500 KUA	13 db	1.2	3 ¹ / ₁₆	2 ¹ / ₄	3
SSB (lower)	500 Kc	6 Kc	500 KLA	13 db	1.2	3 ¹ / ₁₆	2 ¹ / ₄	3
I. F. Shaping (Bandpass)	13 Mc	30 Kc	13 MA	6 db	1.7	3 ¹ / ₂	1 ³ / ₁₆	2
Crystal Discriminator	13 Mc	50 Kc peak to peak	13 M-DA			1	1 ¹ / ₄	2
Filter & Disc. Set	13 Mc	30 Kc	13 MA 13 M-DA					
I. F. Shaping	13 Mc	15 Kc	13 MB	6 db	1.7	2 ¹ / ₄	1 ³ / ₄	2 ³ / ₄
Crystal Discriminator	13 Mc	25 Kc peak to peak	13 M-DB			2	1 ³ / ₁₆	2 ¹ / ₄
Filter & Disc. Set	13 Mc	15 Kc	13 MB 13 M-DB					

*Write for Crystal Filter
information.*

SSB FILTERS

1. CARRIER FREQUENCY
2. AT 2 DB ATTENUATION
3. SLOPE FACTOR = $\frac{BW \text{ at } 60 \text{ DB}}{BW \text{ at } 2 \text{ DB}}$
if filter characteristic were symmetrical.

BAND PASS FILTERS

1. ARITHMETIC MEAN OF 6 DB POINTS
2. AT 6 DB ATTENUATION
3. SHAPE FACTOR = $\frac{BW \text{ at } 60 \text{ DB}}{BW \text{ at } 6 \text{ DB}}$

Operating temperature range: Crystal filters are operative over range of -55° C. to +85° C.

Impedance: Hycon Eastern Standard Crystal Filters are unbalanced networks designed to operate tube-to-tube or transistor-to-transistor.

Shock & Vibration: MIL-T-5422



HYCON EASTERN, INC.

COMMUNICATION FILTER DIVISION

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Patents Pending

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A NEW PRODUCT INTRODUCED BY

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CLEVELAND'S NYLON FORMS . . .

- . . . are a one-piece precision molded, high temperature form for use with threaded cores.
- . . . eliminate costly assembly operations as they can be had with the collar as an integral part of the form.
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- . . . edges are serrated to provide greater friction when engaged with winding arbor.
- . . . have six internal ribs enabling cores to be pressed into form, eliminating time consuming hand threading operations.
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- . . . resist electrolysis indefinitely.
- . . . available in all R.E.T.M.A. standard colors, for easy identification . . . in certain lengths to fit 8/32 and 1/4-28 core sizes.

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WEST COAST: IRV. M. COCHRANE CO., 408 S. ALVARADO ST., LOS ANGELES



BOOKS



Analysis of Electric Circuits

By William H. Middendorf. Published 1956 by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. 306 pages. Price \$6.00.

Beginning with 6 basic laws and concepts which were established by the early experimenters, the author shows the reader that he need only learn the full meaning of these 6 laws and how to apply them with complex algebra, to advance to our present wealth of knowledge. The emphasis is on developing the reader's ability to think for himself. The examples and problems given are designed to prod him in this direction.

The book is divided into 3 sections: Basic Circuit Analysis, Extension of Basic Circuit Analysis, and Specialization-Polyphase Power and Communication Circuits. The second section consists of a treatment of the analysis of nonsinusoidal waves, as well as a chapter on network theorems and simplifications. The last section includes a treatment of polyphase circuits, and also a chapter in which material from the second section is repeated for those derivations which, with appropriate assumptions, can be simplified for communication circuits.

The Use of Selenium Photo-cells and Sun Batteries

By John Sasuga. Published 1955 by International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif. 58 pages, paper bound. Price \$1.50.

This book illustrates the great versatility of the selenium photocell and sun battery by describing the applications and devices in which these components can be effectively employed. Photoelectric cells are used whenever electrical or electromechanical devices are to be controlled by changes in light intensity, or when an electrical power supply, which derives its energy directly from sunlight, is required. These, together with photometric uses, are the basic fields of photoelectric application.

Typical photoelectric devices may contain relays, transistors, or other components, which, together with the photoelectric cell, make possible their operation. The technique of integrating these components into a practical device involves a special technology and some knowledge of the basic principles of photoelectricity. It is the purpose of this book to present the necessary knowledge and technology and to apply them to practical photoelectric devices, such as light-powered motors and oscillators, photo-cell relays, light meters, and a battery-less radio.

The appendix includes performance curves of the different photoelectric components and a list of references.

Now, it's "earth satellites"

The imagination of engineers, scientists, and laymen alike has been wetted by the exciting prospect of launching the first man-made earth satellites! Called project "VANGUARD," it is planned as the high-point of the world's longest "year"—the eighteen months between July 1, 1957 and December 31, 1958 of the *International Geophysical Year*.

First presented in a symposium, March 20th at the IRE Convention, this scientific, history-in-the-making event is detailed well in advance for you in the special June "earth satellite" issue of *Proceedings of the IRE*. Because it is written by men in charge of project development, this will be *the* basic textbook of applied electronic technology in the satellite field.

This definitive issue presents the working data of placing in orbit, construction of the satellite, telemetering and other pertinent information. Herein are stated the objectives and scientific gains to be achieved by the "earth satellite" program.

You will find in this special issue a complete explanation of:

1. tracking the missile—by radio and optics,
2. gathering data from the missile—by radio transmission, propagation, and intermittent reception from widely separate points on earth—and the rapid computations to be based on such data.

You will also find practical application of this development to other electronic fields in this up-to-the-minute symposium. You'll find the "satellite" issue of *Proceedings of the IRE* a publishing event of great value.

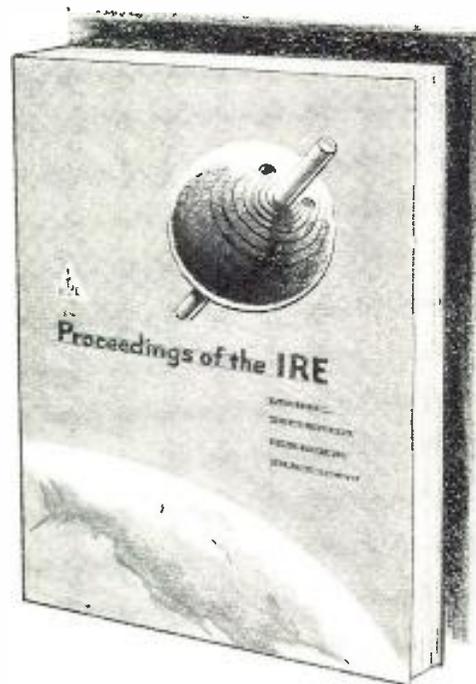
Price to non-members... \$2.00

(All IRE members will receive this June issue as usual. Extra copies to members, \$1.00 each.)



The Institute of Radio Engineers

1 East 79th Street • New York 22, N. Y.



CONTENTS OF THIS SIGNIFICANT ISSUE:

"Symposium: The U.S. Earth Satellite Program—Vanguard of Outer Space," Chairman: W. R. G. Baker, General Electric Co., Syracuse, N. Y.

"The International Geophysical Year Program," by Joseph Kaplan, National Academy of Sciences, Washington, D. C.

"The Exploration of Outer Space with an Earth Satellite," by J. P. Hagen, Naval Research Laboratory, Washington, D. C.

"Placing the Earth Satellite in its Orbit," by M. W. Rosen, Naval Research Laboratory, Washington, D. C.

"Telemetering and Propagation Problems of Placing the Earth Satellite in its Orbit," by D. G. Mazur, Naval Research Laboratory, Washington, D. C.

"Tracking the Earth Satellite and Data Transmission by Radio," J. T. Mengel, Naval Research Laboratory, Washington, D. C.

"Optical Instrumentation of the Earth Satellite," by F. L. Whipple, Harvard University, Cambridge, Mass.

"The Scientific Value of the Earth Satellite Program," by J. A. Van Allen, State University of Iowa, Iowa City, Iowa.

PROCEEDINGS OF THE IRE

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Enclosed is company purchase order for the June, 1956 issue on "Earth Satellite"

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*Large signal current gain . . . 70 at $I_c = 1$ ampere;
55 at $I_c = 2$ amperes*

*Large signal frequency cutoff
(common emitter) . . . >10 kc*

Maximum voltage (V_{ce}) . . . 35 volts

Maximum current (I_c) . . . 2 amperes

Saturation characteristic (V_{ce})

. . . <1 volt at $I_c = 1$ ampere

Thermal drop . . . 3.5°C per watt from junction to case

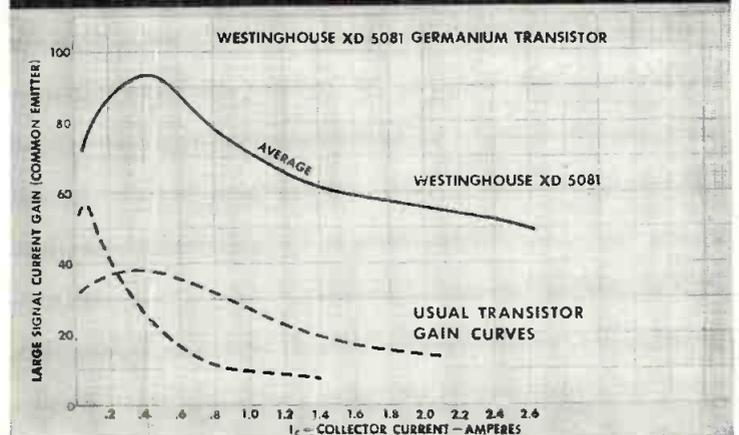
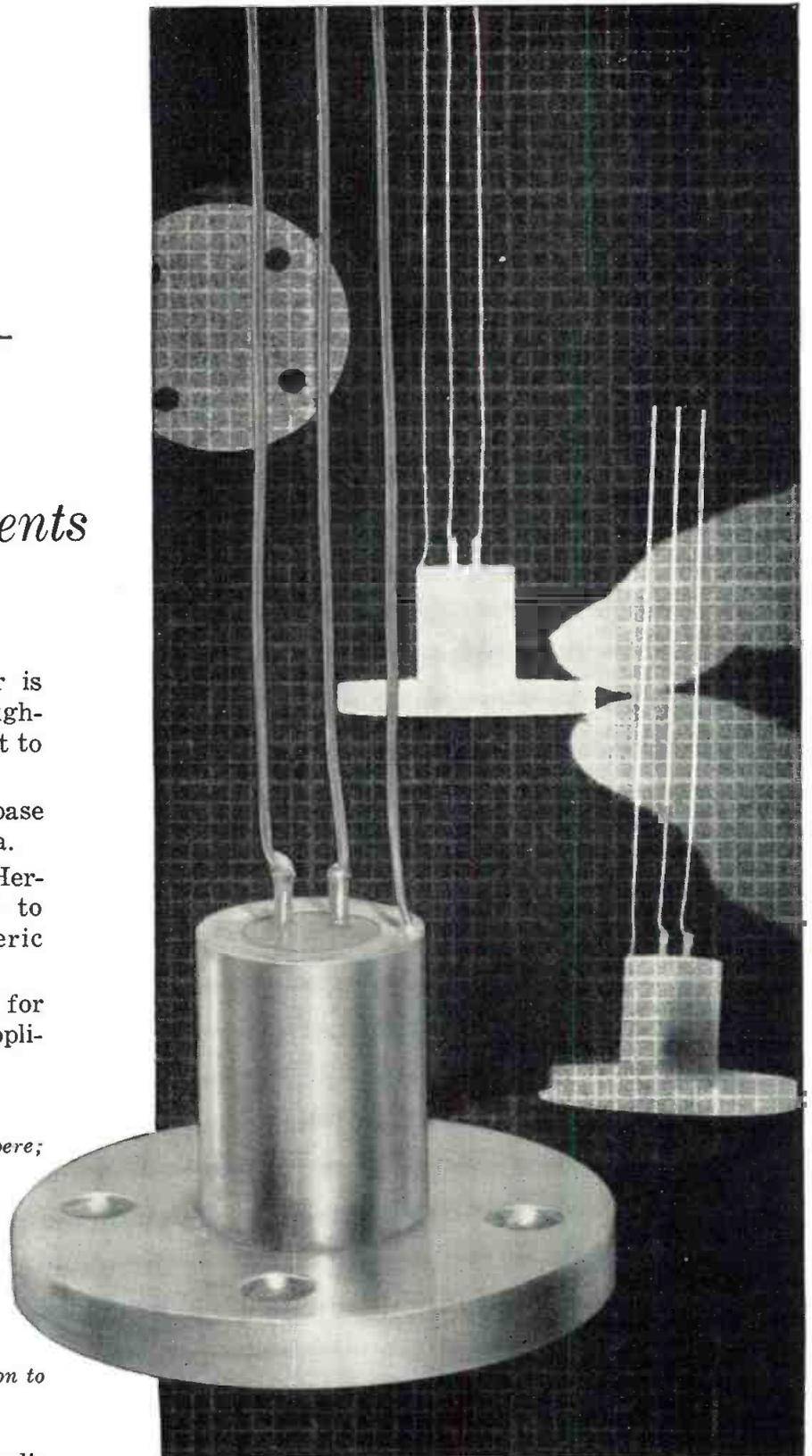
Maximum junction temperature . . . 100°C

Sample quantities are available immediately. Contact your nearest Westinghouse district sales office or write, Westinghouse Electric Corporation, 3 Gateway Center, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-09002

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sets in a wide selection of
types and ranges.



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S-14-C



S-4-C



S-5-C



S-14-A



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 . . . 5x 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 PULSESOPES 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 μs to yards. Operates from 50 to 400 cycles at 115 volts.

S-5-C LAB PULSESOPES 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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SYSTEMS CONCEPT



RAKSCOPE S-12-C



PANELSCOPE®

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.

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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Produced under mass production techniques but with very close quality control, Sarkes Tarzian Radio-Television type Selenium Rectifiers are the low cost answer on many medium power applications in all types of electronic equipment.



HIGH DENSITY—A new development in artificial barrier layers allows operation of rectifiers at high current density at no sacrifice of performance. Another Value-plus feature offered by Sarkes Tarzian.

Embedments

Sarkes Tarzian embedments offer the advantages of hermetic sealing at a fraction of the size, weight and cost. Ideal for use in military equipments.



High Voltage Rectifiers

Five basic sizes of Sarkes Tarzian High Voltage Rectifiers offer the design engineer a wide range of voltage and current ratings. All types are available either sealed or unsealed.

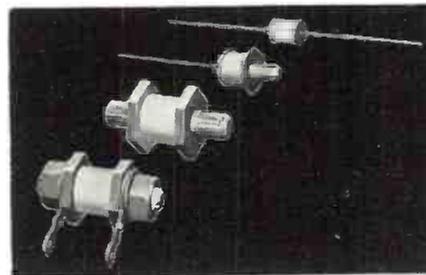


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- 1 Built-in heat sink on stud types for optimum heat transfer.
- 2 Special cell process produces low forward and high reverse resistances.
- 3 Ceramic case provides extremely long path for minimum corona and leakage effects.



- 4 "O" ring seals for positive sealing.
- 5 Flexible connections eliminate shock problems.
- 6 Special pressure contact assures positive pressure under all conditions.
- 7 Pure silver contacts to avoid migration and contamination of the cell.
- 8 Three case sizes and seven terminal arrangements provide the widest range of ratings available.

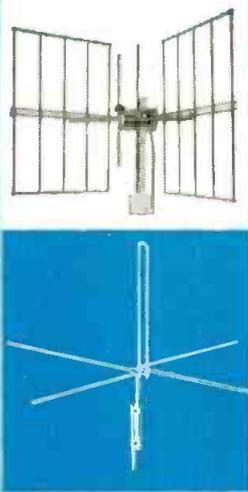
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BARGAINS in POWER

No single piece of radio equipment can equal the antenna for economically increasing effective power.

One of the less expensive components in a radio communications installation is the antenna. Yet the antenna, which usually represents less than ten per cent of the total equipment cost, can multiply the effective power of every transmitter in the system *several hundred per cent*. Equally true, a poorly designed or inappropriate antenna can waste the power produced by the costly equipment behind it.

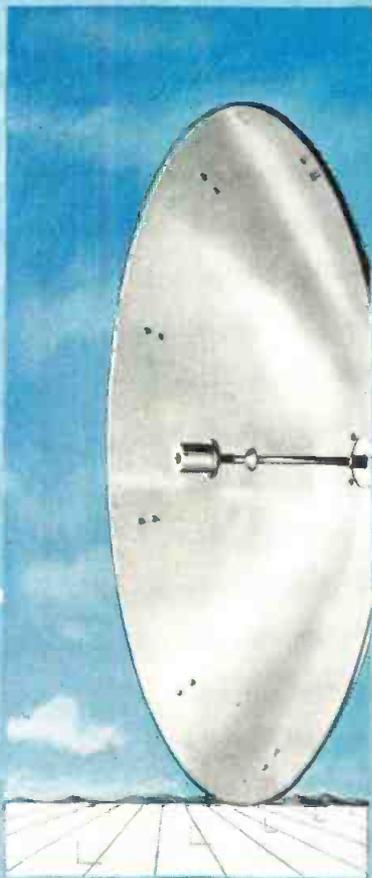
In planning a new system, selection of the proper antenna often will allow a lower power transmitter to achieve desired signal range. For existing systems, the use of a higher gain antenna will reduce "dead spots."

Andrew is a pioneer in designing and developing antennas. We make over 30 standard types for microwave, broadcast and mobile communications. Special models or adaptations of standard models are readily made to order.

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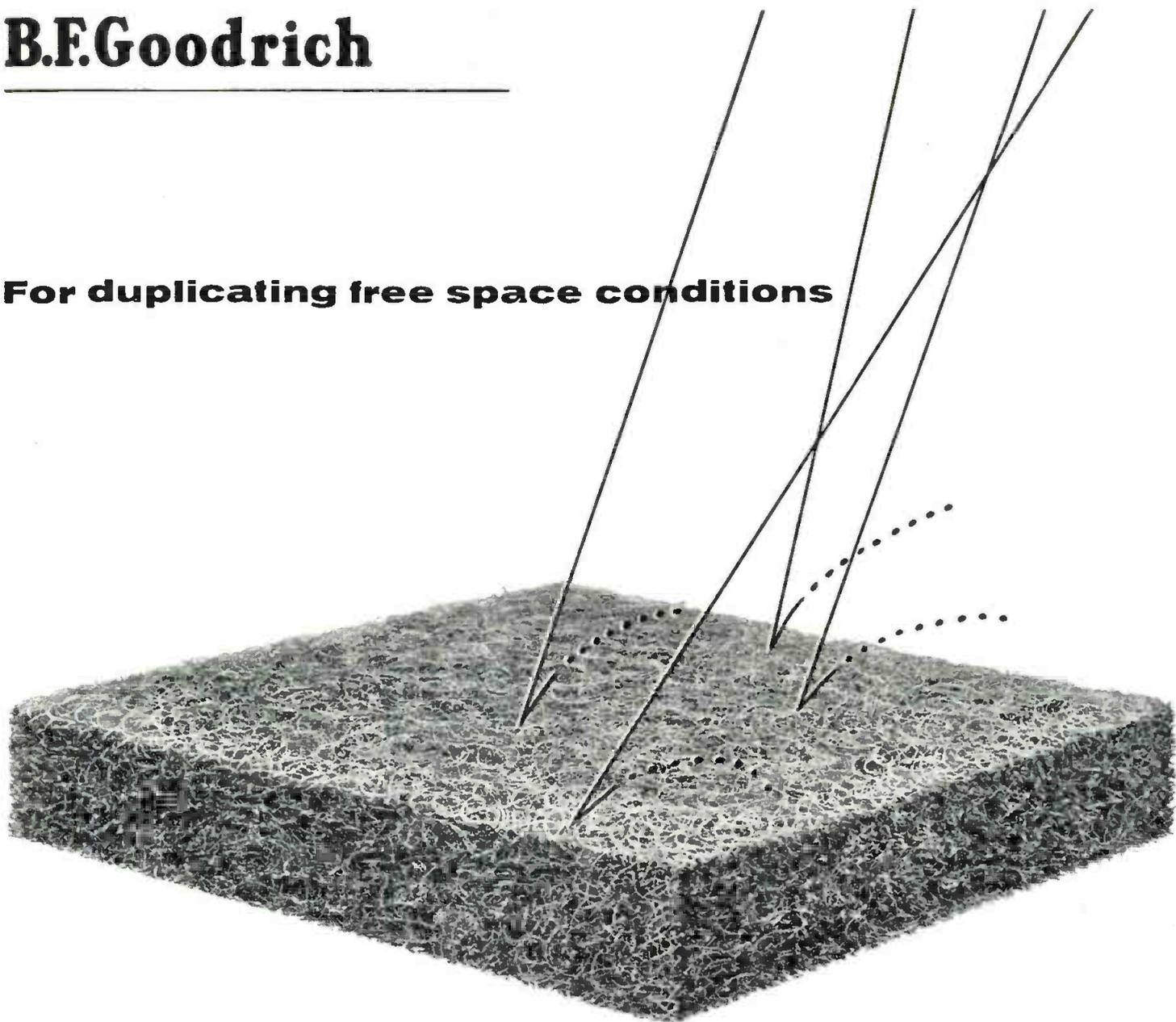


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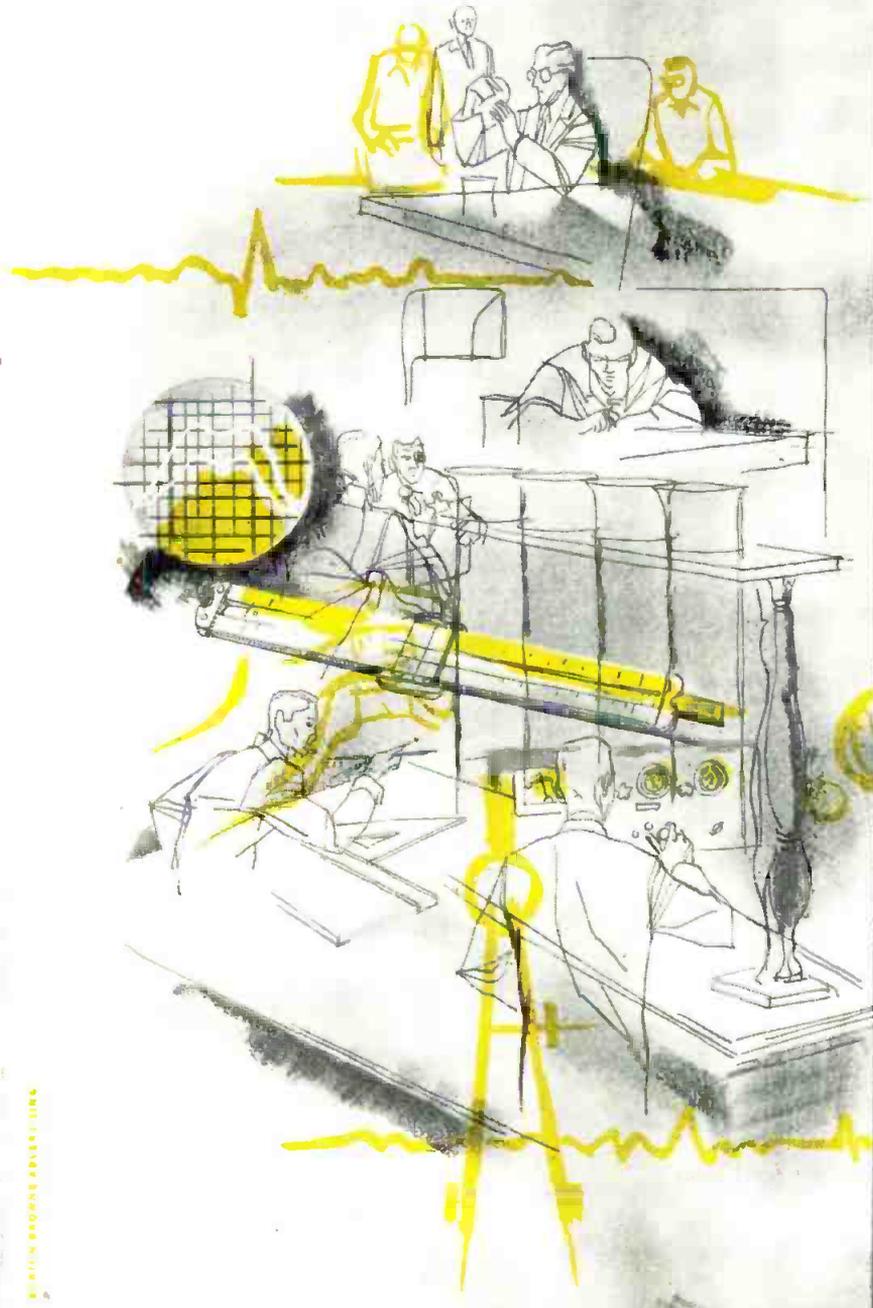
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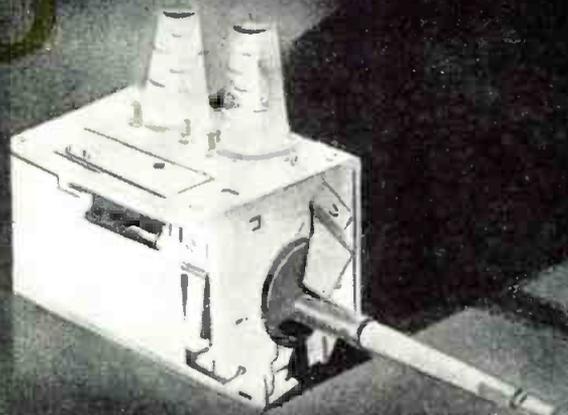
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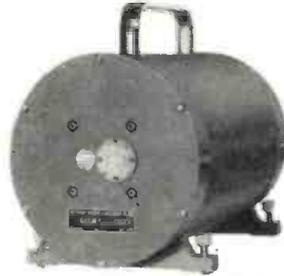
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Invaluable for any precise low level measurement or power monitoring in systems. Unique, because it measures low microwave power with primary standard accuracy by means of thermocouples. *No troubles with fluids, pumps or thermometers.* Easy to use, accurate, rugged and reliable. Indicates average power regardless of modulation. Provision for null indication against standard dc power.



TYPE 666 FREQUENCY RANGE: 18 to over 75 kmc/s • ERROR: Because the intrinsic error is less than $\pm 1\%$ plus $\pm 20 \mu\text{w}$ thermal drift, the combined error including instrumentation can be held to within $\pm 3\%$. Good approximations can be achieved within one time constant (1.5 to 2 minutes) • POWER RANGE: From 30 μw to at least 1 watt cw • SENSITIVITY: 35-40 $\mu\text{v}/\text{mw}$ (calibrated for each instrument) • MAX. VSWR: less than 1.2.

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Especially useful for precision measurements of microwave frequencies where accuracy combined with range is required. *Takes the place of several cavity type meters each of which usually has a more restricted frequency range.* Unlike other heterodyne frequency meters, Type 504 is simple to use. Both CRT and aural presentation are available as well as a new exclusive interpolating dial which saves time and avoids ambiguity. Lightweight, therefore advantageous for field testing of transmitters, receivers and signal generators. Will deliver a signal of precisely known frequency at the RF input connector when used as a calibrating instrument.



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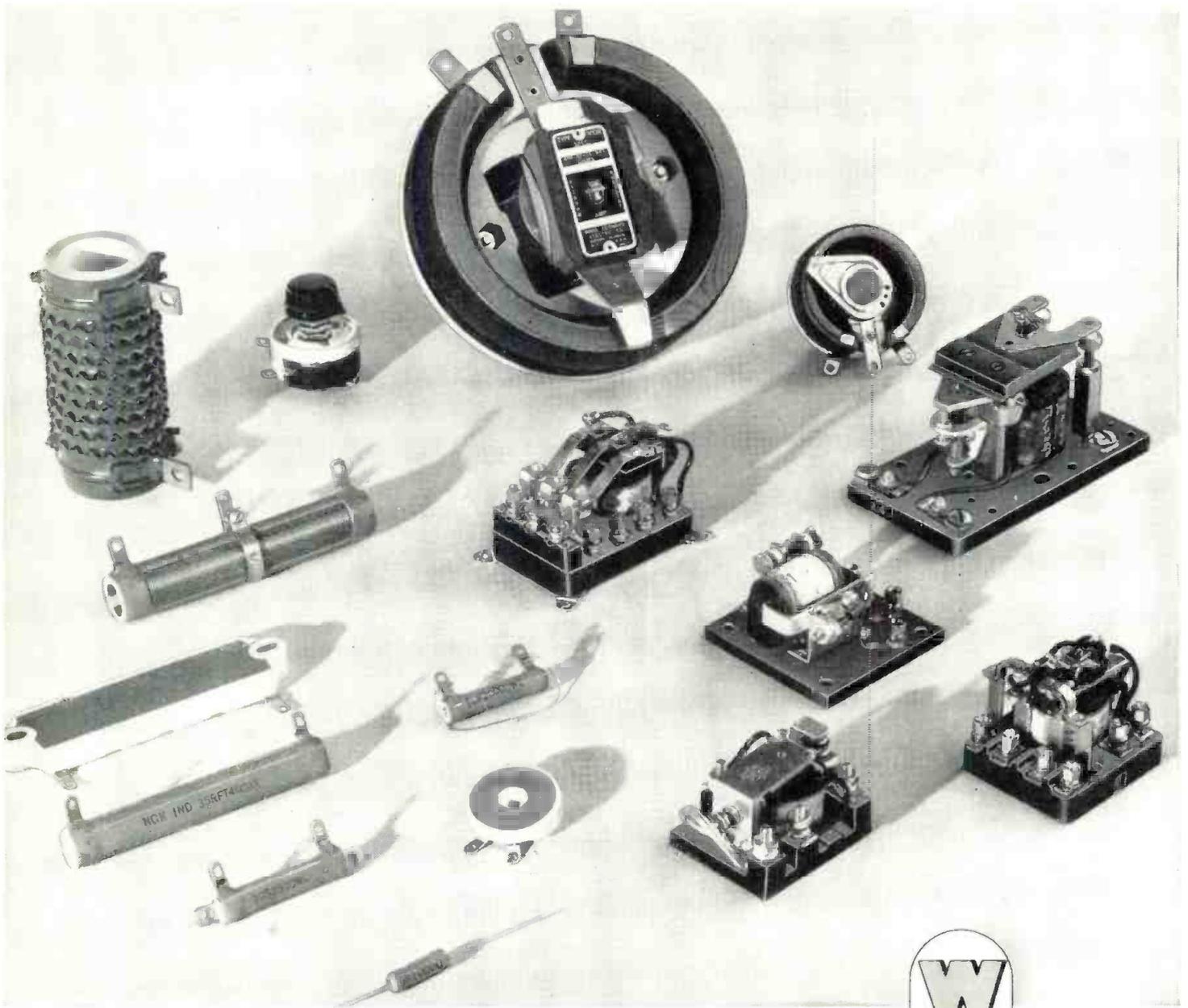
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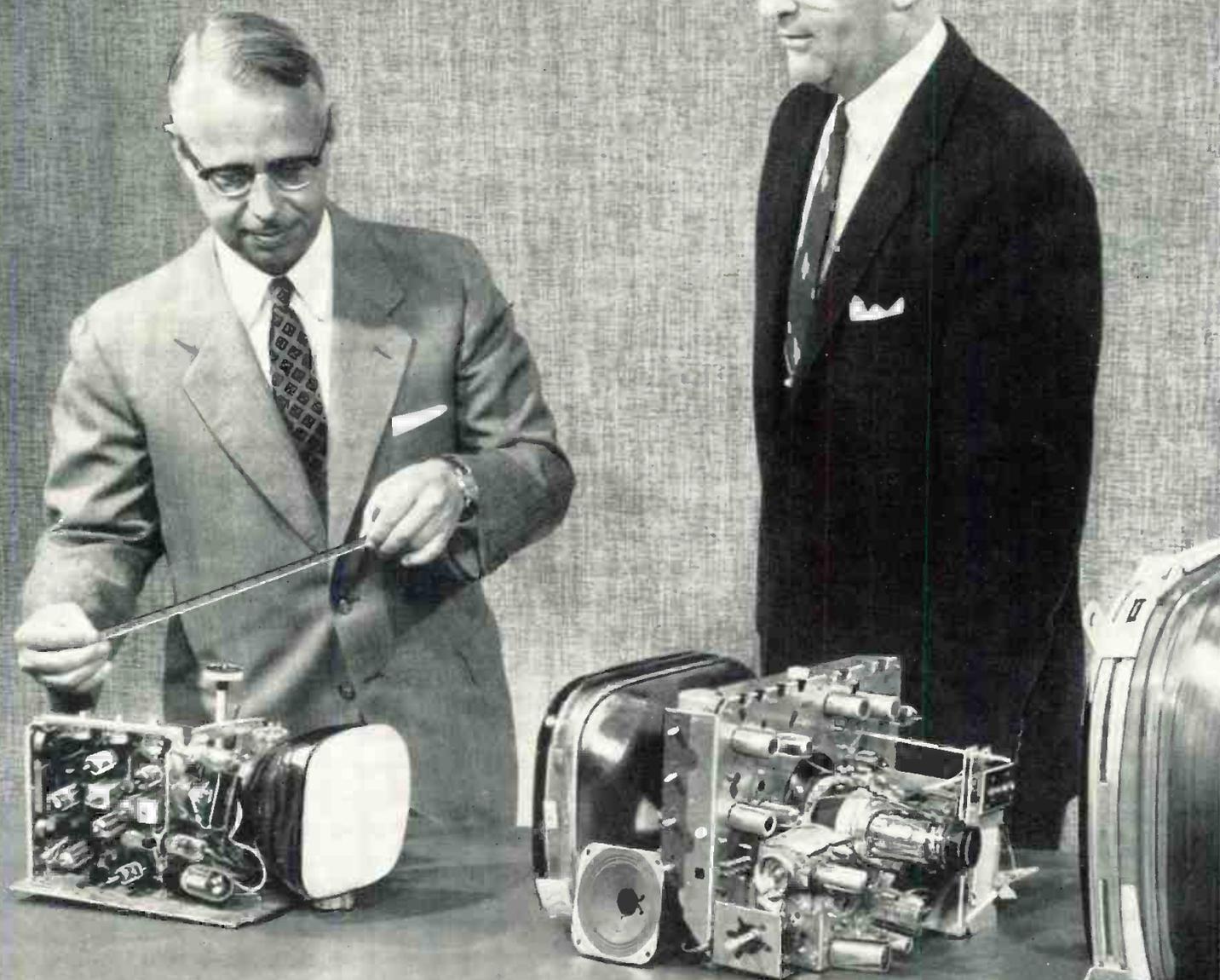
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NOW...G-E SERIES-STRING SMALL TV PORTABLES WITH

New 300 and 450-ma types mean

Dimensions of series-string TV sets are compared by R. V. Bontecou (left), marketing manager, and L. B. Davis, general manager, G-E receiving tubes. General Electric series-string tubes make possible new small size in portable TV receivers—also meet circuit needs up through table models to console sets. Chassis shown in the illustration have 9-, 14-, and 21-inch picture tubes.



TUBES MAKE POSSIBLE LOW HEAT DISSIPATION!

reduced temperatures, minimum cabinet space!

Series-string tubes for television were pioneered by General Electric, so that designers could match cost-saving with reliable TV performance. Over 50 G-E 600-ma series-string types with uniform warm-up time already are available for use in larger models of television receivers.

Now General Electric targets the needs of the fast-growing market for small second sets and portables with new 300-ma and 450-ma series-string tubes. Power requirements are lower, and less heat is generated. As a result, cabinets can be smaller and lighter than ever before.

The 22 new 450-ma types listed below, include among them a full tube complement for medium-to-small-size series-string receivers. Designers of still more compact sets—down to 8-inch portables—will find that the 8 new 300-ma series-string types plus a 1V2 high-voltage rectifier can be used to make up a complete television circuit.

Ask for G-E series-string tube recommendations to cover your new, small sets now in the drawing-board stage! Address *Tube Department, General Electric Co., Schenectady 5, N. Y.*

NEW G-E 450-MA SERIES-STRING TUBES

TYPE	PROTOTYPE	TYPE	PROTOTYPE
3AF4-A	6AF4-A	6U8-A	6U8
4BC5	6BC5	8AU8	6AU8
4BN6	6BN6	8BH8	6BH8
4BU8	6BU8	8CG7	6CG7
4CB6	6CB6	8CM7	6CM7
5BQ7-A	6BQ7-A	8CN7	6CN7
5BZ7	6BZ7	9AU7	12AU7
6AQ5-A	6AQ5	17AV5-GA	6AV5-GA
6BK7-B	6BK7-A	17AX4-GT	6AX4-GT
6J6-A	6J6	17CS	50CS
6T8-A	6T8	17DQ6	6DQ6

NEW G-E 300-MA SERIES-STRING TUBES

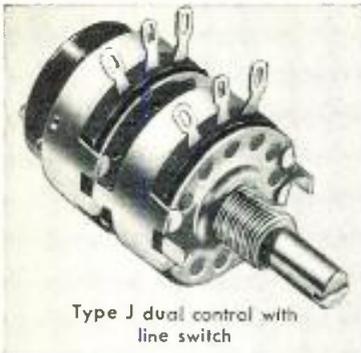
TYPE	PROTOTYPE	TYPE	PROTOTYPE
6AU6-A	6AU6	9U8-A	6U8
6CE5 (Note 1)	None	10C8 (Note 2)	None
6CB6-A	6CB6	17H3 (Note 3)	None
7AU7	7AU7	18A5 (Note 4)	None

1. Improved version of 6BC5.
2. Miniature triode pentode, for use in vertical deflection circuit.
3. Miniature damping diode.
4. Octal-base beam pentode. Horizontal sweep tube.

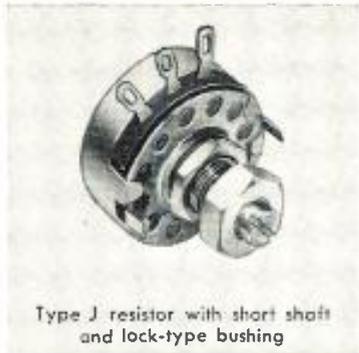
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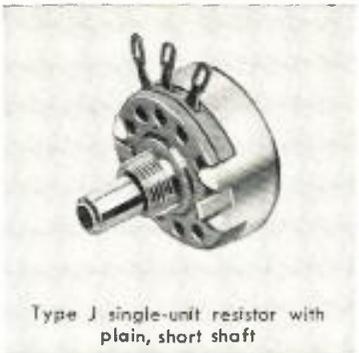
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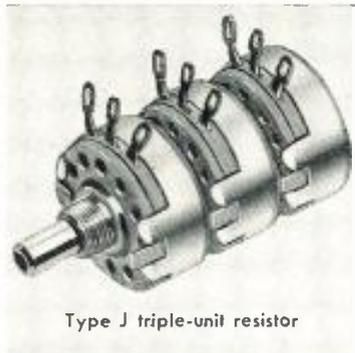
Type J dual control with line switch



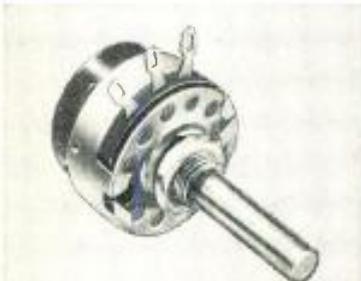
Type J resistor with short shaft and lock-type bushing



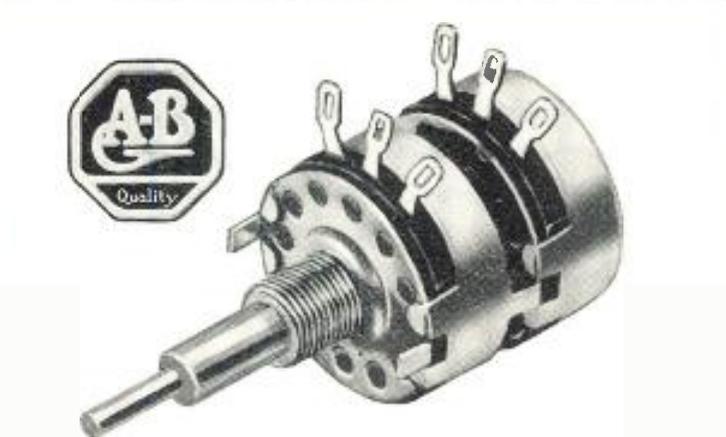
Type J single-unit resistor with plain, short shaft



Type J triple-unit resistor



Type J single-unit with long shaft and 125v switch



Type J dual-unit resistor with short, flatted shaft



Type GP small variable resistor for printed circuits

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The resistor element in all units is a solid molded ring (not paint or film) supplied for standard or special tapers. The resistance material, insulation, terminals, faceplate, and bushing are molded in ONE piece. You can expect improvement with use as brush wears smoothly to flat molded resistor. There are no welded joints, no rivets, no soldered connections.

TYPE J—2 watts—in single, dual, or triple construction. With or without line switch. Dual units can be supplied with concentric shafts for individual resistor control.

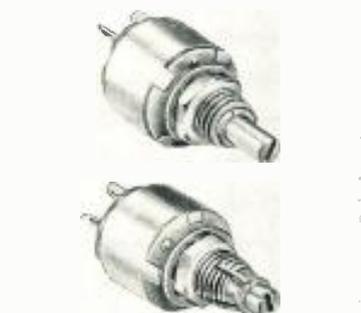
TYPE G & GP— $\frac{1}{2}$ watt— $\frac{1}{2}$ inch in diameter. Type GP units have long terminals for printed circuit applications.

TYPE T— $\frac{1}{2}$ watt—compact units for hearing aids and similar applications.

A-B variable resistors are available in standard **RETMA** values up to 5 megohms.



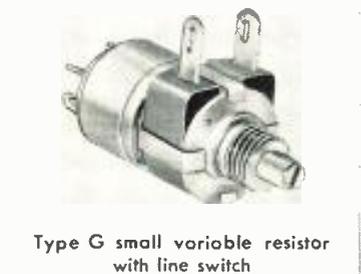
Type J single-unit variable resistor with long shaft



Type G small variable resistors—plain or lock-type bushings



Type T small variable resistors with hand or screw driver operated plastic covers—for hearing aids and similar applications



Type G small variable resistor with line switch

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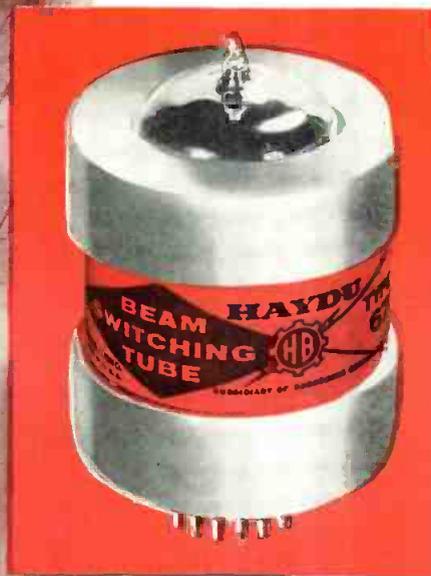
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TELE-TECH & ELECTRONIC INDUSTRIES

M. CLEMENTS, Publisher ★ O. H. CALDWELL, Editorial Consultant ★ B. F. OSBAHR, Editor

Decentralize With New Plants!

LAST month the Radio Corporation of America dedicated a new building at its Missile and Surface Radar engineering plant in Moorestown, N. J. This construction materially increases the building space to 264,000 square feet and raises the employment potential to more than 1500 persons. To editors, plant dedications are customary happenings and seldom are what one might call front page news. Yet the Moorestown installation offers some interesting points.

To begin with, the new plant will make land-based tactical launching and guidance systems for the "Talos" guided missile, in addition to other military electronic products. Until recently Moorestown has been noted as being exclusively a most desirable residential area. With the acceptance of this new plant Moorestown has made an important contribution to national security. It is supporting the decentralization of the electronic industries that is so necessary.

The new plant location tends to attract a higher quality type of employee and economically, the payroll contributes significantly to the community. The company has made a valuable contribution too, in building a modern plant that is not an eyesore as so many manufacturing plants are in U. S. industrial areas. Proper landscaping does much to add to employee morale and efficiency and makes the presence of such an installation scarcely noticeable in the community. Manufacturers planning expansions involving new construction would do well to look into this arrangement that RCA and Moorestown officials have achieved.

Reduce Car Accidents Electronically?

EVERYONE who ventures on the Nation's streets and highways should give long and serious thought to the tragic toll of human life taken by automobile accidents. Can anything be done about this? It would appear that long and serious thought on the part of electronic inventors can yield attachments, methods, devices to reduce such casualties.

It is realized that, at present, the curbing of our Nation's greatest killer lies in the three-way combination of the driver, the car manufacturer and the lawmakers in Washington. Electronic "trainers" can aid the beginner and facilitate annual retesting of all drivers. Electronic industries have also given the law-enforcement agencies the so-called "Radar" equipment for enforcing the speed laws. Only by the product of inventive genius, however, can we hope to reduce the mounting slaughter on our highways.

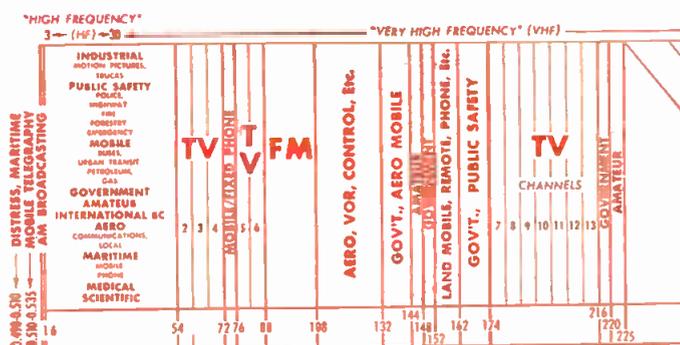
We already have in use an electronic device to automatically dim the headlights of our cars. Other anti-accident attempts include: (a) proposal for car guidance by means of "leader" cables buried in the roadway on super-highways, carrying control frequencies which eventually permit the driver of the moving car to sleep with safety! (b) aid to the driver, in the form of road information and travel directions, "narrowcast" from overhead wires to the radio set on the passing automobile has been demonstrated. (c) the use of the proximity effect, by a capacity pick-up device to control the application of the brakes when the car approaches too close to an obstacle ahead. There must be many more. We urge them to use their creative gifts in this cause.

We're Moving!

THIS June issue of ELECTRONICS INDUSTRIES will be the last issue that we shall publish in New York City. Our executive, editorial, and advertising headquarters on June 1 become "Chilton Co., 56th and Chestnut Streets, Philadelphia, Pa." (Phone SHERWOOD 8-2000.) Because of this change there may be some initial confusion. We have, however, tried to notify everybody in order to minimize any discomfort. Should this occur in your case, please bear with us. Such a move involves training new personnel with a consequent temporary slow-down in routine operations. We expect to be running as efficiently as ever in two or three weeks after our arrival in Philadelphia.

RADARSCOPE

Revealing important developments and trends throughout the spectrum for radio, TV and electronic research, manufacturing and operation

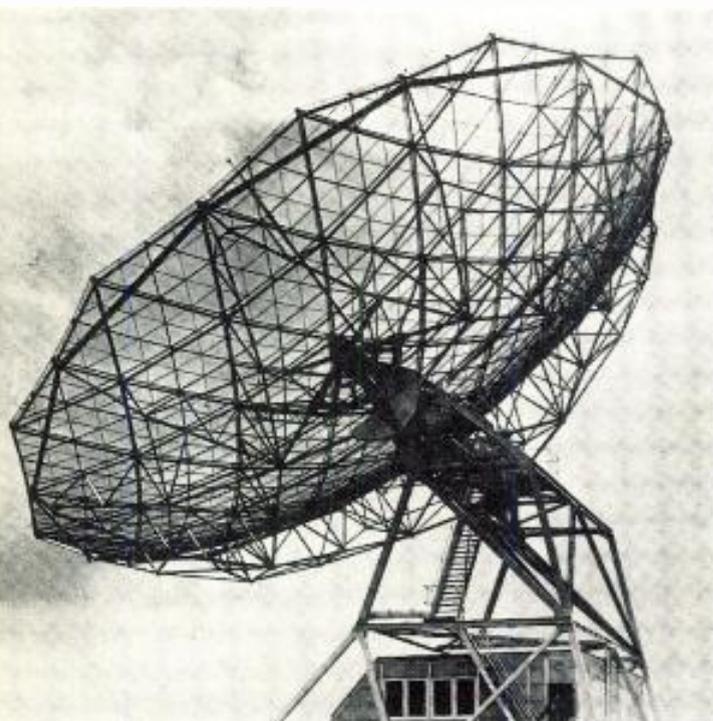


LOOK FOR increasing pressure on the Federal Trade Commission to repeal rule 9 of the Trade Practice Rules which regulates advertising of cathode-ray tube sizes. The TV manufacturers have unanimously condemned the rule for the restrictions it emphasizes and RETMA now claims that their experience since the rule went into effect has given them enough evidence to convince the commission that rule 9 is unnecessarily confusing.

TRANSISTOR INDUSTRY expects to turn out 12 million units in 1956.

FIRST STEP in Signal Corps plans for automatic production of military communications equipment is being undertaken by GE. \$1,000,000 contract for installation and evaluation of the unusual Signal Corps automatic company assembly system is now going into effect. Development of the system is part of an industrial mobilization program to ensure ready availability of military electronic equipment in the event of a national emergency.

SPACE SEARCHER



World's largest revolving radio telescope is shown after being put into operation at Dwingeloo, Holland. Instrument is so sensitive that it can pick up signals arising from collisions of spiral nebulae at distances of 3 million light years.

STRONG PRESSURE is being applied for additional appropriation for the FCC's Bureau of Safety and Supply Radio Services to help reduce that bureau's application backlog. RETMA, last month, urged that the commission's budget be increased by approximately \$50,000, the funds to be earmarked for the bureau's use.

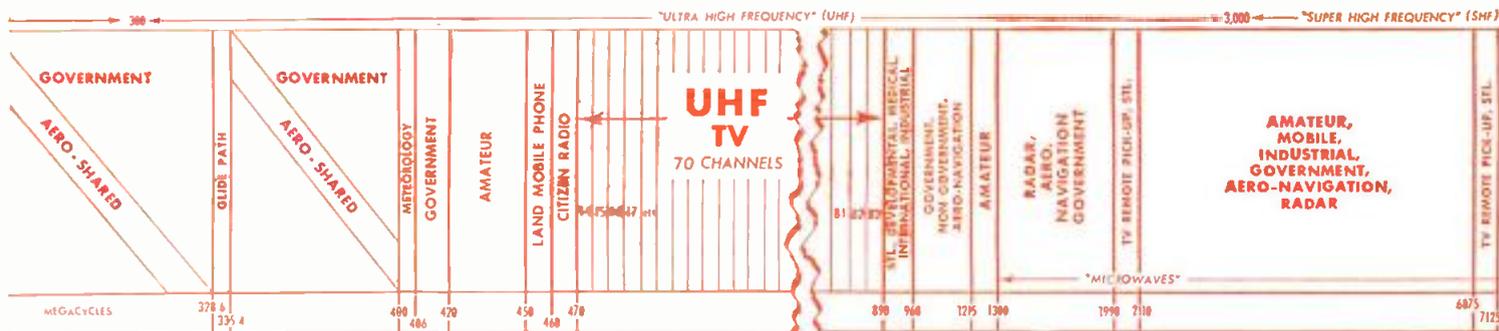
LESS AND LESS credence is being given to the argument that automation will bring unemployment. Responsible authorities are now warning that unless automation is accelerated the country's labor supply will be insufficient to turn out all the products desired.

AUTOMATIC ANNOUNCING SYSTEMS continue to find new uses. Latest, for airline terminals, announces flight information for respective airlines.

RUMORS that the new Ampex video tape recorder might replace the 35 mm. camera were promptly refuted by Ampex. Pointing out their belief that such conjecture was "foolish at this time," Charles P. Ginsberg, chief video engineer of Ampex said that video quality is simply not comparable with ordinarily available film and not even remotely comparable to the new larger-negative film processes. The only possible application considered might be for a motion picture director to shoot scenes simultaneously in film and in Videotape and immediately review the tape recorder while his cast and sets are still assembled. The prime purpose of the VTR is for programming delay; to overcome the 3 hr. East-West time difference.

STILL ANOTHER application of electronic traffic control device was announced by Standard Coil Products in their new "El-Tec" which will allow emergency vehicles to automatically turn all traffic signals red along its route while speeding through congested streets.

NO SURPRISE is the announcement by the BBC that their 9 month old commercial rival, the Independent Television Authority, has already taken 59% of the market. At the same time, in Canada, the Government-owned Canadian Broadcasting Company reports a deficit of \$20 million in radio and TV operations, and adds that a cut in services is contemplated because of lack of funds.



PLIGHT of utilities radio continues to worsen. Requests continue to pour in for additional frequency allocations. Co-channel arrangements have been the only answer to requests in the 30-50 MC and 152-160 bands. Consideration is now being given to a Split Channel proposal, but the FCC has warned that even if a solution is found to problems of engineering, frequency coordination and operation there is no assurance that the new channels made available by Split Channel operation will be allocated to the service to which the original channel was allocated.

ENGINEERING SHORTAGE can be minimized, says Brig. General David Sarnoff, by instituting a three point program: 1. That atomic reactors be constructed on selected college campuses. 2. That the nation's youth be polled to determine why so few take up scientific careers. 3. That industry and Government cooperate in establishing a "National Educational Reserve" made up of teachers drawn from industry.

COLOR TELEVISION

THIS MONTH will be crucial for color TV. With the programming problem solved, at least to a large extent, by WNBQ's all-color operation in Chicago the one remaining obstacle—receiver price—gets industry attention. RCA is expected to announce a sharp reduction, possibly to \$495.00, but a better guess would be \$595.00. The marketing technique that was so successful in introducing B & W—first getting the sets into local taverns and other public places—will be pushed in the next few months for color.

At the same time GE announces that they will be marketing a color TV receiver in the last half of this year. Though technical details are being withheld it is certain the receiver will use a 3-gun aperture mask tube with a chassis designed by GE.

MILITARY CONTRACTS

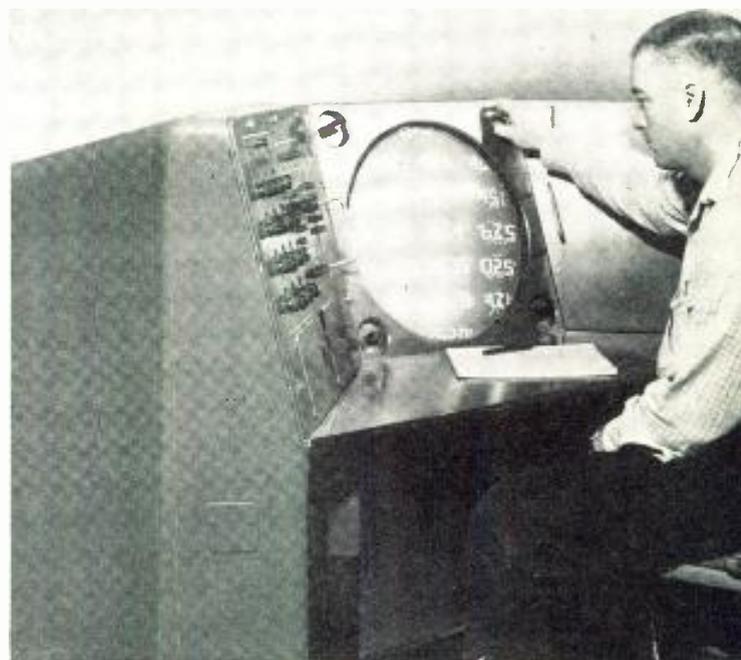
ALL MANUFACTURERS qualified to engage in defense production are being urged to get their names in the Register of Plan Mobilization Producers, which is compiled by the Government as part of their emergency industrial mobilization plans. Firms are listed in the register by the military offices having mobilization planning responsibility for the items which these firms could produce in an emergency. Full details are contained in two booklets

entitled, "Purchased Items and Purchasing Locations of the Department of Defense," and, "How to Sell to the Department of Defense," both available from the Central Military Procurement Information Office, The Pentagon, Washington, D. C. The Government is most anxious that all firms bring to their attention their ability to produce certain products.

MATERIALS

ULTRA-THIN copper strip in thicknesses of .00025 in. will permit the design of greatly miniaturized transformers and other electronic components by the substitution of tape-wound wafer-type coils for the coils formerly made from magnet wire. The Air Force under-wrote the development of the new process. Small dimensions of the new copper strip is illustrated by the fact that 1 lb. of material will make 1,000 r-f television receiver coils. Use of wafer-coil also facilitates automatic production of components.

JET TRACKER



New electronic equivalent of the manually operated plotting board was designed by American Mach. & Fdry. Co. to handle high speed aircraft. Basically a PPI for trace-while-scan surveillance radar, unit shows aircraft as a coded symbol, and includes a velocity vector, a 3-digit identifying number and added pertinent data.

Protecting and Packaging Electronic Equipment



Fig. 1: Encapsulated vacuum tube

Part One of Two Parts

Recent experiences of the military in hot, humid climates has focussed attention on the need for protecting electronic circuits against fungi and moisture, as well as mechanical shock and stress. Protective measures to accomplish this goal are described here.

By W. H. HANNAHS

THE traditional enemies of electronic equipment are water, moist air, and heat, in about this order. Recently it has been necessary to acknowledge also cold, bacterial agents, and the absence of air. Deterioration of performance by any of these agents is through the deterioration of insulation. While all things electrical depend upon insulation, electronic equipment is particularly sensitive because of fundamental dependence on circuits involving high impedance, high resistance, and high voltages. Some circuits of course can tolerate much lower insulation resistance than others but, in general, lowering of the insulation resistance to the neighborhood of 1 megohm impairs the performance of equipment. Sensitive spots may require insulation values of higher than 10 megohms. A lesser causation also exists in the failure of conductors by direct intervention of corrosion.

The longevity of insulation is primarily a function of its thermal properties. To insulate our electronic equipment we use very largely organic polymers: unfilled like polystyrene, polymers like phenol formaldehyde containing fillers of paper or cloth, flexible copolymers like vinyl chloride-acetate, highly compounded and filled elastomers of the rubber family and innumerable resinous coatings from the types which gel or set by drying and oxidizing. We depend also on

some inorganics, on pressurized nitrogen, on vacuum, and on hydrocarbons such as waxes or liquid oils. All of these insulations respond somewhat differently to the various environments. Furthermore, many equipments, as for example, radar, may contain examples of all types.

Background

Only since the early 40's, upon the occasion of the precipitate build-up of military strength in the tropical South Pacific, has the true import and prime necessity of protecting equipment been brought into full play. Just prior to the 40's, of course, there had been a tremendous increase in the complexity of strategic and tactical military electronic equipment. When this equipment began to reach Guadalcanal and Guam, nature's rebuttal to our ignorance of tropical conditions was an additional catastrophe to a long list. Communications sets and walkie-talkie sets arrived inoperative or functioned sporadically for a

week, only to expire. Only heroic maintenance effort kept communication links open.

Then came the awakening. Examination showed cables, baked by unremitting heat, age-hardened and fissured. Vent holes in cases admitted moisture that accumulated to the point of dripping. Plasticizers had migrated from wire coverings, moisture combining with impurities in insulation had become electrolytes between conductors, fine wires had been eaten away, heavy conductors had shed hygroscopic powders whose conductivity bridged terminals. Supposedly undigestible phenolics were covered with fingers of aspergillus, the organics in wiring harness had provided a banquet for the penicillin. Even ceramics when untreated were found to contain their growth of fungi. In equipments failing from obscure causes only after months, plastic laminates of the standard varieties were found to have delaminated and blistered under the combined impact of fungus and moisture.

Fig. 2: Equipment mounts should provide convenience in operating



W. H. HANNAS, Automatic Production Research, 195 S. Columbus Ave., Mt. Vernon. (This article was prepared while the author was employed at Sylvania Electric Products Inc., Physics Labs., Bayside, N. Y.)

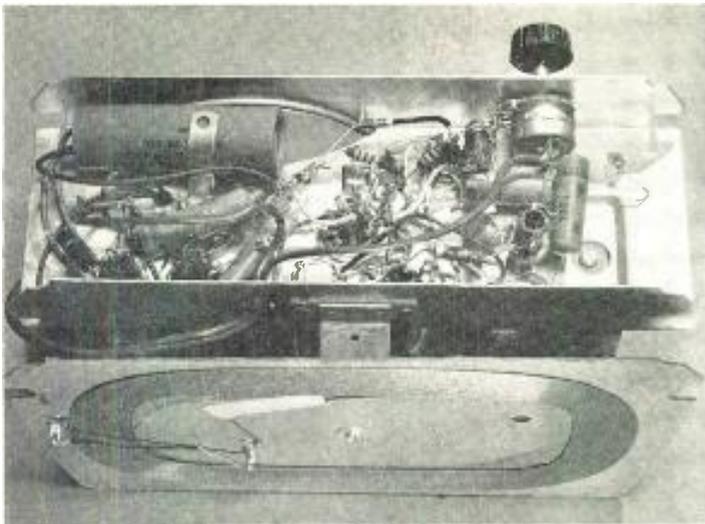


Fig. 3: Hot components are mounted on underside of chassis

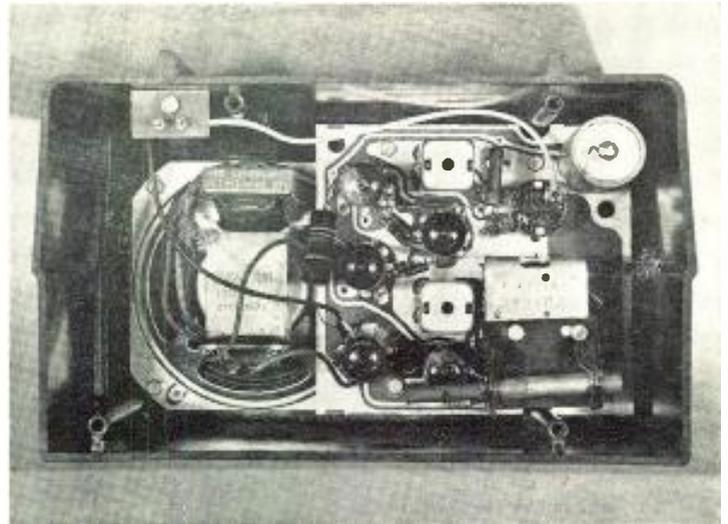


Fig. 4: Humidity and temperature problems arise with printed ckt

Loss of insulation through loss of air became important with the introduction of pressurized airborne radar, and elevated temperature became significant when equipment was compressed into micro-miniature dimensions.

What engineers have done since 1942 toward packaging of equipment is indeed a commendation of single-minded effort. Indication of confusion in an earlier day is the fact that there was active disputation as to whether fungi actually ingested ceramics on which they were found. The list of materials found to be most degraded by fungial action, however, witness the fact that the elemental need of the fungi is carbon, particularly in the form of cellulose with perhaps a little nitrogenous matter for variety. We may conclude, then, that all military equipment should have protection for textiles, paper, wood, casein, felt, etc., whenever these cannot be omitted.

Not the least enemy of electronic equipment is microscopic debris,

both organic and inorganic. Besides providing insulation where it is not wanted by slipping in between metallic contacts, it also furnishes a media on inorganic surfaces in which bacteria and fungi may live and attract moisture. The combined coincidence of moisture, warmth, cellulose, and lots of debris leads to generally riotous living among the yeasts and fungi. We might mention the aiding circumstance of darkness, too, but given only the favoritism of a tropical environment and the limited food supply of an old-fashioned paper label adhered with animal glue, nature can contrive an awful mess in an under chassis.

Environmental testing of materials for mildew resistance with prescribed organisms is rather difficult, but a reasonably good estimate can be made by burying samples 14 days in a box of rich garden soil maintained at 98°F. and 95% R.H.¹

If all components and wiring in an equipment are separately enclosed so as to be "dust tight" the outer enclosure may be limited to the cate-

gory of "dust proof" which means that dust may enter provided that it does not prevent normal operation. Air Force tests² define dust as the mixed oxides of silica, iron, aluminum, titanium, and magnesium present in 5 micron to 325 mesh size, and equipment is generally required to operate in hot dry and humid conditions after 6 hrs. exposure to heavy turbulent concentrations.

Generally considered, protection can be supplied not only by boxes and cans but by plastic embedding, wax potting, dip coating, over-varnishing normal insulations, immersion in oil, pressurized cases or high vacuum.

TV and Radios

The protection applied to domestic radio receivers is probably representative of the minimum order. Aside from the decorative function, the cabinet supplies only protection from meddling and shock. In inexpensive sets even the protection from dust is almost incidental to having the electrically hot components on the underside of the chassis (see Fig. 3). At this cost-conscious level, the major consideration is the bedrock requirements of the National Board of Fire Underwriters. Whether or not the underwriters acknowledge such policy, it is rather generally recognized that their labs largely approve specific complete appliances and prefer to do so because specification of individual parts and materials are constantly subject to modification in the face of technical progress. Therefore, in applying the basic standard for Power Operated Radio Receiving Appliances supplied by Underwriters³ and approved by the ASA, these individual

(Continued on page 362)

THERMAL CONDUCTIVITY OF MATERIALS

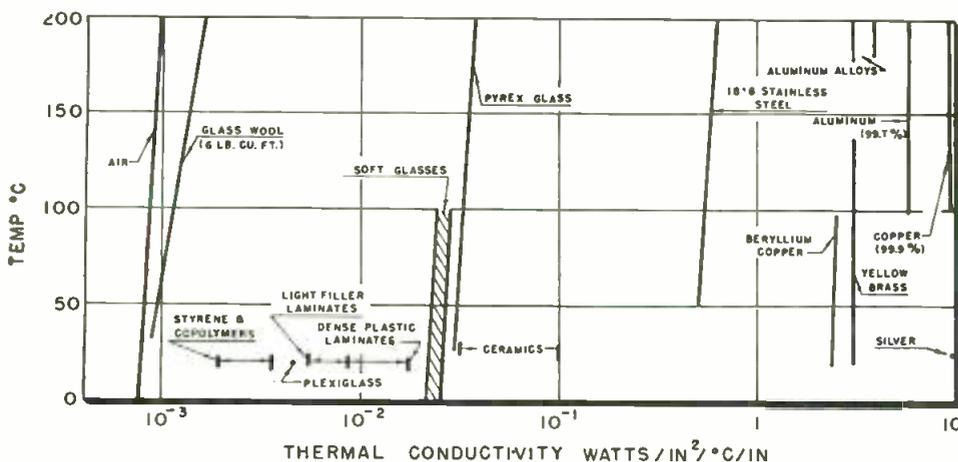


Fig. 5: Thermal effects with various commonly used materials

Design Of

By J. E. WOODWARD, Section Head, Dept. of Radar and Navigation, Airborne Instruments Lab., Inc., Mineola, N.Y. and D. R. KIRSHNER, Supervisory Electronics Engr., Rome Air Development Center, Griffis Air Force Base, Rome, N. Y.

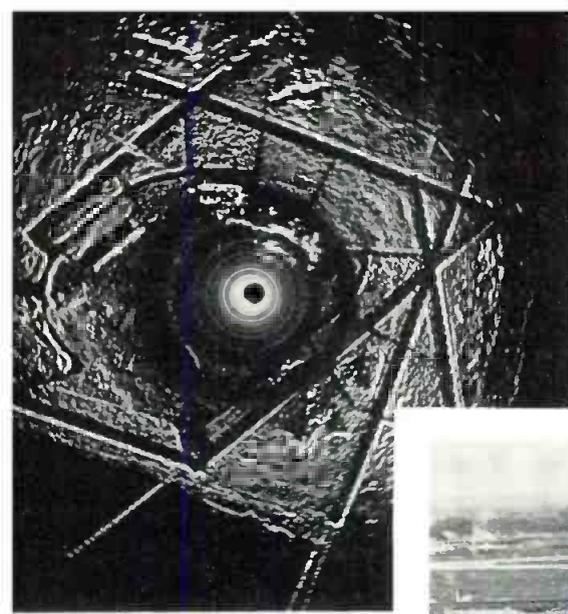


Fig. 1: PPI picture of N. Y. International Airport (Idlewild) as displayed on ASDE model



Fig. 2: (r) Experimental model of ASDE installed in the control tower at Idlewild

AIRPORT Surface Detection Equipment (ASDE) is a radar equipment designed to permit observation and control of surface traffic on an airport. The fundamental requirement of such a radar is that it display the details of an airport with sufficient resolution that it can supplement or replace the visual observations of a control-tower operator. This means that the runways and taxiways must be clearly defined and that objects on these areas must be plainly visible. Fortunately, a radar (when viewing an airport from a somewhat elevated position) will "see" reflections from the areas of the airport covered by vegetation or having the normal rough surface of the ground, but will not receive reflections from the smooth surface of a runway. The greatest part of the airport surface will therefore be visible on a PPI display, whereas the runways, taxiways, and other smooth areas will be dark. Thus, aircraft and other objects on the

runways will be seen against a dark background (Fig. 1).

The control of traffic on the surface of an airport has long been recognized as a part of the overall problem of aircraft traffic control and safety. Although the problem of surface traffic control—beyond that afforded by the control-tower operator—has not occupied top priority in the overall program, it has been actively pursued. At about the end of World War II, the Air Force (at what was then Watson Laboratories) made a study of the various ways in which the traffic on an airport could be followed by other than visual means. The report on this study covered the use of pressure pads, induction loops, photocells and such devices, as well as radar. The conclusion was reached that, from the standpoint of economics and practicability, radar appeared to offer the best approach.

Based on this study, a program was set up by the Air Force to fur-

ther investigate the use of radar as an aid in the control of surface traffic on an airport. This program has led to the radar system that is now being discussed. A very brief history of its evolution will be given before the details of the present equipment are described.

It was recognized that the highest practical radio frequency should be used in such a radar in order to obtain a narrow azimuth beam-width. The 24,000-Mc region, K-band, was the highest frequency at which components were available at that time, but it was known that this frequency was subject to high atmospheric attenuation. This problem was investigated, using an existing K-band radar, and it was concluded that atmospheric attenuation would not seriously impair the operation of such a radar at the short ranges involved.

A radar system, referred to as Taxi Radar, was procured by the Air Force for use in an evaluation program. This system operated at

ASDE Radar Equipment

Airport Surface Detection Equipment (ASDE), short-range, K-band radar, supplements or replaces the visual observation of the control-tower operator. This article reviews the design considerations, construction and performance of a new system now being developed for the Air Force.

K-band, had a pulse width of about 0.1 μ sec; its antenna beamwidth was 0.4 degree in azimuth and 1.0 degree in elevation. This represents a pulse of 50 ft. in range and, at a distance of 7000 ft., 50 ft. in azimuth. There was considerable interest in this radar, which displayed the runways and taxiways of an airport with aircraft moving around on them.

Early observations of the capabilities of the first Taxi Radar proved that it did have considerable promise as an aid in surface traffic control. However, it became evident that increased resolution would be highly desirable, and Airborne Instruments Laboratory received a contract to modify one of the Taxi Radar equipments to obtain increased resolution. To do this, the transmitter pulse length was reduced to 0.02 μ sec, and the receiver bandwidth and indicator resolution were improved to adequately display this short pulse. The Air Force decided against increasing the antenna size on this program. However, it was decided to add a spoiler plate to the existing reflector to fan out the vertical-plane radiation pattern of the antenna. This was done to provide better coverage of close-in areas when the antenna was located some distance above the ground.

The equipment resulting from this modification was known as the Experimental Model of ASDE. As the name indicates, it was an experimental equipment and was known to have some shortcomings that would not be desirable in a final model. However, the basic performance of the system was not affected, and the equipment was used in an extensive evaluation testing program.

After a short shake-down test at Mitchell AFB, conducted by AIL, the experimental model was taken to the CAA Technical Development

Evaluation Center (TDEC) at Indianapolis. There it was subjected to a thorough technical as well as operational evaluation. As part of the evaluation program, the radar was moved to the municipal airport at Minneapolis, Minn., during the winter of 1951-1952 to check its operation in heavy snow. It was found, incidentally, that falling snow did not bother the operation of the radar, but that a snow-covered airport looked entirely different on the PPI display. The smooth snow surface gave no returned signal, but the snowbanks on the side of a plowed runway gave a clear outline of the runway.

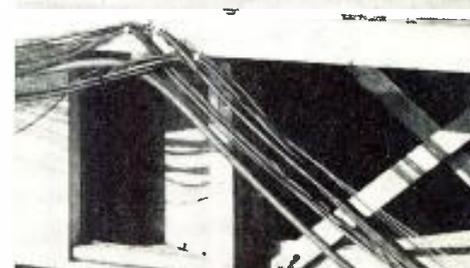
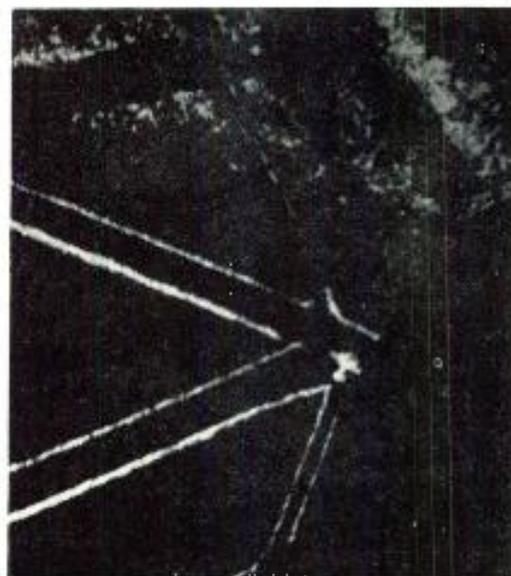
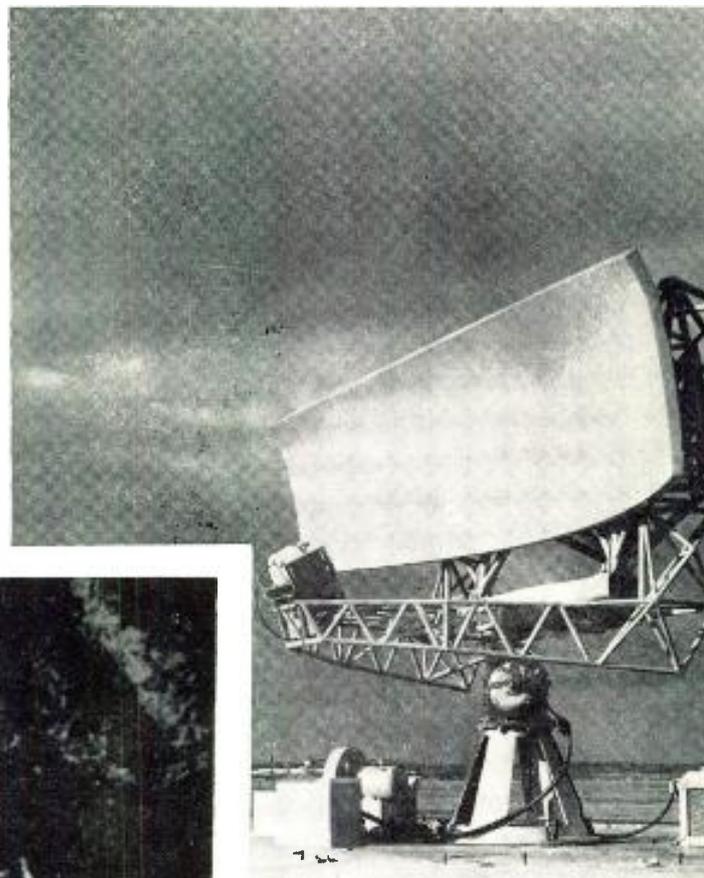
Upon completion of the tests by TDEC, the Experimental Model of ASDE was taken to Rome Air Development Center (RADC) for a brief testing period. While at RADC, the equipment was made ready for installation in the new control tower at New York International Airport (Idlewild).

In the spring of 1952, the Experimental Model of ASDE was installed in the new 11-story control tower at Idlewild. The antenna and the transmitter-receiver were located on the roof, one PPI was located in the control cab, and one in the approach control room along-

(Continued on page 180)

Fig. 3: (r) Antenna construction. Surface tolerance is severe, to within 1/32 in.

Fig. 4: PPI screen provides this picture of a 4-engine (DC-6) aircraft at end of runway



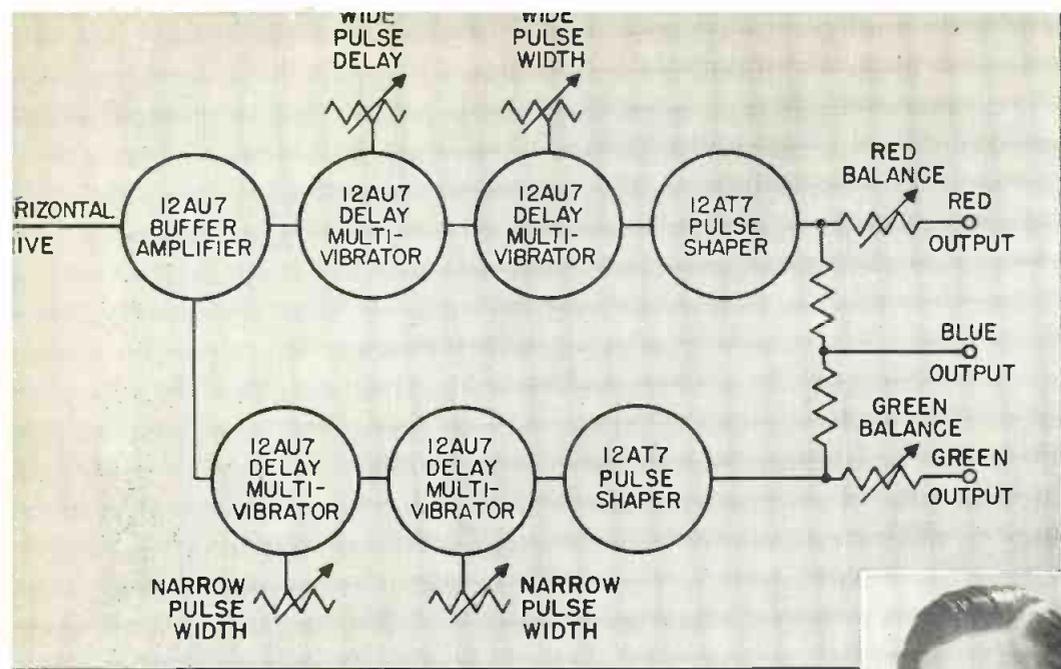


Fig. 3: Block diagram of unibar generator

Measuring

By A. ETTLINGER



A. ETTLINGER, TV Engineer,
Engineering Dept.,
CBS-Television, 485 Madison
Ave., New York, N. Y.

Fig. 1: Primary component waveforms

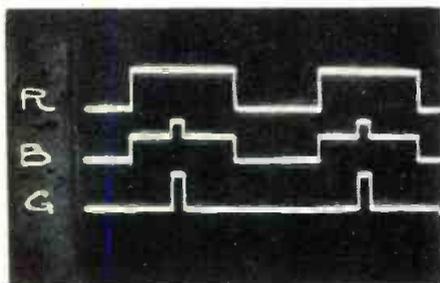


Fig. 2: Resultant encoder output

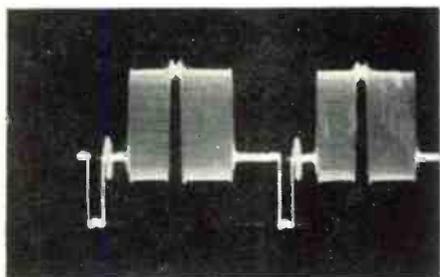


Fig. 4: Shape of narrow (green) pulse

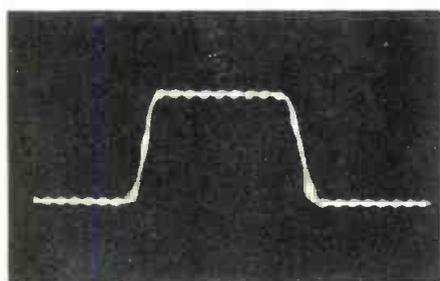


Fig. 5: Correct Y vs. Q delay

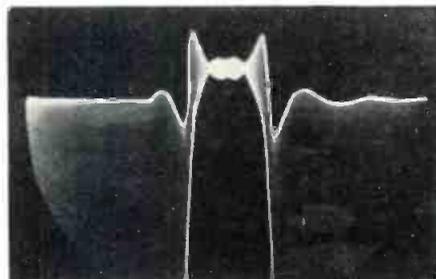
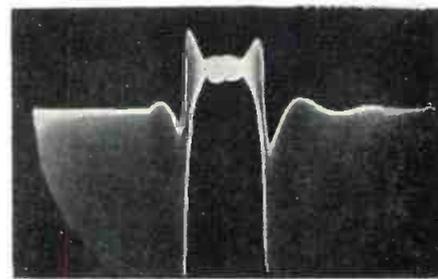


Fig. 6: Y delay .05 μs shorter than Q



THE encoding and decoding processes in the NTSC color television system require the use of delay compensation to achieve time coincidence of the color and monochrome components of the signal. The bandwidth limitation requirement for the I and Q chrominance signals necessitates their passage through filters whose inherent delay would, otherwise, cause serious misregistration between the brightness and the color information. Therefore, lengths of high-impedance coaxial delay cable are usually employed in the monochrome (Y) and I chrominance channels of encoders and decoders to achieve coincidence of these signals with the narrower-band Q signal.

The necessity for verification of relative delay as a routine step in encoder and decoder alignment procedure becomes apparent when a comparison is made between permissible I and Q channel transient responses and the stated timing tolerance of $\pm 0.05 \mu\text{secs}$, as defined by FCC specifications. This tolerance is very narrow when compared to the rise time of an I or Q step function signal and to the relatively loose band-pass specifications for these signals. As a result, realignment of the band-pass filters in the chrominance channels can, with relative ease, cause unacceptable changes in relative delay without violating band-pass specifications. Proper receiver performance therefore re-

Color Television

Luminance-vs.-Chroma Delay

Simple unibar generator of special design provides at the encoder output a signal whose waveform pattern can be examined for symmetry as an accurate qualitative check of delay

Fig. 7: Y delay .05 μ s longer than Q

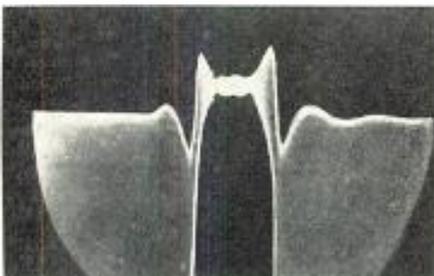


Fig. 8: Encoder output, Y and I. Balanced

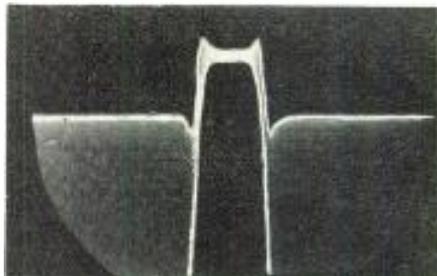


Fig. 9: I delay .02 μ s shorter than Y

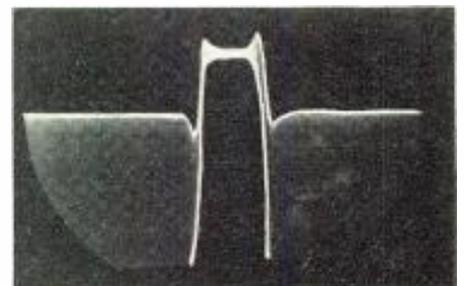


Fig. 10: I delay .05 μ s shorter than Y

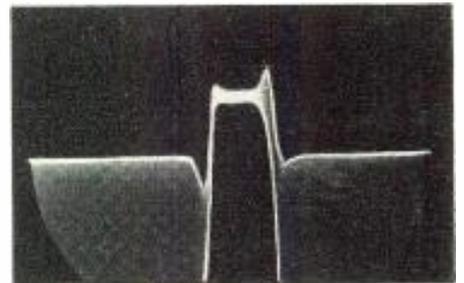


Fig. 11: I delay .02 μ s longer than Y

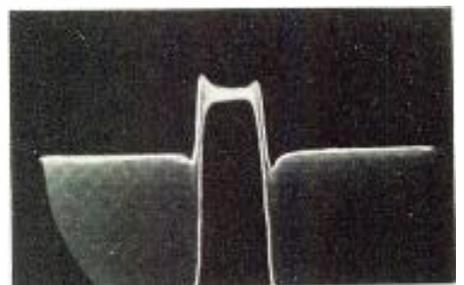
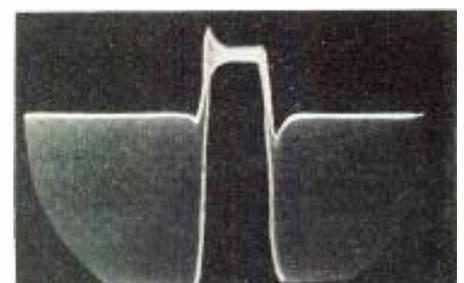


Fig. 12: I delay .05 μ s longer than Y



quires a delay check whenever adjustments are made affecting I and Q band-pass. In broadcast installations where compliance with FCC specifications must be maintained, it is likewise essential that routine performance measurements include a check of luminance-vs.-chrominance delay. As a matter of fact, this measurement can be used for a more sensitive indication of drift in band-pass characteristics than is afforded by the more direct method of measuring amplitude-vs.-frequency response.

The technique herein described was developed primarily to facilitate routine operational maintenance of broadcast encoding equipment, but is readily applica-

ble to the reverse situation encountered in the decoding section of receivers or picture monitors.

Direct Measurement

Although not specifically so stated in the FCC specifications, the $\pm 0.05 \mu$ sec relative timing tolerance is interpreted as applying to a point of reference corresponding to the voltage midpoint of a step function in each signal component. The simplest approach for direct measurement is to compare the position of these points on a triggered oscilloscope, observing separately each signal component while the encoder (RGB) input consists of time-coincident pulse signals proper
(Continued on page 187)

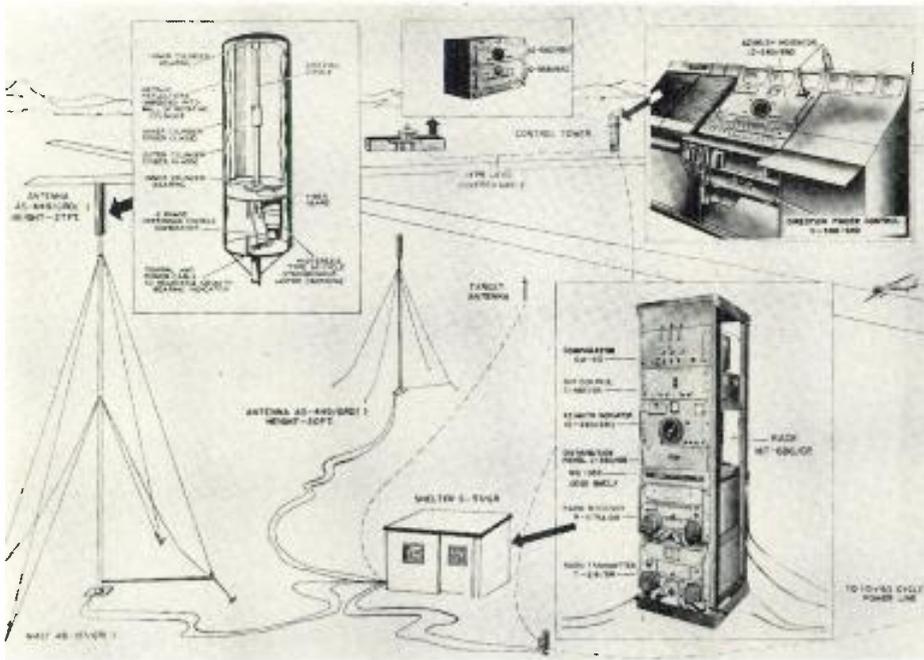


Fig. 1: System installation plan of radio direction finder (AN/CRD-6)

By J. A. FANTONI
and R. C. BENOIT, Jr.

Design of Height-Diversity UHF Direction Finders

Automatic DF developed primarily as a navigational aid employs a unique antenna design and height diversity reception techniques to minimize the effects of multipath transmission on bearing accuracy and reliability.

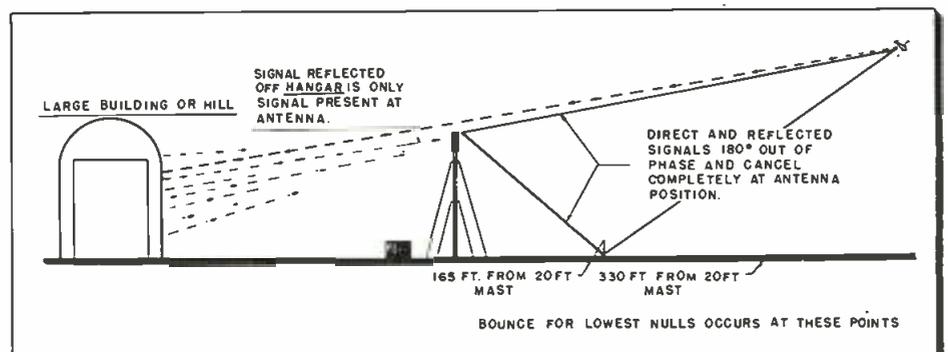
THE transition of military ground-to-air and air-to-ground line-of-sight communications from the VHF 100 to 156 MC frequency range to the UHF 225 to 400 MC frequency range made necessary the development of a ground based direction finding facility capable of operating in the UHF range in conjunction with radio transmissions from high performance type aircraft. Development effort which culminated in the finalized equipment was initiated by Watson Laboratories (later, the Rome Air Development Center) and was pursued jointly by the Air Force and Federal Telecommunication Laboratories.

Analysis of Air Force operational requirements established that engineering effort must be directed toward the development of a

ground based, air transportable direction finding facility to provide the maximum possible usable sensitivity which would be at least equal to contemporary communications equipment. The facility was also required to provide a continuous and reliable bearing on any signal within line-of-sight of the installation, full automaticity, fast bearing response time, full coverage of the 225 to 400 MC frequency range with a single set of antenna elements, and flexible remoting

capabilities that needed only a minimum number of connecting cables. To comply with these broad parameters, extensive engineering effort was spent to investigate UHF propagation characteristics, various antenna systems, bearing indicator techniques, and remote control arrangements. The overall antenna system development was the major problem encountered during this program. A diversity antenna system was devised to provide continuous bearing informa-

Fig. 2: With single antenna direct and reflected signals cancel completely



J. A. FANTONI and R. C. BENOIT, Jr.,
Rome Air Development Center, Rome, N. Y.

tion that would be reliable under conditions of signal variation resulting from interference at the D/F antenna between direct and reflected rays.

System Description

The system installation plan for the Radio Direction Finder AN/CRD-6 is shown in Fig. 1. The facility provides bearing information automatically and essentially instantaneously on CW, voice or tone modulated signals on any one of 10 preset crystal controlled channels of the 1750 available channels in the 225 to 400 MC frequency range. Bearing display is accomplished by means of a pointer type indicator.

The system comprises a local station and one to four remote stations. The local station consists of two identical direction finding antennas mounted on separate masts at different heights to provide height diversity with respect to the received signal, a target antenna to permit system self-check and alignment, and a prefabricated shelter containing the local station electronic components. The shelter contains a comparator to determine and select the antenna in the stronger r-f field, a multi-channel crystal controlled radio receiver, a local bearing indicator, a local control unit, and a multi-channel crystal controlled target transmitter. Each remote station consists of a remote control unit and an azimuth indicator identical to the local indicator. These units are designed for installation into existing and planned control tower consoles and also for standard rack installation. The master remote station which may be located up to five miles from the D/F site, exercises complete control of the system over a four wire

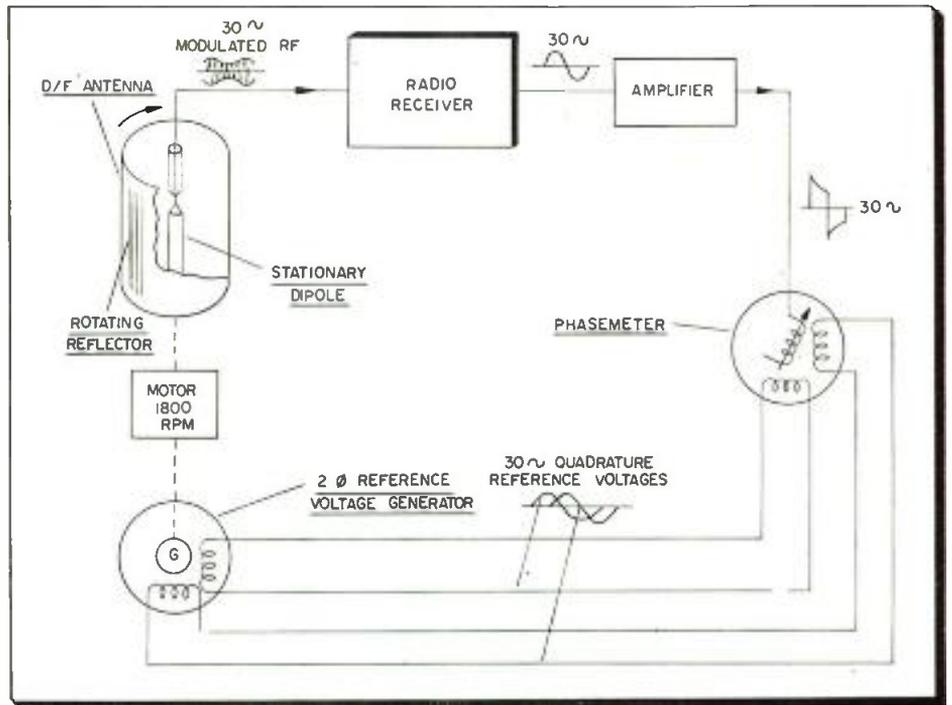


Fig. 3: Basic direction finding principle

telephone type cable. A total of three additional remote stations that also exercise complete control of the system may be employed in parallel with the master station. The most distant parallel remote station can be located 10,000 ft. or less from the master remote station.

When furnished for permanent fixed station operation, without a prefabricated shelter and submersion proof transit cases, identical equipment is known as Radio Direction Finder AN/FRD-2.

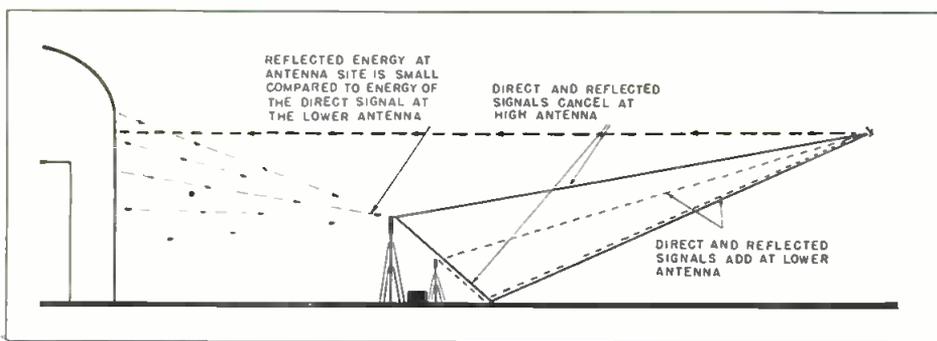
D/F Principle

Fig. 3 illustrates the basic direction finding principle employed in the AN/CRD-6. The antenna consists of a stationary, vertical dipole about which a parasitic reflector is rotated at a speed of 1800 RPM. As the reflector rotates, it amplitude modulates the received

signal at the rotation frequency. The resulting rotating horizontal field pattern obtained is unidirectional and essentially cardioid in shape. The reflector drive motor also rotates a 2-phase generator, whose frequency is equal to the frequency of modulation applied to the received signal. The bearing of the received signal is thus proportional to the phase difference between the modulation envelope of the r-f and the reference voltage.

The modulated r-f output of the antenna is passed to the input of a radio receiver. The signal is then amplified and demodulated and the resultant output is fed through an amplifier to the rotor of the phase meter, the basic element of the azimuth indicator. The phase meter consists of two stator windings in space quadrature and a rotor winding. Reference voltages from the antenna, equal in amplitude but displaced 90° in phase, are applied directly to the stators. Since the two stator windings are in space quadrature and are supplied with quadrature voltages, a rotating magnetic field is established in the phase meter. When a signal is present, the rotor is energized by a voltage whose useful component has a frequency of 30 CPS. The rotor, therefore, will assume a position where there is no reaction between its magnetic field and the stator magnetic field (at the point where

Fig. 4: Height diversity uses cancellation at one point, addition at the other



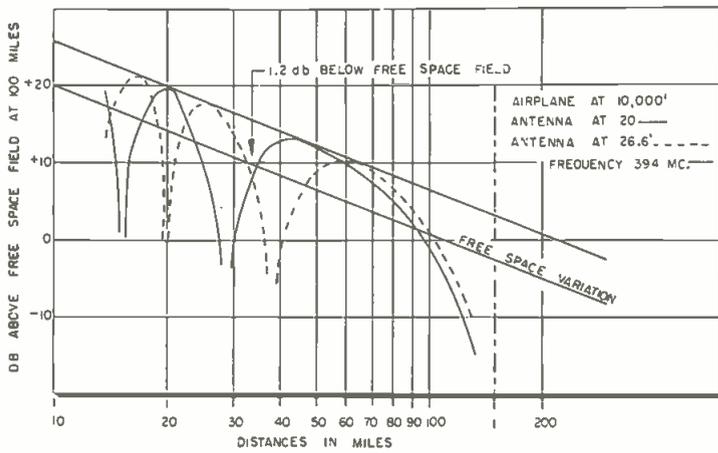


Fig. 5: Signal strength at 20 ft. and 26.6 ft. antennas

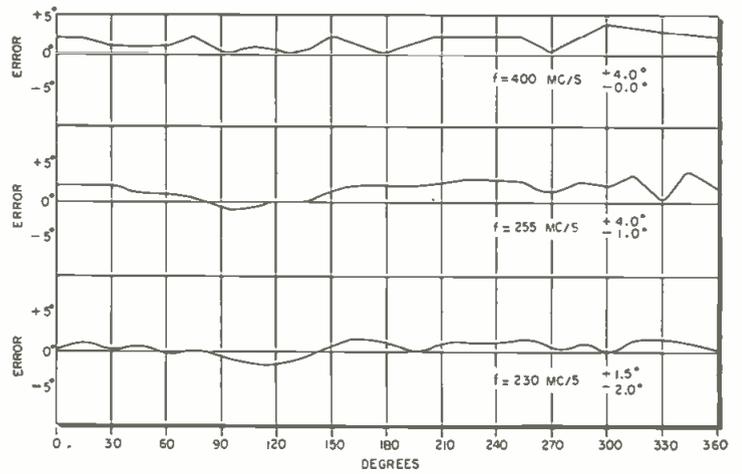


Fig. 6: System instrument error

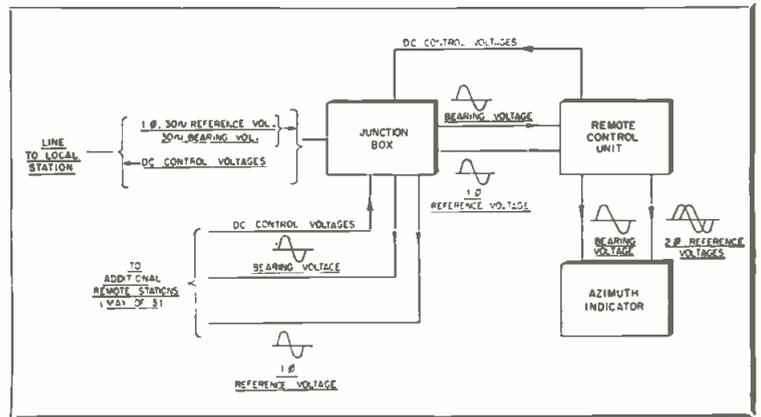
Direction Finders (continued)

the instantaneous direction of the two fields are the same). Adjustable magnetic damping is applied to the phase meter shaft to reduce needle swing due to noise and rapid changes in bearing.

Diversity Techniques

An analysis of propagation phenomena in the 225 to 400 MC frequency range reveals a continual variation between a minimum and a maximum in the r-f field at the D/F antenna as the transmitting aircraft's vertical angular position varies with respect to the D/F antenna. This condition results from the fact that energy radiated from the airborne transmitter reaches the ground antenna by two different paths, a direct path and an indirect path that involves reflection from the ground as shown in Fig. 2.

Fig. 7: Simplified block diagram of remote station



Depending upon path difference and corresponding phase relationships of the direct and reflected rays, the resultant effect may be either additive or subtractive. In the latter case, the field strength at the receiving antenna is considerably reduced and may drop essentially to zero if the two interfering rays are nearly equal in strength and exactly out of phase. When a null occurs, it may be impossible to obtain a bearing due to insufficient signal level. Moreover, under conditions where a reflected signal from nearby buildings or

other masses overrides the resultant of the direct and ground reflected wave, an erroneous bearing may be obtained. However, space and height diversity techniques can be successfully used to minimize these effects.

The succession of maxima and minima produces a definite interference pattern for an antenna at a particular height. A second antenna mounted at a different height will not have the same interference pattern because the distance traveled by the ground reflected wave is different. This means that nulls do not occur at the same instant for the two antennas. It then becomes possible to choose an optimum height difference so that the minima of one antenna will almost always be filled by the maxima of the other. Fig. 4 illustrates signal reception with two D/F antennas at different heights.

Although interference minima could be eliminated by intercepting the rays reflected from the ground before they reach the D/F antenna, for example, by surrounding the antenna with suit-screens, consideration of the geometry involved indi-

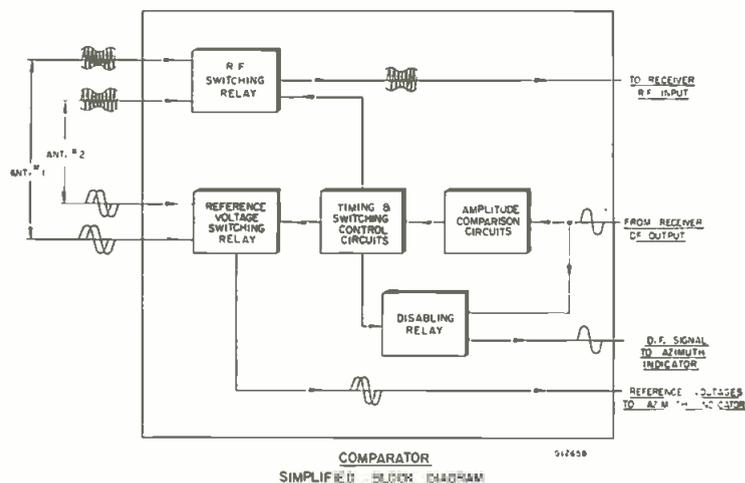


Fig. 8: Comparator automatically connects antenna receiving stronger signal to indicator ckt

Page from an Engineer's Notebook

No. 36—Wien Bridge Design

By J. F. SODARO

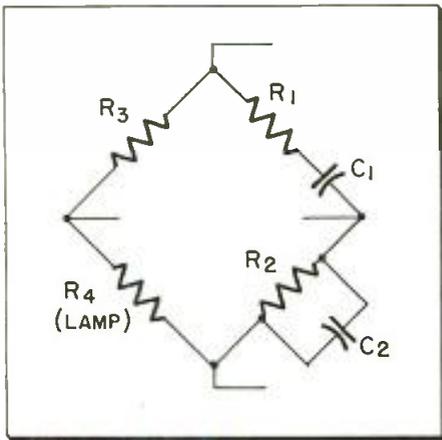


Fig. 1: Conventional Wien bridge circuit

THE Wien Bridge network shown in Fig. 1 is used as a frequency selective circuit in oscillators and for audio frequency measurements. When used with an oscillator, this circuit is connected to a suitable amplifier with regenerative feedback. For the measurement of frequency, the unknown frequency is applied across upper and lower terminals and a null detector across right and left-side terminals. In the design of this network it is customary to make $R_1 = R_2 = R$ and $C_1 = C_2 = C$ and $R_3/R_4 = 2$. For these conditions the bridge is balanced at the frequency given by

$$f = \frac{1}{2\pi RC} \quad (1)$$

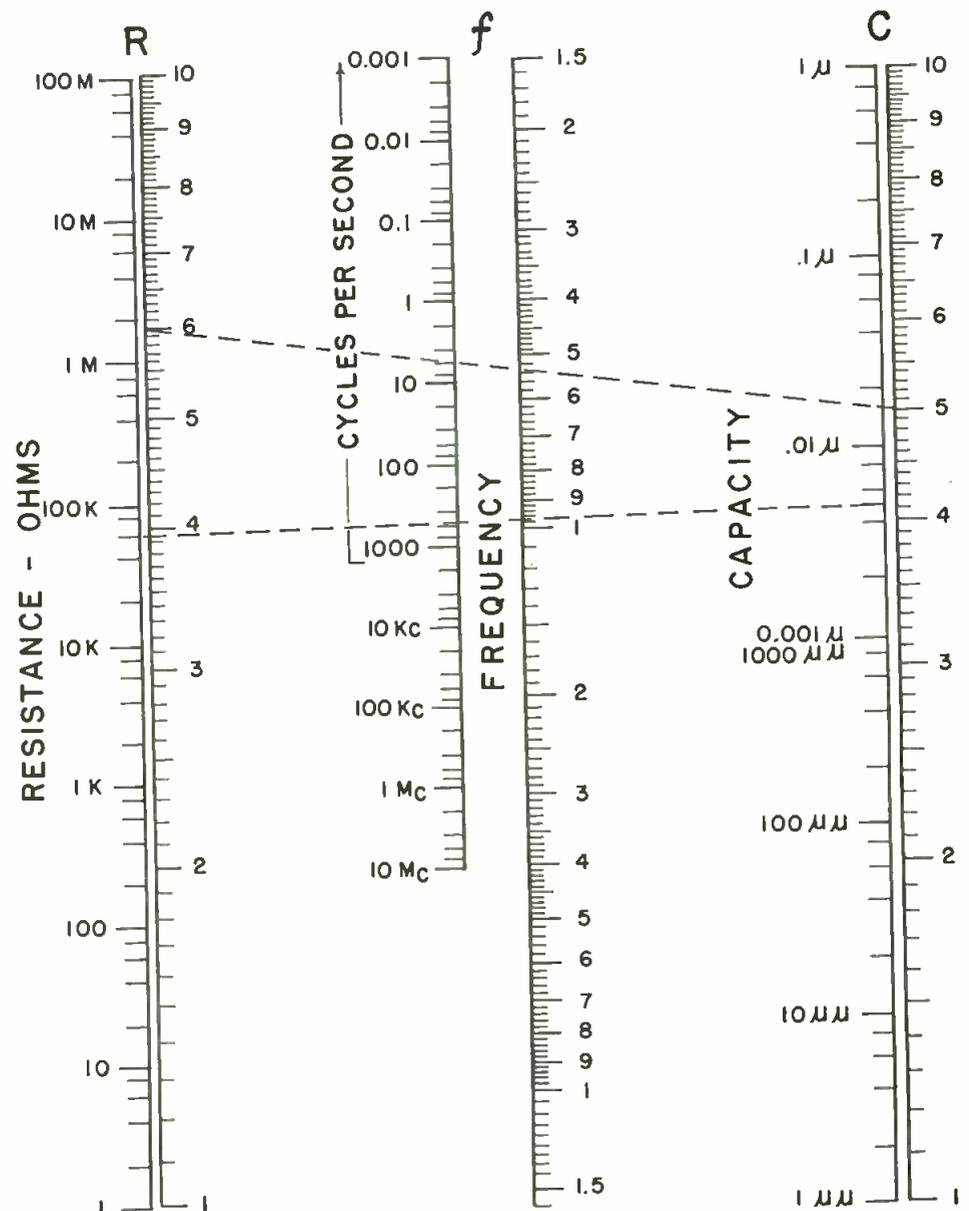
As an oscillator selective network, R_4 is an incandescent lamp which controls amplitude by increasing resistance with current and thus approaching the bridge balance value. In this case the bridge is never quite balanced since an exact balance would cut-off regenerative coupling and stop oscillations.

The nomograph shown in Fig. 2 may be used to evaluate Eq. (1). To use this nomograph locate the required frequency on an f scale and pivot a straight-edge about this point to select combinations of values on the R and C scales that

give the desired frequency. If the resistance value is fixed, place the straight-edge on this R scale value and on the variable condenser maximum value on C . Read the low frequency limit where the straight-edge crosses f . Now pivot the straight-edge on R to minimum condenser value on C . Read the high frequency limit where the straight-edge crosses f . The R , C , and f scales have split stems. Use left-side scales to obtain magnitude and approximate answers. Use right-

side scales to obtain additional significant figures.

As an example assume that R is 60,000 ohms and C is 0.005 μ f. Find the balance frequency if the ratio of R_3 to R_4 is two-to-one. Using left-side scale stems connect 60 k on R to 0.005 μ on C with a straight line. Estimate 500 cps where this line crosses f . Next use right-side scale stems and connect 6 on R and 5 on C with a line. Read 5.3 where the line crosses f . Thus, the balance frequency is 530 cps.



J. F. SODARO, Registered Engineer, 2924 Selby Ave., Los Angeles 64, Calif.



Fig. 1: Color Television Mobile Unit

Air-conditioned 28 ft. truck houses two live color camera chains and associated equipment. Complete facilities are provided for on-air and closed-circuit applications, and for use at the studio location as a temporary color facility

By H. H. KLERX

*Broadcast Video Equipment Dept.
RCA, Camden, N. J.*

Mobile Unit

For Color TV Broadcasting

THE versatility of Television Mobile Units and their advantages in affording extra revenue by opening new avenues of programming are well recognized by broadcasters. Now a similar unit is available for color TV. This unit embodies complete facilities for remote color pickup, either for on-air or for closed-circuit application. It may also be used at the studio location as a temporary color facility, providing a quick means of getting on the air with live color.

The RCA Color Mobile Unit is designed to adequately accommodate 2 color camera chains with a

full complement of equipment, and still provide room for comfortable operation. The equipment is housed in a 28-ft. truck (Fig.1) complete with heating and air-conditioning.

Equipment

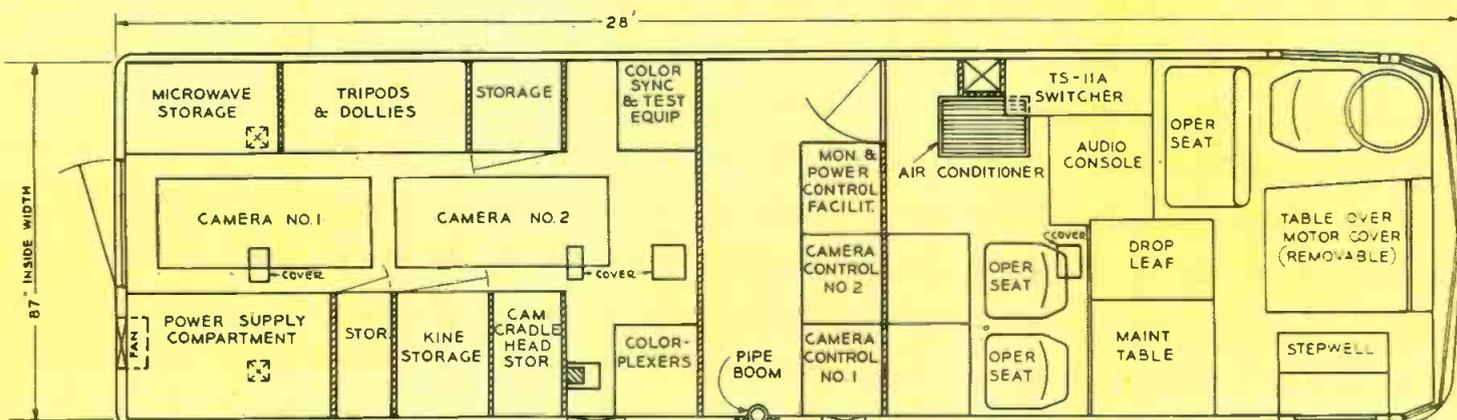
Figs. 2 and 4 show the location of equipment and storage sections within the truck. Fig. 2 shows how the truck has been divided into two sections. The front section is the operating area. The rear section is a storage area which also houses many of the components required for operation of the two color cameras. The mobile unit with full

complement of equipment includes 2 live color camera chains, switcher, audio console, color sync and test equipment, power supplies, and audio, video, camera and power cables. Provision has been made to include microwave facilities.

Control Room

Fig. 4 shows a view of the operating area looking from the front of the truck toward the rear. The first row of equipment (right foreground) is the audio console and switcher. The seating arrangement here is such that either one or two men can operate at this position.

Fig. 2: Location of equipment and storage sections within



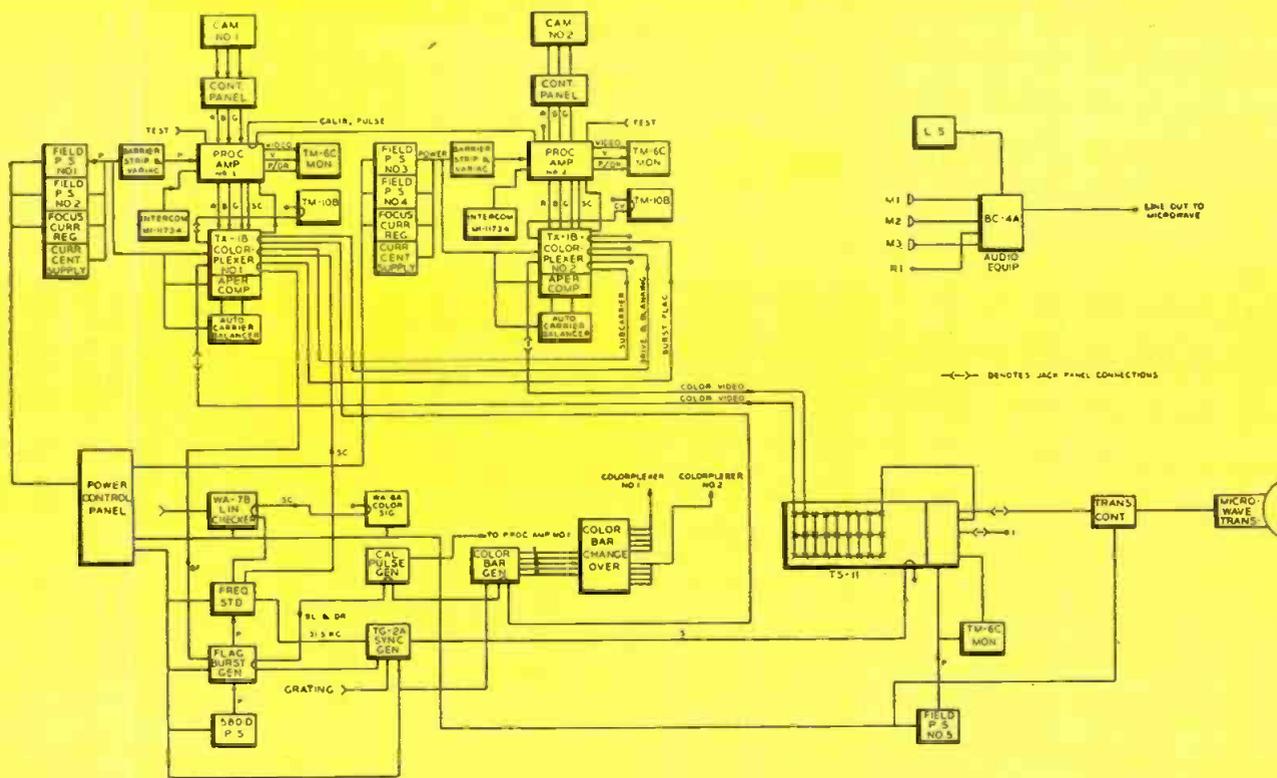


Fig. 3: Functional diagram of equipment housed in mobile TV unit.

This seat serves for equipment operation and, with the back of the seat moved towards the rear of the truck, it serves as an auxiliary seat for transporting passengers. The second row of equipment (towards back of truck, Fig. 4) which consists of three racks is, looking from left to right, camera No. 1 control, camera No. 2 control, and color monitoring facilities. A centralized power control panel is mounted directly beneath the monitoring facilities and is within easy reach of the camera operator.

Signal Paths

The processing of the video and audio signals entering the mobile unit is accomplished in the following manner (Fig. 3). The red, blue and green video signals received from each of the color cameras are fed to a video entrance panel. The signal at this point proceeds directly to the respective camera control panels. The necessary shading, pedestal, gain and image orthicon set-up adjustments for each of the red, blue and green channels are performed at this point. The corrected video signal then leaves the processing amplifier which is the unit located directly beneath the master monitors in Fig. 4 and is fed to the

colorplexer which matrixes the red, blue and green signals to provide the Y, I and Q signals required for color transmission.

The output of each colorplexer (one required for each camera chain) is fed through the video patch panel to the switcher. At this point in the system, the signals from each camera may be faded, lap dissolved, superimposed, or switched directly to the output line. Sync is added at this point, which completes the makeup of the NTSC color signal.

The composite signal is fed to the video patch panel and then to the video output jack located on the entrance panel. A second output of the switcher is also fed to the video patch panel and is available for feeding the microwave control. Facilities have also been provided for receiving additional external monochrome or color signals which may also be controlled by the switcher. This permits considerable flexibility when the mobile facilities handle only part of an entire show.

Operation

A crew of 4 men is normally needed to operate the equipment within the truck. Two video operators normally operate the 2 color

camera chains. Each operator has a color monitor and master monitor to assist him in properly setting up the camera chain. The color monitors also double as preview monitors for the director. The director and audio operator are located to the rear of the camera operators, affording them full view of the monitoring facilities.

Power

Fig. 5 shows the inside of the mobile truck looking from the rear door towards the front. Field type power supplies are shown at the extreme right hand rear. A total of 5 such supplies are required. Behind the grille along the floor on the left side are located a 15-kva isolation transformer and a powerstat line corrector. The powerstat line corrector is remotely controlled from the power distribution panel located in the operating section of the truck. The center aisle is used to store the two color cameras.

Test Equipment

Not illustrated in the photograph are two racks also located in the rear portion of the truck. These racks house the colorplexers, color sync equipment and test equipment. (Continued on page 204)

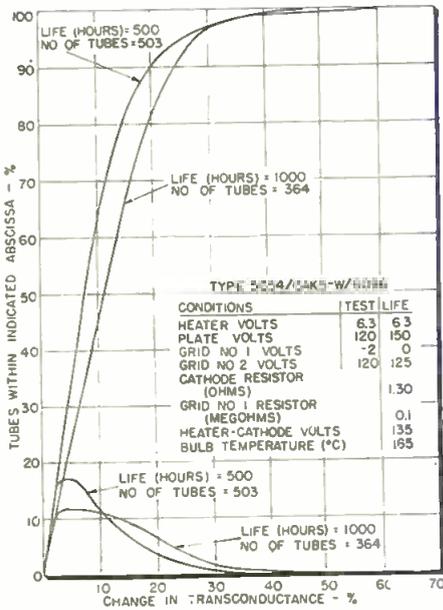


Fig. 1: Type 5654/6AK5—change in G_m

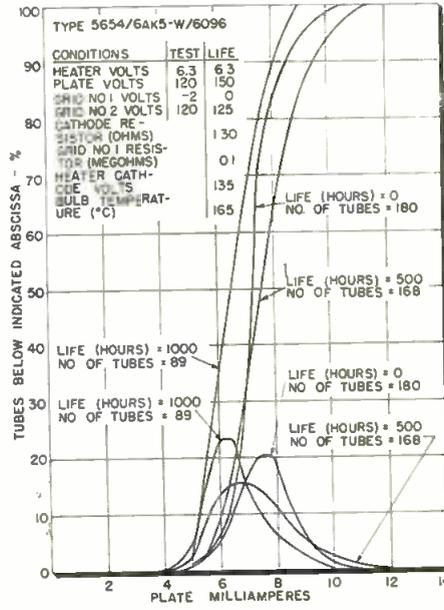


Fig. 2: Type 5654/6AK5—for values of I_p

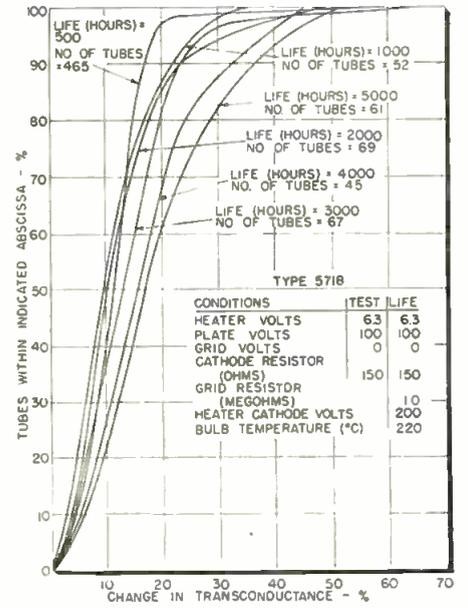


Fig. 3: Type 5718—changes in G_m

Tube-Characteristic Changes And Equipment Reliability

By The Applications Engineers of the Advisory Group on Electron Tubes

EQUIPMENT reliability usually denotes the degree of assurance that the equipment will satisfactorily perform its intended purpose for the time required. Because any changes in component performance can seriously affect this reliability, it is important that the equipment designer carefully consider the extent of changes in electron-tube characteristics which may occur during extended periods of operation in his circuit design.

Ideally, the circuit designer should know exactly how much change in tube characteristics will occur under the specific operating conditions of the equipment. The realization of this ideal is usually precluded by two very important considerations:

1. The exact electrical, mechanical, and thermal environments of any given application are either not known or are so complex that exact duplication is virtually impossible.

2. The probable change of characteristics for the tubes to be used must be estimated from the results obtained from a small sample life-tested under given conditions.

Estimating Performance

Although it is not the intent to imply that a sampling procedure for acceptance testing is improper, the designer should consider the limitations of such testing. Life testing of a sample can only reveal the performance of the individuals in the sample under the specific conditions of operation, and provide an estimate of the probable performance of the individuals remaining in the lot. The ideal from the standpoint of "reliability design" would be to test all electron tubes to destruction under conditions identical to those encountered in the actual equipment. The information thus obtained would reveal exactly what reliability would have been achieved in the equipment. It is evident, however, that under such conditions no electron tubes would be available for use in the equipment. Conse-

quently, sample testing and probable lot compliance provide the only practical approach for establishing a premise for determining equipment reliability.

Data similar to those included in this article can be used to estimate the performance reliability of equipments, but cannot be used to assure such reliability. Because individual electron tubes procured may meet just the minimum requirements of the procurement specification, the data shown here may be optimistic.

All electron tubes do not change at the same rate, even if they are from the same production lot. Consequently, the data revealed from life testing must be presented in some form which shows the probability of occurrence. The form chosen for this article is the "ogive" or cumulative frequency distribution, in which ordinate values are equal to percentages below (or above) the abscissa values. These ordinates can also be considered as measures of the probability of occurrence. The confidence with which

Interpreting the results of life tests to indicate the probability of failure under dynamic operating conditions. Two forms are employed—the "ogive" or cumulative frequency distribution curve, and the "bell-shaped" frequency distribution curve

the data can be used depends on many factors, including the size of the sample, the representation of all suppliers, and the variability between lots. The data contained in this bulletin represent the product of only one manufacturer.

Figs. 1 and 2 show both the cumulative frequency distribution (ogive) and the frequency distribution curve often known as the "bell-shaped" curve. The two curves serve somewhat different purposes. The frequency distribution shows at a glance the "most likely" value, whereas the ogive presents the data more quantitatively.

Conditions Of Specified Life Test

Life tests on electron tubes are usually conducted under fixed conditions of electrical, mechanical,

and thermal environment. Because the conditions selected depend on many factors, they usually represent a compromise intended to reveal the greatest amount of useful information. Actual operation, on the other hand, almost always comprises very complex composite conditions. For example, in mobile applications the fluctuation of the heater (or filament) voltage depends on the engine or the vehicle speed. In an automobile, the voltage to the tubes may vary from a low of 4.5 volts when the car is parked to a high of 8.5 volts when the generator is at peak charging speed. This wide range of voltages not only has an effect on the probable rate of change of characteristics with time of operation, but also greatly affects the probable reliability of operation of the equipments at the various voltages. Because the two effects are interdependent, the estimating of probable reliability is very difficult. Although an estimate could be made by testing large quantities of tubes for long periods of time, this approach is not usually considered practical. The use of data from a standardized life test correlated with conditions adjudged to be similar to those encountered in the application is usually considered a good compromise.

Replacement Rate

Many otherwise excellent circuit designs are basically unreliable because the designer failed to take into account the change in electron- (Continued on page 346)

Permissible Change in Individual Tube — Per Cent	Replacements Required @ 500 Hrs—%	Replacements Required @ 1000 Hrs—%
5	68	77
10	27	56
15	19	34
20	10	18
30	2.5	3.5
40	0.5	0.5
50	negligible	negligible

Minimum Ip Required (ma)	Replacements Required @ 500 Hrs—%	Replacements Required @ 1000 Hrs—%
8.0	3	15
7.5	0.5	5
7.0	0.3	2
6.5	0.1	1
6.0	negligible	0.5

Fig. 4: For type 5719

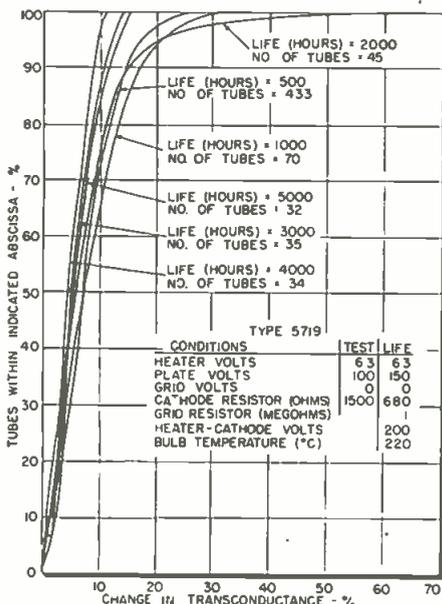


Fig. 5: For type 5751

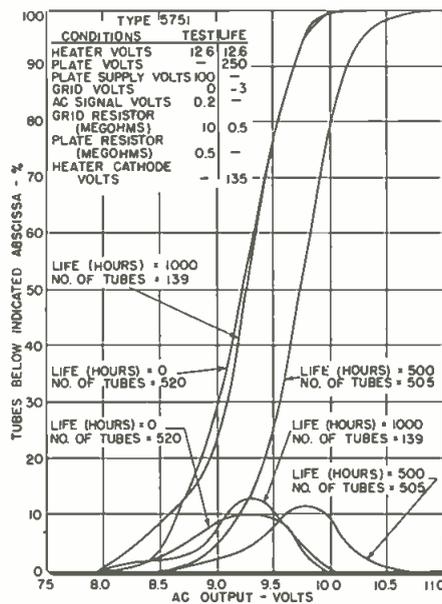
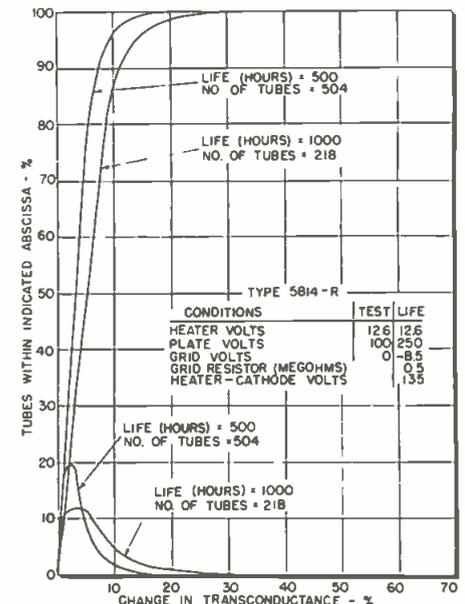


Fig. 6: For type 5814-R



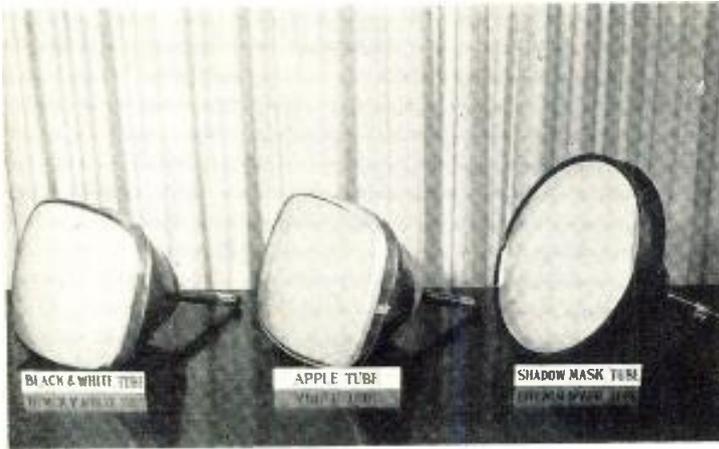


Fig. 1: Apple tube and monochrome tube are similar in size and appearance

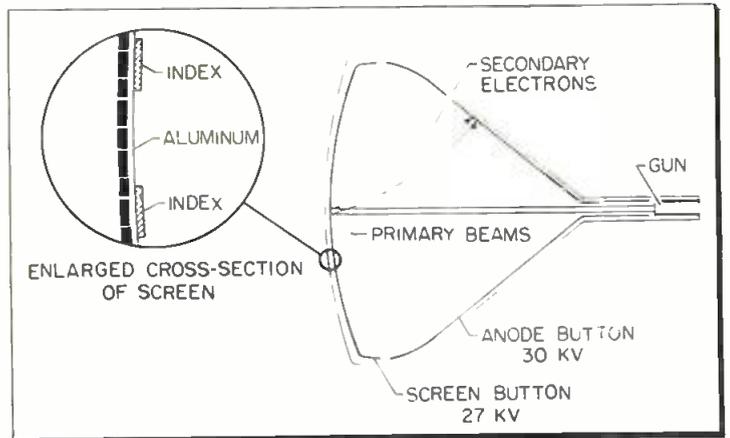


Fig. 2: Secondary emission from index material generates index signal

Single-Gun **Color** TV System

Philco's "Apple" system uses single electron beam to excite vertical color phosphor stripes. Beam current is modulated by transmitted color video signal and self-generated index signal which indicates the location of the beam.

IN conventional color TV display systems, either each of several color phosphors is excited by its own electron beam while protected from the other beams by mechanical or electrical means, or, alternately, a single electron beam is directed to several color phosphors by electromechanical or electrical means. The Apple System, described here, uses a single electron beam to excite vertical color phosphor stripes. The beam, instead of being forced to land on a particular phosphor, is passed over all color phosphors in rapid succession and modulated, in accordance with its position on the face of the tube, to produce the required color.

The beam current is controlled by 2 signals: the color video signal from the transmitter, and a self-generated index signal which indicates the location of the beam. The only circuitry unique to the system is that required to perform these functions.

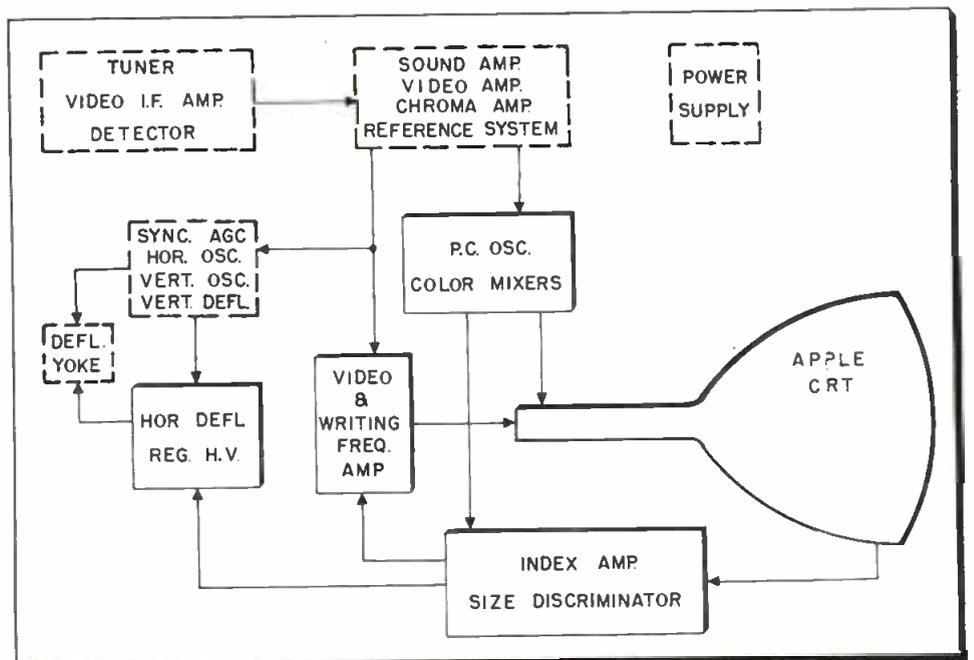
Index Signal

The index signal is obtained from the tube structure itself from a line of "index material," having high secondary emission compared to the

aluminized background, and placed behind every red stripe on the face of the tube. (See Fig. 2). The secondary emission current, produced as the beam crosses the index stripe, is collected, amplified, and heterodyned, resulting in a signal of the same frequency as that at which the writing beam is varied to produce colors.

The variations in the writing beam that produce colors also produce an ac component of the secondary emission current at the same frequency as the desired index signal, and at any phase to it. Since this ac disturbs the desired index phase, a second beam of low current, the pilot beam, is generated from the same gun as the

Fig. 3: Complete Apple receiver. Circuits in dashed lines follow conventional color receiver practice



writing beam is. This beam, which contains a constant component of current at a frequency F above the video and color frequency range, is aligned to always strike the same color line as the picture writing beam.

The secondary emission waveform produced by the index stripes (Fig. 6) may be represented by a Fourier series of Cosines. The only term of interest is the fundamental component, $A_1 \cos \theta$. If the phase of this single component is preserved, sufficient information is available. Amplitude variations are removed by limiters.

As the beam sweeps over the index stripes, 2 sidebands are produced by the component F beating against the desired $A_1 \cos \theta$ component of the index function. Either sideband contains the desired phase information, although the upper one is used here.

The block diagram of Fig. 7 shows the Apple indexing system. First, a pilot oscillator at 41.7 MC drives the pilot beam grid. The useful sideband output at 48.1 MC is amplified in the sideband amplifier and then goes to a mixer where it is heterodyned with the pilot oscillator output, producing the required 6.4 MC signal for the writing grid.

In order to make the system of Fig. 7 show complete color pictures, rather than solid fields of color, it is only necessary to dynamically vary the phase and amplitude of the pilot carrier signal entering the mixer. The voltage on the writing grid is varied simultaneously at video frequency to control the instantaneous brightness. The total current illuminating the 3 phosphors depends on the video portion of the signal applied to the writing

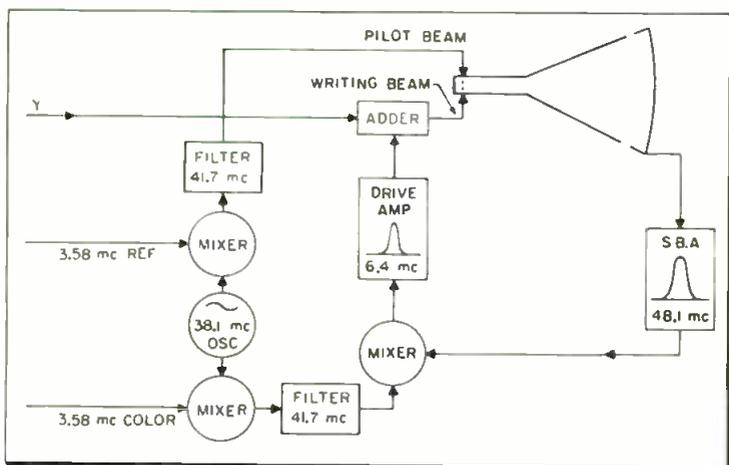


Fig. 5: Picture and index signal handling section. Heterodyning converts 3.58 MC color subcarrier into 6.4 MC

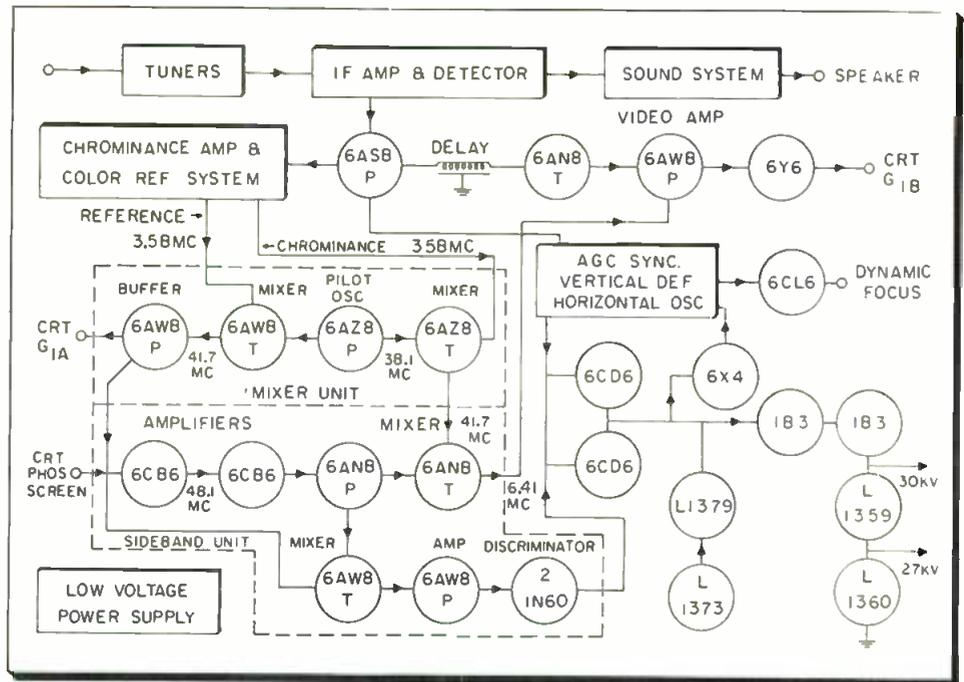


Fig. 4: Functional Apple receiver. Almost all color processing is done in triodes of mixer unit

grid. The way in which this current is divided among the 3 phosphors is determined by the phase and amplitude of the writing component of the grid signal.

Subcarrier Conversion

Fig. 5 represents the entire picture and index signal handling sections of the display. (Sweeps, HV supply, etc., are not shown.) Conversion of the color subcarrier from 3.58 MC to 6.4 MC is achieved through heterodyning. The pilot carrier signal required by the pilot grid is generated by beating the 3.58 MC color reference signal against an oscillator 3.58 MC below the desired pilot carrier frequency. The pilot carrier entering the mixer is generated by beating the same oscillator against the 3.58 MC signal containing color modulation. The mixer output is a signal at the writing frequency, locked to the color

line structure, and having the same amplitude and phase variations as did the original 3.58 MC color signal. For the required video frequency signal, the Y signal, available at the second detector, can be used.

Apple Receiver

Details of the circuitry of one version of a complete Apple receiver are shown in Fig. 3. The circuits shown in the light dashed lines follow conventional color receiver practice and the Apple receiver imposes no special requirements here. The remainder of the receiver, outlined in heavy solid lines, is shown in 4 separate sections: the index amplifier, the pilot carrier oscillator and color mixers, the writing frequency amplifier, and the horizontal sweep and high voltage.

Fig. 4 shows the circuit arrangement in more detail. The horizontal sweep-high voltage section is very similar to monochrome practice. A pair of 6CD6 tubes is used for the drive, and a special high-perveance diode, the L-1379, is the damper. The 30 kv supply is obtained by a voltage doubler of IB3's.

The mixer unit consists of 2 tubes whose triode sections accomplish nearly all the color signal processing required by the receiver. The functions of this section are to generate an unmodulated pilot frequency carrier, and to transfer
(Continued on page 350)

Air Cooling A

By DR. M. MARK

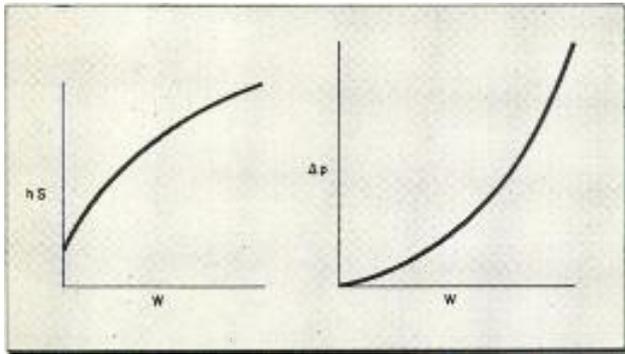
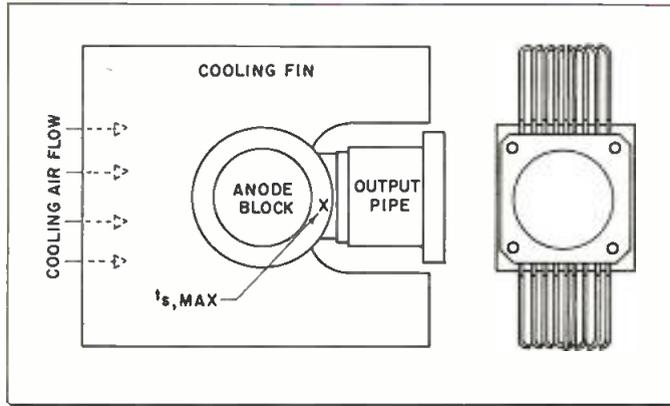


Fig. 1: Heat transfer vs. coolant rate of flow and pressure drop necessary to move coolant

Fig. 2: Dummy magnetron and typical cooling fin assembly



THE increase in output of the magnetron and the continued trend toward higher frequencies have resulted in greater heat density in the tube, emphasizing the importance of cooling in its design. Part temperatures consistent with required performance and reliability must be maintained; for airborne equipment the objective is to achieve this with a cooling system imposing a minimum weight and power penalty on the aircraft.

Free convection and radiation can prevent unacceptable temperature rises in magnetrons for very moderate heat dissipations. However, there must be sufficient space surrounding the component surfaces to allow for the development of the fluid velocities associated with free convection. Where reduced volume or increased heat dissipation of the magnetron results in excessive part temperatures with only free con-

vection for cooling, or for high altitude operation where free convection drops off rapidly, forced convection becomes a necessary alternative.

In a forced convection system an efficient set of cooling fins, used with air as the coolant, can reduce the amount of horsepower needed for cooling. This article illustrates the substantial gains made in reducing cooling power for a particular magnetron by improved fin design.

Forced Convection Cooling

The heat transfer process for forced convection is a function of the mass rate of flow of the coolant, the flow regime, the coolant properties, the geometry of the flow passage, and the temperature difference between the coolant and the walls of the flow passage. Once the coolant is picked, the only variable becomes the flow passage dimensions, which are a function of the particular cooling system, the mass rate of flow, and the temperature difference mentioned.

Airborne installations require a cooling system using minimum power. Therefore, for a given coolant density, the product of the coolant mass rate of flow (W in lbs./min.) and the pressure drop necessary to move the coolant through the cooling system (Δp in psi)

should be a minimum. Where the Δp available is fixed, minimizing power means minimizing W ; using any less than the Δp available is inefficient, since the difference between that required and that available will be wasted in an orifice or its equivalent.

The simplest means of employing forced convection is by channeling the fluid directly over the electronic part, in which case the prime surface area for heat transfer is fixed by the given component. A more complex and often more effective cooling system involves a heat exchanger to which the component is

Fig. 3: Original fin

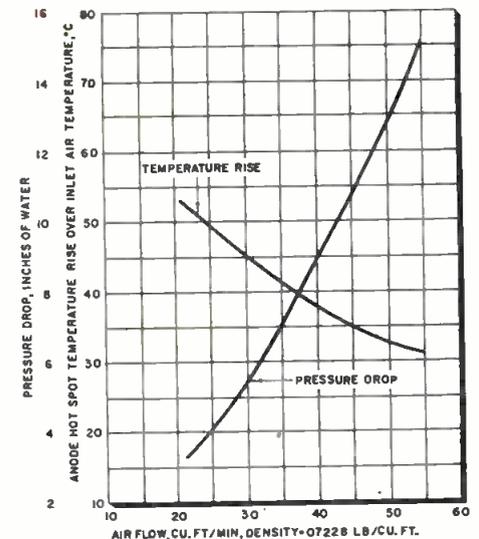
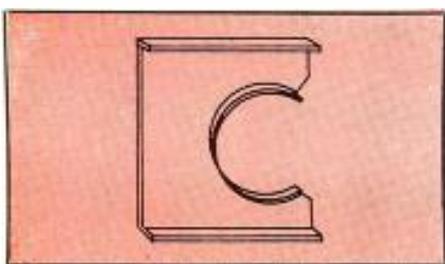
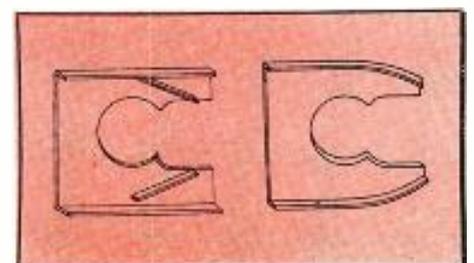


Fig. 4: Heat transfer and pressure drop characteristics for original fin assembly

Fig. 5: (l) Fin with deflector insert and (r) fin with streamlined exit



Finned Magnetron

The increased power demands on magnetrons, and their use in airborne equipment has created a need for a light weight, economical cooling system. Forced air cooling, using properly designed cooling fins, is described here as a logical solution

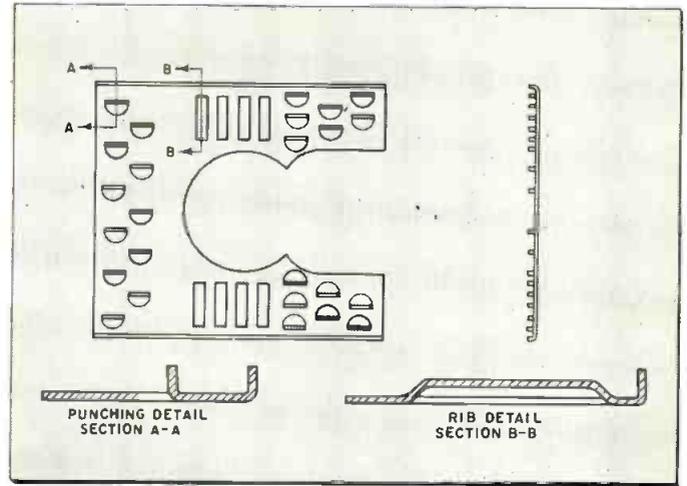


Fig. 6: Fin with punchings and ribs

attached by heat conducting paths. These must be highly conductive or the large temperature drop from the component to the exchanger surface will destroy the gains obtained by the large hS value of the heat exchanger, h being the average heat transfer coefficient and S the heat transfer surface area. Fins, which increase the heat transfer surface area by the addition of a secondary surface area, are an example of a simple type of heat exchanger.

The surface temperature (t_s) of the electronic part is fixed by the allowable component temperature, generally a hot spot temperature; the fluid or coolant temperature (t_f) is given by whatever may be available for the cooling system, and the heat dissipated (q) depends upon the component dissipation. Consequently, knowing values for these quantities, one may define an overall hS product required of the particular cooling system.

$$(hS)_{\text{required}} = \frac{q}{(t_s - t_f)} \quad (1)$$

The hS value available is a function of the coolant mass rate of flow W and the cooling system. For any particular system a plot can be made of $(hS)_{\text{available}}$ vs. W (see Fig. 1). In addition, a plot of Δp vs. W can be made (see Fig. 1). The curve in Fig. 1 applies only for the particular coolant density involved; however this can be easily corrected for other values of density, assuming incompressible flow. Entering the $(hS)_{\text{available}}$ curve with the value obtained from Eq. 1, the

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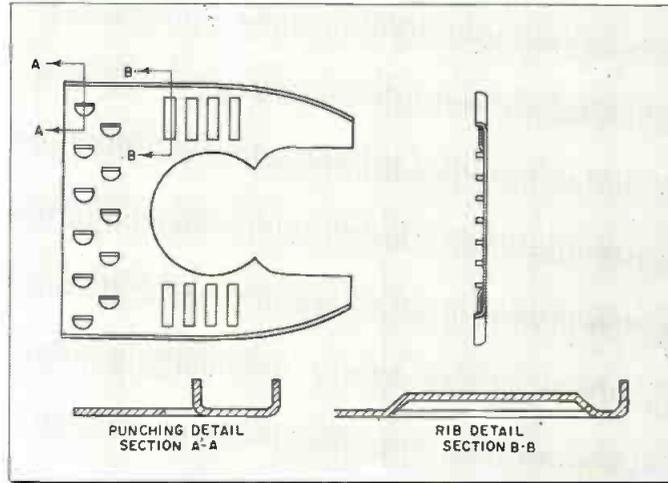


Fig. 7: Fin with punchings, ribs and streamlined exit

W required can be obtained. With this value of W , the necessary Δp can be determined, and finally the horsepower required for cooling.

For a magnetron with a given cooling system, hS can be defined in terms of the hot spot temperature $t_{s,\text{max}}$, the inlet coolant temperature $t_{f,\text{inlet}}$, and the heat dissipated q , from Eq. 1.

$$q = hS (t_{s,\text{max}} - t_{f,\text{inlet}}) \quad (2)$$

To obtain the curve for $(hS)_{\text{available}}$ for a particular cooling system, the quantities q and $(t_{s,\text{max}} - t_{f,\text{inlet}})$ are measured at various values of flow

and the quantity hS calculated using Eq. 2. Where q is a constant, it is not too important which quantity, $(hS)_{\text{available}}$ or $(t_{s,\text{max}} - t_{f,\text{inlet}})$, is plotted as a function of the flow. The electrical designer prefers $(t_{s,\text{max}} - t_{f,\text{inlet}})$ as a function of the flow; consequently, this form is commonly used in electrical work to present heat transfer results where a constant heat dissipating element is involved. However, it is not as general a form for the results as the hS vs. W plot.

(Continued on page 174)

Table I

Description	Flow, cubic ft./min.	Δp , in. of water	Ideal Air horsepower	% of original air horsepower
Original fin (Fig. 3)	37.5	8.0	.0473	100
Deflector insert (Fig. 5)	29	2.8	.0128	27
Streamlined exit (Fig. 5)	27.5	2.1	.0091	19
Punchings and ribs (Fig. 6)	18	2.2	.0062	13
Punchings, ribs and streamlined exit (Fig. 7)	18	1.9	.0054	11
Addition of finned output, and fins of Fig. 7 (see Fig. 8)	15	1.8	.0043	9

Data for $hS = 6.25 \text{ w./}^\circ\text{C} - (t_{s,\text{max}} - t_{f,\text{inlet}}) = 40^\circ\text{C} - \text{Inlet Air Temperature, } 30^\circ\text{C}$

Calculating The Efficiency of

By making use of a broadcast antenna array impedance and power analysis, it is possible to compare the pattern RMS current of the array with the base current and effective field of an omni-directional radiator of equivalent height and power input. Essentially for radiators of equal height, the method described may be adapted to arrays with unequal tower heights

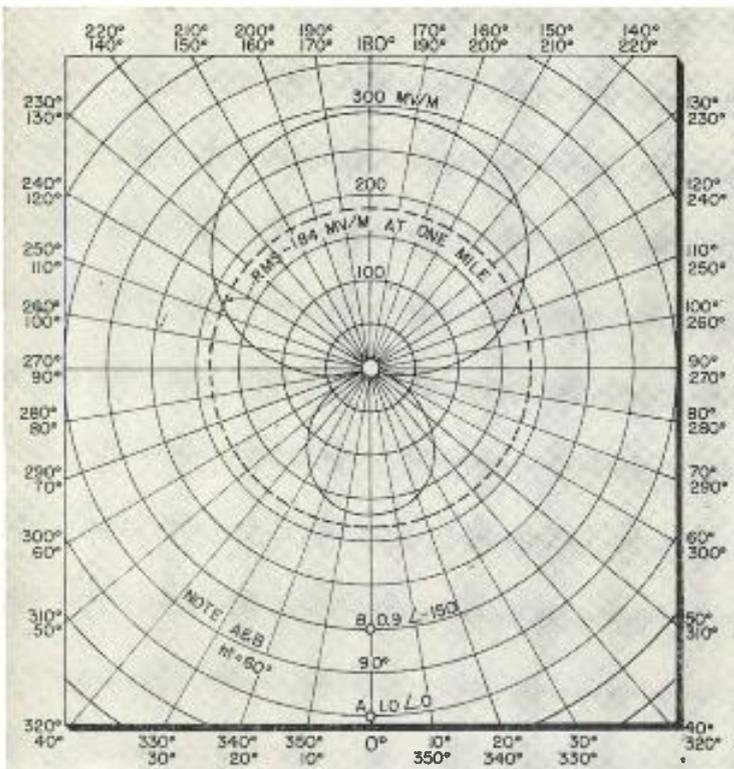


Fig. 1: Field strength of two 60° radiators spaced at 90°

THIS article illustrates a relatively straightforward method for determining the efficiency of AM broadcast antenna arrays. The method described is essentially for arrays with radiators which are of equal height, but may be adapted to arrays with unequal tower heights. The point of particular merit is that integration is not required, but rather the results are obtained by merely making full use of an array impedance and power analysis.

When a broadcast antenna array is comprised of equal height radiators, the parameters are proportional to either field strength or base current. It then follows that if the pattern RMS current is evaluated in terms of reference units, these may be converted to absolute current. This is so because through an impedance analysis it is possible to express the reference parameters in terms of current. The conversion to field strength is accomplished by comparing the pattern RMS current with the base current and effective field of an omni-directional radiator of equivalent height and power input. Direct proportion applies since field strength is proportional to input current.

It is interesting to note that the Root Sum Square of the fields from individual elements comprising a directional array is equivalent to the RMS field of a single identical radiator.

Assume for example a 3 element array with the nomenclature as outlined below:

- where E_{rms} = field of single element with input power of P
- P = power input to the array
- P_n = base power at radiator n
- I_n = base current at radiator n
- R_n = operating resistance of radiator n
- E_n = calculated field of radiator n with input power of P_n
- K_n = relative current at radiator n

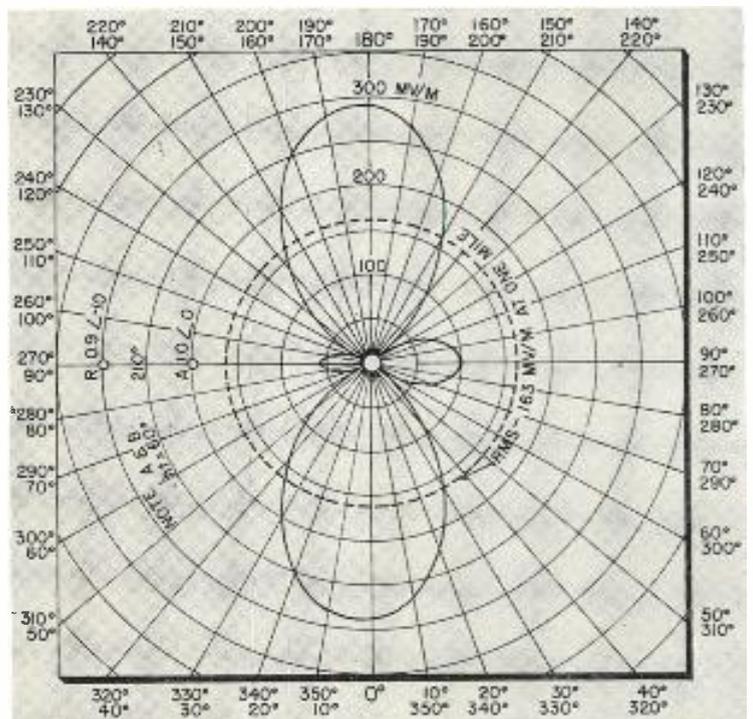
by definition

$$E_{rms} = (E_a^2 + E_b^2 + E_c^2)^{\frac{1}{2}} \quad (1)$$

$$= \left[\left(\frac{E_{rms}}{\sqrt{\frac{P}{P_a}}} \right)^2 + \left(\frac{E_{rms}}{\sqrt{\frac{P}{P_b}}} \right)^2 + \left(\frac{E_{rms}}{\sqrt{\frac{P}{P_c}}} \right)^2 \right]^{\frac{1}{2}}$$

$$= E_{rms} \left[\frac{1}{I_a^2 R_a} + \frac{1}{I_b^2 R_b} + \frac{1}{I_c^2 R_c} \right]^{\frac{1}{2}}$$

Fig. 2: Field strength of two 60° radiators spaced at 210°



Antenna Arrays

By G. MATHER

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$$\begin{aligned}
 &= E_{rms} \left[\frac{I_n^2 R_a + K_b^2 I_n^2 R_b + I_n^2 K_c^2 R_c}{P} \right]^{1/2} \\
 &= E_{rms} I_n \left[\frac{R_a + K_b^2 R_b + K_c^2 R_c}{P} \right]^{1/2} \\
 &= E_{rms} \frac{I_n}{I_n}
 \end{aligned}$$

By applying the above result to an array of unequal tower heights, an E_{rms} value may be evaluated which could be presumed to be representative of hypothetical equal height ra-

diators in the array. Hence the array RMS may be approximated.

Method

Assuming first that the array is comprised of radiators of equivalent height, the pattern shape is derived from the parameters as specified in terms of relative current (or field) ratios. Assuming further that the reference tower is assigned a relative current (or field) of unity, the pattern RMS is then evaluated.

The second and parallel step is the impedance and current analysis. As a result of this computation it is

then possible to assign current magnitudes to what were previously relative values. In particular the reference radiator with an arbitrary value of unity may now be described by current magnitude.

By now combining the previous two steps it is possible to compute the RMS in terms of field strength. It is known that a reference vector of unity may be specified in current magnitude, hence the pattern RMS may also be converted to a current magnitude. By comparison of this latter value of effective RMS current with what would be normal in terms of current and efficiency for an omni-directional single radiator (of equal height) system, it then follows that the array efficiency or RMS value may be computed by direct proportion, and expressed in field strength.

The second case for consideration concerns an array which may be comprised of radiators of unequal height. While the solution here is not as straight forward as for the previous case, nevertheless it is possible to evaluate an RMS field strength for an array which may be quite realistic. It has been shown that where radiators are of equal height an RSS (Root Square Sum) combination of the fields (based on input power) for the individual towers is equivalent to the RMS field of any element operating independently with full power applied. By applying this principle to the situ-

(Continued on page 205)

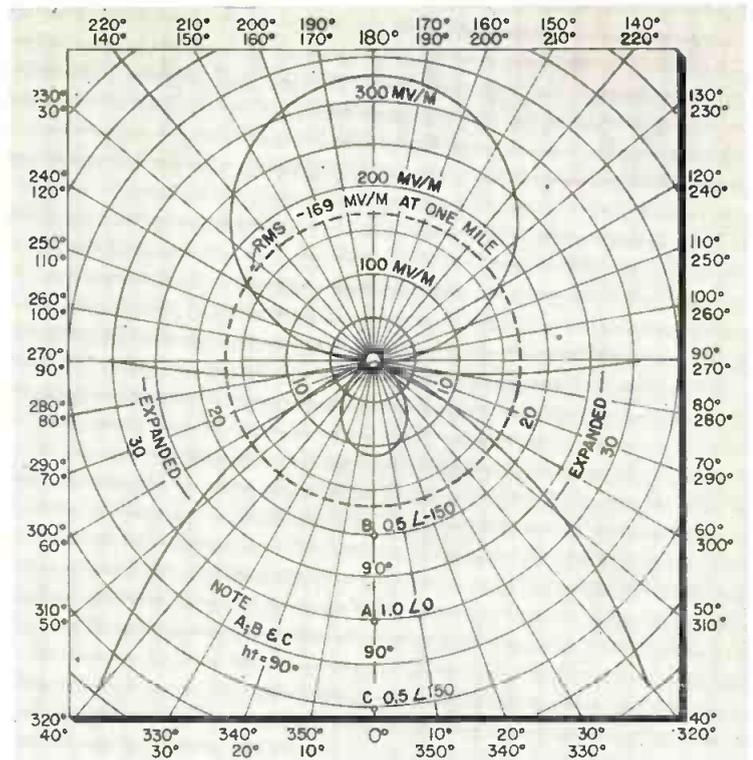


Fig. 4: Three 90° radiators are converted to a single 90° radiator

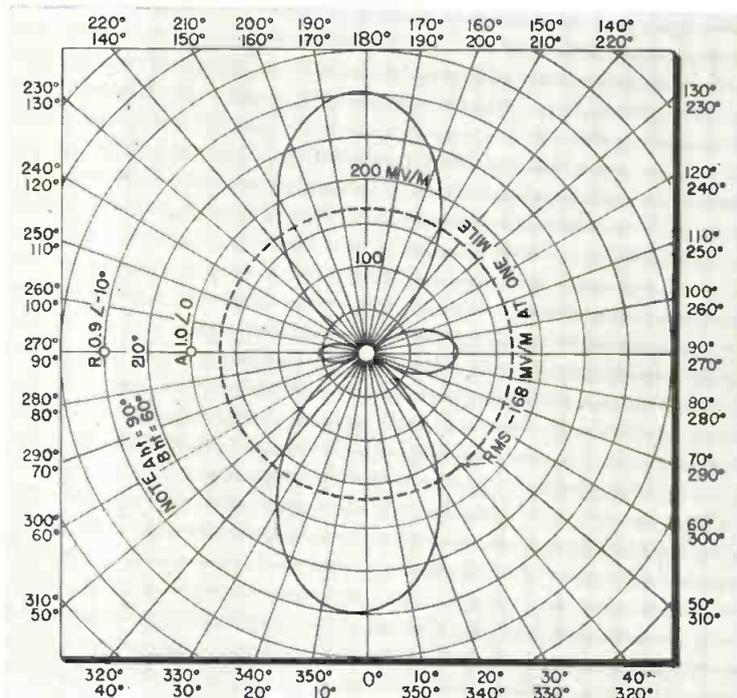


Fig. 3: Radiators at 90° and 60° are equivalent to one radiator at 75°

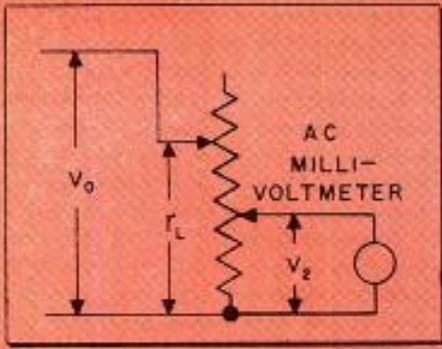


Fig. 1: Voltmeter tap on R_L varies with the square root of the change in resistance

The maximum available signal power gain is determined by using a constant power signal input generator, a variable load resistance and an indicating device. The constant input power is supplied by a constant voltage generator working into a variable impedance.

Transistor Power Gain

UP to the present time the behavior of a given transistor in a circuit has been studied by measuring the parameters of the equivalent circuit and then calculating the impedances, the amplification and the power gain. At low frequencies, these parameters can be considered as real numbers, hence the process of calculation involves only simple algebra. However, at high frequencies the parameters change,¹ and in general they appear as complex numbers. Consequently the process of finding the performance of a transistor at high frequencies involves vector algebra.

One of the important properties of a given transistor is the available power gain at a given frequency. If the available power gain is calculated by using formulae, the steps involved are: to calculate the elements of the equivalent circuit for the given frequency by using the available information on the frequency variation of parameters,^{1,2} and to calculate the gain from these values. In general, the above two steps take considerable time. Moreover, the operating point of a transistor is sometimes different from the point at which the parameters are measured. It is, of course, possible to measure the parameters directly at the required frequency, but these measurements may be quite complicated. It is therefore desirable to measure the power gain of the transistor directly.

Meter Principle

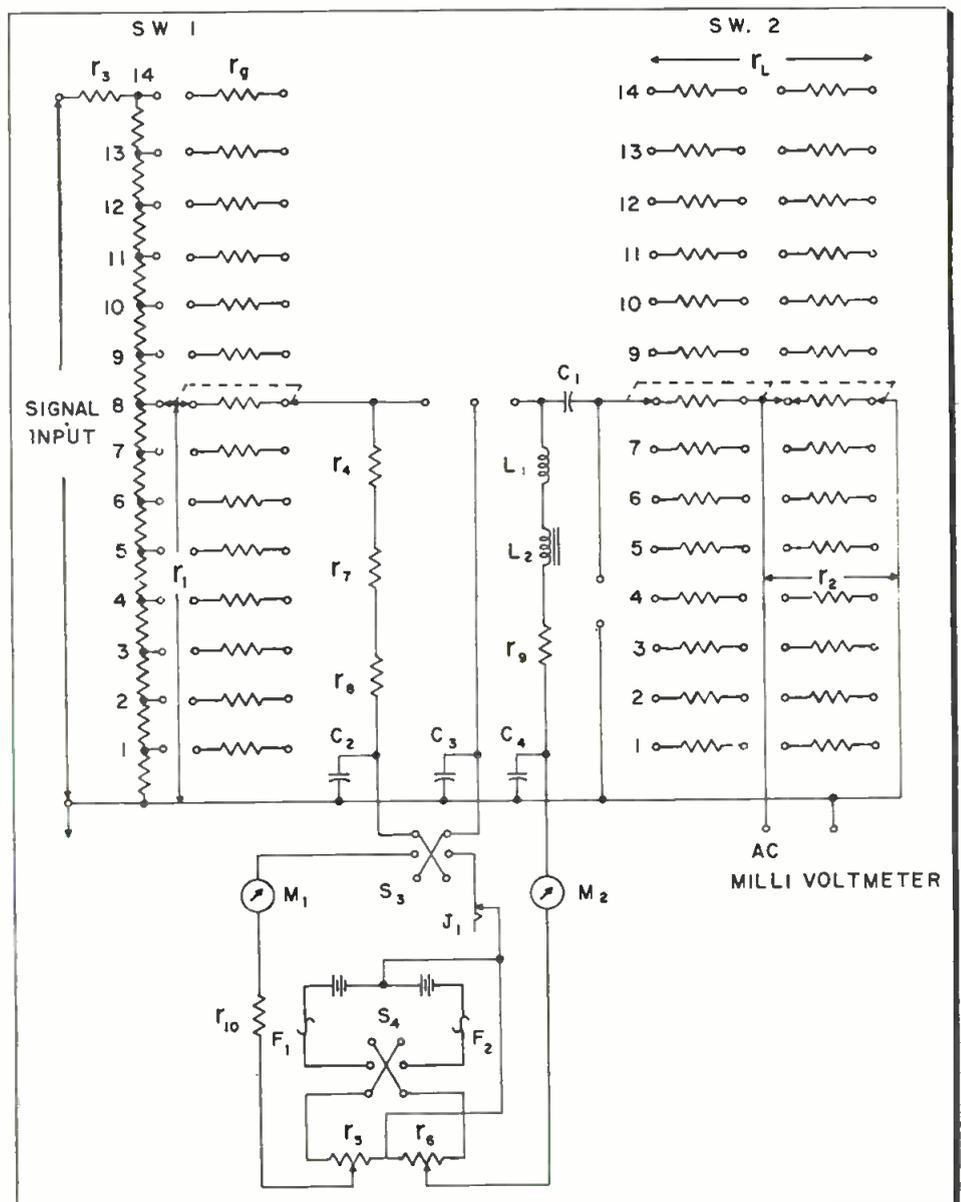
The available-power-gain is the ratio of the output and the input power of a transistor amplifier when both sides are under matched condition. There are many ways to find

the amount of input power; for instance, by measuring the power with a power meter, or by measuring the voltage and the input impedance, and calculating the input power, or by calculating the available input power of the signal source. On the

output side, with a matched load impedance, the power can be either measured with a power meter or calculated from the voltage and impedance readings.

The input impedance of a transistor can be either capacitive or induc-

Fig. 2: Schematic diagram of power gain meter for use with either pnp or npn transistors



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By W. F. CHOW

Meter

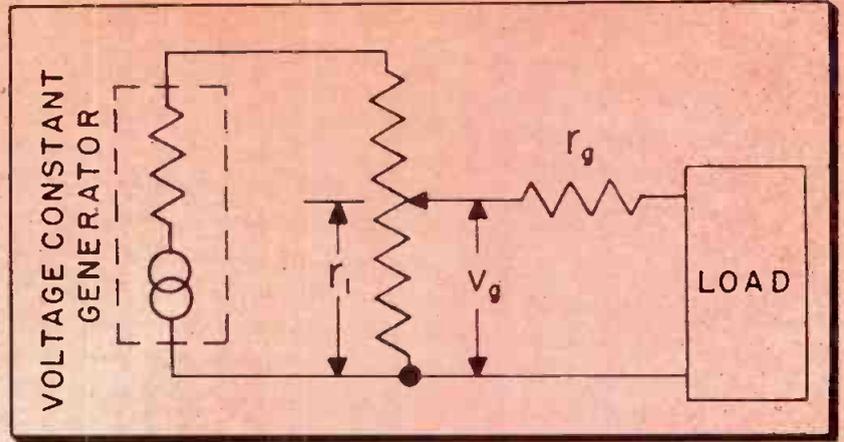


Fig. 3: Input circuit. To supply constant power V_g must vary as the square root of R_L .

tive as well as purely resistive, depending on the circuit connection and the frequency. The exact input impedance match will require the conjugate complex impedance for the signal generator. When the input impedance varies with frequency, this conjugate complex impedance should also change with frequency. Theoretically it is not impossible to achieve this aim, but from a practical point of view the complication of components involved for an exact impedance match precludes this approach. If a pure resistance r_g is used for the signal generator impedance, the amount of available input power is $(V_g)^2/4r_g$, where V_g is the open circuit voltage of the signal generator. A small amount of error is introduced in the value of the output power due to the absence of complex match of the input impedance. This error will be discussed later.

If the available signal power $(V_g)^2/4r_g$ is used as the input power of the transistor amplifier, then the source resistance r_g should be variable while the available input power should remain constant. This demands a generator with variable internal resistance but constant available power. The signal generator available in the laboratory is usually of the constant voltage type. The method of converting the constant voltage generator to a constant power generator is as follows. In Fig. 3, the constant voltage is connected to a number of resistances in series. A resistance r_g in series with the load is connected to the circuit as shown in Fig. 3. If the available power feeding to the load from the source on the left side of the line a—a will be $(V_g)^2/4r_g$. In order to keep the available power constant when r_g varies, the value of V_g has to vary accordingly, that is, V_g has to vary as the square root of the variation of r_g . For example, if r_g increases 2 times, the value of V_g has to increase $\sqrt{2}$

times. This increase of V_g can be easily achieved by moving the tap of r_g up so that the voltage across r_1 is increased $\sqrt{2}$ times.

On the output side if pure resistances are used as loads, a certain amount of error due to not using conjugate complex impedance match is introduced. This error is small only at low frequencies. Therefore in general, a resistance r_L together with a parallel tuned tank circuit should be used as the load impedance. The Q of the tank circuit should be high enough such that the loss is negligible compared to the power delivered to r_L . Since a power meter is not available for all the frequencies, a sensitive ac millivoltmeter may be used to measure the power delivered to r_L . This voltmeter should give the same reading for the same amount of power dissipated in the different values of load resistance. Fig. 1 shows a method of accomplishing this pur-

pose. The voltage drop across the load r_L is monitored at a proper tap. This tap will vary according to the square root of the ratio of the change in the load resistance. For example, if r_L increases to 3 times the original values, the value of V_2 has to increase to $\sqrt{3}$ times its original value. In this way the voltmeter reading can be calibrated for power gain in db.

Circuit Design

The actual circuit design of the power gain meter depends on the required flexibility. The choice of values of r_g and r_L in Fig. 3 is determined by the input impedance of the transistor at different frequencies. For example, for a pnp junction transistor the input impedance may vary with frequency from 40 ohms up to several hundred ohms in grounded base configuration. In the grounded emitter connection, this input impedance may be as high as several thousand ohms. Once the value of r_g is determined, the value of r_L is made much smaller than r_g . The value of V_g is then not changed significantly by putting $2r_g$ in parallel with r_L . Two continuously variable resistances are desired for r_g and r_L . They should be coupled mechanically to give proper resistance values.

The value of the load impedance is determined by the output impedance of the transistors. For example, a pnp junction transistor operated as a grounded base amplifier may have an output impedance of several hundred kilo-ohms and higher at low frequencies falling to several kilo-ohms as the frequency increases. (The effective shunt reactance of the output impedance is normally capacitive. This reactance is high at low frequencies. Therefore, the output impedance can be considered as resistive with small error.)

(Continued on page 355)

Fig. 4: Converting the mv readings to power gain in db for input voltage of 100 mv

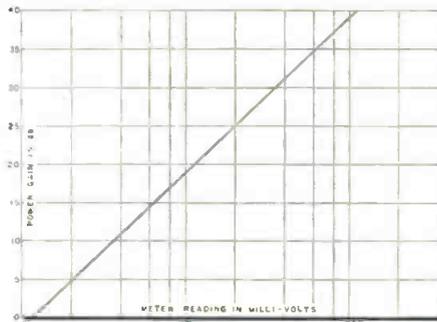
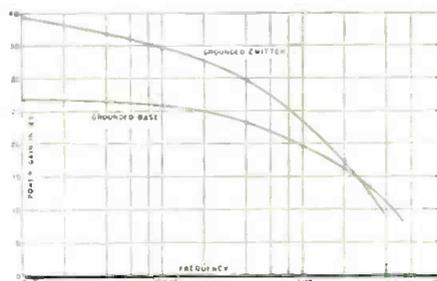


Fig. 5: Variation of available power gain



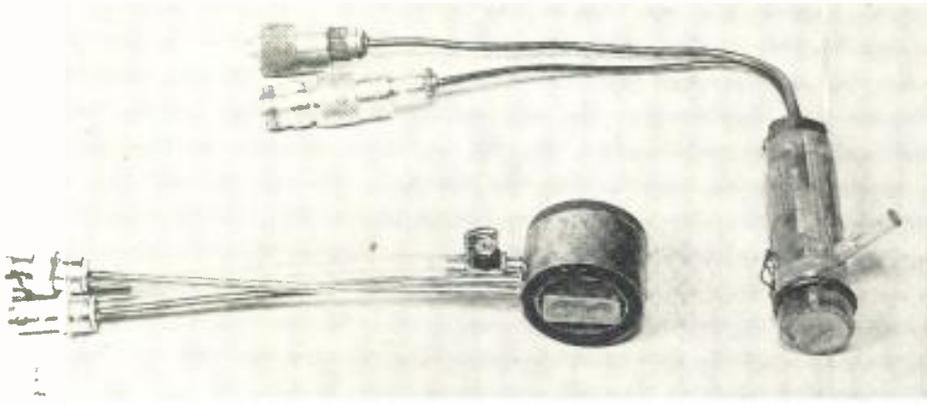


Fig. 1: Linear and circular instrument heads. Note hucking-loop adjustment handle on circular model. Linear model has the equivalent of a fixed bucking-loop with a remote vernier adjust

Eddy-Current Bridge For Measuring Skin Losses

Eddy-currents are excited in a sample by induction from an energized loop. Signal proportional to loss is coupled out by second loop in close proximity to surface of the sample. Different regions of a large sample or many different samples may be tested at a rate of several a minute.

THE eddy-current bridge described in this article was the outgrowth of quality-control research on copper-plated surfaces to be used in a radio-frequency resonator. A test for skin loss at the operating frequency was necessary, but the standard method of incorporating individual samples in a suitable test resonator for loss measurement would have been prohibitively time-consuming. A review of the approximate quantities involved in a direct surface measurement of loss indicated that a practical measuring instrument could be made.

The principle of the eddy-current bridge is to excite eddy currents in the sample surface by induction from an energized loop, and to couple out a signal proportional to loss from a second loop in close proximity to the surface. The two loops are held in a fixed relation to each other in an assembly termed the instrument head, which is placed upon the sample surface. Resistive and reactive balancing operations are then performed to obtain the skin loss. Different regions of a large sample may be successively tested, or many different samples measured, at the rate of several a minute.

It is often of interest to designers of large r-f resonant systems to have a measurement of the conductor skin resistance. For resonators fabricated of materials of known composition—

e.g., sheet copper—estimates of skin loss are straightforward. There are cases, however, for which no handbook figures of resistivity are available. For example, the resonator may be fabricated of steel for structural support, with a layer of copper applied subsequently by vacuum evaporation, spraying, or electroplating.

In any of these processes, the resistance of the resultant copper layer is variable for several reasons. Some obvious factors are roughness of the base metal; thickness, purity, and structure of the copper layer; and the surface treatment such as polishing, buffing, or etching. In each case, the r-f property of importance is the

Fig. 2: Samples of copper-clad steel, 0.050 in. OFHC copper on ASTM-A-212 steel 0.450 in. thick

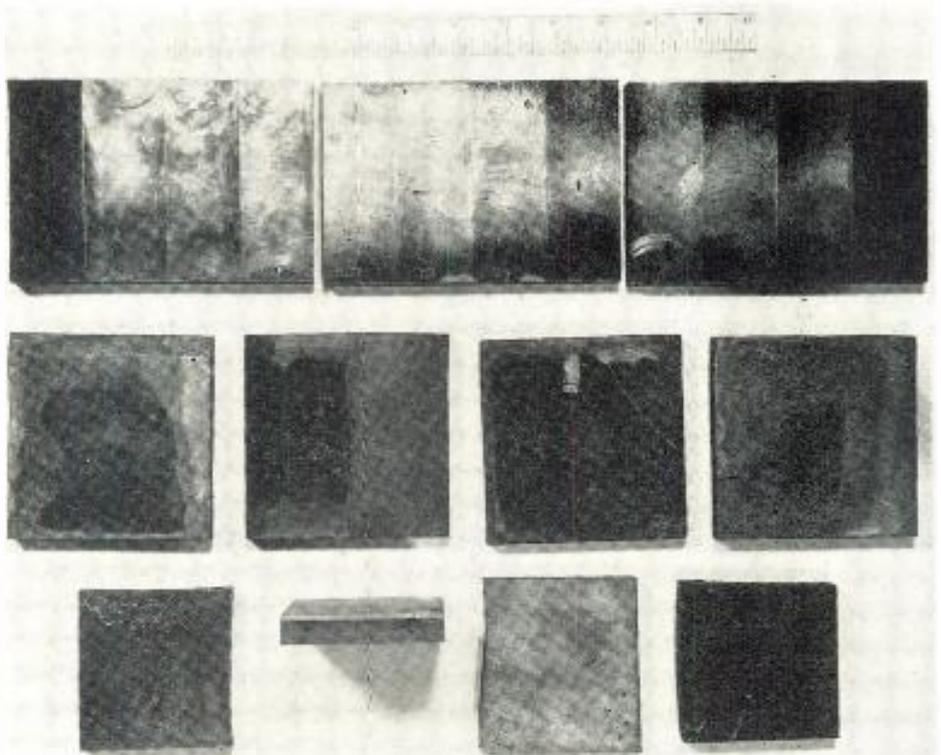


Table I

Frequency	Skin Depth (mils)	Surface Resistance ($\mu\Omega$ /square)
700 CPS	100	7
70 KC	10	70
7 MC	1	700
700 MC	0.1	7,000

Table II: r-f Resistance of Various Materials

Sample	Relative loss at 12 MC	Relative loss at 40 MC
Aluminum	25	1.3
Alloy	245	3.0
Alloy	615	1.9
Brass		2.1
Copper	Soft	1.0
	Hard	1.0
	OFHC	1.0
	Phosphorus-deoxidized	1.3
	Beryllium copper	4.2
	Phosphor bronze	4.8
Graphite		63.0
Lead		7.2
Manganin		11.0
Molybdenum		2.7
Solder (Soft)		6.4
Iron	Mild steel	74.0
	Auto-body	85.0
	Inconel	19.2
	S.S. 302	8.0
Silver	(99.7% pure)	1.1
	Plating	1.0
Zinc	Plated chassis	27.4
	Galvanized iron	4.4
Chromium	Plating (UCRL)	11.0
Tungsten		2.7

By C. A. KERNS



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conductivity of the thin surface layer in which current flows. In general the conductivity must be measured at the frequency of interest rather than by extrapolation, since the properties may vary considerably with depth. The eddy-current bridge was designed to measure the conductivity of sample surfaces at an operating frequency, the end in view being the production of low-loss surfaces. A sample of oxygen-free high-conductivity copper (OFHC) was used as a standard. Although most of the original work was done with copper, the bridge is not restricted to materials of high conductivity. In fact, once the problem has been solved for good conductors, the measuring technique is simple for lossy materials such as graphite.

Conductor Surface Parameters

An appreciation of the magnitudes involved in measuring skin loss for

copper can be gained by reviewing Table I. Surface resistance and skin-depth values given are calculated from the standard formulas.

Surface resistance is the parameter to be measured. The general method is to produce a surface current of the order of a few amperes per unit width and to measure the resulting IR drop across a few unit lengths. Required current in the driving loop is then several amperes, and the loss signal measured in the pickup loop is of the order of mv., for copper at 10 mc. Signals in the pickup loop are directly proportional to surface loss of the sample for the idealized case of a pickup loop buried in the surface.

Principle of Operation

Eddy currents are induced in the sample surface by passing a current of the desired frequency through the driving loop positioned a radius

above, and parallel to, the surface. The driving loop is a single turn, electrostatically shielded. A pickup loop coaxial with the driving loop lies on the surface, separated by 0.005 in. mica insulation to hold the geometry constant.

Since the pickup loop is not physically buried within the surface, there is a signal-voltage component corresponding to flux leakage under the pickup loop itself. This is in quadrature with the desired voltage, since the leakage signal represents a reactive component, while the loss signal of course corresponds to a real power loss. The method of obtaining a signal proportional to loss is to buck out the leakage signal with a voltage derived from a small adjustable loop close to the driving loop. Setting the adjustable loop for a minimum total signal corresponds to a reactive balancing operation.

At reactive balance, the ratio of loss signal to surface current is proportional to surface resistance. If a fixed geometry is maintained between driving coil and surface, driving-loop current suffices as a measure of surface or eddy current.

This fortunate property of the system stems from the very poor impedance match between the conductor surface and space. That is, the samples are better than 99% reflectors of energy over the frequency range 0 to 100 mc. Good accuracy is obtained with surface resistances even as high as those of graphite. For materials whose surface resistance is an appreciable fraction of 377 ohms/square, surface current is correspondingly less than that for a

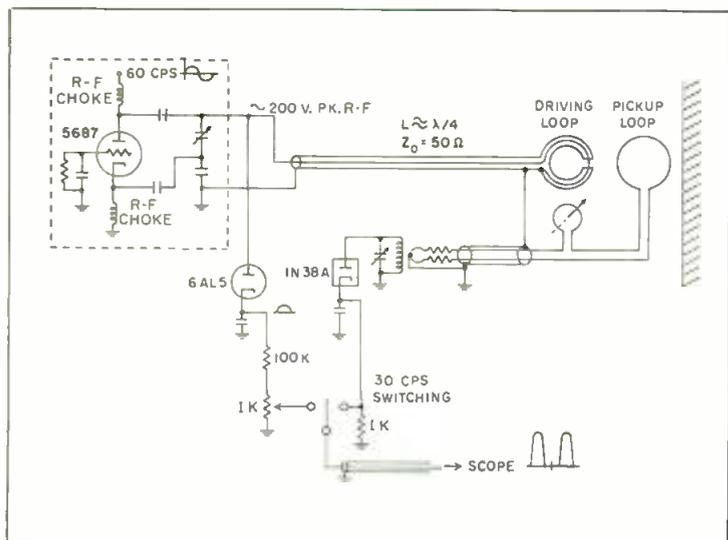


Fig. 3: Circuit used to obtain data of Table II. AC plate supply to 5687 tube produces half-sine wave bursts of r-f to drive the system

(Continued on page 359)

Ingenious use of modern components has resulted in desirable simplification, reduction in size, and high performance in a high power linear amplifier for single sideband communications applications. Unit provides up to 30 kw output in the 4.0 to 26.5 MC band. Servo motor drive provides automatic tuning of tank circuit

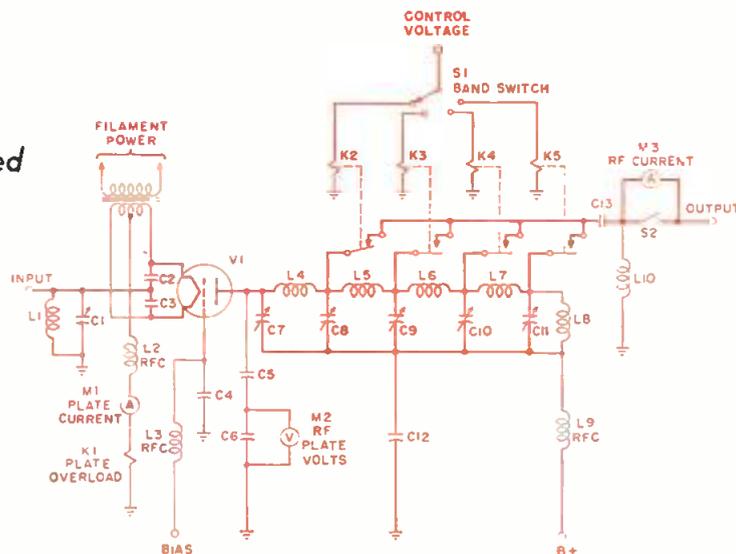


Fig. 1: Basic schematic of linear amplifier. Power gain is approx. 15

SSB High Power Amplifier Design

By F. B. GUNTER

THE design of a high power linear amplifier intended for use as a power amplifier for Single Sideband transmitters is discussed. The availability of new components and a new concept of pi type tank circuits permit avoiding difficulties experienced in previous designs.



F. B. Gunter

minimum difficulty at altitudes up to 8000 ft. A discussion of the electrical and mechanical characteristics will be presented with emphasis on the simplified tuning system which allows rapid change of frequency.

General

The continuing growth of long distance multi-channel single sideband communications circuits in the high frequency spectrum has made it desirable to increase transmitter power output. This increased power output makes possible three improvements in service. First, it makes possible operation of longer distance circuits. Second, it provides greater reliability for existing circuits. Third, it permits heavier loading of existing circuits without sacrifice of power per channel of intelligence. Existing multi-channel transmitters, such as the LD-T2, gives approximately 3-4 kw peak output. It is desirable to increase this power output by a factor of 10 in order to realize the aims mentioned above. No compromise in equipment distortion can be tolerated without sacrifice of circuit signal-to-noise distortion ratio on very heavily loaded transmitters.

Where very low crosstalk can

be tolerated in a multi-channel application of a linear amplifier, little advantage can be taken of the fact that the peak signal voltage in each channel adds up in phase only a very small percent of the time. It is usually necessary to reduce the peak voltage per channel to a value so that when all channel signals do add in phase no undesired distortion products are obtained. For equal amplitude signals, this results in the peak power output per channel being proportional to $1/n^2$ where n is the number of channels. Thus, for a 12 telegraph channel system the power per channel will be approximately $1/9$ that of a 4 channel system. An increase of transmitter power, by the addition of a linear amplifier, can compensate for this loss in power per channel.

For obvious reasons, the increase in transmitter output power must be obtained with a minimum sacrifice in distortion. Ideally, the combination of lower power transmitter and linear amplifier should have the same distortion as the lower power transmitter when operated alone. Other essential characteristics of such an amplifier include compatibility of control, safety and automatic

This new linear amplifier provides up to 30 kw output in the frequency spectrum from 4.0 to 26.5 MC with low distortion products on two tone tests. This performance is accomplished with a material reduction not only in the complexity of the apparatus but also with a reduction of complete installed size to a length of 8 ft. Air cooled components utilizing high velocity, low volume air circulation enables installation with

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tuning facilities; minimum size; comparable resettability; similar range of permissible output loads; freedom from r-f or control circuit instability; and good dynamic regulation of power supply. A study of existing linear amplifiers led to the conclusion that a new concept of tank circuit was necessary to meet these objectives with minimum complexity.

Tank Circuit Design

A study of existing tubes and tank circuit configurations resulted in the conclusion that a grounded grid single stage amplifier with a pi type plate tank circuit was desirable. To obtain the desired tuning range of 4-26.5 MC a single pi section would require varying the series inductance as well as the shunt capacitance elements. Previous experience with sliding contacts and tap switches at this power level made it desirable to seek some other means for extending the tuning range of the tank which would reduce the maintenance and resettability problems which such contacts and switches, carrying circulating current, have experienced in the past.

By taking advantage of the low minimum capacitances of modern vacuum variable capacitors; it was possible to devise a pi type tank circuit which utilizes fixed inductances, has no switches or sliding contacts which carry circulating tank current, and in

Fig. 2: Prototype design of amplifier. R-f and rectifier cabinets shown require floor space 6 ft. wide by 3 ft. deep

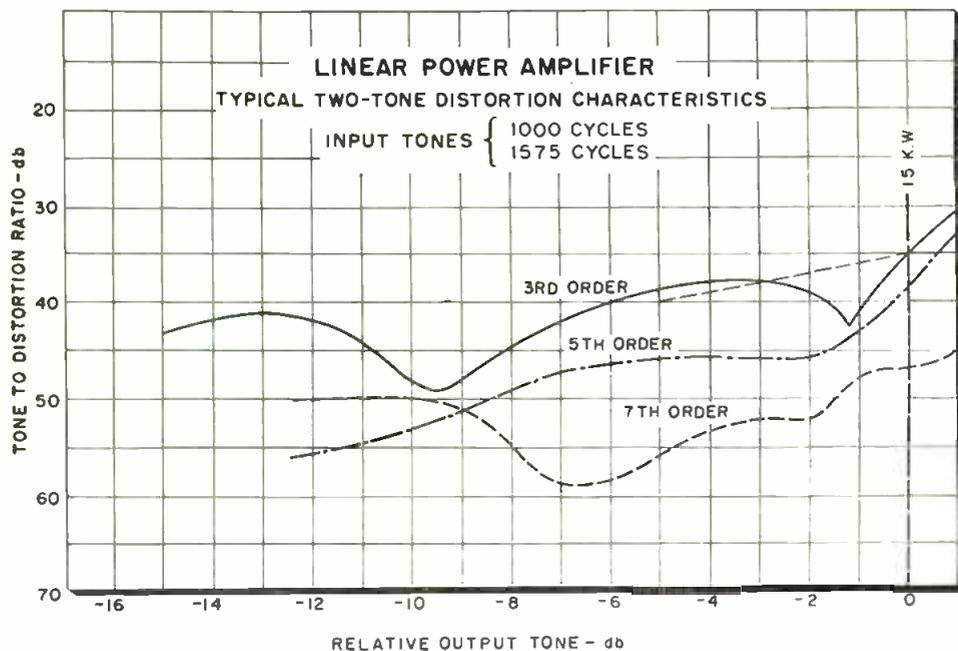


Fig. 3: Distortion data. Further improvements have reduced third order distortion products even further

which the resettability is determined primarily by precision lead screws in the capacitors. This tank circuit, along with some of the associated circuits, is shown in Fig. 1. At the lowest operating frequency, C-8, C-9, and C-10 are adjusted to minimum capacitance, effectively removing them from the circuit. The remaining circuit consists of the tuning capacitor C-7; coils L-4, L-5, L-6 and L-7; and loading capacitance C-11. Relay K-5 is closed, connecting the output circuit to the loading capacitance. As frequency is increased C-10, C-9 and C-8 successively become the loading capacitance and vacuum switches K-4, K-3 and K-2 transfer the output circuit. That portion of the tank circuit which is not used at any one time is effectively removed by adjusting its capacitance value to maximum. The input circuit consists of a relatively low Q parallel tuned circuit to adjust input impedance of the amplifier to provide a suitable termination for the driving transmitters.

Amplifier Tube

For improved distortion, it was decided to operate the LD-T2 driver at 2.5 kw peak output or less. To obtain desired output, a power gain in the linear amplifier of the order of 15 was, therefore, necessary. This dictated the choice of a relatively high mu

tube. Other desirable characteristics for the tube included small size, air cooling with minimum air volume, relatively high plate dissipation, and long life. Two Type 6423 coaxial terminal triodes were selected for use in the amplifier. General characteristics of these tubes are given below:

Type 6423 Triode

Filament Voltage	6.3 v.
Filament Current	81 a.
Amplification Factor	90
Interelectrode Capacity	
Grid-plate	25 μ f
Grid-filament	32 μ f
Plate filament	1.5 μ f
Max. dc Plate Voltage	12,500 v.
Max. dc Grid Voltage	-1400 v.
Max. dc Plate Current	2.5 a.
Max. Plate Input	30 kw
Max. Plate Dissipation	12.5 kw
Approximate weight	18 lbs.
Max. diameter	4- $\frac{1}{2}$ in.
Height	15-9/16 in.

Prototype Linear Amplifier

A prototype linear amplifier has been constructed for full scale confirmation of excellent results obtained in testing a 3 kw breadboard model of the pi tank circuit. This prototype, shown in Fig. 2, consists of the r-f and rectifier cabinets with a total floor space 6 ft. wide and 3 ft. deep. Exhaustive tests isolated and eliminated parasitic oscillation and resulted in circuit stability permitting full plate voltage to be applied at zero grid bias with no tendency toward self-oscillation.

(Continued on page 154)

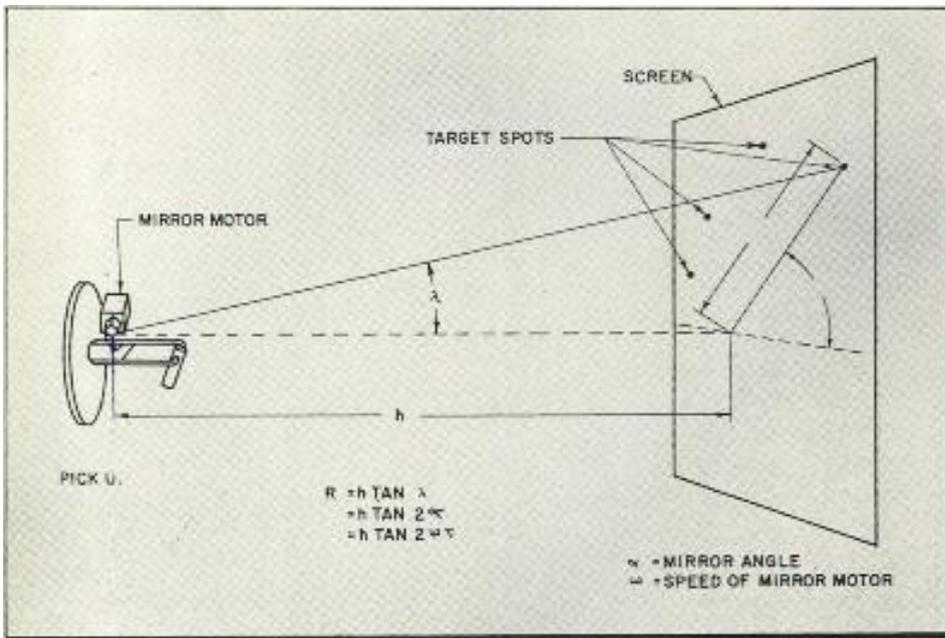


Fig. 1: The targets—spots of light—are projected on a screen

By **W. BLITZSTEIN**
and **T. LEVINE**

*Project Wescom,
Univ. of Pennsylvania,
Philadelphia, Pa.*

Optical Simulation of Radar

THERE are two basic requirements for any simulation of radar. First, the generation of targets: some entities such as voltages, linear displacements, or rotations, etc., must be generated in such a fashion as to simulate the general motion of airborne targets. In a word, they must vary in time to correspond to the overall trajectory of the airborne targets. Second, they must be adapted to radar-like display. The varying parameters must either be initially in the form for radar display or ultimately converted to the form of radar inputs. This form of input, of course, is a sequence of pulses delayed in time. The delay of each target pulse corresponds to a range from the radar origin. Also, a way must be devised to identify an azimuth coordinate for each target pulse.

There are in existence several methods of simulation of radar. Principal among these are:

A. Analog Computer Technique: Targets are generated in rectangular coordinates as voltages by means of rotating potentiometers, and converted to polar coordinates by means of resolvers. By means of electronic circuitry, the voltages are converted to delayed pulses and

then fed to the video of a radar display.

B. Magnetic Tape Technique: In this technique, pulses are programmed on a magnetic tape and the playback is fed to the radar video.

C. Television Technique: In this approach, the targets are simulated by means of spots of light projected on and moved across a screen so that their paths trace aircraft-type trajectories. A television camera detects these spots of light in rectangular coordinates, and by means of additional equipment the data is converted to polar coordinates for the radar input.

The system described in this article is similar to the last-mentioned system except that the TV camera is replaced by a much simpler and cheaper device called the "pick-up" device. The pick-up device detects targets in polar coordinates as does radar itself.

Description of System

As in the television technique, the targets are spots of light projected on a screen, and an optical device is used to detect these targets (see Fig. 1).

The optical target detector is the heart of this system and is called

the "pick-up" device (see Fig. 2).

The "pick-up" device consists principally of a small (1x1x2 in.) motor rotating a multi-facet mirror in a plane perpendicular to that of the screen. The motor and mirror assembly is mounted on a small circular platform (5 in. diameter) displaced from its center by about 2 in. A fixed mirror is mounted at the center of the circular platform tilted at 45°. A hollow shaft rotates this entire assembly in a plane parallel to that of the screen. A light path thus exists from the rotating mirror surface to the fixed mirror at the center through the hollow shaft. A 1P21 photo-multiplier tube, located at a fixed position at the far end of the hollow shaft, receives the light. A lens and very small aperture are mounted inside the hollow shaft.

The "pick-up" device operates in a fashion highly analogous to a real radar set. In fact, the "pick-up" device can be thought of as simulating a radar which is located at a simulated geographical position corresponding to the projection of the center of the "pick-up" device onto the plane of the screen. This is the simulated "origin" of the radar's polar coordinate system. Radar scans radially (fixed θ and

Targets are simulated by spots of light moving across a screen so that their paths trace aircraft-type trajectories. Pickup device detects targets in polar coordinates for the radar input.

along R) by emitting r-f pulses. Since the speed of E.M. waves is constant, the radar makes use of the proportional relation between the time delay of the r-f echo to and from the target and the target's radial distance, to determine this distance. Similarly, the "pick-up" "scans" radially by means of the rotating mirror, whose speed is a known constant. Hence, a precise time (t) can be assigned to each angle for each side, or "facet," of the mirror. For a spot of light on the screen located along a specific radius at a distance R , there is an angle λ such that: $R = h \tan \lambda$, where $R =$ range, $h =$ distance of pick-up device to screen, and $\lambda =$ angle formed between the line of sight to the target and the perpendicular onto the screen (see Fig. 1).

Now the mirror angle $\alpha = \frac{1}{2}\lambda$. If ω is the speed of the rotating mirror, then $\alpha = \omega t$ and $R = h \tan 2\omega t$.

The radar antenna rotation (together with its directionality) provides the second dimension " θ ." This rotation is identical with the rotation of the "pick-up" assembly in the plane parallel to the screen.

A. Synchronization. A small projector is mounted on the assembly, which can pivot into any desired position. This projector presents a tiny, but high-intensity spot of light onto the rotating mirror. The projector is so positioned that the mirror facets pick up the projected spot just a little earlier (about 30 to 100 μ secs) than a target at the center of the screen (the radar origin). The output of the photomultiplier tube, in addition to being fed into the radar indicator video, is also fed to a variable delay circuit which is adjusted to delay the pulse resulting from the projected spot just the amount (30 to 100 μ secs) it had been advanced by positioning the small projector. Thus, the delayed pulse occurs precisely

at the start of the scan for each mirror facet. This pulse is used to trigger the radar indicator sweep circuit. Each mirror facet, therefore, generates its own scan trigger and then moves on to scan the screen along a radial. Of course, the voltage fed to the sweep trigger circuit, being the same as the video signal, contains the target pulses. However, the trigger pulse is much larger than the target pulses (about 10:1), and the trigger circuit is affected only by the trigger pulse. Since the original trigger pulse is expired by the time the delayed pulse triggers the sweep, it does not appear on the radar indicator.

B. Azimuth Rotation. A small synchro is geared (1 to 1) to the azimuth shaft of the pick-up device. The output of this synchro serves as the reference input to the servo system driving the azimuth rotation of the radar indicator. The azimuth rotation of the pick-up device itself is powered by a small geared DC motor. The speed is variable (by means of a voltage

divider) from 2 or 3 rpm to about 30 rpm.

C. Optical System. The optical system consists of: (1) the rotating multifacet mirror, (2) the fixed mirror at the center, (3) an achromatic coated objective lens: focal length $5 \frac{13}{64}$ in.; diameter $1 \frac{17}{16}$ in., and (4) an aperture: .025 in.

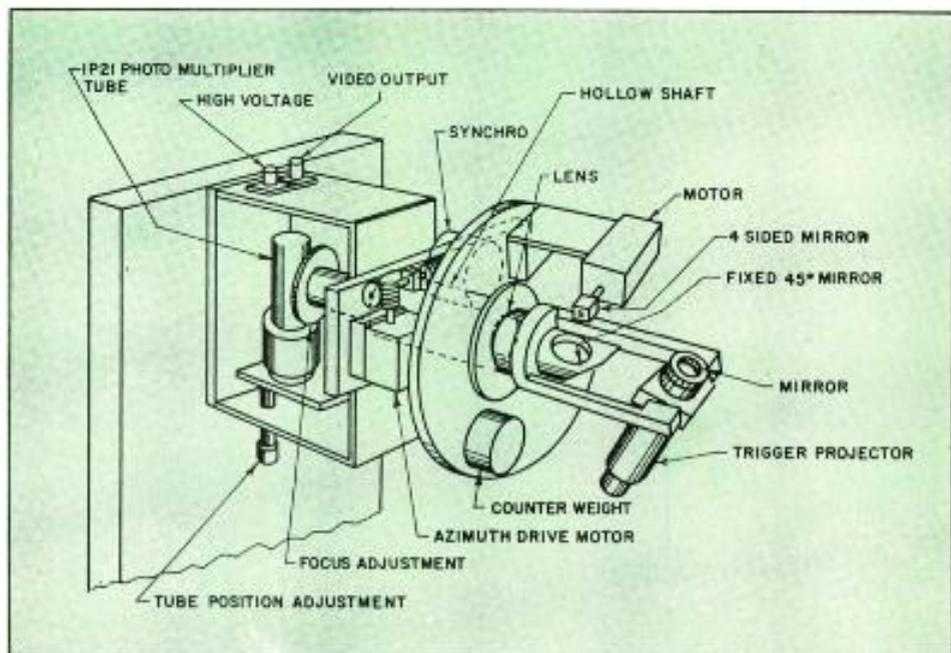
Both the aperture and lens are mounted inside the hollow shaft.

D. Pulse Repetition Frequency. It will be noted that each mirror face performs one scan for each revolution of the motor. Thus, the PRF is equal to $(N\omega)/60$, where N is the number of facets to the mirror, and ω is the speed of the motor in revolutions per minute. The motor used can operate efficiently between 1500 and 9000 rpm. Thus, using a 4-sided mirror, the PRF can be varied between $(4)(1500)/60 = 100$ cycles/sec. and $(4)(9000)/60 = 600$ cycles/sec. by merely varying the speed of the mirror motor. Using an 8-sided mirror, the range would be 200 to 1200 cycles/sec.; and using a 16-sided mirror, the range of variation would be 400 to 2400 cycles/sec.

There is, of course, a practical limit to the number of mirror faces, and this is due to the maximum scan angle. If the maximum scan angle (λ) is 60° , the mirror must turn through 30° (α) for the total scan. Thus, there could be no more

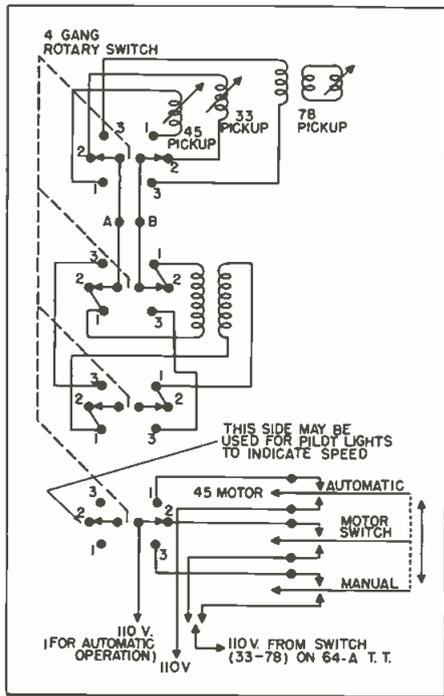
(Continued on page 190)

Fig. 2: Pickup device is basically a small motor rotating a multi-facet mirror



CUES for BROADCASTERS

Practical ways of improving station operation and efficiency



3-position, 4-gang rotary switch chooses speed and correct pickup simultaneously

Converting Electrically Switched Turntables To 45 RPM

GEORGE ROUNTREE, Ch. Engr. KVLH, Pauls Valley, Okla.

PROVIDING for 45 rpm records has been a problem for many small stations, and possibly some are still using a sort of haywire setup. KVLH has Presto 64 A turntables. Converting such turntables to three-speed is expensive, since separate electrically-switched motors must be used for each speed.

The problem was solved at KVLH, and the present means seems handier than the usual three-speed tables methods. The station has always started the 64 A's with 6 v. relays operated by spare contacts on the console turntable switches, and has used one pick-up to play records, another for transcriptions. Both the Prestos and 45's (\$17.50 RCA's) are now started with the same relay, and use one 3-position rotary switch to choose the speed and pickup. The three motors are connected through a section of the switch one in. or so from the pick-up section to prevent hum. There are times when a different pick-up speed combination is desired. A 3-pole double-throw switch gives the choice of auto-

matic operation, with the motors being connected at the same time as the pick-ups, or manual operation, with all three motors being turned on with their individual switches. One transformer for matching both 45 and 33 pick-up to console is used. If separate transformers are used on input, two sections of the rotary switch may be skipped and console input connected at points A and B.

Battery Powered Remote Amplifiers

EDGAR T. CARTER, Studio Engr. KUJ, Walla Walla, Wash.

A PIECE of remote equipment which "hews to the line," and is designed to serve as a pre-amplifier capable of delivering an adequate voice-quality signal to the control room from a remote point, works with a minimum of trouble, weighs only about a lb., and costs less than \$20.

The entire equipment is mounted in a utility box measuring 4 x 5 x 6 in. in which the A and B batteries take up half the space. Binding posts on the front panel provide connections to a telephone line or other gear such as a recorder or P.A. amplifier. The front panel headphone jack serves two purposes, providing both an "off-on" switch and a means of monitoring the outgoing program. With this arrangement the equipment turns on automatically when the headphones are plugged in. A crystal microphone is used. The micro-

phone jack is the RCA type commonly found on much home equipment. Perhaps a loop of the microphone cord around the carrying handle is a wise precaution when the equipment is in use.

For long broadcasts, such as ball games, larger batteries with greater capacity should be used; but for an ordinary "man on the street," store opening, or spot news broadcast, the small size Burgess N6 and 2F are adequate.

The circuit shown is self-explanatory, being simple and straightforward. The pad is for 10db, smoothing the bumps in the output somewhat. The output transformer was found in the "surplus" market.

Converting Tape Machines to Half Track Playback

GLEN SOUTHWORTH

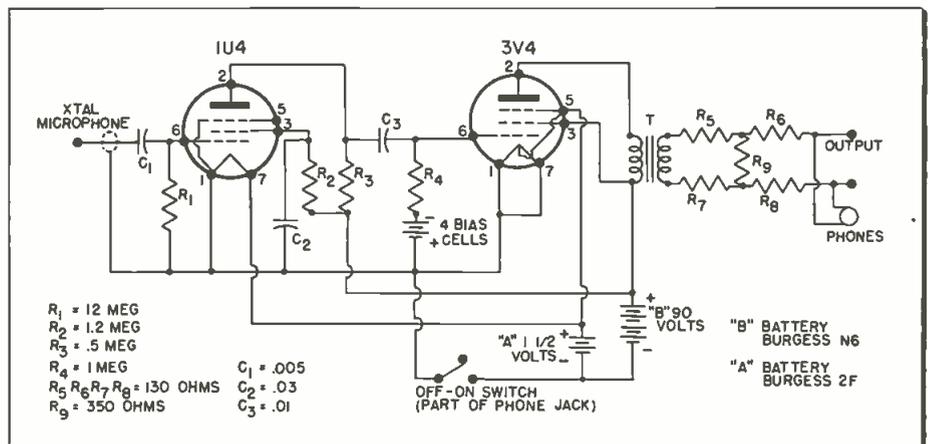
Moscow, Idaho

WITH the increasing number of home type tape machines in the public's hands, it may be very worthwhile occasionally to have a means of playing back "home-made" tapes on dual track machines.

A very inexpensive, temporary conversion can be made of the Mag-necord tape equipment by slipping out the normal single track pole piece from the playback head and replacing it with a half track Pen-tron pole piece, costing approximately \$2.00.

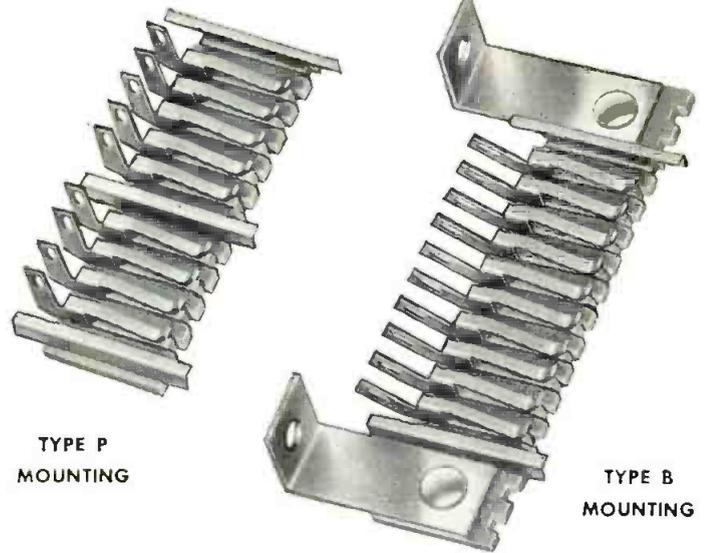
As only half the width of the
(Continued on page 154)

Pre-amp is turned on automatically when the headphones are plugged in



**QUICK, EASY
ASSEMBLY WITH
THE NEW**

CINCH "50" EDGE CONNECTOR



TYPE P MOUNTING

TYPE B MOUNTING

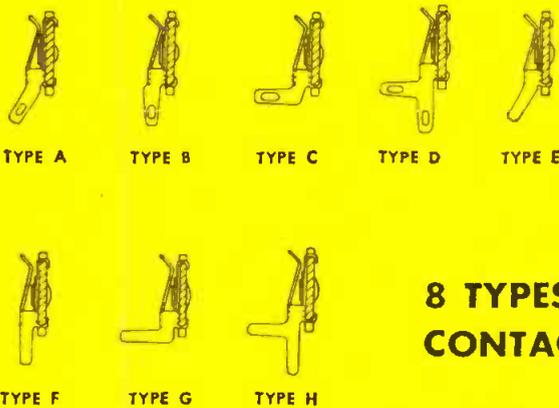
... with the advantages of lower cost, contact float, elimination of moisture traps and positive connector operation over a wide range of board tolerances.

Extended end guides provide positive orientation of the printed card prior to engagement with the connector.

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.

Laminated connector body materials are available for either commercial or military specifications. Connectors are available with brackets for right angle mounting or .136 diameter mounting holes for rivet or screw mounting.

CINCH will design, or redesign, components to fit specific needs, and will assist in the assembly of components through proven automation technique.



8 TYPES OF CONTACT TAILS

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.

Contacts are made of phosphor bronze and are available in a variety of finishes.



TYPE R MOUNTING

Printed circuit board is easily inserted into contacts

Patent Applied For

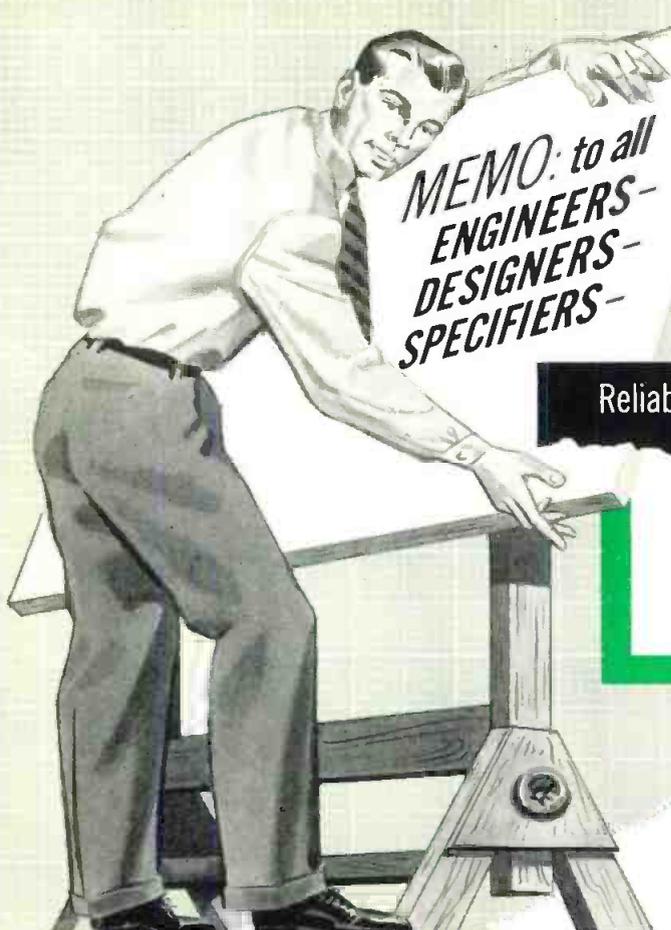
Centrally located plants at Chicago, Pasadena, Shelbyville and St. Louis



**CONSULT CINCH
CINCH MANUFACTURING CORPORATION**

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Subsidiary of United-Carr Fastener Corporation, Cambridge, Mass.

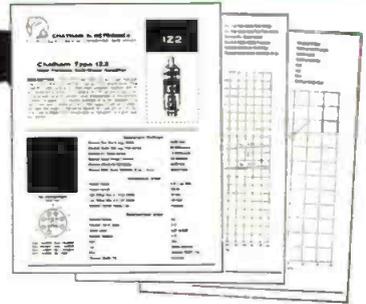


**MEMO: to all
ENGINEERS-
DESIGNERS-
SPECIFIERS-**

Designed with the future CHATHAM

Reliable Tubes—Pioneered by Chatham

Offering the utmost in electronic tube dependability, these Reliable types are a product of Chatham research and development. Today, the Chatham line of Reliable Tubes is an industry standard for both military and commercial tube applications. For complete information consult the new Chatham Bulletins available on request.



Engineering Service for Special Requirements

Where unusual requirements indicate the use of special purpose tubes, these can be designed and produced to your specifications. Chatham's Tube Division is equipped to handle both large or small production runs efficiently and economically. Chatham engineers are available for special tube problems.

THYRATRONS

Type 2D21W
Ruggedized Xenon filled, shield grid thyatron for relay-pulse and grid controlled rectifier service. Conforms to MIL-E-1B specifications.

Type 3C23
Mercury Vapor Argon filled thyatron for grid controlled rectifier service. Wide ambient temperature tolerance. Medium 4 pin phenolic base.

Type 323B
Same as 3C23 but has medium shell 5 pin base. Heater 2.5 volt 7.0 amperes; peak inverse anode volt. 1250 v. average anode current 1.5 amps.

Type 5594
Xenon filled, operates in ambient temp. from -55° to +90° C. Filament 2.5 v., 5 amps. Peak inverse anode volt. 4500, aver. anode current 0.5 amp.

Type 884
Argon filled, for sweep circuit oscillator in CRT circuits. Heater 6.3 volts, 0.6 amp. Peak forward anode voltage 300, aver. plate current 75 ma.

Type 395-A
Cold cathode, requires no filament supply. For grid controlled rectifier, relay applications. Max. D.C. anode volt. 150. Max. anode current 10 ma.

Type 5696
Xenon-filled, shield grid thyatron with low filament drain. Heater 6.3 volts, 150 ma. Peak inverse anode voltage 500, average anode current 25 ma.

Type 6D4
Miniature thyatron used as a relay tube or gas tube oscillator. Also extensively used as an RF noise source. Average anode current 25 ma.

Type 2050W
Ruggedized Xenon filled shield grid thyatron for grid controlled rectifier service. Provides longer service in presence of shock, vibration.

HYDROGEN THYRATRONS

Type VC-1257
Hydrogen filled, zero bias thyatron with hydrogen generator for generation of pulse power up to 33 megawatts.

Type 5948/1754
Hydrogen filled, zero bias thyatron with hydrogen reservoir for generation of peak pulse power up to 12.5 megawatts.

Type 5949/1907
Hydrogen filled, zero bias thyatron with hydrogen reservoir for generation of peak pulse power up to 6.25 megawatts.

Type VC-1258
Zero bias miniature hydrogen thyatron for the generation of peak pulse power up to 10 KW.

SPECIAL PURPOSE TUBES

Type 6542
Subminiature voltage regulator in a T-3 bulb. Maintains approx. 150 volts over a current range of 5 to 25 ma. Will withstand a 450 g shock impact.



HIGH VOLTAGE VACUUM FUSES
These are supplied by Chatham to customers' specifications if ordered in reasonable quantity. Full particulars and quotations supplied promptly.



HIGH VOLTAGE VACUUM SWITCHES
Available in two standard types for high voltage switching at high altitude. Glass enclosed, mechanically actuated, these switches feature extremely long operating life.



DECADE COUNTERS



COLD CATHODE DECADE COUNTER TUBE
Chatham Type 1047 is a cold cathode decade counting tube intended for use in medium speed applications such as scalars and computers operating from 0 to 2000 pps. Type 1047 features high current handling capacity per count cathode. It has ten individual cathode outputs. D.C. Supply Voltage—340; Output Voltage—45; Transfer Pulse Amplitude (Volts)—150; Transfer Pulse Width Microseconds—150; Cathode Current 4.5 ma.

**DESIGNERS
ENGINEERS and
MANUFACTURERS**

in mind...

ELECTRONICS

TWIN POWER TRIODES

Type 6336

Low mu, high perveance twin power triode for use as a series regulator tube in D.C. power supplies. Plate Dissipation 30 watts per sect.



Type 6AS7G

Low mu, high perveance twin power triode for use as a regulator tube in D.C. Power Supply Units. Plate dissipation 13 watts per sect.



Type 6520

Same as 6AS7G for use where utmost reliability is required in triode balance, absence of excessive plate current drift, high grid to plate insulation.



Type 5998

Similar to 6080 and 6AS7G but with higher amplification factor. Mu 5.5. transconductance 14,000 micromhos. plate dissipation 13 watts per plate.



Type 6080WA

Ruggedized Twin Power Triode made under reliable tube program. Plugs directly into any socket using 6080 or 6AS7G regulator tubes.



Every Chatham Tube is Rigidly Tested to Insure Dependable Performance

All tubes manufactured by Chatham are thoroughly tested for periods up to 30 hours. Many tube types are held for a minimum of 96 hours and retested to determine the effect of storage. Test equipment employed includes small table type sets and large hydrogen thyratron units with inputs

up to 100 KW. Chatham test equipment is continuously checked for accuracy of calibration by technicians specializing in calibration and maintenance of equipment. Tube types are life tested on a year round basis to insure maximum performance and service life.

RECTIFIERS

Type 1Z2

A high voltage vacuum rectifier for constant supply circuits. Filament 1.25 volts, 275 ma., Peak inverse anode voltage 15,000. Aver. anode current 1.5 ma.



Type 3B25

Half wave, Xenon Rectifier. Wide ambient range -75° to +90°C. Filament 2.5 volts, 5.0 amp. Peak inverse anode voltage 4500. Aver. anode current 0.5 amp.



Type 3B28

Half-wave, Xenon rectifier. Wide ambient range of -75° to +90°C. Filament 2.5 volts, 5.0 amps. Peak inverse anode voltage 10,000. Aver. anode current 250 ma.



Type 4B32

Half-wave, Xenon rectifier. Wide ambient range -75° to +90°C. Filament 5 volts, 7.5 amps. Peak inverse anode voltage 10,000. Aver. anode current 1.25 amp.



Type 583

Small size high vacuum clipper diode and high voltage rectifier. Clipper ratings: Peak inverse voltage 15 KV, peak anode current 8 amps; average anode current 20 ma.



Type 5R4WGY

Full wave rectifier ruggedized to stand 980 g shock. Max. inverse voltage 2800 volts at 165 milliamperes or inverse voltage 2400 volts at 275 milliamperes.



Type 5R4WGA

Same as 5R4WGY but designed to operate at full inverse ratings up to 40,000 ft. altitude and at reduced rating to 60,000 ft. altitude.



Type 5R4WGB

A reliable version of the 5R4WGA designed and manufactured to MIL-E-1B reliable tube specifications.



Type 719-A

High vacuum tube for clipper diode service in hard tube modulator circuits. Filament 7 volts, 7 amps. Peak inverse anode volt. 25 kv. Max. peak anode current 10 amps.



Type 6H6WGT

Ruggedized twin diode with octal base. Heater 6.3 volts 300 ma. Peak inverse anode voltage 465 volts. D.C. output current, 8.8 ma. per plate.



VOLTAGE REGULATOR & REFERENCE TUBES

Type 0C3W

A ruggedized glow discharge tube. Maintains D.C. voltage constant at 105 volts. Max. regulation 4 volts. Operating current 5 to 40 ma.



Type 0D3W

A ruggedized glow discharge tube. Maintains D.C. voltage constant at 150 volts. Max. regulation 5.5 volts. Operating current 5 to 40 ma.



Type 5651WA

Reliable miniature Cold Cathode Gas Discharge Tube for voltage reference. Maintains voltage of approx. 87 v. at a current range of 1.5 to 3.5 ma. Available JAN 5651.



Type 6627/OB2WA

Miniature cold cathode glow discharge tube for use as a voltage regulator. Regulating voltage is approx. 108 volts at a current range of 5 to 30 milliamperes.



Type 6626/OA2WA

Same as Type 6627/OB2WA with regulating voltage of approx. 150 volts at a current range of 5 to 30 milliamperes.



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- HIGH PERFORMANCE ELECTRONIC TUBES
- AIRBORNE CONVERSION EQUIPMENT
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- CUSTOM-BUILT EQUIPMENT

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Division of Gera Corporation — LIVINGSTON, NEW JERSEY

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The August West Coast Issue of
TELE-TECH &
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... Focusing on WESCON 1956—
(Western Electronic Show & Convention—Los Angeles, August 21-24)

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- ★ A Western regional Literature Card. First in a new series of regional literature issues will enable engineers to keep abreast of manufacturers' technical information.
- ★ TWO WEST COAST ELECTRONIC INDUSTRIES DIRECTORIES 1) Avionic and Electronic Manufacturers; 2) Distributors and Representatives.
- ★ Engineering reports of newest West Coast electronic developments, technical papers in the field.
- ★ WESCON '56 program, exhibitors, meetings, newest products to be exhibited and unveiled for the first time.
- ★ Summaries of activities of West Coast plants, personnel, advancements, etc.
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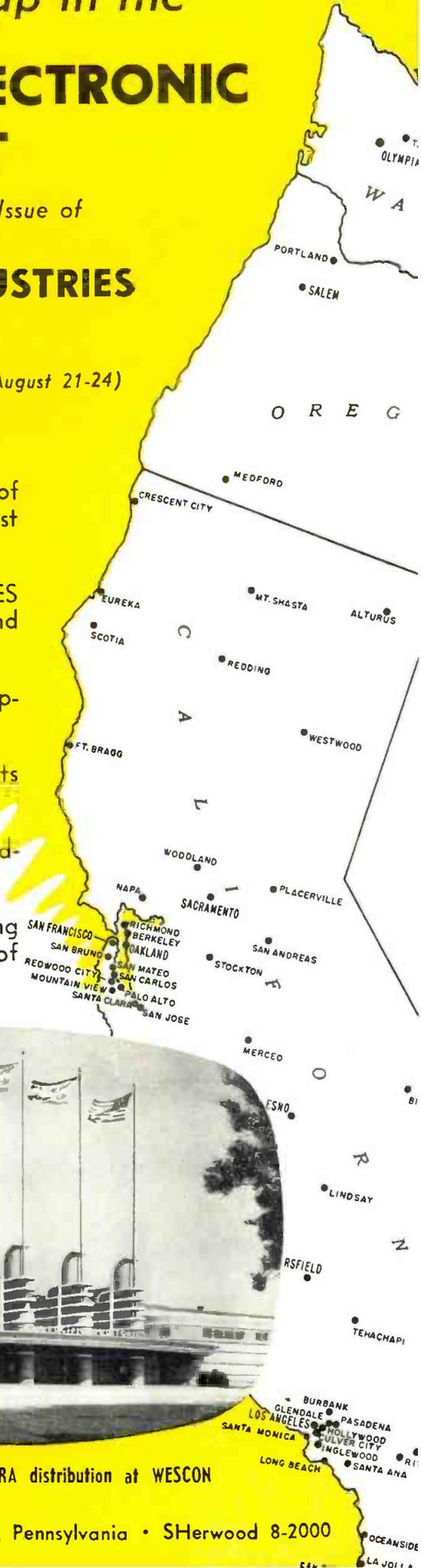
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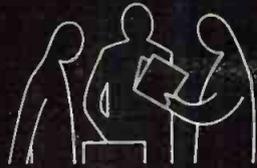
TELE-TECH &
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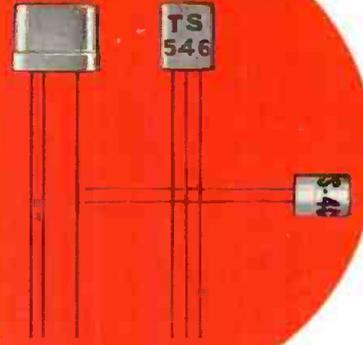
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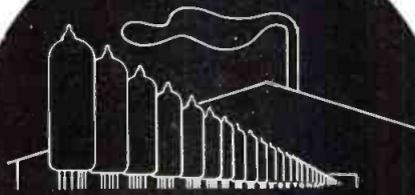
RESEARCH



DESIGN



DEVELOPMENT



PRODUCTION



TUNG-SOL®
Electron Tubes and
Semiconductors

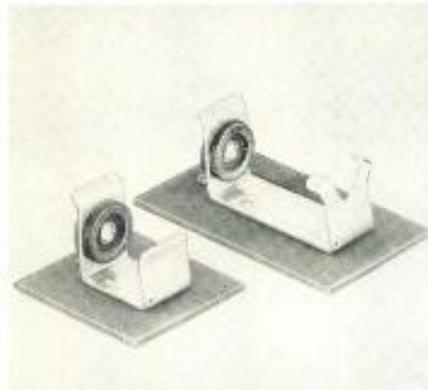
TUNG-SOL ELECTRIC INC., Newark 4, N. J.

SALES OFFICES: ATLANTA, COLUMBUS, CULVER CITY, DALLAS, DENVER, DETROIT, MELROSE PARK (ILL.), NEWARK, SEATTLE
CABLE ADDRESS: TUNGSOL

New Technical Products

BATTERY CLIPS

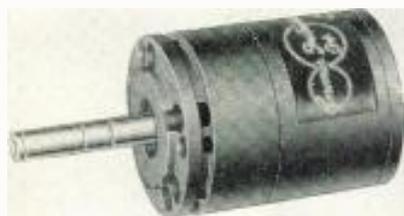
Two new silver-plated battery clips made of phosphor bronze for use with transistorized circuitry have been designed to lock simply yet stand up and remain secure



even under extremely rough handling. Clips feature a positive, low resistance contact, are of unique design and the silver plating resists corrosion under battery leakage. They mount simply with two rivets and are for use on one or two cell mercury batteries. **Cambridge Thermionic Corp., Cambridge, Mass. Tele-Tech & ELECTRONIC INDUSTRIES** (Ask for 6-101)

MOTOR GEAR HEAD

Ultraminiature precision motor gear head, Model 750-GH, is designed for adaptation to Size 8 motors. It is .750 in. in diameter and 1 in. long. A.B.E.C. Class 5 ball bearings contribute to the low starting torque of .004 in.-ounces. Ratios up to 650:1 are



available without increase in length; but ratios up to 20,000:1 can be produced in longer units. **Bowmar Instrument Corp., 2612 Penn. St., Fort Wayne, Ind. Tele-Tech & ELECTRONIC INDUSTRIES** (Ask for 6-107)

PRECISION POT

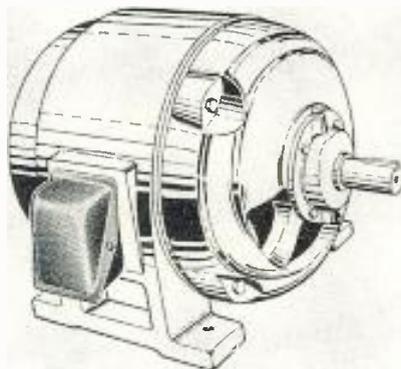
The "DIPOT" high precision multiturn potentiometer subdivides voltages obtained from matched resistors with a vernier potentiometer. Through the use of



pi wound resistors, phase shift is greatly reduced. While one-half of the pot interpolates through its 180 degrees of rotation, the brushes of the 180 pot section of the second bank are moving to a new position. **Servonics, Inc., 834 N. Henry St., Alexandria, Va. Tele-Tech & ELECTRONIC INDUSTRIES** (Ask for 6-113)

TERMINAL BOXES

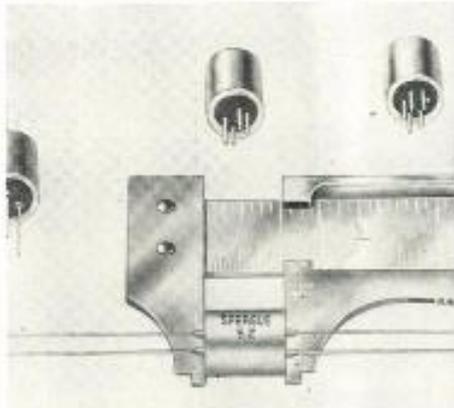
Line of terminal and conduit boxes for electric motors of drawn steel comes in four sizes: size No. 1 will take conduits from 1/2 in. to 1 in., size No. 2 will take 1 in. and 1 1/4 in. conduit, size No. 3 will take 2 in. and 2 1/2 in., and size No. 4 will take up to 3 in. conduit. These boxes are also suit-



able for use on transformers and other machines where leads must be connected. **Kolton Electric Manufacturing Co., 123 New Jersey Railroad Ave., Newark 5, N. J. Tele-Tech & ELECTRONIC INDUSTRIES** (Ask for 6-106)

PULSE TRANSFORMERS

Subminiature pulse transformers which meet all the performance requirements of the "miniature" series widely used in computers and military electronics



are now available at no increase in cost over the larger types. The new ultra-small transformers are furnished in both single and double ended constructions, the former for use with printed wiring boards, and the latter for use in conventional types of assemblies. **Sprague Electric Co., N. Adams, Mass. Tele-Tech & ELECTRONIC INDUSTRIES** (6-112)

POWER TRANSFORMER

The 3/4 w. and 50 w. series voltage regulated DC to DC semi-conductor power transformer — are illustrated. A miniature, standard, and high-power series are available, ranging from 3/4 w. to one kw. The INTERVERTER is a completely static power conversion device employing special



semi-conductor gating elements, which generate square waves from a DC source. The **Interelectronics Corp., 2432 Grand Concourse, N. Y. 58, N. Y. Tele-Tech & ELECTRONIC INDUSTRIES** (Ask for 6-111)

LINE AMPLIFIER

New type distributed line TV amplifier, DYNAM 111, it covers all VHF TV bands. Outstanding feature is continuous operation of the amplifier, even in the event



of tube failure. Specs.: Gain: 24db. Bandwidth: 54-216 MC. Flatness: $\pm 1/4$ db. Maximum Output: 1.0 v. RMS (single channel). Impedance: 75 ohms. Power in: 60 w.; 60 cps. Min. input: 75 μ v. for noise-free picture. Noise Level: 5 μ v. at input. Dimensions, Approx. 5 x 9 x 5 in. High. Ampli-Vision, 2000 Stoner Ave., Los Angeles 25, Calif. Tele-Tech & ELECTRONIC INDUSTRIES (Ask for 6-104)

NULL METER

Rack mounted Phazor Null Meter Model 100A permits phase sensitive null detection and effectively eliminates noise and harmonic components. Outstanding features are: direction of null clearly shown on zero centered meter; separate adjustment of phase and magnitude in null circuits; high sensitivity; broad frequency range; high input imped-



ance; and electronic limiting to prevent instrument overload. Power input is 105-125 v, 60 cps, 25 w. Industrial Test Equipment Co., 55 E. 11 St., N.Y.C. Tele-Tech & ELECTRONIC INDUSTRIES (Ask for 6-114)

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you've been
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TOLERANCES**

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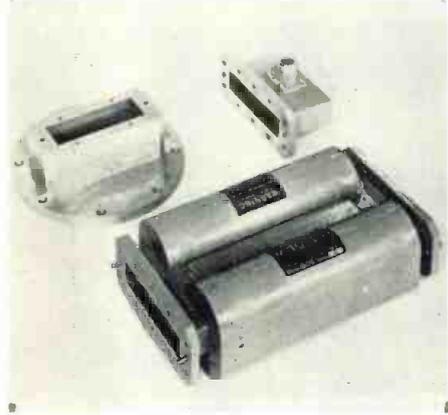
Flushing 7-8100

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New Technical Products

S-BAND LOAD ISOLATORS

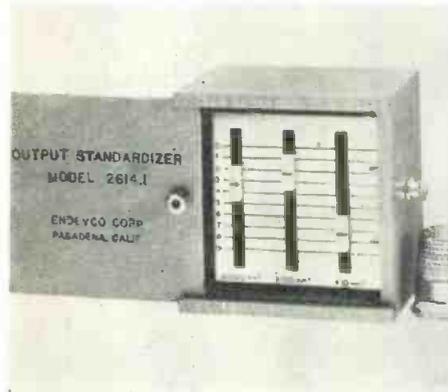
S10 series of S-band Microwave Load Isolators provides higher isolation with 1/3 less space and weight. Engineered for min. size and weight, a wide variety of Litton isolators in the S10 series



offers reverse attenuation of 10 to 30 db or higher, with corresponding insertion losses of 0.5 to 1.5 db. The new S-band isolators can handle 500 kw. peak power and 250 w. average without external cooling. With air or liquid cooling, power handling capacity can be increased substantially. Litton Industries, Components Div., 336 N. Foothill Rd., Beverly Hills, Calif. and 251 S. Fulton Ave., Mount Vernon, N. Y. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-20)

OUTPUT STANDARDIZER

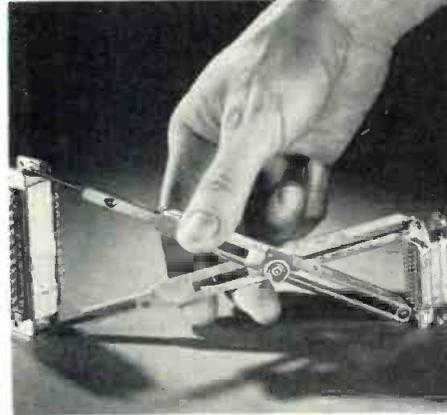
This new subminiature decade capacitor (silver mica) switch provides capacitance values from 10 mmfd to 9990 mmfd ($\pm 1\%$) that is variable in discrete switch steps of 10 mmfd. The primary design use is for standardizing the voltage output from Endeveco self-generating pressure, force, and acceleration pickups to one value of output voltage.



This unit used as a pickup "standardizer" establishes a preselected data scale factor. Groups of pickups may be standardized within a similarity of 1%. Endeveco Corporation, 161 East Calif. St., Pasadena, Calif. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 3-22)

CONNECTORS

These Amphenol Micro-Ribbon connectors, utilizing an improved version of the amphenol-developed "ribbon" contact design, have been developed for miniaturization programs. Amphenol



reports that, using mating pairs of a widely used conventional connector, (left, in photo) 240 circuits weigh 1 1/2 lbs. and require 48 cu. inches of space—with mating Micro-Ribbons, (right in photo) 240 circuits weigh 1/2 lb. and take up 10 cu. inches of space. The new connectors are available in 14, 24 and 36 contacts. American Phenolic Corp., Chicago 50, Ill. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-22)

VARIABLE DELAY LINE

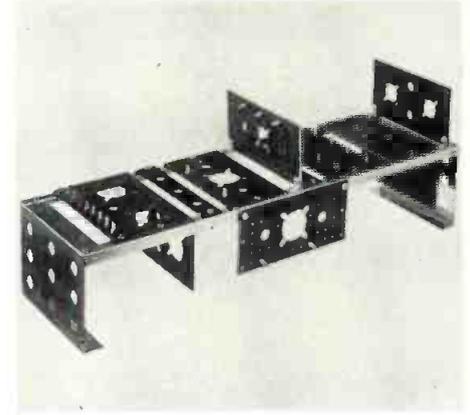
This delay line is capable of providing continuously variable delay from 0 to 1 μ sec. and more. The amount of equalization has been made exactly equal to its correct optimum value. Rise time less than 8% of the time delay at any point, no overshoot, excellent stability, hairline accuracy, and complete freedom of time jitter. The size is only 1 in. x 6 in. x 6 in. Three different models are available. The useful band-



width for all three types is over 10 mc. The max. operating voltage is 500 v. peak and the ambient temp. is from -55°C to $+125^{\circ}\text{C}$. Advance Electronics Co., Inc., 451 Highland Ave., Passaic, N. J. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 3-119)

CHASSIS KIT

New 3-D Chassis Kit provides complete flexibility in the construction of prototype models. Low-cost construction kit consists of: end brackets, side channels, terminal strips, miniature and



octal tube socket plates, component mounting boards, mounting brackets, double-end press-in terminals, self-tapping screws, potentiometer mounting plates. Plastic used in all mounting boards is laminated, paper base, XXXP (MIL-P-3115), Type PBE. Overall size of the kit is 5 in. wide, 16 7/8 in. long and 3 1/2 in. high. Precision Metal Products Co., 41 Elm St., Stoneham 80, Mass. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-27)

SERVO-GEAR-TRAIN

A new size 11 servo-gear-train weighing only 6.875 oz. and consisting of a single homogeneous unit instead of two separate parts is now available. Everyone of these servo type units have linear speed torque characteristics, low inertia value, high stall torque values and low starting friction level. The gear train operates with load torques up to 25 in.-oz. and max. mo-



mentary load torques of 75 in.-oz. Backlash is 35 minute min. Gear ratios may be varied in convenient steps from 12:1 to 4000:1. John Oster Manufacturing Co., Avionic Division, Racine, Wisc. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-13)

Tunes UP TIRED ASSEMBLY LINES



"44" RESIN, "RESIN-FIVE" and PLASTIC ROSIN—
Kester Flux Core Solders belong at the very top
of the solder hit parade when it comes to quality,
speed, uniformity and economy. An unbroken rec-
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fire "cure" for lagging production. Better switch
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WRITE TODAY for Kester's New 78-
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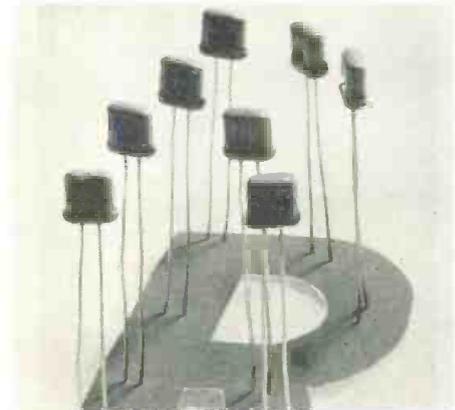
KESTER SOLDER

COMPANY 4210 Wrightwood Avenue, Chicago 39, Illinois; Newark 5, N. J.; Brantford, Canada

New Tubes & Semiconductors

SILICON DIODES

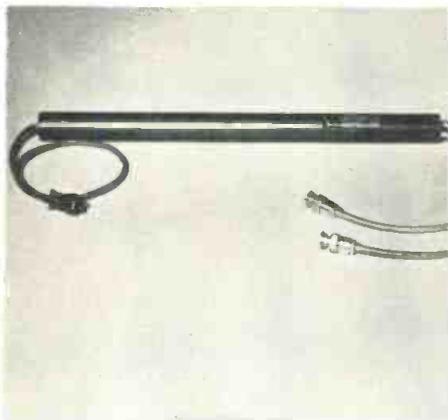
Eight new bonded silicon diodes with peak inverse voltage ratings from 15 v. to 225 v. has been announced. Types 1N300A, 1N301A, 1N302A, 1N303A, 1N432A, 1N433A, 1N434A, and 1N460A



are similar to units not designated "A" but have higher forward current ratings with no increase in reverse current. All types operate at ambient temperatures from -55°C to $+150^{\circ}\text{C}$ with excellent stability and low reverse current. Every diode receives four temperature cycles of one hour at -55°C and one hour at $+150^{\circ}\text{C}$, followed by 35 hours at 95% relative humidity and 70°C . Technical Information Service, Raytheon Manufacturing Co., 55 Chapel St., Newton 58, Mass. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-9)

TW AMPLIFIER

This traveling wave tube features broadband operation from 1 to 2 kilomegacycles without the necessity of making any electrical or mechanical adjustments. It finds its greatest use where this broadband characteristic can be utilized. Grid control is provided for variable gain and power output applications. Approx. operating characteristics over this band are 30 db gain



and 10 milliwatts output. The unit requires a 300 gauss field and a 250 v. regulated power supply. Huggins Labs., Inc., 711 Hamilton Ave., Menlo Park, Calif.

TWIN-TRIODES

A 9-pin miniature tube, the 6BS8, has higher gain, lower noise and a 20 percent lower dissipation factor resulting in extended operating life. 6BS8 replaces the 6BZ7 or 6BQ7-A, and will



provide a high-cascode transconductance to plate-current ratio. The 4BS8 for series string applications has the same advantages as the 6BS8. Typical cascode conditions and tube characteristics are: Plate Supply Voltage 250 v.; Grid Voltage 1 v.; Plate Current 16 ma; Grid Voltage for Gm-50 umhos (approx.) 6 v.; Transconductance 10,000 umhos. Tubes are factory tested under operating cascode conditions. Westinghouse Electronic Tube Div., Dept. T-215, P. O. Box 284, Elmira, N. Y. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-15)

THERMISTOR KIT

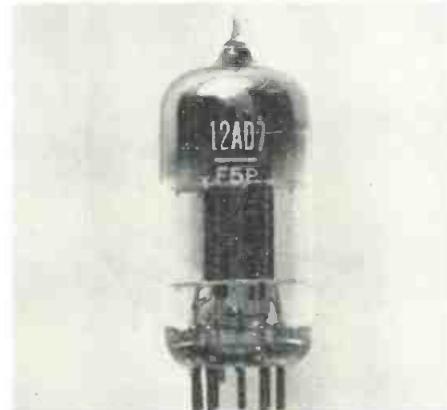
A new "see-easy" kit with 12 standard thermistors in a plastic compartment case for reference by engineers and designers is provided with spec. sheets covering dimensions, electrical characteristics, and temperature-resistance relationships of the rod-type thermistors. Thermistor applications in electrical and electronic sensing, controlling, and indicating devices are cataloged. The 12 units cover resistance



ranges from 25 ohms to 1 Meg. Kit is priced at \$14.75, plus postage. Friez Instrument Div. of Bendix Aviation Corp., Baltimore, Md. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-53)

DOUBLE-TRIODE TUBE

The 12AD7 double triode, a 9-pin miniature tube, fills the need for a low-hum preamplifier in audio applications. Established tube ratings of the 12AD7 assure an extremely low hum level—



less than 3.0 milliv. rms on the plate of each triode when the tube is operated in a typical resistance coupled amplifier circuit. This has been achieved by design features that include a reverse coil heater which helps cancel magnetic coupling. Factory-testing to meet low hum specifications, provides a guarantee that the new tube will meet a minimum hum capability, regardless of manufacturer. Sylvania Electric Products Inc., 1740 B'way, New York 19, N. Y. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-23)

JUNCTION TRANSISTORS

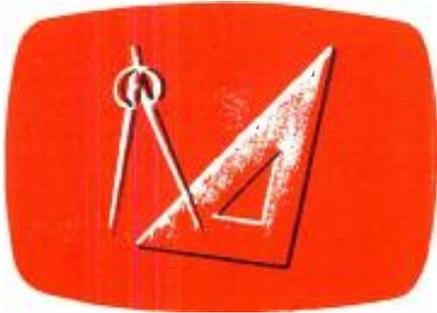
Germanium Products Corp. has begun large-scale production of a complete line of precision durable silicon grown junction transistors. The new transistors are currently available in two categories, one with emitter voltage of two volts and the other, the "A" category with emitter voltage of five volts. Four types of transistor in each series cover a wide range of special operating requirements. Size compares with a min-



iature electron tube of a comparable rating. Bogue Electric Manufacturing Co., 52 Iowa Ave., Paterson 3, N. J. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-10)



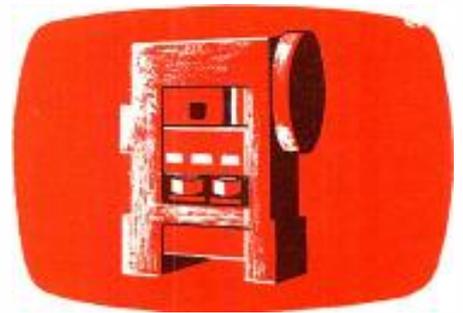
This is one of the best-known symbols of our time...and precision stampings have helped make it so.



A *complete* electronic-stamping service means more than just designing...



...it means more than just building the necessary dies...



...it means more than just producing the specified parts.



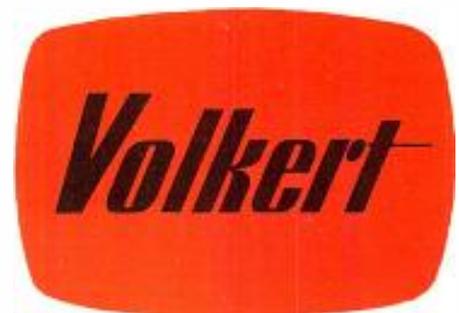
It means working *with* electronics industry people day in and day out...



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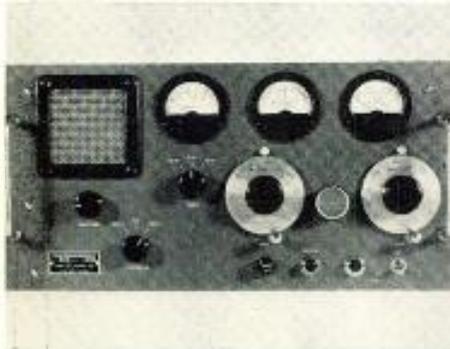
It is this "plus" quality that makes Volkert stand out.

VOLKERT STAMPINGS, INC. 222-34 96th Avenue, Queens Village 29, New York

New Avionic Products

TELEMETRY RECEIVER

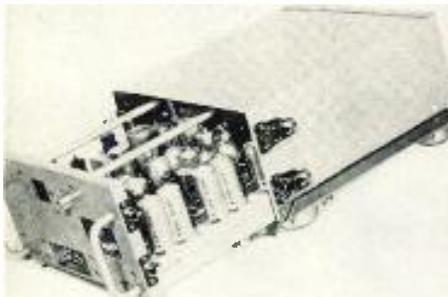
Crystal controlled, double conversion telemetry receiver, type 1400, operates in the frequency range of 216 to 245 MC, and a choice of two different i-f band-



widths of 500 KC or 100 KC may be made from the front panel by means of a selector switch. The narrow bandwidth i-f is primarily intended for a reception of PWM/FM and PTM/FM signals with a nominal deviation of ± 50 KC. Nems-Clarke, Inc., 919 Jesup-Blair Drive, Silver Spring, Md. Tele-Tech & ELECTRONIC INDUSTRIES (Ask for 5-14)

AIRCRAFT RADIO

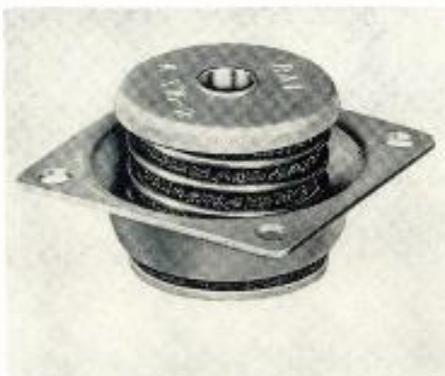
The COMCO 400-12/24 FLIGHT-COM VHF-FM Aircraft Radio is an especially designed airborne, two-way VHF-FM transmitter/power supply/receiver unit with accessories. The complete chassis, case, control box and shock mounts are of light-weight aluminum and stainless steel construction. Unit consists of a crystal controlled receiver, transmitter



and vibrator power supply, occupying a space 14 x 11½ x 6½ in., complete with shock mounts. Weight: 20 lbs. Communication Co., Inc., 300 Greco Ave., Coral Gables, Fla. Tele-Tech & ELECTRONIC INDUSTRIES (Ask for 5-104)

ALL METAL UNIT MOUNT

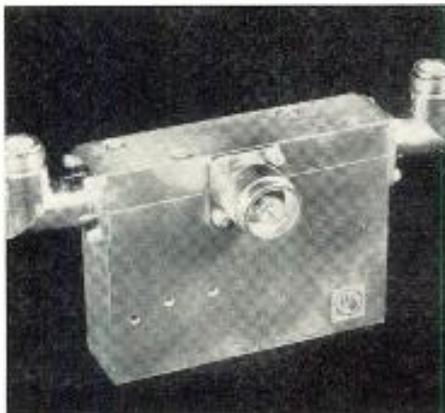
K375, an all metal, lightweight unit mount has been engineered for vibration protection of all airborne electronic equipment used in jets and missiles. It has a



natural low frequency of 6 to 9 cps. Vibration isolation efficiency is 90% at 30 cps, and improves at higher frequencies. The stainless steel resilient cushions are unaffected by temperature, solvents, oil, sunlight, and ozone. Robinson Aviation, Inc., Teterboro, N. J. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 5-26)

UHF-TACAN DUPLEXER

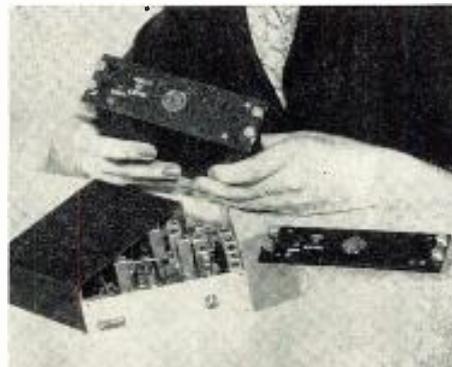
This duplexer allows simultaneous operation of aircraft UHF communications equipment (225-400 MC) and TACAN distance-measuring equipment (950-1250 MC) with a single broadband antenna. Attenuation of 60 db or more is provided between the equipment terminals. Insertion loss between either equipment and the antenna is less than 0.5 db.



Standing wave ratio is 1.5:1 or less. Size of the duplexer is 3½ x 3 x 1 in., plus length of fittings; weight is 1.5 lbs. Microphase Corp., Box 1166E, Greenwich, Conn. Tele-Tech & ELECTRONIC INDUSTRIES (Ask for 5-5)

MARKER-BEACON RCVR

The first all-transistor electronic marker-beacon receiver for commercial and military aircraft has been developed by RCA. It operates on only ¾ of a watt, and



measures 2 in. high, 4 in. deep, and 5 in. wide. In addition to the receiver, the navigational system includes a three-light signal box sufficiently compact for installation in the instrument panel. It will operate at unpressurized altitudes of up to 40,000 ft. and at temp. extremes ranging from minus-65 to plus-160 degrees F. RCA, Camden, N. J. Tele-Tech & ELECTRONIC INDUSTRIES (Ask for 5-18)

RESOLVER

Designed to meet the environmental requirements of the Armed Forces, new, size 11, high accuracy induction resolver with a total functional error of 0.05% is completely machine wound. The resolver has a high input impedance, permitting an excitation voltage of 110 v a-c at 400 cycles. The new resolver can function at



a 70,000-ft. altitude without pressurization. Component is provided with a pin-type base and mating connector. Diehl Manufacturing Co., Finderne Plant, Sommerville, N. J. Tele-Tech & ELECTRONIC INDUSTRIES (Ask for 5-2)



SIZE
1-1/16 OD
1/2 H
6-32 MTG.

TYPES	Q max.	Freq.
MP206	140	14 KC
MP848	185	35 KC
MP608	170	60 KC
MP073	265	250 KC



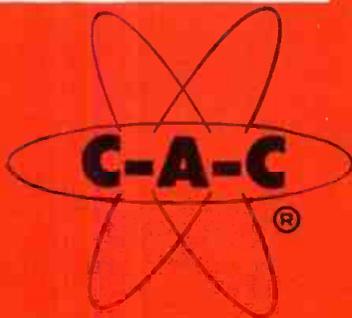
SIZE
1-5/16 OD
23/32 H
6-32 MTG.

TYPES	Q max.	Freq.
MP930	160	8 KC
MP395	225	25 KC



SIZE
2 OD
1 H
8-32 MTG.

TYPE	Q max.	Freq.
MP254	210	6 KC



C-100

TOROIDS - PLASTIC MOLDED

Now Less Cost Than Bare Unprotected Equivalents

MP (Molded Plastic) units are the result of a long development program. CAC MP toroids have repeatedly passed all tests for MIL-T-27, Grade 1, Class A without exception. Most compact design—may be stacked—mounted by center bushing—absorbs mounting pressures—sturdy plated terminals—standard inductance values listed below shipped from stock—complete Q versus frequency data at your request.

MOLDED AND CASED TOROIDS CARRIED IN STOCK (Order by Part Number)

MP206		MP848		MP930		MP395		MP254	
IND.	PART. No.								
5.0 MH	MP-206-1-	2.0 MH	MP-848-1-	5.0 MH	MP-930-1-	5.0 MH	MP-395-1-	20 MH	MP-254-1-
6.0 MH	MP-206-2-	2.4 MH	MP-848-2-	6.0 MH	MP-930-2-	6.0 MH	MP-395-2-	24 MH	MP-254-2-
7.2 MH	MP-206-3-	3.0 MH	MP-848-3-	7.2 MH	MP-930-3-	7.2 MH	MP-395-3-	30 MH	MP-254-3-
8.6 MH	MP-206-4-	3.6 MH	MP-848-4-	8.6 MH	MP-930-4-	8.6 MH	MP-395-4-	36 MH	MP-254-4-
10 MH	MP-206-5-	4.3 MH	MP-848-5-	10 MH	MP-930-5-	10 MH	MP-395-5-	43 MH	MP-254-5-
12 MH	MP-206-6-	5.0 MH	MP-848-6-	12 MH	MP-930-6-	12 MH	MP-395-6-	50 MH	MP-254-6-
15 MH	MP-206-7-	6.0 MH	MP-848-7-	15 MH	MP-930-7-	15 MH	MP-395-7-	60 MH	MP-254-7-
17.5 MH	MP-206-8-	7.2 MH	MP-848-8-	17.5 MH	MP-930-8-	17.5 MH	MP-395-8-	72 MH	MP-254-8-
20 MH	MP-206-9-	8.6 MH	MP-848-9-	20 MH	MP-930-9-	20 MH	MP-395-9-	86 MH	MP-254-9-
24 MH	MP-206-10-	10 MH	MP-848-10-	24 MH	MP-930-10-	24 MH	MP-395-10-	100 MH	MP-254-10-
30 MH	MP-206-11-	12 MH	MP-848-11-	30 MH	MP-930-11-	30 MH	MP-395-11-	120 MH	MP-254-11-
36 MH	MP-206-12-	15 MH	MP-848-12-	36 MH	MP-930-12-	36 MH	MP-395-12-	150 MH	MP-254-12-
43 MH	MP-206-13-	17.5 MH	MP-848-13-	43 MH	MP-930-13-	43 MH	MP-395-13-	175 MH	MP-254-13-
50 MH	MP-206-14-	20 MH	MP-848-14-	50 MH	MP-930-14-	50 MH	MP-395-14-	200 MH	MP-254-14-
60 MH	MP-206-15-	24 MH	MP-848-15-	60 MH	MP-930-15-	60 MH	MP-395-15-	240 MH	MP-254-15-
72 MH	MP-206-16-	30 MH	MP-848-16-	72 MH	MP-930-16-	72 MH	MP-395-16-	300 MH	MP-254-16-
86 MH	MP-206-17-	36 MH	MP-848-17-	86 MH	MP-930-17-	86 MH	MP-395-17-	360 MH	MP-254-17-
100 MH	MP-206-18-	43 MH	MP-848-18-	100 MH	MP-930-18-	100 MH	MP-395-18-	430 MH	MP-254-18-
120 MH	MP-206-19-	50 MH	MP-848-19-	120 MH	MP-930-19-	120 MH	MP-395-19-	500 MH	MP-254-19-
150 MH	MP-206-20-	60 MH	MP-848-20-	150 MH	MP-930-20-	150 MH	MP-395-20-	600 MH	MP-254-20-
175 MH	MP-206-21-	72 MH	MP-848-21-	175 MH	MP-930-21-	175 MH	MP-395-21-	720 MH	MP-254-21-
200 MH	MP-206-22-	86 MH	MP-848-22-	200 MH	MP-930-22-	200 MH	MP-395-22-	860 MH	MP-254-22-
240 MH	MP-206-23-	100 MH	MP-848-23-	240 MH	MP-930-23-	240 MH	MP-395-23-	1.00 HY	MP-254-23-
300 MH	MP-206-24-	120 MH	MP-848-24-	300 MH	MP-930-24-	300 MH	MP-395-24-	1.20 HY	MP-254-24-
360 MH	MP-206-25-	150 MH	MP-848-25-	360 MH	MP-930-25-	360 MH	MP-395-25-	1.50 HY	MP-254-25-
430 MH	MP-206-26-	175 MH	MP-848-26-	430 MH	MP-930-26-	430 MH	MP-395-26-	1.75 HY	MP-254-26-
500 MH	MP-206-27-	200 MH	MP-848-27-	500 MH	MP-930-27-	500 MH	MP-395-27-	2.00 HY	MP-254-27-
600 MH	MP-206-28-	240 MH	MP-848-28-	600 MH	MP-930-28-			2.40 HY	MP-254-28-
720 MH	MP-206-29-	300 MH	MP-848-29-	720 MH	MP-930-29-			3.00 HY	MP-254-29-
860 MH	MP-206-30-	360 MH	MP-848-30-	860 MH	MP-930-30-			3.60 HY	MP-254-30-
1.00 HY	MP-206-31-	430 MH	MP-848-31-	1.00 HY	MP-930-31-			4.30 HY	MP-254-31-
1.20 HY	MP-206-32-	500 MH	MP-848-32-	1.20 HY	MP-930-32-			5.00 HY	MP-254-32-
1.50 HY	MP-206-33-			1.50 HY	MP-930-33-			6.00 HY	MP-254-33-
1.75 HY	MP-206-34-			1.75 HY	MP-930-34-			7.20 HY	MP-254-34-
2.00 HY	MP-206-35-			2.00 HY	MP-930-35-			8.60 HY	MP-254-35-
2.40 HY	MP-206-36-			2.40 HY	MP-930-36-			10.0 HY	MP-254-36-
3.00 HY	MP-206-37-			3.00 HY	MP-930-37-			12.0 HY	MP-254-37-
				3.60 HY	MP-930-38-			15.0 HY	MP-254-38-
				4.30 HY	MP-930-39-			17.5 HY	MP-254-39-
				5.00 HY	MP-930-40-			20.0 HY	MP-254-40-
				6.00 HY	MP-930-41-			24.0 HY	MP-254-41-
				7.20 HY	MP-930-42-			30.0 HY	MP-254-42-
				8.6 HY	MP-930-43-			36.0 HY	MP-254-43-
				10.0 HY	MP-930-44-				
				12.0 HY	MP-930-45-				
				15.0 HY	MP-930-46-				
				17.5 HY	MP-930-47-				

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New Broadcast Equipment

AMPLIFIERS

From 4 to 12.4 mc, Model 492A and 494A Traveling-Wave Tube Amplifiers give broad band amplification, choice of amplitude, pulse, phase or frequency modulation, constant 25 to 30 db gain,



and constant output. Instruments are compact, and simple to operate. Model 492A covers 4 to 8 mc with 30 db gain, 10 mw output and 15 millimicrosecond rise time. Model 494A cover 7 to 12.4 mc with 25 db gain, 5 mw output, 15 millimicrosecond rise time. Both amplifiers can be used for wide dynamic range antenna tests and SWR measurements. **Hewlett-Packard Company, 275 Page Mill Rd., Palo Alto, Calif. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-14)**

AIRBORNE TV SYSTEM

Airborne TV system that will enable a battle commander to watch several combat sectors is being built and tested for the U.S. Army Signal Corps. A camera-carrying plane would transmit pictures to a receiver-equipped command post, the video signal being carried by FM. Plane carrying a camera and FM transmitter at approx. 1,000 ft. would have a line-of-sight transmission range of about 25 or 30 m. The FM system would provide a commander



with an immediate overall picture of enemy forces and their deployment as seen on a panel of 17-in. TV screens. **Admiral Corporation, 1191 Merchandise Mart, Chicago, Ill. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-38)**

VHF STANDARD ATTENUATOR

Precise measurement of attenuation in electrical elements over a frequency range from dc to 300 mc may be easily carried out by means of a new VHF



Standard Attenuator. Instrument, Type FT-DTR, provides accurate attenuation from 0 to 100 db in 1 db steps. Accuracy of the Type FT-DPR is as follows: 1 db steps 0-30 mc; ± 0.01 db/step, 30-300 mc; ± 0.02 db/step; 10 db steps 0-300 mc; ± 0.1 db/step. Instrument weighs 24 lbs. and is 19 $\frac{3}{4}$ in. long, 7 $\frac{3}{4}$ in. high, and 10 $\frac{1}{4}$ in. deep. It has a characteristic impedance of 50 ohms. **Instrument Div., Federal Telephone and Radio Company, 100 Kingsland Rd., Clifton, N. J. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-16)**

TELESCOPIC TOWER

A new-type mobile telescopic tower has been developed as a solution to the problem of remote television pickups. The tower is made in heights of 60 ft. and 85 ft. It can be operated by two men and the tower, with microwave transmitter attached, can be up and on the air in less than 45 min. Orientation controls at the base of the tower enable the men to do all the work without



leaving the ground. WFLA-TV has been using this new tower on a remote pick-up 20 miles from its station, with outstanding results. **E-Z Way Towers, Inc., P.O. Box 5491, Tampa, Fla. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-30)**

TV CRAWL MACHINE

New electronically remote controlled crawl and special effects machine was designed to produce high grade continuous travel TV program credits, commercials and films for use in open and



closed TV circuits. The electrical control produces a steady travel of film with adjustable speeds that can be varied, even while the film is in motion. The unit can be operated in either vertical or horizontal positions. Direct, non-photographic printing method is used to produce messages in line, half-tone, shaded or color process. **PrograMaster Co., 1 Waterman Ave., E. Providence, R.I. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 4-33)**

PICTURE TUBE

The 8DP4 is a low-voltage electrostatic-focus and magnetic-deflection type. It has a spherical Filterglass faceplate, a screen 7 $\frac{3}{16}$ in. x 5 $\frac{5}{8}$ in. with slightly curved sides and rounded corners and a min. projected screen area of 35.5 sq. inches. Employing wide-angle (90°) deflection, the 8DP4 has a max. overall length of 10 $\frac{3}{4}$ in. and weighs less than 3 lbs. Other design features include a specially designed, precision electron gun requiring an external,



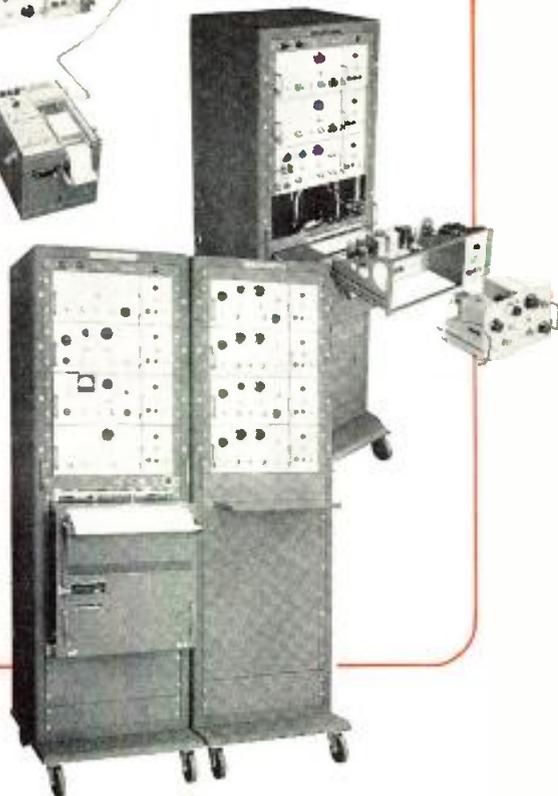
single-field ion-trap magnet; and an external conductive bulb coating which with the internal conductive coating forms a supplementary filter capacitor. **Tube Div., RCA, Harrison, N. J. TELE-TECH & ELECTRONIC INDUSTRIES (Ask for 3-132)**

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 8-channel analog system

In addition, *specialized* and complete Sanborn systems from 2- to 8-channels are available for recording *analog computer* outputs. The newest of these is the eight-channel Model 158-5490 illustrated, featuring extreme compactness, mobility and operating ease. Dual-channel DC amplifiers with a common power supply for every two channels measure single-ended or push-pull input signals. Input impedance 5 megohms each input lead to ground. Controls include individual-channel attenuators, position, balance, sensitivity, stylus temperature and paper speed (0.25 to 100 mm/sec.). Frequency response is flat to 20 cycles, down 3 db at 60 cycles for all amplitudes to 4 cm peak to peak.



SANBORN OSCILLOGRAPHIC RECORDING EQUIPMENT

2. PREAMPLIFIERS

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 models. Types, in addition to foregoing three, include: Servo Monitor, DC Coupling, Log-Audio, Chopper Stabilized DC, AC Wattmeter, Input Coupling, RMS Volt/Ammeter, 400 cycle Frequency Deviation, and Frequency Meter.

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.); over-all linearity 0.25 mm over middle 4 cm chart width, and 0.5 mm over entire 5 cm charts; controls for timing, manual and remote coding.

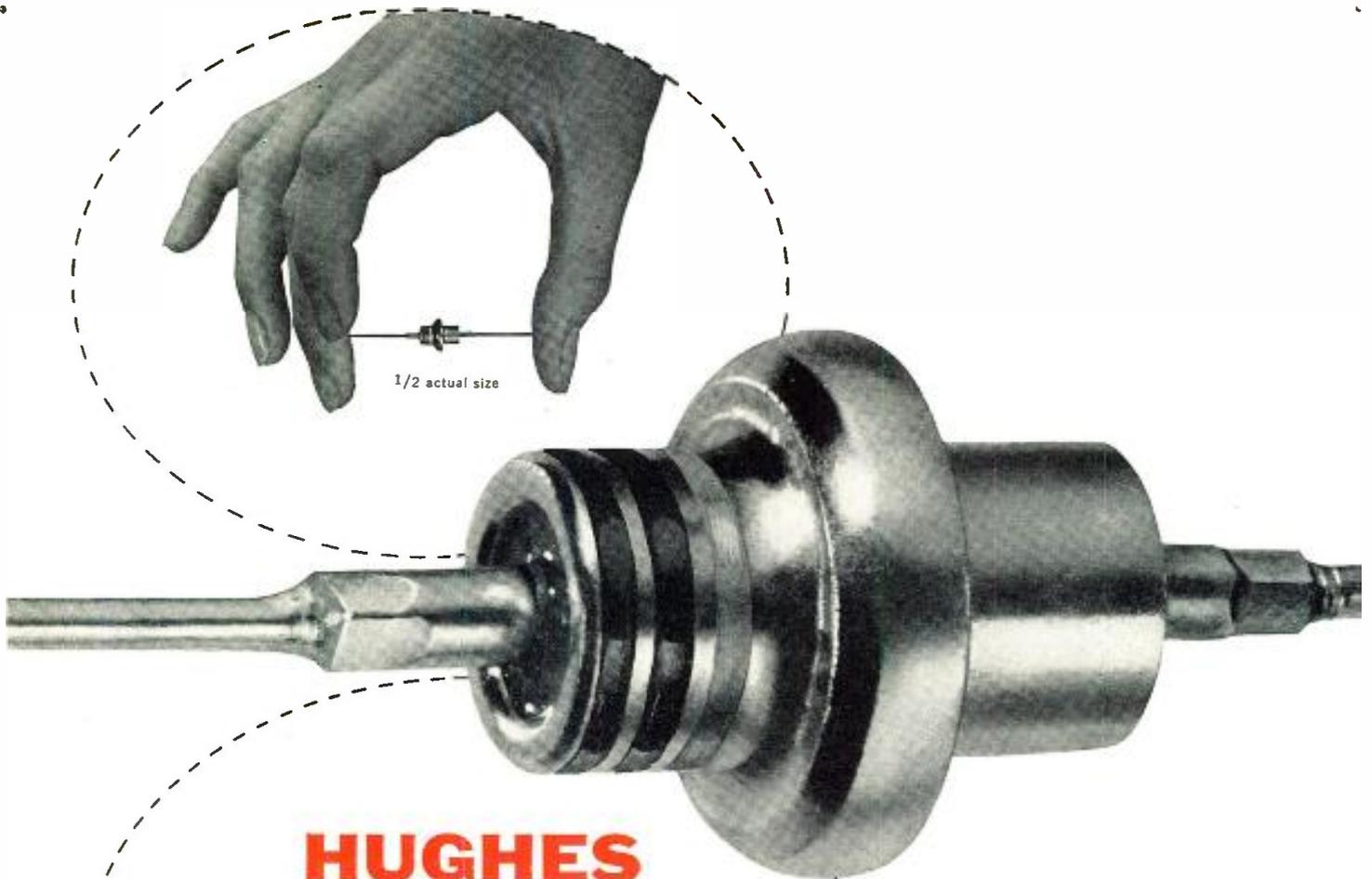
Take advantage of the scope and flexibility of Sanborn equipment to answer your recording requirements. Sanborn engineers will be glad to provide further information and application assistance whenever you wish. Contact your local representative or write to the main office below.

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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.





HUGHES TRANSISTORS

*Germanium...NPN...
Alloy Junction*

WITH THE UNIQUE COAXIAL PACKAGE

Hughes makes transistors with *axial* leads—quite a departure from the conventional, single-end configuration of most transistors now on the market. This is done for several reasons, all of which add up to one paramount fact: the new style package offers many advantages. It is a *better* package . . .

BECAUSE: the small, tubular body with axial leads is just right for horizontal mounting. It saves space, simplifies the physical arrangement of electronic circuitry.

BECAUSE: all mountings (horizontal, vertical, heatsink, socket, clip-in) can be made extremely rigid, thoroughly shockproof.

BECAUSE: the coaxial configuration assures a more

rugged arrangement of internal transistor elements.

BECAUSE: no matter how mounted, this package permits the dissipation of more heat, thereby ensuring consistent performance throughout the temperature range of operation.

CHARACTERISTICS: high gain . . . nearly negligible alpha crowding, even when current is high . . . more power output at any given ambient temperature . . . high frequency performance at increased power levels.

APPLICATIONS: Designed for low-to-medium power operation, these devices perform excellently in: COMPUTERS • SWITCHING CIRCUITS • AUDIO AMPLIFIERS • I-F AMPLIFIERS • OSCILLATORS.

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**ABSTRACTS & REVIEWS of
WORLDWIDE
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**TELE-TECH &
ELECTRONIC
INDUSTRIES**
International
**ELECTRONIC
SOURCES**

PUBLICATIONS REVIEWED IN THIS ISSUE

Abbreviation	Publication Name	Abbreviation	Publication Name	Abbreviation	Publication Name
AEG Prog.	AEG Progress	El. Mfg.	Electrical Manufacturing	Phil. Tech.	Philips Technical Review
Arc. El. Uber.	Archiv der elektrischen Ubertragung	El. Rund.	Elektronische Rundschau	Proc. BIEE	Proceedings of the British Institution of Electrical Engineers
Avto. i Tel.	Avtomatika i Telemekhanika	Freq.	Hochfrequenz-technik und Elektroakustik	Proc. IRE	Proceedings of the Institute of Radio Engineers
BC News	Broadcast News (RCA)	Hochfreq.	Hochfrequenz-technik und Elektroakustik	Radiotek.	Radioelekhanika
Bul. Fr. El.	Bulletin de la Societe Francaise des Electriciens	Insul.	Insulation	Tech. Haus.	Technische Hausmitteilungen
Comp.	Computers and Automation	J. BIRE	Journal of the British Institution of Radio Engineers	Tele-Tech.	Tele-Tech & ELECTRONIC INDUSTRIES
Con. Eng.	Control Engineering	J. UIT	Journal of the International Telecommunication Union	Vide	Le Vide
El.	Electronics	Nach. Z.	Nachrichtentechnische Zeitschrift	Wirel. Eng.	Wireless Engineer
El. Des.	Electronic Design	Onde	L'Onde Electrique		
El. Eng.	Electronic Engineering				
El. Eq.	Electronic Equipment				

Also see government reports and patents under "U. S. Government."



ANTENNAS, PROPAGATION

Calculating the Efficiency of Antenna Arrays, by G. Mather. "Tele-Tech" June 1956. 3 pp. By making use of a broadcast antenna array impedance and power analysis, it is possible to compare the pattern RMS current of the array with the base current and effective field of an omni-directional radiator of equivalent height and power input. Essentially for radiators of equal height, the method may be adapted to arrays with unequal tower heights 6/6-238

V.H.F. Propagation By Ionospheric Scattering and its Application to Long-Distance Communication by W. Bray, J. Saxton, R. White, and G. Luscombe. "Proc. BIEE" Mar. 1956. 25 pp. with discussion. The dependence of the characteristics of the received signal on frequency, distance, and antenna directivity is discussed in relation to existing theories. Observations are made on the diurnal and seasonal variations of receiver signal strength. Investigations are described on the suitability of this form of propagation for the transmission of frequency-shift telegraphy signals, and for telephony signals transmitted by single side-band AM, and by phase modulation of a carrier. The applications of vhf scatter propagation to commercial services is discussed. 6/6-75

Impedance-Matching Networks for the Compensation of the Frequency Dependence of the Input Impedance of Antennas, by R. Herz. "Nach. Z." Mar. 1956. 6 pp. The simple impedance matching networks derived convert the input impedance to resistive, and thus

constant. An actual circuit for 1000 MC is given as an example to compensate the frequency dependence of the oscillating dipole of a cylindrical parabolic antenna. Source 6/6-76

Investigations on the Propagation of UHF and VHF, by R. Schuenemann. "Hochfreq." Jan. 1956. 17 pp. The theory of wave propagation is compared to experimental results. A correlation computation is presented which depends on meteorological conditions. Extensive experimental and computed data are plotted and evaluated. Source 6/6-77

A Study of Ionospheric Propagation by Means of Ground Back-Scatter, by E. Shearman. "Proc. BIEE" Mar. 1956. 18 pp. with discussion. The results of a year's observations in southern England of long range back-scatter are analyzed. A pulse transmitter coupled to alternative directional antennas was used and transmissions were made at noon each day on a number of frequencies between 10 and 27 MC. The differences in echo patterns between summer and winter are clearly seen. Source 6/6-78

An Experiment to Test the Reciprocal Radio Transmission Conditions Over an Ionospheric Path of 740 KM, by R. Meadows. "Proc. BIEE" Mar. 1956. 3 pp. Two-way pulse transmission made simultaneously on the same frequency (5.1 MC) between Slough and Inverness (approximately 460 miles apart) are described. A common transmitter-receiver antenna at each terminal was used. Fading patterns displayed at each end were compared visually. The fading of corresponding echoes was found to be non-reciprocal for about 1% of the time during the 15 hr. period of the test. Source 6/6-79

An Experimental Test of Reciprocal Transmission Over Two Long-Distance High-Fre-

quency Radio Circuits, by F. Laver and H. Stanesby. "Proc. BIEE" Mar. 1956. 6 pp. Tests have been carried out to determine whether the attenuation of h-f signals sent over a given long-distance radio path differs according to the direction of transmission. The results obtained across the North Atlantic between Australia and England show that times the loss in both directions is substantially the same, and that at other times, the variation can be in the order of 5 or 10 db. Usually signals outward from England suffered the greatest attenuation. Source 6/6-80

A Simple Interpretation of the Complex Correlation Coefficient, by H. Linn and K. Poeschl. "Arc. El. Uber." Mar. 1956. 2 pp. This mathematical study correlates the two complex fluctuating amplitudes defining the complex correlation coefficient by rotation and stretching operations of the two respective complex planes. The transformations define the correlation coefficient. Source 6/6-81

Improving Reception by Diversity Operation, by R. Heidester and E. Henze. "Arc. El. Uber." Mar. 1956. 10 pp. The average signal-to-noise ratio and the probability of deviations therefrom are computed for two types of dual diversity telegraph systems. From these values the probability of the occurrence of a letter error is evaluated as well as the probabilities for the exceeding of a certain signal-to-noise ratio threshold in a positive or negative direction. Source 6/6-82



AUDIO

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Contact your nearest library subscribing to publications noted. Excellent technical periodical sections are maintained by many large public libraries, engineering universities and electronic companies.

To obtain copies of any articles or complete magazines reviewed here, contact the respective publishers directly. Names and addresses of publishers may be obtained upon request, stating publications of

interest, by writing to: "Electronic Sources" Editors, Tele-Tech & ELECTRONIC INDUSTRIES, 480 Lexington Ave., New York 17, N. Y. The editors can recommend translation agencies.

To obtain copies of U.S. patents, and research reports on military and government projects reviewed here, send payment indicated directly to federal agency as instructed in section entitled "U.S. Government."



Investigation of the Human Voice by Delayed Speech Feedback. by W. Meyer-Eppler. "El. Rund." Apr. 1956. 3 pp. Based on the method of Lee, J. Acoust. Soc. America, 1950, the speaker wears an ear phone and listens to his own voice. Speech defects are studied. Source 6/6-83

The Electrostatic Loudspeaker Again. "Wirel. Eng." Mar. 1956. 2 pp. A discussion of the electrostatic loudspeaker with a charged diaphragm. It is shown that the main effect of varying the polarizing voltage is on the L/C ratio of the resonant branch of the equivalent circuit. Source 6/6-84

Physical Sources of Noise, by J. Pierce. "Proc. IRE" May 1956. 8 pp. A discussion of Johnson noise and shot noise. Johnson noise is caused by the fluctuation of charges or polarized molecules in lossy materials. Shot noise is generated by a flow of electrons, usually in a vacuum tube. Source 6/6-85

Methods of Solving Noise Problems, by W. Bennett. "Proc. IRE" May 1956. 30 pp. Various analytical concepts and techniques of proven value in calculating the response of electrical systems to noise waves is given. Relevant probability theory is reviewed with illustrative examples. It is shown how the theory can be applied to cases of noise and signal subjected to such operations as filtering, rectification, periodic sampling, envelope and phase detection, and frequency detection. Source 6/6-86

IRE Standards on Audio Systems and Components: Methods of Measurement of Gain, Amplification, Loss, Attenuation, and Amplitude-Frequency Response, 1956. "Proc. IRE" May 1956. 19 pp. Methods for making measurements on systems and components primarily intended for application or operation at audio frequencies. The material on each type of measurement includes a brief discussion of the principles involved. Source 6/6-87

Synthetic Music, by A. Douglas. "El. Eng." May 1956. 5 pp. The art of electronic music has recently been extended to research on the fundamentals of tone production and the influence of the non-tonal parameters—noise, phase-shift, vibrato, etc.—on the sound. From this work has developed circuits and apparatus capable of complete synthesis of musical instruments and the singing voice. Source 6/6-88



CIRCUITS

Construction and Use of Cathode Follower Design Charts, by N. Sokal. "El. Des." Apr. 15, 1956. 4 pp. Procedure is given for designing cathode follower charts for a family of designs using the same tube and plate supply voltage. Typical uses are described. Chart may be constructed for any tube type. Source 6/6-89

Nonlinear Distortion and Stability in Reflex Circuits, by Yu. A. Chernov. "Radiotek." Jan. 1956. 15 pp. The paper examines the operation of reflex circuits, taking the nonlinear properties of the tubes into account. The nonlinear distortion coefficients are found for the circuits considered, and new circuits are proposed which have relatively small nonlinear distortions. Thorough mathematical analysis is given. Source 6/6-90

Wien Bridge Design, by J. Sodaro. "Tele-Tech" June 1956. 1 p. Nomograph is given which selects proper values of R and C to give desired frequency of Wien Bridge. Source 6/6-239

On the Design of a Discriminator, by E. Antseliovich. "Radiotek." Jan. 1956. 8 pp. The paper examines methods for designing discriminators with tuned and detuned circuits. It is shown that the region of optimum values for kQ and $\Delta f_0/f_0$ practically coincide, both from the point of view of maximum transfer coefficient and from the point of view of minimum nonlinear distortion. Design graphs are given for the depth of modulation at the input of an amplitude detector. Source 6/6-91

An Electrostatic Particle Accelerator, by D. Chick and D. Petrie. "Proc. BIEE" Mar. 1956. 14 pp. A pressurized electrostatic generator has been designed to give a nearly uniform as possible field in the dielectric medium, and the expected performance is calculated assuming that the insulating gas breaks down at 200 kv/cm. The construction of the generator and of a multi-section ion accelerator is described, and the performance of the machine both as a voltage generator and as an ion accelerator is described. Source 6/6-92

Designing Cascode Amplifiers with g-Curves, by K. Pullen, Jr. "El. Des." May 1, 1956. 2 pp. Conductance curve techniques can be used to design cascode amplifiers with high amplification and low noise figure. Design procedures are given. Source 6/6-93

A Wide-Range RC Phase-Shift Oscillator, by W. Fraser. "El. Eng." May 1956. 3 pp. Where previous circuits of this type have used ac coupling, it is shown that dc coupling may be used with advantage, and the low frequency range of the oscillator extended. Two oscillator circuits and a suitable output stage are given. Application to polyphase oscillators is also discussed. Source 6/6-94

Amplifier Bibliography, by J. Milek and D. Black. "El. Eq." May 1956. 2 pp. A list of approximately 25 domestic and foreign books on all types of amplifiers. Source 6/6-95

A Comparison of the Noise, and Random Frequency and Amplitude Fluctuations in Different Types of Oscillator, by R. Beurle. "Proc. BIEE" Mar. 1956. 8 pp. Noise, present in the oscillator circuit, even if only that due to thermal agitation, will appear in the output circuit, even if steps are taken to stabilize the output amplitude. The nature of the random fluctuation in the output is dependent upon the form of feedback used and the method by which the output amplitude is controlled. The author concludes that an oscillator should be operated at as high a level as possible consistent with stability of the circuit components. Source 6/6-96.

Design of Microwave Filters with Quarter-Wave Couplings, by G. Craven and L. Lewin. "Proc. BIEE" Mar. 1956. 5 pp. Resonator diaphragms are constructed from triplets of inductive posts, whose spacings and radii are chosen to prevent the generation of the first 5 non-propagating modes. This is sufficient to insure negligible coupling at quarter-wave separation. Measurements on filters at 4000 MC indicate a satisfactory performance. Source 6/6-97

Transient Phenomena in Band-Pass Amplifiers with Double-T Sections, by H. Dobsch. "Hochfreq." Jan. 1956. 6 pp. The responses to various types of transient inputs of a feedback amplifier stage having a double-T filter in the feedback path are derived. The Fourier presentation is used for the various input voltages and the Laplace transform method is applied. Source 6/6-98

A Receiver for the Radio Waves from Interstellar Hydrogen. I. The Investigation of the Hydrogen Radiation, by C. Muller. "Phil. Tech." May 1956. 11 pp. This first of 2 articles outlines the place of radio astronomy in modern

astronomical research and discusses the nature and properties of the radiation and the requirements which the receiver must fulfill. The second article will give a detailed description of the receiver circuits. Source 6/6-225

The Design of Phase-Shift Oscillators and Filters, by J. Shaw. "El. Eng." May 1956. 3 pp. Describes a single tube low frequency filter with a tapered 3-mesh RC network in a positive feedback path. Negative feedback provides stability. Curves are given comparing the attenuation of the RC network for various input-output impedance ratios and tapering factors with those of the equal element case and minimum attenuation case. Source 6/6-226



COMMUNICATIONS

An Extended Analysis of Echo Distortion in the F. M. Transmission of Frequency-Division Multiplex, by R. Medhurst and G. Small. "Proc. BIEE" Mar. 1956. 9 pp. In FM systems, an important source of intermodulation distortion is found in the small echoes of the main r-f signal. By a combination of analytical and semi-empirical methods, Albersheim and Schafer's investigations on the distortion due to a single echo are extended to enable prediction of distortion levels for most cases of practical interest (in the absence of pre-emphasis). Source 6/6-99

Facsimile Transmission of Weather Charts and Other Material by Landline and Radio, by J. Davidson. "J. BIRE" Mar. 1956. 10 pp. Mechanical and electrical features of transmitters and fully automatic recorders designed to meet the requirements of the Canadian Meteorological Service are described; specifications are listed. Facsimile transmission by radio is surveyed. Machines produced for the transmission of telegrams and those produced for the transmission of news-pictures used by the Associated Press are mentioned. Source 6/6-100

Facsimile Communication, by H. Woodman and P. Taylor. "J. BIRE" Mar. 1956. 16 pp. This survey article includes a description of the Western Union 100-line Desk Fax Concentrator, the Desk-Fax transceiver, the desk-Fax transmitter and an automatic page recorder. A general discussion of recording scanners, recording media, synchronization and transmission is presented. Source 6/6-101

Telecommunications in Electric Power Networks, by M. Paimboeuf. "J. UIT" Feb. 1956. 3 pp. Discussion of telephone, telemetering, and single sideband applications of power line carrier. Noise and variations in terminal impedance are discussed. Source 6/6-256

Automatic Frequency Stabilization for a Beam Transmitter Working on Centimetric Waves, by J. Cayzac. "Phil. Tech." May 1956. 6 pp. An automatic stabilizing device is described with which the frequency of a beam transmitter, working with a multi-rebex klystron on a wavelength of 8.5 cm, can be kept constant within an accuracy of 1 part in 104. Source 6/6-102

Beam Transmitters with Double Frequency Modulation, by C. Ducot. "Phil. Tech." May 1956. 11 pp. This article describes an experimental beam transmitter and receiver operating on the principle of double modulation. With double frequency modulation, the signal to be transmitted is modulated upon an auxiliary carrier. The carrier to be transmitted is then modulated by the auxiliary carrier. The system is used in carrier-telephony communications. Source 6/6-103



Improved Subscriber Branching Network for the 16 kc Call Charge Indicator, by W. Herlitz. "Nach. Z." Mar. 1956. 5 pp. A special branching network at a telephone subscriber's set and a transistor amplifier, both installed to extend the 5 km limit of the call charge indicator, are described. Design and performance details are presented. Source 6/6-104

Commercial SW-Receiver Equipment with Wide-Band Amplifiers, by F. Hacks. "El. Rund." Apr. 1956. 3 pp. If one antenna is used to feed several receivers, the intermediate decoupling amplifier must meet special requirements, such as low noise, satisfactory decoupling, no mutual coupling, etc. Design considerations of this type of amplifier are presented. Source 6/6-105

Telemetering Receiver Conserves Bandwidth, by M. Redden and H. Zancanata. "El." May 1956. 5 pp. Separate i-f amplifiers recover F/M/FM and PWM/FM data in 220 MC telemetering band, using crystal controlled double superheterodyne principle. Receiver characteristics are discussed. Source 6/6-106

A Method of Deriving Overall Negative Feedback Voltage in Transmitters, by D. Smart. "J. BIRE" Apr. 1956. 3 pp. The feedback voltage is derived from a resistor in the ground return of the power amplifier tube. Ease of frequency changing, greater linearity, and reduced phase shift, drift, and cost eliminate the disadvantages of conventional methods of deriving feedback voltage. Source 6/6-107

On the Problem of Filtration of Nonstationary Random Functions, by Yu. P. Leonov. "Avto. i Tel." Feb. 1956. 10 pp. The paper considers the filtration of nonstationary second order random functions by means of stationary linear filters. A new criterion for an optimum filter is introduced. An expression is given for the optimum, physically realizable transfer function of the filter. The problem of determining the power spectrum of the nonstationary random function is examined both analytically and experimentally. Source 6/6-108

Design Principles for Tuned Output Circuits of Intermediate-Wave Transmitters, by E. Khmel'nitsky. "Radiotek." Jan. 1956. 4 pp. The paper examines the design of output circuits for a high-power intermediate-wave transmitter. A system consisting of four tuned circuits with capacitive coupling is proposed. The paper discusses the requirements for smooth tuning by solely adjusting the inductances. Source 6/6-109

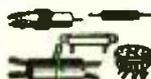
VHF Transhorizon Communication Techniques, by R. Ringoen and J. Smith. "El." May 1956. 6 pp. Communications using wire or line-of-sight radio are often unreliable because of topography, climate, and maintenance problems. 99% reliability of radio teleprinters between 500 and 1500 miles apart is made possible using the VHF transhorizon techniques described in this article. Source 6/6-110

On the Suppression of Disturbances in Carrier-Frequency Receivers by Opposing a Receiver Connected in Parallel, by H. Kaden. "Freq." Mar. 1956. 7 pp. A system of 2 receivers having a parallel input and opposing output is studied provided that the band passed by the additional receiver is shifted sufficiently to exclude any signal reception. Conditions prevailing for a single interfering pulse, and a succession of pulses and specific receiver behavior are considered. Source 6/6-111

Apparatus for Automatic Control of Power Supplies to Communications Equipment, by K. Brehm. "AEG Prog." No. 4, 1956. 4 pp. Apparatus and plant in communications technology require for their power supplies voltage sources which are subject to most stringent conditions

regarding regulation and frequency. Examples of automatic control systems used for this purpose are described. Source 6/6-112

SSB High Power Amplifier Design, by F. Gunter. "Tele-Tech" June 1956. 3 pp. Ingenious use of modern components has resulted in desirable simplification, reduction in size, and high performance in a high power linear amplifier for single sideband communications applications. Unit provides up to 30 kw output in the 4.0 to 26.5 MC band. Servo motor drive provides automatic tuning of tank circuit. Source 6/6-240



COMPONENTS

7 Design Tips for Printed Circuit Layout, by A. Linden. "El. Des." Apr. 15, 1956. 4 pp. Tips given facilitate laying out printed circuit boards for low cost automatic assembly, functional operation, and easier maintenance. Examples illustrate the use of the procedures outlined. Source 6/6-113

Cascaded Feedthrough Capacitors, by H. Schlicke. "Proc. IRE" May 1956. 6 pp. By incorporating lossy ferrites in a stacked structure of discoidal feedthrough capacitors, extremely effective filter capacitors not heretofore available are evolved. The theory is given and the practical significance for extremely effective miniature low-pass filters is presented. Source 6/6-114

Toroidal Transformers Pass Video Bandwidths, by G. Gray. "El." May 1956. 4 pp. Design and construction details are given for 6 MC bandwidth transformers that drive 50 ohm coax. Units can also be used as coupling transformers in video transistor amplifiers. Source 6/6-115

"K" Gaged Mica Makes 50% Smaller Capacitors, by I. Glerum. "El. Eq." May 1956. 2 pp. Accurate mica gaging based on dielectric constant selects equivalent mechanical thickness and cuts waste by 40 to 50%. Need for adjusting or scraping silvered mica is eliminated. Source 6/6-116

Pyrolytic Carbon Resistors: A Comparison of Three Types, by C. Wellard. "El. Eq." May 1956. 3 pp. Part II (conclusion) of a discussion of the essential differences between boron-carbon, deposited carbon, and carbon-alloy resistors. Source 6/6-117

Electronic Components, by P. Andrieux, A. Dazin, and M. Dauphin, respectively. "Onde" Mar. 1956. 21 pp. Electronic components, the organization of French efforts in connection with component specifications, and the testing of components and tubes at the L.C.I.E., respectively, are discussed in 3 separate articles. Testing methods meet the specification CCTU 01-01 and the U. S. specification MIL-E-1B. Source 6/6-118

Development of a Standardized Line of Impregnated Paper Capacitors, by C. Laurent. "Onde" Mar. 1956. 20 pp. The characteristics of recently developed rectangular and tubular case capacitors are presented. The considerations for the particular design selected and the operational characteristics thus obtained are included. Source 6/6-119

Performance of Selenium Rectifiers at High Temperatures, by N. Bechtold and E. Morris. "El. Mfg." May 1956. 6 pp. A comprehensive test program was conducted in order to acquire derating data for both conventional and high

temperature stacks at various ambients. Derating curves are presented. Chief criterion of comparative performance is ratio of ac current to reverse leakage current. Source 6/6-241

High-Temperature, Foil-Type Tantalum Capacitors, by D. Peck, S. Burbriski, and W. Schroeder, Jr. "El. Mfg." May 1956. 3 pp. Rolled tantalum-foil capacitor section, impregnated with a non-aqueous, organic type electrolyte, and sealed in a tubular aluminum housing with a special Teflon-rubber triple spun gasket operates at 125°C. Life test data are presented. Source 6/6-242



COMPUTERS

Computing Machines and Automation, by Dr. A. Astin. "Comp." Apr. 1956. 7 pp. This is the testimony given by the Director of NBS before the Committee on Economic Stabilization, Joint Committee on the Economic Report, Oct. 27, 1955. He gives his views on the future of office and factory automation. Source 6/6-120

Tape Identification and Rerun Procedures for Tape Data Processing Systems, by L. Eallson. "Comp." Apr. 1956. 2 pp. Errors arising in electronic data processing systems are discussed, and a method indicated for checking the accuracy with which the manual operations have been executed. Source 6/6-121

Conference on Electronic Digital Computers and Information Processing, Darmstadt, Germany, October 25 to 27, 1955. "Comp." Apr. 1956. 11 pp. Titles and abstracts of the 60 papers presented at the Conference are given, with a list of speakers and addresses. Source 6/6-122

Publications for Business on Automatic Computers: Reference Listing, Part 2, by N. Chapin. "Comp." Apr. 1956. 2 pp. Listings concerning automatic computing machinery and its use in business. Part 1 appeared in the March, 1956, issue. Source 6/6-123

Design Of Diode Function Generators, by A. Talantsev. "Avto. i Tel." Feb. 1956. 11 pp. The paper examines the methods of design, construction and adjustment of diode circuits used for reproducing functional dependencies in direct-current electronic simulators. It is shown that the application of elements with "potential-grounded diodes" permits considerable reduction (30%) in the number of resistors in the circuit and considerable simplification of the diode circuit design. Source 6/6-124

Computer Developments. "El. Des." May 1, 1956. 2 pp. Discussion of some of the papers delivered at the programming and code sessions at the Western Joint Computer Conference held in San Francisco on Feb. 7, 1956. Source 6/6-125

Photoelectric Analog-to-Digital Converters, by A. Mitchell. "El. Des." May 1, 1956. 4 pp. A light source is provided on one side of a disc which is divided into concentric zones coded in Gray or "reflected" schemes. Photocells are mounted, one for each zone, opposite the light source, on the other side of the disc. The sequence of yes-or-no conditions in the photocell series determines shaft position. Source 6/6-126

The Computers Memory, by F. Fowler, Jr. "Con. Eng." May 1956. 9 pp. Description of the most important storage systems and a comparison of their principal characteristics. Source 6/6-127



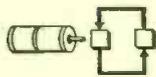
Programming Scientific Calculators. by J. Wegstein and S. Alexander. "Con. Eng." May 1956. 6 pp. Procedures for programming a problem on a computer are given. The problem is represented by a flow diagram and coded into a form which the computer can understand. An illustration is given of a problem solved on the NORC. Source 6/6-128

Compound Modulation Improves Data Storage. by R. Bentley. "Con. Eng." May 1956. 2 pp. Compound modulation (a combination of suppressed carrier AM with FM) is indicated to be an improved method of recording data on tape for storage. Comparison with FM is made, and advantages shown. Source 6/6-129

Error Analysis Proves Digital-to-Analog Conversion Can Be Precise. by F. Bradley. "Con. Eng." May 1956. 2 pp. Error analysis of a relay operated voltage divider is given. Resistor accuracy, shorting resistance, transient effects, and calibration error are covered. Source 6/6-130

Transistor Circuits for Digital Computers. by D. Deutch. "El." May 1956. 2 pp. Application of transistors to computer circuits such as flip-flops, gates, counters, pulse amplifiers, etc., is discussed. Both junction and point-contact transistors are considered. Source 6/6-131

Principles and Application of Electronic Analogue Computers (Part 3). by P. Heggs. "El. Eng." May 1956. 4 pp. In this part, design considerations pertaining to 2 computer units are discussed, followed by a consideration of the completed computer. Source 6/6-132



CONTROLS

Frequency-Responsive Speed Control. by R. Weber. "Con. Eng." May 1956. 2 pp. The output frequency of an ac generator is measured on a frequency-responsive tachometer to indicate speed. Control signals which are independent of voltage variations are obtained. Source 6/6-133

Direct or Reverse Controller Actions? by G. Platt. "Con. Eng." May 1956. 3 pp. Two charts are given which specify selection for cascade control. Temperature and level control systems are considered. Source 6/6-134

How to Find Controller Settings from Process Characteristics. by G. Coon. "Con. Eng." May 1956. 11 pp. Procedures and charts for determining and adjusting controllers are given. Controller action and recovery are discussed. Source 6/6-135

Consider Using Hybrid Amplifiers. by G. Attura. "Con. Eng." May 1956. 6 pp. The hybrid amplifier uses semiconductor diodes, transistors, and magnetic toroids in conjunction with vacuum tube amplifiers as a means of widening the applications of control amplifiers. The system characteristics of a few of these hybrids are outlined. Source 6/6-136

Be Sure to Consider Human Dynamics. by N. Avrech. "Con. Eng." May 1956. 3 pp. A discussion of the displacement and force characteristics of a control lever which best fit average human responses. Source 6/6-137

The Definition Of Regions Of Stability And Equal-Damping Lines By Means Of The Logarithmic-Frequency-Control Method. by N. Kusovkov. "Avto. i Tel." Feb. 1956. 7 pp. The paper shows how the method of logarithmic frequency responses can considerably decrease

the difficulty of constructing the boundaries for regions of stability and lines of equal damping. The advantages of this method over the D-breakdown method are analyzed, particularly for high-order characteristic equations. Models and nomograms are used in place of tedious mathematical computations. Source 6/6-138

Comparison Of Some Typical Circuits For Magnetic Amplifiers With Internal Feedback. by A. Gorodetsky. "Avto. i Tel." Feb. 1956. 13 pp. The parameters of an ordinary amplistat and a Ramey amplifier are compared. It is proven that these amplifiers are fully identical as far as their time characteristics are concerned. The author classifies various types of magnetic amplifiers and determines their basic parameters. Suggestions are made concerning methods of increasing the zero-stability of reversible magnetic amplifiers. Source 6/6-257

A Push-Pull Magnetic Amplifier With DC Output. by R. Balyan. "Avto. i Tel." Feb. 1956. 12 pp. The paper examines a new circuit for a push-pull magnetic amplifier designed to control a dc load. The basic relationships for designing the circuit parameters are given, and are compared to the parameters of the more common known circuits. The features arising during the operation of a dc motor are briefly analyzed. A series of steady-state and transient characteristics are given for the circuit. The given circuit is compared to a rotary amplifier. Source 6/6-139

The Reaction of a Voltage with a Linearly-Varying Frequency upon Linear Systems. by S. Khlytchev. "Radiotek." Jan. 1956. 12 pp. A method is given for investigating transients which arise due to the reaction of a voltage with a linearly-varying frequency upon linear systems. On the basis of a general solution for the problem, dynamic frequency characteristics are obtained for an n-stage tuned amplifier with single tuned circuits. The solution for a system with a "limiting" transfer coefficient is also given. Graphs are given which describe the degree to which the frequency-variation rate of the impressed e.m.f. distorts the shape of the frequency response. Source 6/6-140

Servomechanism Simulator. G. Weitner. "El. Rund." Apr. 1956. 2 pp. It is proposed to study the operation of a servomechanism by simulating circuitry performing all essential function of the servomechanism. The performance of the circuitry is observed on a CRO. Source 6/6-141

Determination of the Amplitude Distribution on Plane Surfaces from the Directional Radiation Pattern. by K. Feher. "Arc El. Uber." Mar. 1956. 7 pp. The distant radiation pattern permits, by a Fourier analysis, the determination of the amplitude distribution. An experimental method is described. The method is applicable in ultrasonics. Source 6/6-142

Reflection of Ultra-Short Waves From Layer-Anhomogenities of the Troposphere. by V. Troitsky. "Radiotek." Jan. 1956. 10 pp. Various causes for the appearance of layer-anhomogenities in the troposphere are examined. Formulas are given for determining the reflection coefficients of radiowaves from layer-anhomogenities for angular incidence upon various layer forms. The paper examines the role played by reflection in the propagation of ultra-short waves over distances far beyond the line of sight. Source 6/6-143

Parabolic Cylinder Aerials. by K. Foster. "Wirel. Eng." Mar. 1956. 7 pp. Consideration is given to the details of the broad radiation pattern of the parabolic-cylinder type of aerial. An approximate theory is developed which yields the beam-widths and general shapes of these patterns and design criteria are estab-

lished. The theory is shown to be accurate enough for design purposes. Source 6/6-144

The Propagation of Electromagnetic Waves Between Two Round Cylindrical Surfaces in the Presence of Longitudinal, Periodically-Located Diaphragms. by E. Solovoyov. "Radiotek." Jan. 1956. 4 pp. The paper examines the propagation of electromagnetic waves between two round cylindrical surfaces in the plane r, ϕ in the presence of longitudinal diaphragms, located periodically with respect to ϕ . The problem is solved by the method of "interlacing" the fields at the boundary of the two regions. The longitudinal electric field is approximated according to the traveling-wave law. The dispersal equation for constant propagation is obtained. Source 6/6-145

Graphical Determination of the Characteristics of Automatic Control Systems from Their Transient Response. by W. Luhr. "AEG Prog." No. 4, 1956. 5 pp. From the characteristics of the individual components of the control system and their variation and relation with the disturbances which arise, the various operating points of the control system in the final steady state are derived. Conclusions then may be drawn as to the variation of the controlled condition referred to the disturbances affecting the system. Source 6/6-146

Application and Theory of Proportional Control of Temperature. by H. Eggers. "AEG Prog." No. 4, 1955. 9 pp. A theory is developed which, in addition to transfer and distance velocity lags, takes account of the proportional band, heat input and output, and also the dead time of controller and regulating unit and the magnitude of disturbances to be compensated. Means of achieving maximum accuracy of control without hunting are illustrated. Proportional control is compared with 2-step control. Source 6/6-147

Voltage Regulator With Magnetic Amplifier and Disturbance Injection for Use With Single and Three-Phase Alternators With Exciters. by W. Blase. "AEG Prog." No. 4, 1955. 7 pp. Article describes a system of voltage control for medium and large sized alternators which employs magnetic amplifiers and disturbance injection to carry out the appropriate control action. Operation is explained with the use of circuit diagrams and oscillograms. Source 6/6-148

Motor Generators With Electronic Control for Voltage and Frequency Stabilization. by E. Schone. "AEG Prog." No. 4, 1955. 10 pp. Control circuits using electronic means for stabilizing the voltage and frequency of test bench generators are described with reference to the performance usually required from this type of equipment. Practical examples are given. Source 6/6-149

Electrical Technology and Automatic Control Engineering. by O. Grebe. "AEG Prog." No. 4, 1955. 8 pp. Using a temperature equipment as an example, the characteristic features of an automatic control system are brought out. The importance of regulation technique in automation, especially in processes which previously have been operator controlled, is discussed and the functions of electrical circuit components indicated. Source 6/6-150

The Basic Principles of Automatic Control Explained by the Example of Automatic Voltage Regulation. by A. Hochrainer. "AEG Prog." No. 4, 1955. 11 pp. A voltage controlled dc shunt generator is used to explain the essential concepts and terminology of automatic process control. A comparison of the theoretical and practical approach to the solution of any particular problem is discussed. Source 6/6-151

The Concepts and Terminology of Automatic Control. by O. Blaum and R. Dehmow. "AEG Prog." No. 4, 1956. 12 pp. Concepts and terminology applicable to automatic control are



explained and illustrated by examples. The distinction between closed and open loop systems is emphasized. Static and dynamic behavior of plant and controller are discussed and the characteristics of the various kinds of continuous regulators are illustrated by examples. Source 6/6-152

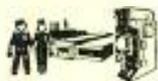
The Functional Representation of Automatic Control Elements by Block Diagrams, by A. Lang. "AEG Prog." No. 4, 1955. 12 pp. Irrespective of the constructional form of the components of a control system, the control elements, the functions of these components, and of the system as a whole, can be represented by block diagrams. After a presentation of the block diagrams of the most important elements, the drawing of block diagrams for complete control systems is illustrated by means of an example. Source 6/6-153

An Electronically Controlled Mains-Fed Rectifier of Very High Voltage Constancy, by H. Jaskula. "AEG Prog." No. 4, 1956. 4 pp. An electronically controlled dc power supply is described of which the 300 v. output is maintained constant to within $\pm 0.002\%$ over the whole load range of 0 to 350 ma. Supply voltage can vary by 15% and frequency by 20%. Source 6/6-154

Selenium Rectifiers Controlled by Magnetic Amplifiers, by F. Germann and E. Schroter. "AEG Prog." No. 4, 1955. 6 pp. Electrical circuits employing magnetic amplifiers can often be employed with advantage for the automatic control of the output of selenium rectifiers. The circuit and operation of a magnetically controlled rectifier are described and various applications are discussed. Source 6/6-155

The Control of Rectifiers by Means of Magnetic and Electronic Amplifiers, by E. Golde and W. Jentsch. "AEG Prog." No. 4, 1955. 6 pp. The characteristic features of the 2 types of amplifiers as regards their application to automatic control, together with the characteristics of the grid impulsing apparatus which is actuated by the control amplifier, determine the design of the control circuit, with a view to accuracy and stability in operation. Improving stability by means of phase advance networks and feedbacks are described. Source 6/6-156

The Impact-Momentum Equation in Servo Design, by I. Ritow. "El. Mfg." May 1956. 7 pp. This article, fifth in the "Servo Series," describes a method of analysis particularly suited to instrument servos. In the impact-momentum method of servo analysis, the assumption is always made that the load will oscillate. The designer then compares impacts (torques) with momentum to see if the assumed oscillations can actually exist. Source 6/6-243



INDUSTRIAL ELECTRONICS

Quality Control Of A Neutral Object, By An Astatic Regulator, by V. Maslennikov. "Avto. i Tel." Feb. 1956. 10 pp. A method is given describing the control method for a neutral object which can be described by a first-order equation. A nonlinear law guaranteeing aperiodic transients is introduced for an astatic regulator containing a single sensitive element. Linear methods are used, and stable motion is related to the roots of the characteristic equation. Source 6/6-158

On Improving Dynamic Characteristics Of Industrial Regulators By Means Of Feedback, by V. Karibsky. "Avto. i Tel." Feb. 1956. 12 pp. The paper examines one of the methods for

improving the dynamic properties of industrial regulators used for regulating thermal aggregates in the metallurgical, chemical, petroleum, heat-power and other branches of industry. Theoretical analysis is made of the effects of various types of feedback. Source 6/6-159

Automatic Control of Power Equipment for Telecommunications and Other Essential Services, by A. Watkins. "J. BIRE." Apr. 1956. 12 pp. Two types of no-break generating sets are described: an all-electric battery operated equipment and a diesel electric equipment. Three electronic devices used with these sets are described: a static exciter automatic voltage regulator; an alternator synchronizer; and a speed regulator using a thyatron. Source 6/6-160

A Three-Dimensional Machine Tool Control System. "El. Eng." May 1956. 4 pp. Description of an electronic control system for a vertical milling machine. An optical diffraction grating system associated with each plane of the machine tool is used for a measuring system. Source 6/6-161

Electronic Engraving, by S. Levine and A. Welch. "J. BIRE." Mar. 1956. 8 pp. Machines for producing half-tone printing plates are considered. In particular the Scan-A-Graver developed by Fairchild Camera and Instr. Corp., U. S., the German-made Clichograph and the Swiss-made Elgrama are explained. Tone correction, reproduction of colored copy, and enlargement and reduction of copy are studied. Source 6/6-162

Tone Reproduction with Electronically-Cut Stencils, by R. Lant. "J. BIRE." Mar. 1956. 5 pp. The Roneo electronic stencil cutting machine is capable of producing intermediate tone values; the spark-discharge is electronically controlled. The tone control arrangement for matching the tones of the original and the copy is given special attention. Source 6/6-163

Electronics in the Process Industries, by J. Carroll. "El." May 1956. 8 pp. New electronic measuring and control devices are described which are used in the automatic operation of petroleum, chemical, and other continuous-flow industries. Source 6/6-164

Reduction of Minimum Striking Voltage of Hydrogen Thyratrons, by A. Barrington. "El. Eng." May 1956. 1 p. An auxiliary tripping circuit is described by means of which a conventional line-type pulse generator is modified to deliver a continuously variable output from 0 to 20 kv. Source 6/6-165

Stabilized Power Supply for Ionization Gages for Industrial Use, by R. Henry. "Vide." Jan.-Feb., 1956. 6 pp. This simple, inexpensive, and reliable stabilized power supply is intended for industrial uses. Circuit diagrams are given and the theory, operation and performance are discussed. Source 6/6-166

Measurement and Analysis of Noise—Application to Electrical Machinery, by M. Baron. "Bul. Fr. El." Feb. 1956. 21 pp. In this extensive survey, the physical as well as the physiological methods of noise measurements are introduced and related. This leads to requirements for noise limit in machinery, analysis of existing noise and methods for noise reduction. Power station noise-reducing installations are described as well as measures applicable to electric motors. Source 6/6-167

Electronic Amplifiers in Industrial Plants, by R. Dehmow. "AEG Prog." No. 4, 1956. 6 pp. Article illustrates a number of amplifier circuits used for speed and current control. The special performance properties required from relay and photoelectric amplifiers are discussed in relation to their application to relay control circuits. Source 6/6-168

Applications of Magnetic Amplifiers, by A. Lang. "AEG Prog." No. 4, 1956. 6 pp. Applications of magnetic amplifiers as regulating and control system components are described. Source 6/6-169

Prescribed-Function Vibration Generator, by P. Honnell. "J. BIRE." Apr. 1956. 12 pp. An electromechanical system which produces vertical vibrations in the image of prescribed functional waveforms is described and the mathematical theory of its operation derived. The advantage of this device is indicated by examples of the response of vibration pick-ups to complex motions of prescribed waveform. Source 6/6-157



MATERIALS

Materials in Advanced Electronic Design, by A. Middleton. "El. Mfg." May 1956. 7 pp. The relationships between certain materials, components, and circuit techniques are analyzed in terms of organic growth. Tables define the "old" and compare the "old" and the "new" electronic components. Source 6/6-244

Copper Clad Fluorocarbon Printed Wiring Boards, by L. Allen and S. Stein. "El. Mfg." May 1956. 4 pp. Bonded copper and polychlorotrifluoroethylene are provided for printed circuit use by a special surface treatment. Same bonding technique can be used for hermetic seals. No reinforcing material or adhesive is needed. Source 6/6-245

Protecting and Packaging Electronic Equipment, Part I, by W. Hannahs. "Tele-Tech" June 1956. 4 pp. Recent experiences of the military in hot, humid climates has focussed attention on the need for protecting electronic circuits against fungi and moisture, as well as mechanical shock and stress. Protective measures used to accomplish this goal are described here. Source 6/6-246

Epoxy Potting Compounds—How and Why They're Used, by Jack & Heintz and Freed Transformer. "Insul." May 1956. 5 pp. This article, after establishing a few fundamentals concerning epoxy compounds, gives a number of specific applications of these 2 companies. Examples include vibration-proof relays, chokes, and filters. Source 6/6-170

Glossary of Insulation Words and Phrases, by G. Moses. "Insul." May 1956. 4 pp. This fourth article in the series "Insulation Engineering Fundamentals" defines almost 100 words and phrases of the language of the insulation engineer. Source 6/6-171

New Developments in Silicone Insulation, by L. Teichthesen. "Insul." May 1956. 2 pp. Applications of silicone insulation in "Class H" insulated motors. Silicone varnishes, glass laminates, and Sylkyd enameled magnet wire are covered. Source 6/6-172

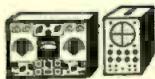
Electrons Produce High-Temperature Dielectric, by J. Meikle and B. Graham. "El." May 1956. 4 pp. Wire insulation and structural dielectric are produced by a production line accelerator which bombards a special polyethylene formulation with 1-mev electrons. Source 6/6-173

Winding Calculations for Ferroxcube Cores, by J. Arrazau. "Onde." Mar. 1956. 16 pp. The Ferroxcube pot-type cores present at non-uniform magnetic cross-section; the effective



permeability is defined. Temperature effects and loss and stability considerations are included. A numerical example is presented. An error of 10% to 15% may be incurred due to the approximations in the computations. Source 6/6-174

Temperature Dependence of the Loss Factor and the Dielectric Constant of Solid Insulating Materials at about 4000 Mc. by F. Gross. "Nach. Z." Mar. 1956. 5 pp. An E_{10} -mode resonator is used to measure the temperature response between 20°C and 350°C of the dielectric constant and the loss factor of ceramics, glass and plastic materials at about 4000 Mc. The results are tabulated. Source 6/6-175



MEASURING & TESTING

An Electrostatic Analyzer for the Absolute Measurement of Proton Energies and the Establishment of Fixed Points on the High Voltage Scale, by S. Hunt, D. Petrie, F. Firth, and A. Trott. "Proc. BIEE." Mar. 1956. 6 pp. An electrostatic analyzer for measuring the energy of proton beams from an electrostatic generator is described. The energy measurements are absolute and are referred finally to the voltage of thermostatically controlled standard cells. Source 6/6-176

Eddy-Current Bridge for Measuring Skin Losses, by Q. Kerns. "Tele-Tech" June 1956. 3 pp. Eddy-currents are excited in a sample by induction from an energized loop. Signal which is proportional to loss is coupled out by second loop in close proximity to sample surface. Different regions of a large sample or many different samples may be tested at rate of several per minute. Source 6/6-247

An Electrolytic-Tank Equipment for the Determination of Electron Trajectories. Potential and Gradient, by D. Hollway. "Proc. BIEE." Mar. 1956. 6 pp. A description is given of a general purpose electrolytic-tank equipment of simple design. Provision is made for testing either axially-symmetric or 2-dimensional models, and the associated circuits can be arranged by switching: 1. to measure potentials; 2. to mark equipotentials automatically; 3. to measure potential gradients; and 4. to trace electron trajectories. Source 6/6-177

A Method of Tracing Electron Trajectories in Crossed Electric and Magnetic Fields, by D. Hollway. "Proc. BIEE." Mar. 1956. 5 pp. with discussion. It is shown that Gabor's tangent method of electron path tracing may be extended to problems which include the determination of paths in the presence of crossed electric and magnetic fields. The magnetic field may either be constant or it may vary with position if the distribution is known. The possible extension to time varying fields is indicated. Source 6/6-178

A Digital Differential. Simultaneous Bi-Directional Counting Using a Dekatron, by W. Leslie. "El. Eng." May 1956. 4 pp. Dekatron is used to indicate the running difference in count between 2 independent pulse trains. It is applied to indicate frequency differences, to generate difference frequency signals without tuned circuits, to control frequency or speed relative to a master signal which may originate from a quartz oscillator, wide range oscillator, or from a shaft whose speed must be copied. Source 6/6-179

Corona Testing, by T. Verbon. "El. Des." Apr. 15. 1956. 2 pp. Test set described gives an accurate measure of the corona being generated

at any test voltage; it measures a component's voltage breakdown point; and it determines the frequency where maximum corona noise is generated. Source 6/6-180

Testing Selenium Rectifiers, by E. Pagano. "El. Des." Apr. 15, 1956. 4 pp. Advantages and limitations of effective test procedures that can be performed to determine the quality of selenium rectifiers are given. The tests described are primarily based on measuring the forward and reverse characteristics. Source 6/6-181

Metrological Basis For The Pi-Pulse Method Of Measuring Nonlinearity, by V. Wolf. "Radio-tek." Jan. 1956. 10 pp. Relationships are derived for the design of the basic elements of a device designated for the measurement of nonlinearity by means of Pi-pulses. Analysis includes: 1) effect of a blocking filter upon the evaluation of the nonlinearity coefficient, 2) selection of the frequency range and bandwidth of the filters, 3) selectivity of the filters. Source 6/6-182

Fixed Heater-Current Source for Testing Series-String Tubes, by W. Drummeter and R. Salzman. "El. Des." May 1, 1956. 2 pp. Because of the effect of change of heater resistance on tube performance, satisfactory testing requires a constant current source rather than a constant voltage source. Design and application of such a device is described. Source 6/6-183

Video Measurements Employing Transient Techniques, by H. Samulon. "Proc. IRE." May 1956. 12 pp. Suitable waveforms and equipment are described, followed by methods of measurement and evaluation of response curves. An attempt is made to estimate the effect of small variations in the transfer function on the transient response. Source 6/6-184

Techniques for Measuring Noise—Part III, by W. Bennett. "El." May 1956. 4 pp. Noise figure is determined for various networks, 9 different scales for measuring noise are compared, and noise effects in TV are discussed. Source 6/6-185

Apparatus for the Measurement of Physical Constants by the Elastic Vibration Method, by A. Martin. "J. BIRE." Mar. 1956. 17 pp. A general introduction is followed by the description of ultrasonic test equipment adapted to handle fluid or solid samples of from 1 to 5 cm. A frequency range of from 0.5 to 50 MC, a temperature range of from 0° to 100°C and pressures up to 10,000 kg/cm² can be handled. Source 6/6-186

An Ultra-High-Speed Oscillograph, by F. Connor. "Proc. BIEE." Mar. 1956. 4 pp. Design and construction details of an oscillograph for observing and studying the build-up of r-f oscillations of a pulsed magnetron, and other phenomena in the millimicrosecond range are given. A unit containing short lengths of 70 ohm cable for delay purposes is included. Calibrating circuit provides a 1250 MC timing waveform from a pulsed coaxial-line oscillator which also checks the linearity of the time base. Source 6/6-187

Theory and Applications of the Synchronous Rectifier in Modern Measurement Engineering, by S. Koepf. "Hochfreq." Jan. 1956. 6 pp. The performance of the synchronous rectifier for measurements is compared with that of the square and linear rectifiers. Two circuit diagrams for additive and multiplicative push-pull mixing are included. Source 6/6-188

Electronic Accessories in Ultrasonic Material Testing, by H. Krautkraemer. "El. Rund." Apr. 1956. 2 pp. Electronic visual and acoustical indicators and electronic recording apparatus, as well as equipment for sorting are considered. In particular, an apparatus for the inspection of railroad tracks is described. Source 6/6-189

Measuring Techniques for Non-Linear Networks, by H. Nottebohm. "El. Rund." Apr. 1956. 3 pp. The techniques presented are based on the generation of harmonics and beat frequencies due to the non-linear characteristics. Theoretical aspects are included. Source 6/6-190

Bevatron-Frequency Measurement System, by W. Brobeck and W. Struven. "El." May 1956. 6 pp. Varying bevatron magnetic-field frequency over 350 to 2500 KC range is measured at 32 predetermined points using digital techniques. Departures from calculated frequency are seen on bar-graph CRT display to approximately 1% accuracy. Source 6/6-191

On the Measurement of the Quality Factor of Cavity Resonators with a Standing Wave Indicator, by H. Urbarz. Nach. Z. Mar. 1956. The unloaded and loaded Q factor of the effective cavity resonator of a Reflex Klystron are compared and the effect of the coupling element is studied. Sources of possible errors are considered. Voltage standing-wave ratio as well as the shift of the minimum method are employed. Source 6/6-192

Insulation Tests, by H. Graves. "Insul." May 1956. 2 pp. One of a series of articles explaining the purpose, reasons, operation, meaning, and interpretation of results, etc., behind various electrical insulation tests. This article covers the effects of elevated temperatures on varnished glass fabrics. Source 6/6-193



RADAR, NAVIGATION

Microwave Vehicle-Speed Indicator, by G. Court. "Wirel. Eng." Mar. 1956. 9 pp. In this radar speed meter using the Doppler principle, a hybrid waveguide junction is used to provide both transmitting and receiving channels so that only a single aerial is required. The klystron oscillator, by using the leakage between opposite arms of the junction, provides local oscillator power for the homodyne detection process used. Source 6/6-194

Beam Deflection Tube Simplifies Radio Compass, by J. Tewksbury. "El." May 1956. 2 pp. Two miniature 6AR8 beam deflection tubes replace 7 tubes formerly used in a radio compass, resulting in smaller, lighter unit for aircraft. Source 6/6-195

Radar PPI Display Uses Precision Interlace, by A. Shulman. "El." May 1956. 4 pp. Interlacing during radar dead time is used to display marker signals which represent target position data from auto-tracking computer. Source 6/6-196

A Method of Increasing the Ambient Illumination of Radar Operations Room Without Reduction of Signal Detection Threshold, by C. Barnard. "Proc. BIEE" Mar. 1956. 4 pp. This is accomplished by the use of a narrow-band optical filter superimposed on the face of the CRT, and the use of an illuminant complementary to the response of the tube. Experiments have shown that it is possible, by the use of a number of illuminants lying outside the passband of the filter, to create an impression of white ambient lighting in which the color discrimination of the operations room staff appears to be unimpaired. Source 6/6-197

Radar Second Detector Filter Nomograph, by C. Young. "El." May 1956. 2 pp. When upper video cutoff frequency, i-f value, tube and socket capacitances are known, nomograph gives optimum circuit constants for second detector and video circuits of radar receiver. Source 6/6-198



R. O. Youngberg (left), Project Department Engineer; J. F. Vinson (center), Designer Engineer, and J. M. Swartz, Structures Design Group Engineer, discuss installation problems associated with a coordinate converter of a new missile electronic system.

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The Wide-Basis Direction Finder "Wullenwever." by H. Rindfleisch. "Nach. Z." March 1956. 5 pp. The antenna combinations of a circular 40 antenna array, 2 sets of 4 adjacent antennas being combined, are explained. A delay compensating network permits a narrow direction finding characteristic. Source 6/6-199

Design of ASDE Radar Equipment. by J. Woodward. "Tele-Tech" June 1956. 4 pp. Airport Surface Detection Equipment, short-range, K-band radar, supplements or replaces the visual observation of the control tower operator. This article reviews the design considerations, construction, and performance of a new system now being developed for the Air Force. Source 6/6-248

Optical Simulation of Radar. by W. Blitzstein and T. Levine. "Tele-Tech" June 1956. 3 pp. Targets are simulated by spots of light moving across a screen so that their paths trace aircraft-like trajectories. Pickup device detects targets in polar coordinates for the radar input. Source 6/6-249



SEMICONDUCTORS

Transistor Power Gain Meter, by W. Chow. "Tele-Tech" June 1956. 4 pp. Maximum available signal power gain is determined by using a constant power signal input generator, a variable load resistance, and an indicating device. The constant input power is supplied by a constant voltage generator working into a variable impedance. Source 6/6-250

On Transistor Equivalent Circuits. by J. Gaschi. "Onde" Mar. 1956. 9 pp. An equivalent circuit for higher operating frequencies, considering capacitive and transit time effects, is derived. The diffusion equation is solved and the currents, operational characteristics, and admittances computed. Source 6/6-200.

The Junction Transistor at High Frequencies. by J. Vasseur. "Onde" Mar. 1956. 22 pp. Spontaneous oscillations and neutralization circuits are studied. 14 pages of formulas for the common base, common emitter and common collector circuits, characterizing their behavior at different frequencies, are included. 6/6-201

Multivibrator Circuits Using Junction Transistors, by A. Jackets. "El. Eng." May 1956. 6 pp. Discussion of the design and performance of low frequency free-running multivibrator circuits using junction transistors. Principles of operation are discussed. These include the conditions for bottoming, factors determining frequency, and the sharpness of the output waveform. Methods of varying the ratio of the on and off periods are cited. Source 6/6-202

Germanium Diodes, by A. Puzhai. "Avto i Tel." Feb. 1956. 7 pp. The paper stresses the advantages of germanium diodes over other rectifiers. Main categories of germanium rectifiers are given, as well as advice concerning their application. Tables of characteristics and main parameters for Soviet germanium diodes are given. Source 6/6-203

Transistor Generator Simulates Radar Target. by W. Eckess, J. Deavenport, and K. Sherman. "El." May 1956. 3 pp. Target pulse, available from transistorized video simulator, is variable in amplitude, width, and range. Used for field and bench testing of radar. Source 6/6-204

Some Theoretical and Practical Considerations of the Johnsen-Rahbek Effect. by A. Stuckes.

"Proc. BIEE." Mar. 1956. 7 pp. A theory of electrostatic attraction, influenced by field emission, is proposed to explain the Johnsen-Rahbek effect between the flat and polished surfaces of a metal and semiconductor in contact. It is suggested that an electrostatic clutch based on this principle is unreliable and that the more likely applications lie in relay devices and valves for controlling gas flow. Source 6/6-205

Germanium Diodes, Germanium Power Diodes, and Germanium Power Rectifiers, by R. Henry, B. Dreyfus-Alain, and M. Sassier, respectively. "Onde" Mar. 1956. 16 pp. These 3 separate short survey articles report on the present stage of the art on point-contact germanium crystal diodes, germanium junction power diodes and germanium power rectifiers, respectively. Characteristics are stated and circuits are given. Source 6/6-206



TELEVISION

Suedwestfunk Television Studio Technique, by E. Becker. "Tech. Haus." No. 1/2, 1956. 3 pp. The installations of the two TV studios, having separate control equipment for audio and video, are described. Super-icoscope and super-orthicon cameras are used. Source 6/6-207

The Rebuilding of the Baden-Baden Municipal Hall as a Television Center, by K. Schaefer and H. Westphal. "Tech. Haus." No. 1/2, 1956. 4 pp. The layout and acoustical design of the studios are described, as well as the heating and air-conditioning installations and the power plant. Source 6/6-208

Video, Sound, and Signal Equipment of the Baden-Baden Television Studio, by P. Send and L. Schluessle. "Tech. Haus." 1/2, 1956. 11 pp. Block diagrams of the video and of the acoustical circuits are given and discussed: the general set-up is explained. The various operational possibilities of the installation and the features required therefore are pointed out. Source 6/6-209

The Television Outdoor Broadcasting Unit of the Suedwestfunk, by K. Baer and L. Schluessle. "Tech. Haus." 1/2, 1956. 7 pp. Adapted to operate and take scenes in partly mountainous regions, the unit includes separate vehicles for apparatus, operations, and control, respectively. These installations are described. Source 6/6-210

The Use of 16-mm Film in Television, by O. Schulze. "Tech. Haus." 1/2, 1956. 3 pp. The photographic techniques, fine-grain emulsions of sufficient sensitivity, to improve the film quality for use in TV broadcasting are investigated. The edge of the film is reversed for magnetic sound recording. A satisfactory film is indicated. Source 6/6-211

Mobile Unit for Color TV Broadcasting, by H. Klerx. "Tele-Tech" June 1956. 3 pp. Air conditioned 28 foot truck houses 2 live color chains and associated equipment. Complete facilities are provided for on-air and closed circuit applications, and for use at the studio location as a temporary color facility. Source 6/6-252

Measuring Color Television Luminance-vs.-Chroma Delay, by A. Ettliger. "Tele-Tech" June 1956. 3 pp. Simple unibar generator of special design provides at the encoder output a signal whose waveform pattern can be examined for symmetry as an accurate qualitative check of delay. Source 6/6-251

From Alexandra Palace to Crystal Palace. The B. B. C.'s New London Television Station. "J. BIRE" Apr. 1956. 6 pp. Description of the equipment and operation of a recently opened British TV station. Source 6/6-39

Phonevision—An Effective Method for Subscription Television, by A. Webb and A. Ellett. "J. IRE" Apr. 1956. 15 pp. A brief analysis of the economic problems of subscription TV is followed by a discussion of the operational objectives of such a system, and a description of the Phonevision system. Source 6/6-212

On the Definition of the Signal-to-Noise Ratio in Television Determined by Statistical Fluctuations, by R. Theile and H. Fix. "Arc. El. Uber." Mar. 1956. 7 pp. The dependence of the noise amplitude on the signal amplitude is experimentally investigated for several picture tubes. Subsequently the physiologically disturbing effects of identical noise amplitudes at different signal amplitudes are established, a dark grey being considered the most sensitive brightness, based on these findings a new figure of merit is proposed. Source 6/6-213

Color Television. by H. d'Auriac. "Onde" Mar. 1956. 6 pp. This second installment of a lecture held for non-specialists is particularly concerned with the various solutions in the U. S. and the considerations involved in finding a solution suitable for Europe. Source 6/6-214

Method and Apparatus for Film Taking and Editing in the Suedwestfunk's Television Service. by G. Becherer and O. Rabe. "Tech. Haus." 1/2, 1956. 6 pp. The camera types used for taking the 16-mm films and the types of program suitable for film telecasting are considered. The subsequent editing techniques, including cutting, insertion of commentaries, synchronization and mixing are set forth. Source 6/6-215

A Mobile Unit for Color Television Broadcasting and Closed-Circuit Applications, by H. Klerx. "BC News" Apr. 1956. Description of a color mobile unit which is designed to accommodate 2 color camera chains with a full complement of equipment and still provide room for comfortable operation. The equipment is housed in a 28 ft. truck complete with air conditioning. Source 6/6-216

KMTV Brings Color TV to Omaha. by R. Schroeder and P. Greenmeyer. "BC News" Apr. 1956. 22 pp. Description and operation of a station which recently installed multi-camera live color with a color film system to air more than 100 color shows per month. Source 6/6-217

TV Modulation Indicator Uses Electronic Chopper, by E. Tink. "El." May 1956. 2 pp. Video output signal of transmitter is momentarily interrupted by multivibrators instead of mechanical vibrator. Reference for checking percentage modulation of TV picture transmitter is obtained. TV scanning system and chopping pulse are synchronized. Source 6/6-218

Remarks on a Color Television System with Two Amplitude-Modulated Carriers, by J. Wolf. "El. Rund." Apr. 1956. 4 pp. The method suggested by Teer and Valetton of having two AM carriers for the color signals, the phase of the carriers being abruptly shifted after each frame, is mentioned. Circuitry to generate such carriers and to cause their phase shift are included. Source 6/6-219

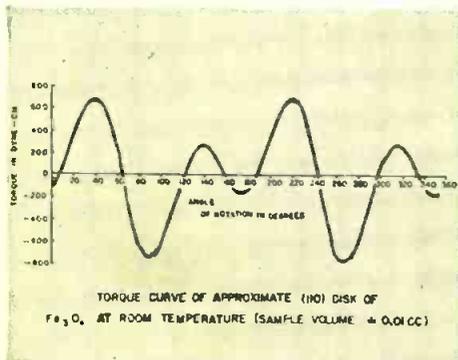
Progress in the Development of Post-Acceleration and Electrostatic Deflection, by K. Schlesinger. "Proc. IRE" May 1956. 9 pp. Electrostatic deflection from a common center is possible by the use of electrostatic yokes or Deflectrons. The most suitable type of post-accelerator for use with Deflectrons employs a long drift space, bounded by a metallic mask, and confines the high gradient to a narrow

- **Merry-go-round:** Automatic magnetic torque balance, accurate to 0.0006 inch-ounce, used to measure magnetic anisotropy of memory core materials. IBM Bulletin No. 100.
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Adding "memory" to machines is no longer a scientist's fancy. It is a fact. Actually, this ability to "remember" is the ability to "recall" information previously entered into the machine. One of the latest and best ways of storing information utilizes the now familiar small, rugged, reliable magnetic cores. Each letter or numeral is stored in a kind of a "Morse code," where a dash is represented by one direction of magnetization and a dot by the other. But, to employ cores more effectively, the IBM Research people are studying a number of very basic things having to do with ferrites. One of these is magnetic anisotropy—which involves the continual measurement of the minute torque exerted in a magnetic crystal by a rotating external magnetic field.



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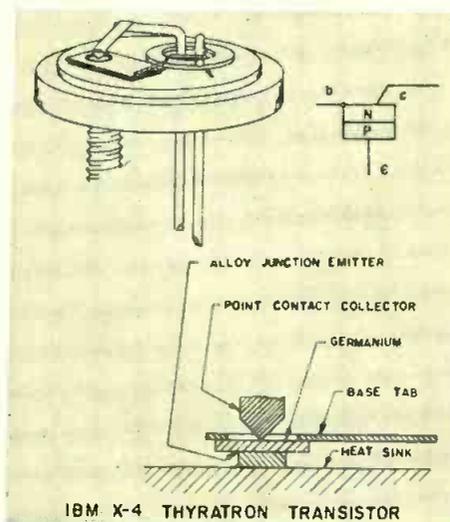
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Everybody is talking about transistors. But, certain problems are not readily solvable by the use of conventional transistors. A typical problem is that of picking up a relay with a transistor controlled by microsecond pulses. So Richard Rutz, of our Semi-Conductor Devices Research Group, took a long look at transistor possibilities in this case. The result: The IBM X-4 Transistor. This new type permits high-speed switching of large currents by low-power electrical pulses. It operates with a turn-on time of two ten-millionths of a second and a turn-off time of one-millionth of a second; experimental models have been made to switch currents as high as 15 amperes.

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region close to the screen. Equipment to test tube performance is described, including ultraviolet mapping and electronic detection of the axis. Source 6/6-220.

How to Specify UHF Amplifiers. by the Eng'g Staff, Applied Research Inc. "El. Eq." May 1956. 3 pp. An outline, from the manufacturer's point of view, of engineering considerations which will lead to proper specification of UHF amplifiers. Source 6/6-221

On the Lighting of Television Scenes and the Lighting Equipment of the Baden-Baden Studio. by G. Rosenbaum. "Tech. Haus." 1/2. 1956. 3 pp. The requirements and possibilities of lighting systems in TV are outlined and the particular solution selected for the Baden-Baden station is described. Source 6/6-222

The Background-Projection Equipment in the Baden-Baden Studio. by O. Schulze. "Tech. Haus." 1/2, 1956. 4 pp. This equipment permits a still picture to be projected into the television scene to serve as a background, thus reducing the otherwise necessary scenery. A transparency is used for this purpose. Extensive cooling, i.e., a heat absorption filter as well as a cooling trough are provided. Source 6/6-223

Electronic Switches for Television. by A. Spooner. "El. Eng." May 1956. 4 pp. A number of types of electronic changeover switches are considered, with particular reference to the cause of switching transients. A new stable diode-type switch is described which gives a transient free changeover lasting a fraction of a microsecond. This switch has been used for replacing an arbitrarily shaped area of one TV picture with the corresponding area from another picture to effect scenery economy. Source 6/6-224



TRANSMISSION LINES

Non-Uniform Transmission Lines as Impedance Transformers. by J. Willis and N. Sinha. "Proc. BIEE" Mar. 1956. 7 pp. The equation for the reflection coefficient at one end of a non-uniform transmission line, matched at the other end, is considered, and an approximate form of solution is suggested which enables such lines to be designed for optimum performance as matching sections. A number of examples are calculated and the results compared with lines previously described in the literature. Source 6/6-227

Basic Considerations Concerning the Synthesis of Lossless Four-Terminal Networks from Continuous Non-Uniform Lines. by H. Meinke. "Nach. Z." Mar. 1956. 8 pp. The equations for non-uniform transmission lines with a continuously varying parameter, i.e., either the dimensions, the dielectric constant or the permeability, are grouped as to the type of mathematical functions involved. A polynomial representation of the characteristic impedance permits the synthesis of lossless 4-terminal networks from non-uniform transmission lines. Examples involving wide-band transformation and matching are included. Source 6/6-228

On the Behavior of Electromagnetic Waves in Circular Wave Guides in the Region of the Cut-off Frequency and Considering a Finite Wall Conductivity. by W. Schaffeld and H. Bayer. "Arc. El. Uber." Mar. 1956. 9 pp. Formulas for the propagation constant, the attenuation constant, the phase constant, and the wavelength for all TE and TM modes are derived for comparatively small skin depth. The problem of stabilizing a reflex klystron coupled to a resonant line is treated. Source 6/6-229

Investigations on the Energy Exchange and the Field Distribution of Parallel Surface-Wave Transmission Lines. by D. Marcuse. "Arc. El. Uber." Mar. 1956. 8 pp. The interacting wire wave guides are considered as a two-wire system. If the two guides are identical, the total current will be coupled over to the other guide after a certain distance. The arrangement of a different type guide will disturb the initial field concentration. Source 6/6-230

An Approximate Method for the Investigation of the Distortions of Measuring Pulses when Transmitted by Coaxial Cables. by H. Larsen and H. Martin. "Freq." Mar. 1956. 12 pp. Mathematical analysis leads to a graphical method to establish the pulse resulting from the transmission of an arbitrarily shaped pulse through a coaxial cable with known transfer characteristic and its deviations from the average value. The graphical method relies on sampling of the initial pulse at repeated intervals. Numerical examples are included. Source 6/6-231



TUBES

The Motion of Electrons in the Interelectrode Space of a Diode During Rapid Variation of the Plate Voltage. by N. Ivanov. "Radiotek." Jan. 1956. 7 pp. The paper develops the bases for the numerical integration of the motion of the electrons, taking the effect of space charge into account. Thorough mathematical analysis is given; graphs for the motion of the electrons in the space charge of the diode are constructed and analyzed. Source 6/6-232

The Current Division in Electron Tubes in the Presence of Several Positive Electrodes and for Low Current Densities. by H. Goellitz. "Hochfreq." Jan. 1956. 8 pp. The computations of the expected current division in a pentode is based on limiting electron paths which separate the paths of electrons traversing the suppressor grid from the paths of the return electrons. Space charge effects are neglected. Source 6/6-233

The Design of High-Power Traveling-Wave Tubes. by M. Chodorow and E. Nalos. "Proc. IRE" May 1956. 10 pp. Discussion of the problems involved in designing traveling-wave tubes in the range of pulsed powers of the order of a megawatt. Suitable circuits are described, together with their advantages and limitations. Source 6/6-234

The Multi-Reflex Klystron as a Transmitting Valve in Beam Transmitters. by F. Coeterier. "Phil. Tech." May 1956. 6 pp. The first part of this article develops the theory of the tube and shows that the optimum transit time of the electrons as a function of the moment of time at which they pass through the resonator enables the requisite potential curve to be easily established between the repeller electrodes. It is then demonstrated that the large bandwidth of the tube is due to its low electronic admittance. Source 6/6-235

A Grounded Grid Valve System with High Stability Characteristics. by F. Exley and R. Young. "El. Eng." May 1956. 2 pp. High stability with grounded grid tubes in coaxial line cavities is obtained by converting lighthouse tubes into double ended ones; i.e., a physical arrangement is produced in which the anode and grid cavities are disposed on opposite sides of the common grid plane. An oscillator is considered in detail. Source 6/6-236

A New Steep-Characteristic Multi-Grid Tube and Its Application in Pulse and Switching-

Circuit Engineering. by K. Gossiau and W. Guber. "Freq." Mar. 1956. 7 pp. Structural details of a fine-wire type heptode (V 108) with 3 successive fine-wire type grids is described. Two of these grids are control grids having a mutual conductance of 13mA/V and 7.5mA/V, respectively. There are two independent plates; a high plate current is obtained. Tube data are presented and applications discussed. Source 6/6-237.

Tube-Characteristic Changes and Equipment Reliability. by the Application Engineers of the Advisory Group on Electron Tubes. "Tele-Tech" June 1956. 3 pp. Interpretation of the results of life tests to indicate the probability of failure under dynamic conditions. Two forms are employed—the "ogive" or cumulative frequency distribution curve, and the "bell-shaped" frequency distribution curve. Source 6/6-253

Air Cooling a Finned Magnetron. by M. Mark. "Tele-Tech" June 1956. 3 pp. Increased power demands on magnetrons, and their use in airborne equipment has created a need for a light weight, economical cooling system. Forced air cooling, using properly designed cooling fins, is described as a logical solution. Source 6/6-254

Peaking and Interphase Transformers for Thyatron Control. by P. Chin and E. Moyer. "El. Mfg." May 1956. 9 pp. Discussion of the use of the peaking transformer for positive triggering of thyratrons in straight ac and ac plus dc control circuits. Benefits of interphase transformer windings in multiple rectifier circuits are cited. Source 6/6-255



U. S. GOVERNMENT

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Thermal Evaluation of Air-Cooled Electronic Equipment (PB 119267), by W. Robinson and J. Barton, Ohio State U. Aug. 1953. 139 pp. Mic \$6.90, pho \$21.30. (LC) Methods are presented for the calculation of forced-convective and radiant heat transfer of external and internal aircraft skin surfaces and of equipment case surfaces of different configurations. Evaluation procedures are given for electronic systems installations operating under steady-state thermal conditions. Source 6/6-1

Thermionic Emission from Semiconductors (PB 119240), by E. Kane, Cornell U. Dec. 1954. 108 pp. Mic \$5.70, pho \$16.80. (LC) Subjects include: the basic emission equation; the effects that the screening of fields in semiconductors may have on the thermionic emission; the Schottky effect in semiconductors; and the ways in which current flow may alter

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the emission determined from equilibrium conditions. Source 6/6-2

Application of Boolean Algebra to a Synchronous Magnetic Digital Computer (PB 119445), by A. Karson, Aberdeen Proving Ground. Aug. 1955. 15 pp. Mic \$2.40, pho \$3.30. (LC) The schematic diagram of a synchronous digital magnetic computer is presented; the reader is then introduced to the problems involved in its design and analysis, and shown how Boolean algebra may be used as a tool which aids in understanding and analyzing this type of system. Source 6/6-3

Digital Compensation of Continuous-Data Feedback Control Systems (PB 119451), by K. Maitra and P. Sarachik, Columbia U. Aug. 1955. 44 pp. Mic \$3.30, pho \$7.80. (LC) Two classes of systems are discussed, namely, duplicators and regulators. In the duplicator problem, the system is required to follow the reference input with no steady state error with the fastest possible rise time and minimum overshoot. In the regulator system, the output to any suddenly applied disturbance should decay rapidly with, if possible, no overshoot. The methods of digital compensation described can be used to optimize the performance of continuous systems. Source 6/6-4

Fast Carry Logic For Digital Computers (PB 111751), by B. Gilchrist, J. Pomerene, and S. Wong, Princeton U. July 1955. 13 pp. 50¢. (OTS) Existing large scale binary computers typically must allow for maximum full length carry time in each addition. Average carry sequences are significantly shorter than this maximum, on the average only 5 stages for a 40 digit addition. A method is described to realize the implied 8 to 1 time saving by deriving an actual "carry completion" signal. Source 6/6-5

ORDVAC Stored Subroutines to Replace IBM Control Panels (PB 119278), by R. Boyell, Aberdeen Proving Ground. June 1955. 26 pp. Mic \$2.70, pho \$4.80. (LC) Description of a series of subroutines that will enable the ORDVAC to conveniently work with decimally punched IBM cards, and have the same degree of flexibility as wired control panels on conventional IBM equipment. Source 6/6-6

Survey of Domestic Electronic Digital Computing Systems (PB 111996), by M. Weik, Aberdeen Proving Ground. Dec. 1955. 271 pp. \$4.75. (OTS) The engineering characteristics, logical features, cost factors, and personnel requirements of 84 different domestic digital computing systems are described. An analysis of the computer field, a discussion of trends, and a complete glossary of computer engineering and programming terminology are included. Source 6/6-7

Synthesis and Critical Study of Sampled-Data Control Systems (PB 119447), by E. Jury, Calif. U. Aug. 1955. 68 pp. Mic \$3.90, pho \$10.80. (LC) The modified z-transform method has been applied to the synthesis and critical study of sampled-data control systems. It is shown that this method of analysis will remove all of the restrictions formerly imposed on the z-transform. Tables and examples are derived to demonstrate the application of this modified z-transform method. Source 6/6-9

Study of an Anticipator Type Control for an Airframe (PB 119384), by M. Iwami, Calif. U. Sep. 1955. 75 pp. Mic \$4.50, pho \$12.30. (LC) An investigation was made of the optimization of an underdamped non-linear third-order system by means of an anticipatory relay servomechanism. The results of the study were successfully applied to the pitch acceleration control mechanism of an airplane as simulated by an analog computer. Source 6/6-10

Vacuum Tube Electrometer with High Input Impedance (PB 119253), by M. Andrews and E. Weise, Illinois Eng'g Experiment Station. July 1955. 14 pp. Mic \$2.40, pho \$3.30 (LC)

For the measurement of small dc voltages across very high resistances, a vacuum tube electrometer has been built. Feedback is used to make the input resistance match the resistance across which the voltage is to be measured, and to increase the range, linearity, and stability. Source 6/6-11

Electrical Admittance of a Circular Ferroelectric Disc (PB 119233), by H. Baerwald, Brush Labs. Jan. 1955. 44 pp. Mic \$3.30, pho \$7.80. (LC) Formulae and graphs are presented which permit quick and accurate evaluation of the planer piezoelectric coupling factor and of an associated elastic modulus of polarized ferroelectric ceramics on the basis of the measurement of the fundamental resonance and antiresonance frequency of circular discs of small ratio thickness to diameter. Source 6/6-12

Measurements of the Attenuation of a Repeated Shock Wave (PB 119067), by I. Rudnick, Soundrive Engine Co. Feb. 1953. 19 pp. Mic \$2.40, pho \$3.30. (LC) A siren and microphone system, capable of producing and measuring sound waves of large amplitude, is used to determine the rate of attenuation of large amplitude waves in the frequency range 30 to 200 cps. The results are discussed in terms of known theories of attenuation. Source 6/6-13

On the Statistics of Switch Closing Time (PB 119276), by G. Weiss, Aberdeen Proving Ground. July 1955. 15 pp. Mic \$2.40, pho \$3.30. (LC) This paper derives formal relations for the probability distribution between activation and closure of a switching network, in terms of the probability distributions for the constituent switches. A particular application is made to a network with a Gaussian time lag. Source 6/6-14

Progress Report for Period Oct Thru Dec 1954 Under Contract Nonr-248(42) (PB 119176), by F. Eldridge, Johns Hopkins U. Dec. 1954. 16 pp. Mic \$2.40, pho \$3.30. (LC) The primary object of the project is to develop a means of transforming a pulse code into voice signals for such purposes as: 1. Receiving information on combat communication networks. 2. Receiving automatic weather broadcasts. 3. Monitoring digital computers and automatic communications networks, such as those used for guided missiles and autopilots. 4. Providing security and antijamming features for voice circuits. Source 6/6-15

Problems in Theory and Technique of Antennas, Part I (PB 119640), Germany. (Text in English and German) Mar. 1943. 598 pp. Mic \$11.10, pho \$90.65. (LC) Collection of 19 reports prepared by the Generalbevollmachtigten für Technische Nachrichtenmittel for presentation at the Vierjahresplan Institut für Schwingungsforschung, Mar 24-26, 1943. Source 6/6-16

Circularly Polarized Slot Radiators (PB 111904), by A. Simmons, NRL. Jan. 1956. 17 pp. 50¢. (OTS) Results of a study of the properties of a pair of narrow slots crossed at right angles and located at the proper point in the broad wall of a rectangular waveguide. A circularly polarized wave is radiated. Source 6/6-17

Continuous Monitor of Radar Performance (PB 111956), by T. Dlugolecki, USAF. Sep. 1955. 26 pp. 75¢. (OTS) Description of an experimental model of a continuous monitor of radar performance. Unit monitors transmitter power output, receiver noise figure, and relative tuning of the local oscillator without the necessity of taking the equipment out of operation. Source 6/6-18

Density Modulation of an Electron Stream from a Field Emitter Cathode (PB 119593), by D. Goodman, Calif. U. Aug. 1955. 86 pp. Mic \$4.80, pho \$13.80. (LC) Investigation deals principally with the proposal that a density modulated electron stream may be

achieved by the control of the number of electrons leaving the metallic cathode as field emitted electrons rather than by the formation of electron bunches from a thermionic cathode by the resultant action of a force field upon the electrons. Source 6/6-19

Flip-Flop Circuit Based on Frequency Memory (PB 119536), by H. Lee, Stanford U. Jan. 1955. 47 pp. Mic \$3.30, pho \$7.80. (LC) Analysis is based on a bistable oscillator with 2 degrees of freedom, forced with an external signal. A 10-frequency decimal counter based on beat-frequency techniques is discussed. A new technique for frequency switching based on a single variable is introduced and studied in terms of the behavior of the roots in the complex frequency plane. Source 6/6-20

Low-Noise L-Band Amplifier (PB 111907), by L. Hoffman and H. Montague, NRL. Feb. 1956. 8 pp. 50¢. (OTS) A simple and compact coaxial cavity amplifier for the 1250 to 1350 MC range has been designed using a GL-6299 (Z-3011) triode. Input is taken from a tunable TR cavity by means of an adjustable loop, and the output is fed to a Pound-type mixer. Source 6/6-21

Measurement of the Microwave Properties of Ferrites at High Power Levels (PB 111826), by J. Carter and I. Reingold, Signal Corps Eng'g Labs. Feb. 1956. 21 pp. 75¢. (OTS) Results indicate that ferrite samples with satisfactory values of rotation and loss can be obtained for operation over a narrow frequency band. Two avenues of approach should be pursued in the evaluation: 1) the evaluation of the ferrite completely divorced from the microwave plumbing, and 2) investigation of the ferrite in the microwave configuration. Source 6/6-22

Note on Stray Loading of Phase Bridges (PB 119524), by J. Williams, Harvard U. Jan. 1955. 15 pp. Mic \$2.40, pho \$3.30. (LC) The quadrature voltages derived by means of phase bridges are subject to error in relative magnitude or phase angle because of loading of the bridge output points by stray impedances. Two resistance-capacitance bridges with either resistance-capacitance or purely capacitance loading are considered and it is shown that output voltages can be made errorless. Source 6/6-23

Piezoelectric Crystal Studies and Measurements, Tenth (Final) Quarterly Report for the Period 1 May 1952-31 Jan 1953 (PB 119602), by K. Van Dyke, Wesleyan U. Apr. 1953. 49 pp. Mic \$3.30, pho \$7.80. (LC) Investigations into the effects of varying the area and geometry of plated crystals on the parameters of quartz crystal plates; into the Q's of small quartz rings with a view to comparing the viscous properties of natural and synthetic quartz; and into the matrices of the properties of piezoelectric crystals. Source 6/6-24

PATENTS

Complete copies of the selected patents described below may be obtained for \$.25 each from the Commissioner of Patents, Washington 25, D. C.

Pulse Width Discriminator Circuit, #2,737,585. Inv. E. Hughes. Assigned International Tele-meter Corp. Iss. Mar. 6, 1956. In a circuit having 2 triodes with a common cathode connection, a bias is applied to maintain 1 tube conducting and the other cut-off. When a cut-off signal is applied to the first tube, the second tube conducts when the cut-off signal is applied in excess of a predetermined interval. 6/6-50

Semiconductor Variable Circuit, #2,737,601. Inv. M. McMahon. Assigned Hughes Aircraft Co. Iss. Mar. 6, 1956. The variable delay circuit uses a junction-type semiconductor crystal



rectifier connected in series to a differentiating circuit providing the output. The variable voltage to be delayed is supplied to the rectifier input together with a negative biasing potential. Source 6/6-51

Damping Circuit for Direct Current Measuring Instruments, #2,737,627. Inv. E. Lynch and B. Leete. Assigned International Telemeter Corp. Iss. Mar. 6, 1956. A dc instrument is connected between the control grid and the cathode of a tube for indicating the average values of the ac component of the input signal. A capacitor is inserted between the plate and the control grid. Source 6/6-53

Cavity Resonators, #2,737,631. Inv. A. Beck and A. Cutting. Assigned International Standard Electric Corp. Iss. Mar. 6, 1956. It is proposed to provide a flexible conducting strip as a portion of the inside surface of a cavity resonator. The ends of the strip are fastened to rollers which can be rotated along the cavity wall. By changing the spacing between the rollers the effective volume of the cavity can be controlled. Source 6/6-54

Transient Viewer and Recorder, #2,737,646. Inv. G. Muffly. Assigned Gulf Research and Development Co. Iss. Mar. 6, 1956. To permit repeated reproduction of a signal representative of a slow phenomenon during the original recording of the signal, the signal is magnetically recorded on an endless band which is simultaneously scanned at a faster rate than the recording rate. The reproducing head traverses the band along a path adjacent to that traversed by the recording head. Source 6/6-55

Energy Radiating System, #2,737,655. Inv. C. Dolberg. Assigned Philco Corp. Iss. Mar. 6, 1956. The radiation pattern of a directional antenna is rotated with a non-uniform angular velocity and the radiated power is varied synchronously with the variation in the radiation pattern. Source 6/6-56

Apparatus for Detecting and Correcting Amplitude Distortion, #2,738,417. Inv. L. Hunt and J. Schafer. Assigned Bell Telephone Labs. Iss. Mar. 13, 1956. At the transmitter a recurrent video test signal is successively modulated onto a plurality of spaced carrier frequencies. The modulated carriers are passed through the relay transmission system whose response is to be tested, and adjusted to eliminate amplitude distortion. At the receiver the modulated carriers are demodulated and the amplitude vs. frequency characteristic of the resulting test video signal is displayed on a cathode-ray tube. Source 6/6-57

Regenerative Frequency Dividers, #2,738,423. Inv. G. Sziklai. Assigned RCA. Issued Mar. 13, 1956. The input signal is applied to the grid of a triode having a circuit tuned to a submultiple of the input frequency connected between the plate and the plate supply. The output of this tube is fed to another triode. The cathodes of both triodes are connected to ground over a common circuit resonant to the difference frequency between the input frequency and the submultiple. Source 6/6-58

Pulse Controlled Oscillator Arrangements, #2,738,424. Inv. W. Mortley. Assigned Marconi's Wireless Telegraph Co. Ltd. Iss. Mar. 13, 1956. Two pulse-controlled oscillator circuits alternately supply energy to a common load. Each pulse of controlling oscillations positions an electronic switch and starts one oscillator at the desired phase which in turn starts the second oscillator at the desired phase. Source 6/6-59

Method and Apparatus for Measuring Time Intervals, #2,738,461. Inv. D. Burbeck and H. Brooks. Assigned Hughes Aircraft Co. Iss. Mar. 13, 1956. The time interval between two pulses is measured by counting the number of pulses of an equal-spaced pulse series occurring between the arrival of the two pulses. The additional fraction of the time interval is measured by determining the coincidence between a subsequent pulse of the first pulse series and a pulse of a second series having a recurrence frequency $(n - 1)/n$ times that of the first series. Source 6/6-60

Direct Comparison Harmonic Calibrator, #2,738,462. Inv. D. Troxel. Iss. Mar. 1956. The fundamental frequency of a standard frequency source is applied to one pair of C.R. deflection plates. The output of a calibrated variable-frequency source is mixed with the harmonics of the standard frequency source, filtered to pass only the fundamental frequency and frequencies lower than the fundamental, and applied to the other pair of C.R. deflection plates. Source 6/6-61

Course and Fine Follow-up Measuring System, #2,738,493. Inv. T. Mesh. Assigned Gilbert & Barker Mfg. Co. Iss. Mar. 13, 1956. A telemetering system permits reading coarse and fine indications, such as inches and feet. Separate transmitter, receiver and indicator are provided for the different units. However, circuitry to effect automatic carry-over and zero-setting of the smaller unit is provided. Source 6/6-62

Quadrant Signal Generator, #2,738,494. Inv. M. Horrell. Assigned USA. Iss. Mar. 13, 1956. The photoelectric mosaic of an image tube in a target seeker is alternately horizontally scanned at a rapid rate and vertically at a slower rate, generating an output at the target position. The associated quadrant indicator comprises suitably actuated Up, Down, Right and Left circuit controls. Source 6/6-63

Signalling Circuit, #2,738,455. Inv. J. Doremus. Assigned Motorola, Inc. Issued Mar. 13, 1956. The initial rise of a voltage signal is reduced by superimposing a short opposing voltage pulse. The short pulse is produced in response to the application of the signal to the circuit. Source 6/6-64

Radio Detection and Ranging Systems, #2,738,502. Inv. E. H. Armstrong, J. Bose and R. Hull. Assigned to Esther M. Armstrong. Iss. Mar. 13, 1956. A FM signal is transmitted during alternate modulation cycles and received during the non-transmitting alternate modulation cycles. To establish the range, a combination frequency is provided which, when combined with the reflected signal, results in a current of constant predetermined frequency, provided one of the oscillators is adjusted to a period equal to the out and back travel of the signal. Source 6/6-65

Clipping Amplifiers, #2,739,191. Inv. T. Wisenbaker, M. Richmond, and B. Cole. Assigned Raytheon Mfg. Co. Iss. Mar. 20, 1956. To increase the degree of modulation of a signal, a rectifier is connected between the input and the grid of a tube. A biasing potential is applied to each side of the rectifier, the potentials being fixed to have a resultant voltage opposing the rectifier current flow to effect clipping of the signal. A resonant circuit is used as load to increase the degree of modulation. Source 6/6-66

Dynamic Biasing for Binary Pulse Amplifiers, #2,739,236. Inv. A. Holt. Assigned USA. Iss. Mar. 20, 1956. An input signal having positive and negative pulses representing binary digits is applied to an amplifier having a zero voltage gating level. To correct for the

occasional slightly positive pulses which occur instead of the negative pulses, suitably dimensioned negative biasing pulses are added to the signal pulses. Source 6/6-67

Imperfection Counter, #2,739,239. Inv. E. Bernet. Assigned Institute of Textile Technology. Iss. Mar. 20, 1956. The circuitry is designed to count imperfections in yarn extending over 1/16" or less while neglecting longer imperfections. This discrimination is obtained by means of a differentiating circuit followed by a rectifier which supplies a signal for the counter. Source 6/6-68

Frequency-Dividing Circuit, #2,739,240. Inv. W. Hughes. Assigned Iowa State College Research Foundation, Inc. Iss. Mar. 20, 1956. This frequency divider by an even integer uses a non-linear element having a voltage output substantially proportional to that root of the current corresponding to the dividing integer. The non-linear element is inserted into the plate lead of an electron tube to the grid of which tube the initial frequency voltage is fed together with a feedback voltage. Source 6/6-69

Cathode Ray Tube Intensity Compensation, #2,739,264. Inv. W. Shreve and R. McCurdy. Assigned USA. Iss. Mar. 20, 1956. The circuit is intended to compensate for variations in the CRT trace brightness when the sweep signal is of variable duration and frequency. For this purpose, a portion of the sweep generator output is averaged and adapted to be applied to the control grid of the tube. Source 6/6-70

Device for Controlling the Rise and Decay of an Electric Current, #2,739,281. Inv. S. Rockefeller. Assigned Robotron Corp. Iss. Mar. 20, 1956. The control circuit regulates in a prescribed manner the amount of ac power supplied to a load for a predetermined period of time. The phase of the control voltage is progressively shifted with respect to the phase of the power voltage to effect a decrease of the power current supplied to the load at a predetermined rate. Source 6/6-71

Voltage Reference Devices, #2,739,282. Inv. W. Evans. Assigned Westinghouse Electric Corp. Iss. Mar. 20, 1956. The input is applied to the primary of a thereby saturated transformer. The secondary winding feeds a rectifier over a linear inductance, which rectifier supplies, over another linear inductance, a constant output voltage for a wide frequency range and a wide range of input voltage variations, while presenting a high impedance to the load. Source 6/6-72

Current Measuring Device, #2,739,285. Inv. A. Windsor. Assigned USA. Iss. Mar. 20, 1956. A variable current is supplied to the bias winding of a peaking transformer having a magnetic core, which also carries a one-turn winding of a variable current conductor establishing an opposing flux. A circuit including a signal winding is provided to cause an incremental change in the variable current each time the core becomes magnetically saturated. Source 6/6-73

Checking Circuit for Correct Number of Received Information Pulses, #2,739,301. Inv. A. Greenfield. Assigned Bendix Aviation Corp. Iss. Mar. 20, 1956. In processing the received information, the time interval between each pair of adjacent pulses is converted into a plurality of signals proportional to the length of the time interval, and the number of signals is counted. If it is expected that a predetermined number of information pulses will be received, the checking circuit will automatically start a new count if a number of pulses other than the predetermined number is received. Source 6/6-74

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Available in both 100 mw and 1 watt for NTSC color?	YES	NO	NO	NO
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Audio channel included in basic unit?	YES	NO	NO	NO
Color modification available for early monochrome models? Approximate cost (less shipping)	YES \$350	YES \$2,000	NO	NO
Field change of frequency, from 6,000 to 7,000 to 13,000 Mc.—without obsolescence?	YES	NO	NO	NO
Transmitter Monitor included?	YES	YES	NO	NO
Number of units for complete system?	4	5	5	6
Total weight of system (lbs.)	162	299	195	295



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New Tech Data for Engineers

Resumes of New Catalogs and Bulletins Offered This Month by Manufacturers to Interested Readers

CR Tube Characteristics

Data sheet listing principal physical and electrical characteristics and applications of 74 DuMont "custom-line" cathode ray tubes is now available from Industrial Tube Sales Dept., Allen B. DuMont Labs., Inc., 2 Main Ave., Passaic, N. J. (Ask for B-6-1).

Gyros

Bulletin No. 380 from the Gyro Mechanics Div. Norden-Ketay Corp., Halesite, L. I., N. Y., gives specifications and characteristics of available compensated vertical gyros, ruggedized fully floated gyros and directional gyros. (Ask for B-6-2)

Variable Resistors

Handy new file size chart prepared by the Electronic Components Div. of the Stackpole Carbon Co., St. Marys, Pa. gives the essential electrical and mechanical characteristics of Stackpole variable composition resistors. Illustrations and specifications for over 18 basic single and dual section control are shown. (Ask for B-6-3)

Reps Organization

8-page colored catalog published by Neely Enterprises, 3939 Lankershim Blvd., No. Hollywood, Calif., contains description of services and illustrations of principal personnel of this firm of electronic manufacturers reps. (Ask for B-6-4)

Wire Stripping

Comprehensive 4-page bulletin from the London Chemical Co., Inc. 1535 No. 31st Ave., Melrose Park, Ill. describes L-onco chemical wire strippers and wire stripping processes. (Ask for B-6-5)

Resistors

4-page bulletin issued by Hycor, 12970 Bradley Ave. Sylmar, Calif., contains complete specifications and descriptions of the new Hycor series PH encapsulated precision wire wound resistors. (Ask for B-6-6)

Resins

Minnesota Mining & Manufacturing Co., 900 Fanquier St., St. Paul 6, Minn., has just issued a new 4-page illustrated booklet describing "Scotchcast" brand synthetic resin products for electrical use. Included are examples of typical applications with data on flexibility, discosity, pot life, cure times and available forms. (Ask for B-6-7)

Electrical Tape

12-page booklet describing how to choose the type of electrical tape best for every insulating and producing application has been published by The Dutch Brand Div. of Johns Mansville Sales Corp., 7800 So. Woodlawn Ave., Chicago, Ill. Complete technical data, characteristics and performance specs. for plastic, friction, rubber, and Vinyl colored electrical tapes are provided. (Ask for B-6-8)

Freq. Limit Indicators

The Arga Div., Beckman Instruments, Inc., So. Pasadena, Calif., has available data sheet D-1 which describes the operation of the Arga frequency limit indicator. Photographs of the unit and a dimensional drawing are included in the bulletin. (Ask for B-6-9)

Subminiature Diodes

Tech. data sheets on a complete line of gold-bonded glass sub-miniature germanium diodes are now available from Clevite Transistor Products, 241 Crescent St., Waltham 54, Mass. Pertinent electrical and mechanical specs. are given. (Ask for B-6-10)

Precision Bearings

Information on anti-friction bearings for special applications is now available in catalog AFB-1 a 31-page presentation from Industrial

Tectonics, Inc., 3684 Jackson Rd., Ann Arbor, Mich. Dimensions and load ratings are given for single row, double row, deep groove radial and angular contact bearings. (Ask for B-6-11)

Copper Clad Laminates

International Resistance Company, 401 No. Broad St., Philadelphia 8, Pa., describes their new laminate, the result of a special bonding technique which permits cladding a non-adherent polymer, fluoro carbon plastic, with copper, in bulletin AR-2. (Ask for B-6-17)

Insulating Tapes

Bulletin No. 167 from the W. H. Brady Company, 727 West Glendale Ave., Milwaukee 12, Wisc., describes the physical and electrical properties of 16 Brady tapes used for positive placement insulation applications. (Ask for B-6-18)

Selectors & Relays

New 12-page engineering data booklet, No. 456 CSR, illustrating and describing the manufacturer's complete line of circuit selectors and stepping relays, has been released by G. H. Leland, Inc., 123 Webster, Dayton, Ohio. (Ask for B-6-19)

Beryllium Copper Components

An 8-page illustrated catalogue has been published by H. Braun Tool & Instrument Co., Inc., 140 5th Ave., Hawthorne, N. J. manufacturers of precision metal stampings and beryllium copper components. Braun standard products are listed, with complete dimensions, tolerances, and specifications. (Ask for B-6-20)

Hybrid Junctions

Well-illustrated 12-page catalogue of micro-wave components, C-356, just released, covers in detail the complete line of E and H plane bands, and top-wall and side-wall short-slot hybrid junctions now offered by Microwave Development Labs., Inc., 92 Broad St., Babson Park, Wellesley 57, Mass. (Ask for B-6-21)

AlSiMag Ceramics

American Lava Corp., Chattanooga 5, Tenn., has just produced a new bulletin, No. 563, plentifully illustrated with charts and graphs. It supplies the latest information on the mechanical and electrical properties of AlSiMag technical ceramics. (Ask for B-6-22)

Power Supplies

Perkin Engineering Corp., El Segundo, Calif., offers a 6-page bulletin, S-56, on power supplies, with specification listings on all Perkin standard tubeless magnetic-amplifier regulated 6, 12, 28 and 115 v dc power supplies, airborne radar power supplies, ac line voltage regulators, and heavy-duty germanium rectifier units. (Ask for B-6-23)

Photocells & Batteries

International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif., has issued "The Use of Selenium Photocells and Sun Batteries," by John Sasuga. Booklet contains basic theory and typical applications of photo-voltaic cells. Copies available @ \$1.50 each. (Ask for B-6-24)

Color Chips

RETMA Engineering Department, in cooperation with the Container Corp. of America, now offers 2 sets of color chips for use in conjunction with RETMA Standard GEN-101A. Set A—28 chips comprising complete nominal and light and dark limit colors, \$20.00 Set B—10 chips comprising nominal colors, \$8.00. (Ask for B-6-25)

Formica

G-7-2 data sheet from the Formica Co., Cincinnati 32, Ohio, describes a new glass silicon grade of Formica laminated plastic called G-7-2. (Ask for B-6-12)

Transformers

4-page brochure from the Dongan Electric Manufacturing Co., 2987 Franklin St., Detroit 7, Mich. contains electrical specifications and dimensions on the firm's line of control double wound transformers. (Ask for B-6-13)

Microwave Tubes

Bomac Labs., Inc., Beverly, Mass., has recently issued a new 6-page folder which gives a partial listing of their tubes and components. Also included are representative pictures of different types of tubes and a brief description of the company's service to the electronics industry. (Ask for B-6-14)

Wound Cores

A comprehensive 32-page bulletin WC-356 covering an extensive line of wound cores has been released by Thomas & Skinner, Inc. 1179 E. 23rd St., Indianapolis, Ind. Included are mechanical dimensions, tolerances and weights. A cross reference between T&S parts numbers and Westinghouse Parts numbers is provided. (Ask for B-6-15)

DPE Connectors

DPE Rack and Panel type connector lines manufactured by Cannon Electric Company, 3209 Humboldt Street, Los Angeles 31, Calif., are described in bulletin PR-DPE-2. Proposed design layouts and dimensions are included. (Ask for B-6-16)

Digital Voltmeters

Catalog 356, containing 28 pages with illustrations, charts and characteristics of its full line of precise automatic digital measuring instruments, has been published by Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif. (Ask for B-6-26)

TV Amplifier Specs

TV Amplifier Specifications Bulletin, describing both low and high band 25 kw VHF TV amplifiers, has been produced by the Standard Electronics Corp., 285 Emmet St., Newark 5, N. J. In addition to photographs, descriptions, and specs, bulletin contains block diagrams of both aural and visual amplifiers. (Ask for B-6-27)

Ceramics

American Lava Corp., Chattanooga 5, Tenn., Bulletin No. 562 describes properties and advantages of AlSiMag Alumina ceramics. (Ask for B-6-28)

Switches

Catalog supplement No. S-560 covering their new "Multi-Switch" has been issued by Switchcraft Inc., 1328 N. Halsted St., Chicago 22, Ill. Bulletin covers illuminated and non-illuminated and ganged assemblies of intercoupled rams of "Multi-Switches." (Ask for B-6-29)

Analogue Computers

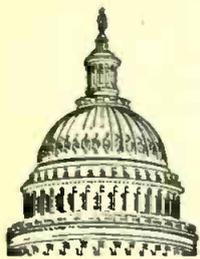
"Catalog—Electronic Analog Computers" a 16-page fully illustrated catalog has been released by George A. Philbrick Researches, Inc., 230 Congress St., Boston 10, Mass. Descriptions and uses to which the firm's complete line may be put are fully covered. (Ask for B-6-30)

Assembly Machines

12-page, 2-color brochure describing the operation of the Multira Automatic Assembly Machine for use in the assembly of multi-component assemblies, has been published by the Multira Corp., Stamford, Conn. (Ask for B-6-31)

Choppers

"The Contact Modulator," bulletin No. 3, 30 pp., describes the operation, construction and applications of "choppers." Includes typical circuits and glossary of definitions. Airpax Products Co., Middle River, Baltimore 20, Md. (Ask for B-6-31)



WASHINGTON

News Letter

Latest Radio and Communication News, from The National Capital, and Previews of Things to Come

NO RELEASE OF FREQUENCIES—As forecast in this column, the Office of Defense Mobilization as the result of the special interdepartmental government study made under its direction announced recently that the “unanimous conclusion” of the survey group was that no VHF frequencies now utilized by the federal government could be released to the FCC for additional television broadcasting allocations. The ODM announcement flatly stated “national security requirements and the needs of air navigation and air communications preclude the release for non-government use of any of the very high frequencies now utilized by the federal government.” The ODM report pointed out that, in addition to national security requirements, the programs for guided missiles, radar networks, earth satellites and other defense necessities “have placed and will continue to place an ever-increasing demand for radio frequencies.” The ODM added “full national benefit could not be obtained from these vital services without the continued use of frequencies between 50 and 300 MC.”

TV DEINTERMIXTURE—The FCC viewpoint on the difficult problems of UHF television during the period of its recent intensive study of television problems has been leaning more and more toward deintermixture as the best solution of preserving UHF in cities where that allocation has been demonstrated as rendering good service. The FCC is concerned over the fact that 10% of the nation's population is still without TV service and just a little more than 100 cities have over one local television station in operation.

COLOR TV IN ALL HOMES—In the next two decades the FCC leadership feels that in all probability there will be color TV in every home and so that viewers could have a large range of program choice all-channel receivers should be standard. FCC Chairman George C. McConnaughey has proposed a concentrated research program by the manufacturing industry to achieve all-channel transmitters and receivers. If this was accomplished in the near future the FCC would have a sound technical basis for making a long-term decision on UHF, the Commission leadership feels.

INCREASED TEMPO—While television dominates the spotlight in the public's knowledge of the FCC, the safety and special radio services, so vital to the nation's economy and fire and police activities, are becoming more important all the time as a

responsibility of the Commission. This was pointed out by FCC Chairman McConnaughey in a recent letter to Senate Interstate & Foreign Commerce Committee Chairman Warren G. Magnuson (D., Wash.). The safety-special applications, the FCC chieftain stated, at present approximate 175,000 applications a year. He warned that this rate is continuing to increase substantially “as the need for radio becomes increasingly apparent to the many facets of American industry and for many new applications involving protection of life and property.”

HIGHER BY 15%—The FCC authorizations in the safety-special services are “now running about 15% higher than last year and about 8%—around 12,000 applications per year—higher” than the Commission estimated in its budget request for the fiscal year 1957 which begins next July 1. To reduce the safety-special backlog to an application processing time of 30 days at the end of the 1957 fiscal year would require \$50,000 to \$60,000 more than provided in the budget and to place the processing on an even more current basis would require an additional \$80,000.

JET AIR TRAFFIC CONTROL—The Civil Aeronautics Administration has proposed a \$246 million five-year program for a modernized federal air traffic control system designed to keep pace with requirements of the jet age with a large part of the expenditures to go for communications and electronics equipment. The plan, released by CAA Administrator Charles J. Lowen, includes long range radar, airport surveillance radar, peripheral communications, and other navigation and air traffic control equipment. The five-year program calls for putting radar of the short-range surveillance type into 44 additional airports; long-range radar with direct pilot-controller communications into 20 additional air route traffic control centers; a new device known as the radar beacon at 134 locations; and 20 airport surface detection equipment radars to control ground movement at congested terminals. Also proposed are 40 additional airport traffic control towers; 383 VHF omnidirectional radio ranges (VOR) with associated distance measuring service (DME); and 28 instrument landing systems. For the 1957 fiscal year \$37,500,000 is earmarked for new radar and air navigation facilities.

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ROLAND C. DAVIES
Washington Editor



RELIABILITY

Dependable performance is a quarter-century tradition at Motorola—the world's largest exclusive manufacturer of electronic equipment. Under subcontract to Convair, Motorola *engineered for reliability*, and is now producing the guidance equipment for the Navy's new all-weather anti-aircraft missile, the "Terrier".

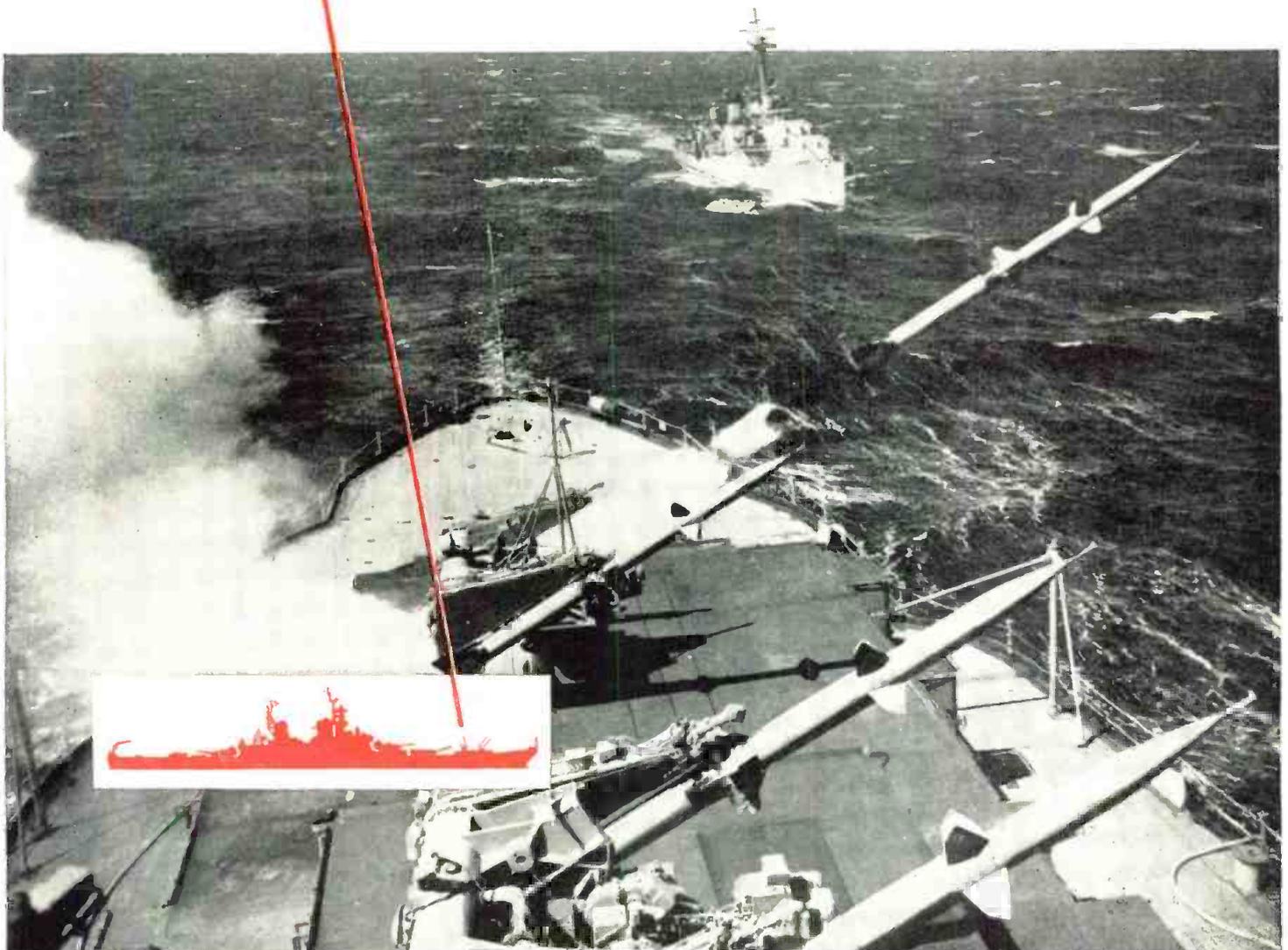
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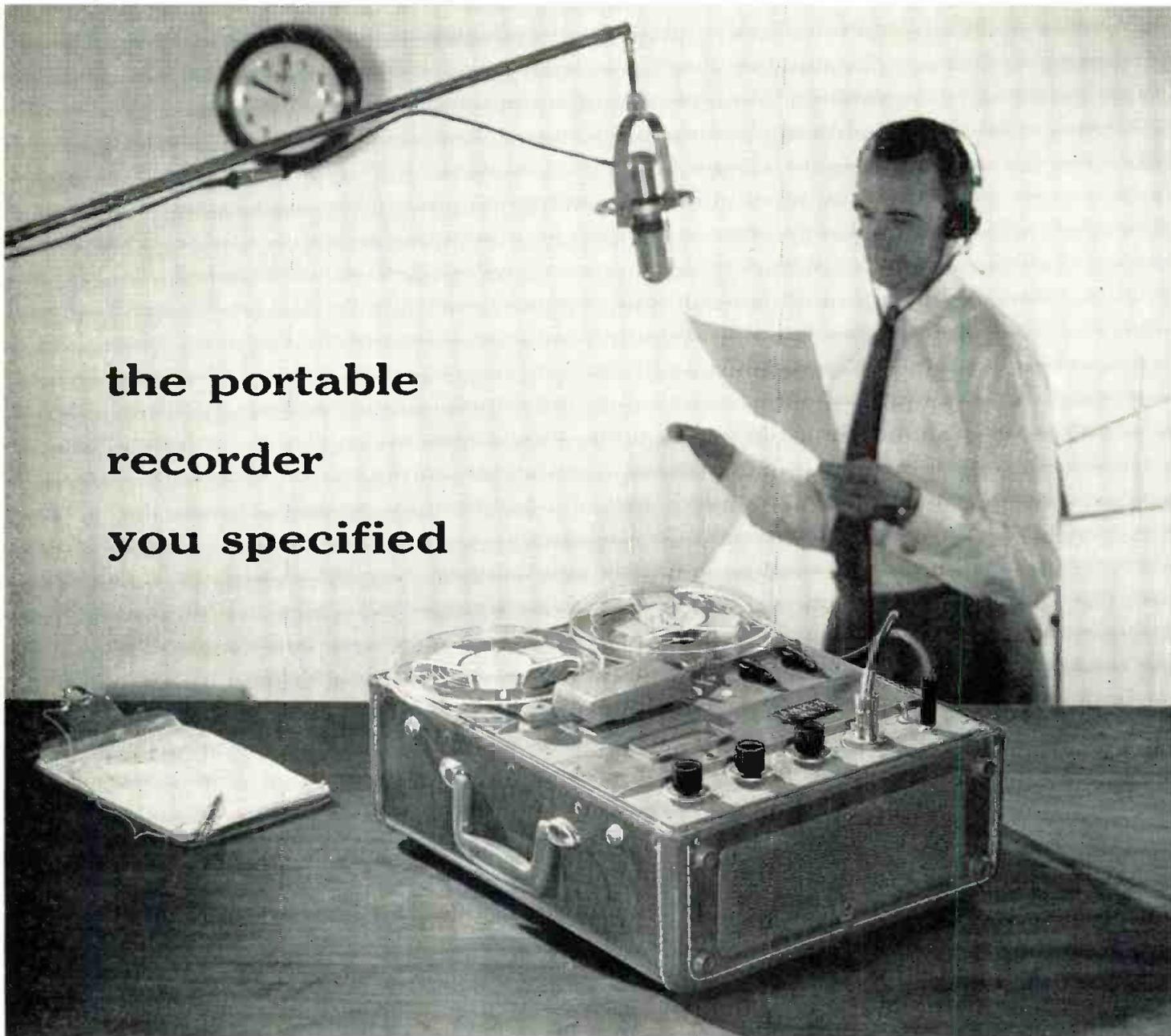


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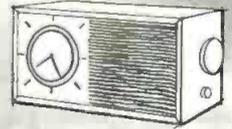
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7 OSCILLOSCOPES MEET SPECIALIZED REQUIREMENTS

LABORATORY CATHODE RAY OSCILLOSCOPE Wide Range . . . Versatile

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.



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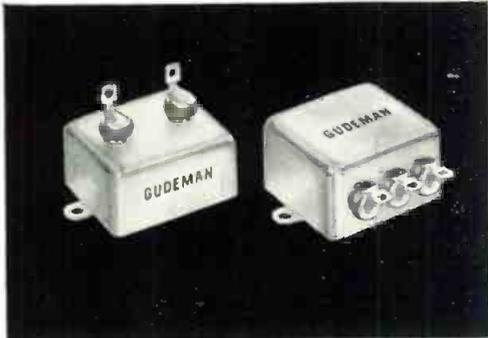
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Aircraft-Marine Products, Inc.

Chemicals and Dielectrics Division

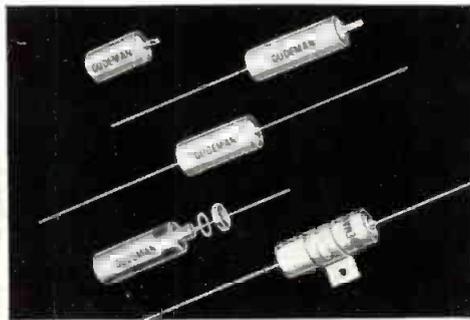
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GUDEMAN Capacitors



Bathtub Type Military Capacitors

MIL-C-25 Types
CP53, CP54, CP55 Case Styles
Temperature Ranges:
-55°C to +85°C
-55°C to +125°C



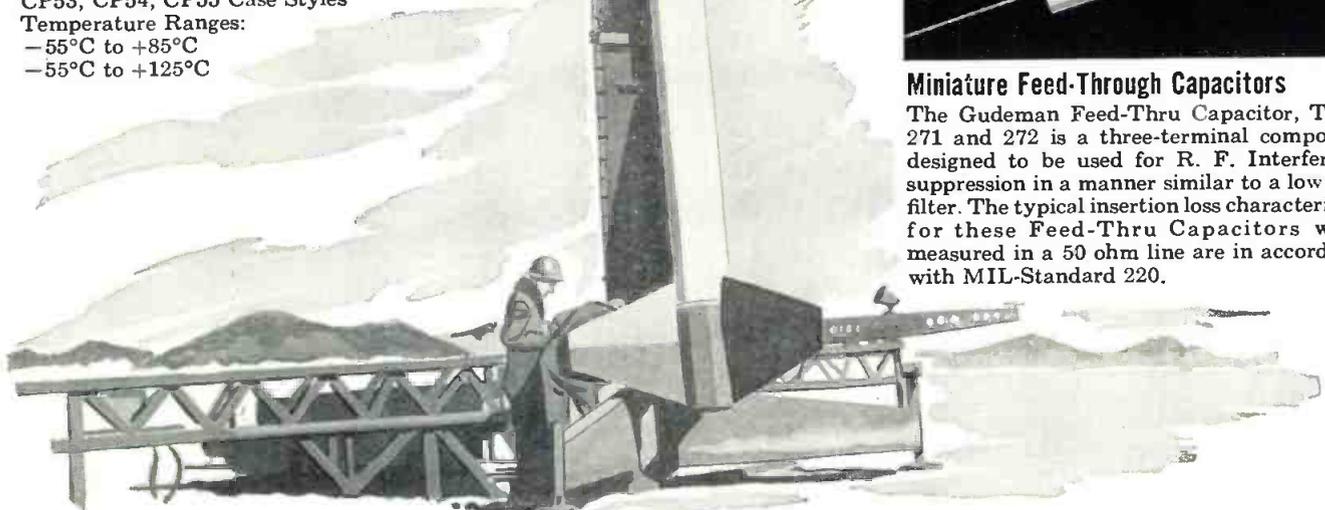
"XC" Plastic Film Dielectric Capacitors

The development of the Gudeman "XC" capacitors provides high temperature capacitors that have exceptionally high insulation resistance, low power factor and low dielectric absorption. No voltage derating is required when used within a temperature range from -65°C to +165°C. Bathtub and rectangular case styles also are available.



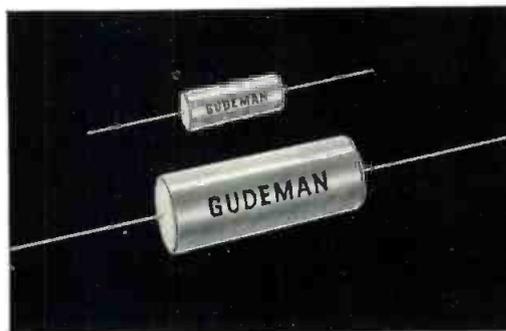
Miniature Feed-Through Capacitors

The Gudeman Feed-Thru Capacitor, Types 271 and 272 is a three-terminal component designed to be used for R. F. Interference suppression in a manner similar to a low pass filter. The typical insertion loss characteristics for these Feed-Thru Capacitors when measured in a 50 ohm line are in accordance with MIL-Standard 220.



Military Capacitors

MIL-C-25 Types
CP70 Case Styles
Temperature Ranges:
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-55°C to +125°C



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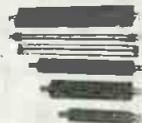
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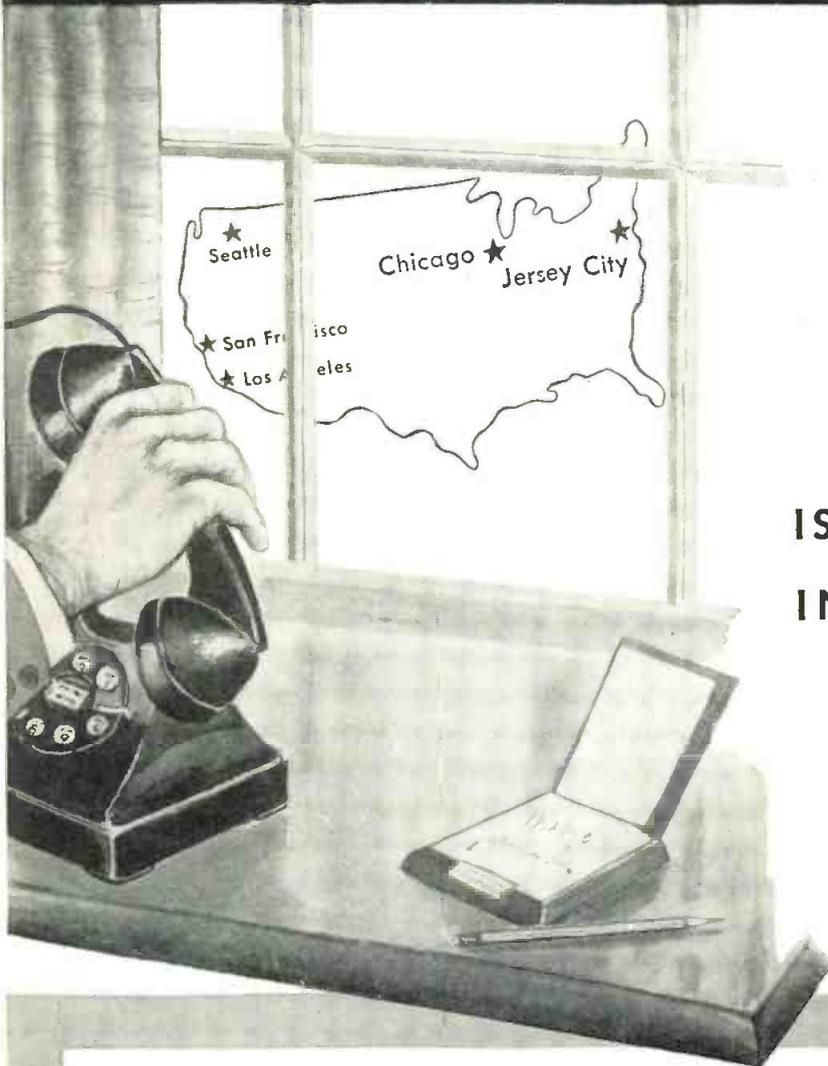


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40 watts at 200-400 mc
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Frequency ranges....200 to 1050 mc, 950 to 2500 mc
Calibration accuracy..... $\pm 1\%$ or ± 5 megacycles whichever is greater
Resettability.....better than 0.1%
Modulation.....internal square-wave and sine-wave, 400 and 1000 cps; also external
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30 to 20,000 cycles per second

0 to 360° phase range

10-megohm input impedance
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Output connection for strip-chart recorder.

Self-contained power supply for 105-125 volts, 50-60 cycles.

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Cues for BROADCASTERS

(Continued from page 112)

tape is being used, the output level from the tape will be approximately 6 db lower than that of the full width head. Also, the Pentron pole piece has somewhat less curvature than that of the original part, which results in slightly higher flutter, but other than this the performance of the two units seems nearly identical.

Half track heads are less critical regarding alignment than the full width units, but when playing tapes made on home equipment it is wise to have a screwdriver handy so that tape alignment may be made by ear. Also, be sure that you insert the half track pole piece in the right direction, or you will hear the wrong side of the tape going backwards. If you need the machine to play-back single track tapes it will work well on tapes recorded on Magnecord, Ampex, Presto, and those that utilize the full width of the tape, though with a 6 db loss of level, but is not recommended for play-back of tapes made on machines that just record a slot down the middle.

Amplifier Design

(Continued from page 109)

Tests proved that the desired output of 30-35 kw peak, on two-tone tests, could be obtained. At this peak power output, distortion products were measured using the monitor circuits of the LD-T2 as test facilities. Fig. 3 shows results of a series of typical distortion measurements. Hum and other distortion products not shown in Fig. 3 were 20-30 db below the values for 3rd order products. Further improvements in the r-f grounding of the input circuits reduced the 3rd order distortion products still further.

The design objective for the transmitter-linear amplifier combination was 3rd order distortion 35 db down at full rated output; improving db for db down to 5 db below rated output; and staying below 40 db at lower levels of output for frequencies below 23 MC.

(Continued on page 160)

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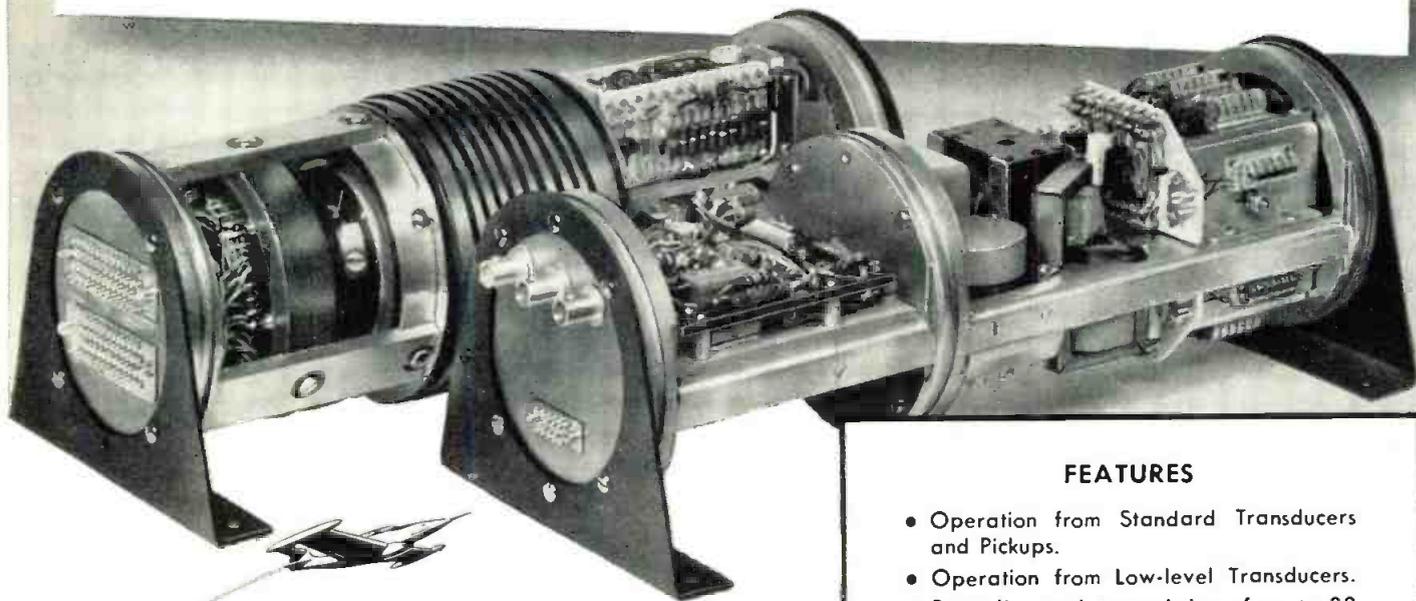
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COLLINS NEW TRANSISTORIZED 212Z-1

Weighs only 22 pounds in carrying case with batteries

Now, a transistorized remote amplifier lighter and more convenient than any other 4-channel remote you have ever used. Collins 212Z-1 weighs only 22 pounds including carrying case and batteries, is no bigger than a portable typewriter and just as easy to carry and set up. It has all the outstanding qualities of its predecessor, Collins 12Z, plus many new features.

OUTSTANDING FEATURES:

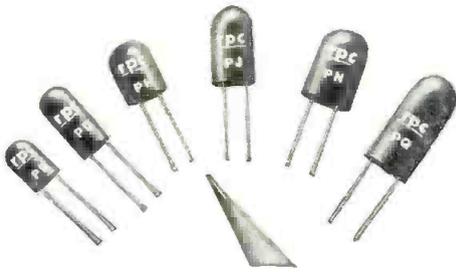
- Four High Level Channels
- Printed Circuits
- Completely Transistorized
- 115 or 230 VAC and battery power source
- Automatic power changeover
- Self-contained batteries with minimum 75-hour life
- Maximum gain—90 db
- Tone oscillator for line-level setup
- Auxiliary output for PA feed
- High quality step type faders
- Matches all standard mike impedances from 30-600 ohms
- Compact, streamlined Royalite case with room for power cord
- All terminals and jacks readily accessible

Collins

CREATIVE LEADER IN BROADCAST EQUIPMENT

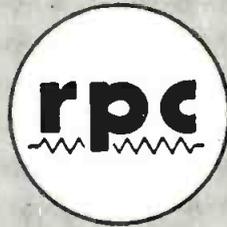


COLLINS RADIO COMPANY, Cedar Rapids, Iowa • 261 Madison Avenue, New York 16 • 1200—18th Street N. W. Washington, D. C. • 1930 Hi-Line Drive, Dallas 2 • 2700 W. Olive Avenue, Burbank 1318—4th Avenue, Seattle • 215 Petroleum Building, Tallahassee • Dogwood Road, Fountain City, Knoxville.



NEW Printed Circuit Precision Resistors

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. $\frac{1}{4}$ " diameter by $\frac{3}{16}$ " long to $\frac{3}{8}$ " diameter by $\frac{3}{4}$ " long. Resistance values to 3 megohms. Tolerances from 1% to 0.05%.



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.

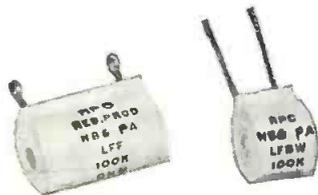
Test equipment and standards for checking and calibrating are equalled by only a few of this country's outstanding laboratories. Our ability to produce resistors of highest quality coupled with prompt delivery have established RPC as a leading manufacturer of resistors. Small or large orders are promptly filled.

Representatives in principal cities. For full information send for latest catalog.



Wire Wound Precision Meter Multiplier Resistors

Type MFA and MFB High Voltage Wire Wound Resistors are Hermetically Sealed in glazed steatite tubes with ferrule ends for maximum protection against all adverse environmental conditions. Fully meet all requirements of JAN-R-29. Special multi-section winding insures greatest safety factor due to low voltage gradient between sections. Standard resistors up to 6 megohms, 6 KV, 0.5% tolerance. Higher resistance and closer tolerances available. MFA 9-25/32 inches long x $1\frac{1}{32}$ inches diameter. MFB $5\frac{3}{32}$ inches long x $1\frac{1}{32}$ inches diameter.



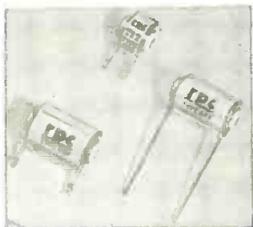
Encapsulated Precision Wire Wound Resistors

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%.



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 $\frac{3}{16}$ inch diameter rated at 3500 volts, to a 10 watt resistor $6\frac{1}{2}$ inches long x $\frac{3}{8}$ 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.



Wire Wound Precision Resistors

Type A Precision Resistors are widely used for all general requirements. They are available in a wide variety of sizes, styles and terminal types. They can be furnished with all resistance alloys in tolerances from 1% to .02%. Type A 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. Matched resistors, networks and special assemblies can be supplied.



High Megohm Resistors

Type H Resistors are used in electrometer circuits, radiation equipment and as high resistance standards. Resistance available to 100 million megohms. (10¹⁴ ohms). For utmost stability under adverse conditions Type HSD and HSK Hermetically Sealed are recommended. Eight sizes from $\frac{1}{8}$ 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.

914 S. 13th Street
HARRISBURG, PA.

FOR TOP PERFORMANCE...

Specify RCA Electronic Components

IN YOUR ORIGINAL
EQUIPMENT DESIGNS

RCA manufactures a comprehensive line of electronic components expressly for applications in original equipment. All RCA Components are quality-engineered, produced from select raw materials, manufactured under rigid standards of quality control. Specify RCA and be assured of superior electronic components for your industrial, commercial, or military equipment designs.

RCA Electronic Components for:

- AVIATION ELECTRONICS
- TV SETS—COLOR, BLACK-and-WHITE
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- AUTOMATION
- RADAR and LORAN
- RADIO/TV BROADCASTING
- SOUND SYSTEMS
- MILITARY ELECTRONICS
- INDUSTRIAL ELECTRONICS
- RADIOMARINE

For information or assistance in the selection of RCA Electronic Components best suited to your applications, contact your nearest RCA District Office:

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MIDWEST: Whitehall 4-2900
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Merchandise Mart Plaza
Chicago 54, Ill.

WEST: Raymond 3-8361
6355 East Washington Blvd.
Los Angeles 22, Calif.



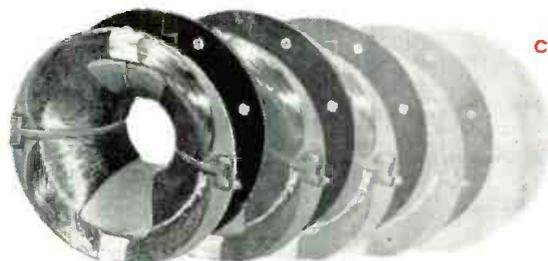
SPEAKER

RCA produces a comprehensive line of speakers, including lightweight miniature types for transistorized portable radios; high-fidelity, theatre, and public address types; and military blast-proof types.



FERRITE:

RCA designs and produces a wide variety of ferrite products including memory cores, matrices, transfluxors, magnetostrictive cores, flyback "C" frames, and deflecting yoke segments.



**DEFLECTION
COMPONENTS**

RCA manufactures one of the most comprehensive lines of yokes and flybacks for direct-view and projection, color and black-and-white kinescopes; high, low, and intermediate inductances with ferrite cores; ppi, target designator, military-TV, and resolver-type yokes for radar applications; yokes for image orthicons, flying-spot scanners, iconoscopes, monoscopes, and vidicons; auto-type, isolated secondary, and universal-type deflection transformers.



RELAYS

RCA applies manufacturing techniques similar to those used for electron tubes to produce relays for military and commercial applications—6pdt and 4pdt, rotary solenoid, hermetically sealed, miniaturized, high-speed types featuring welded construction; use of "getter" to absorb organic and metallic vapors for prevention of deterioration of contacts and to insure maximum insulation resistances.



ELECTRONIC COMPONENTS
RADIO CORPORATION OF AMERICA, HARRISON, N. J.



New SOLAR Step-Cap lead-thru capacitors speed assembly and cut costs

These units are the low-priced answer to lead-thru wiring. Soldering is direct to silver in each end. The ends are cupped, and serve as solder retainers, keeping solder from bridging the insulating gaps. Since center terminals are eliminated, the price is reduced.



Cupped ends are silvered, for direct soldering.



Part numbers and/or coding furnished on request.

Fast handling and mounting. The simple contour of Step-Caps permits their use in automatic parts feeders. Units won't tilt when mounted because each is self-centering. A "step-type" shoulder holds each unit at the proper distance above ground, and makes jiggling unnecessary. Silver is bonded homogeneously to the ceramic body to permit quick soldering to chassis in multiple units.

Less space needed. The shoulder construction eliminates the need for eyelets. Hence these units can be mounted much closer together, leaving more room available on the chassis.

Immediate deliveries in unlimited quantities. SOLAR lead-thru Step-Caps are furnished in capacity ranges from 3 to 275 mmf @ $\pm 10\%$ and $\pm 20\%$ tolerances; from 276 to 1000 mmf @ GMV. Units are rated at 600 VDCW. Mounting hole: .193". Can be supplied with center lead as a feed-thru type. Write for samples and details, or send us your requirements.

"QUALITY ALWAYS"

SOLAR MANUFACTURING CORP.
New York, N. Y.

SALES OFFICES: 46th & Seville, Los Angeles 58, Calif.
4000 W. North Ave., Chicago 39, Ill.



CERAMIC CAPACITORS • PRINTED NETWORKS • PIEZO CERAMICS

Amplifier Design

(Continued from page 154)

For frequencies, above 23 MC, 3rd order distortion was to be 32 db down at rated output; improving db for db to 8 db below rated output; and staying 40 db down for lower levels of output. These design objectives have been met.

Automatic Tuning Facilities

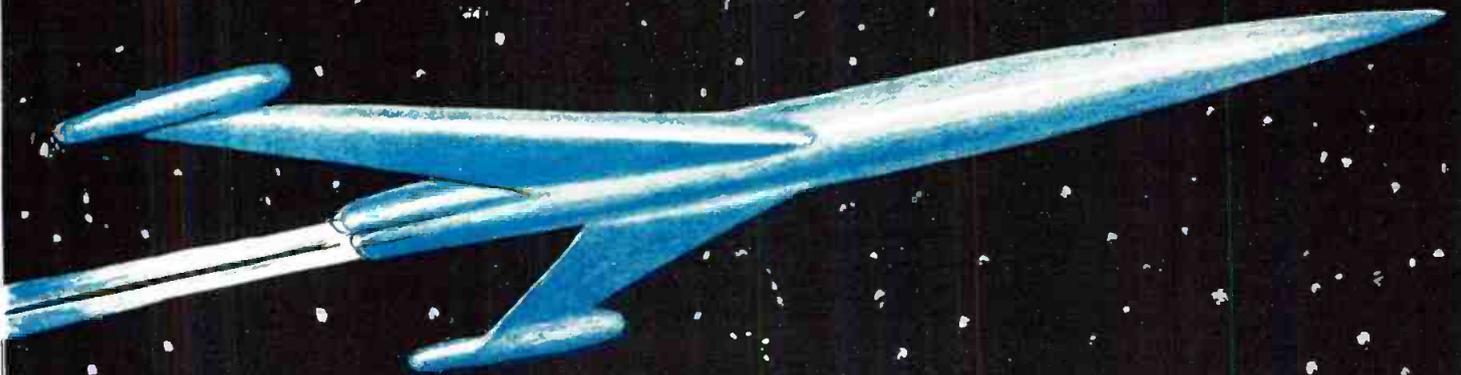
The band spreading inherently afforded by the tank circuit, coupled with the precision of the vacuum variable capacitors and the circuit stability, make it easily adaptable to automatic tuning. Production amplifiers will include servo-motor drives for each of the amplifier tuning controls with an overriding clutch permitting manual adjustment of the controls in initial tune-up and in emergencies. Compatibility with the automatic tuning facilities of the driving transmitter is obtained by essentially duplicating its servo control panel for use in the linear amplifier and interconnecting so that the driver and the amplifier can be controlled together from the amplifier location or remotely.

The servo-amplifier panel will be housed in a 2 ft. wide cabinet, normally installed between the r-f and rectifier cubicles as shown in Fig. 4. The narrow cabinet also houses air ducting which permits entry and exhaust of cooling air either above or below the cabinet. The air system is of a high velocity, low volume type with capacity permitting operation on 50 cps power at altitudes up to 8000 ft.

Conclusions

Ingenious use of modern components has resulted in desirable simplification, reduction in size, and high performance in a high power linear amplifier for single sideband communications applications. These improvements have, in addition, made possible an appreciable reduction in the cost of improving and extending existing communications facilities. It is believed that further efforts in these directions are necessary to maintain the standards of reliability previously established by military and commercial high frequency fixed stations.

SOARING OVER THE TECHNICAL BARRIERS...

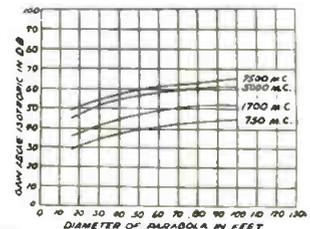


...IN SCATTER, RADAR AND PRECISION UHF WAVEGUIDE

Antenna Feed—Highest Gain Broad Band design for Scatter Communication—curves shown at the right developed by miniaturized models measured in Reflectionless Chamber Laboratory.

Radar Antennas, Pedestals and Servo Systems—large precision Parabolas, and Cosecant Reflectors with Control Systems manufactured to exacting Military Standards for Search, Air Surveillance and Meteorological Radar—All antenna designs Miniaturized prior to Prototype construction.

Waveguide—Lowest VSWR—UHF Waveguide. Exclusive General Bronze automatic welding process assures uniform production of large fabricated Waveguide and Waveguide Test Equipment.



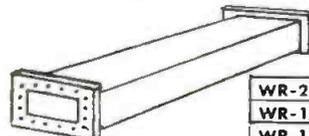
SCATTER PARABOLA FEEDS



RADAR SYSTEMS



SERVO MECHANISMS



UHF WAVEGUIDES

WR-2100	21" x 10½"
WR-1500	15" x 7½"
WR-1150	11½" x 5½"
WR-975	9½" x 4½"



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 200 CENTRAL AVE., NEWARK 3, N. J.
 NEW YORK OFFICES—100 PARK AVENUE, NEW YORK 17, N. Y.

ELECTRONIC



DIVISION



Bentley Blum / New York

HE PROVED IT FOR HIMSELF!

The new Pyramid Imp is smaller, yet better than any other molded paper tubular capacitor; Operates at full rating of 100°C (212°F—boiling point); Exceeds moisture resistance requirements of U. S. Government specifications MIL-C-91A; Copperweld leads are securely imbedded to withstand 4 360° bends without breaking.

These features, plus an almost indestructible thermo-setting plastic encasement make Pyramid Imps your best molded paper tubular capacitor.

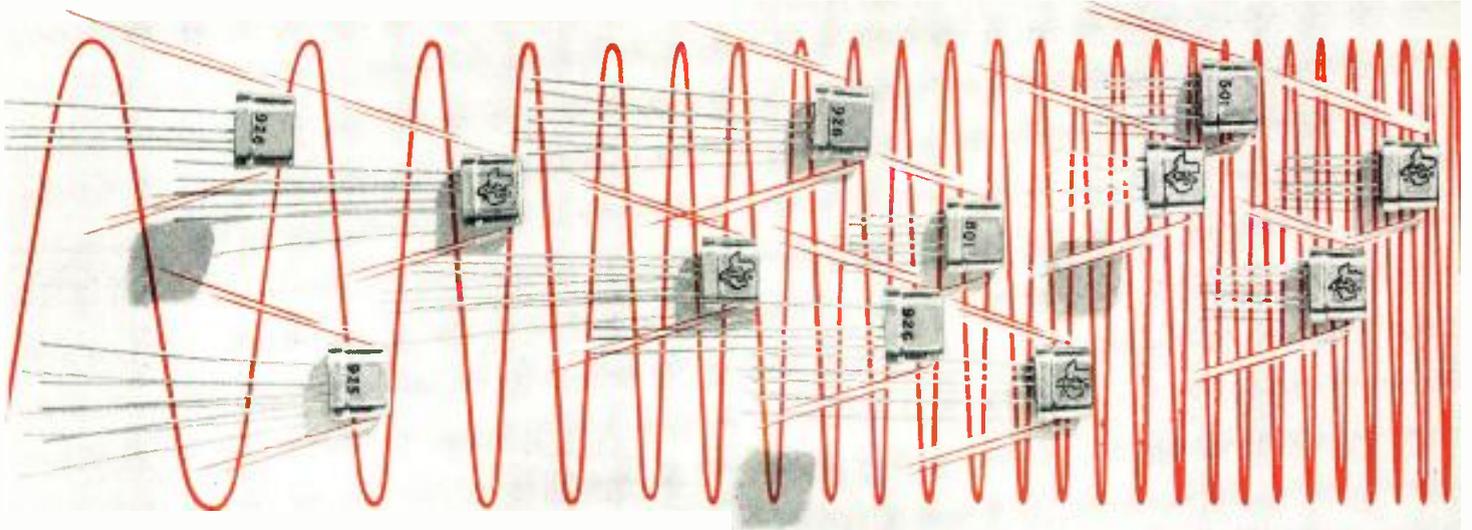
For full information on Pyramid capacitors and rectifiers, see your local distributor or write to



PYRAMID ELECTRIC COMPANY

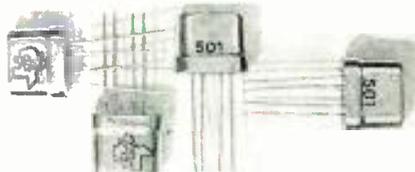
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VHF transistors NOW!



**NEW 'GROWN-DIFFUSED'
TYPES COMMERCIALY
AVAILABLE IN
PRODUCTION QUANTITIES**

HIGH GAIN VHF TRANSISTORS with usable power levels and band widths are now immediately available from Texas Instruments . . . another first for the leading producer of silicon and germanium transistors. Your design horizons are now extended to include all-transistor TV, FM, and VHF receivers . . . and transistorized amplifier, oscillator, or switching applications in communications, telemetering, or radar.



NEW VHF GERMANIUM TRANSISTOR

OSCILLATING FREQUENCY IS ABOVE 250 MEGACYCLES . . . alpha cutoff frequency is 200 mc. Typical gain is 12 db at 100 mc (unregenerative). This performance in a production transistor was unheard of prior to perfection of the "grown-diffused" method — an exclusive Texas Instruments technique.



NEW HF SILICON TRANSISTORS

FREQUENCIES TO 30 MEGACYCLES, rated 30 volts and 125° C, make these "grown-diffused" units ideal for high temperature military and commercial applications. They increase to 10 the types of silicon transistors now available from Texas Instruments, and represent the continual improvement in frequency, gain, and power made by the pioneer producer of silicon transistors.



OTHER NEW SEMICONDUCTOR DEVICES FROM TI

NEW HIGH POWER TRANSISTORS — 12-watt dissipation germanium power transistor and 8.75-watt dissipation silicon power transistor. NEW HIGH VOLTAGE RECTIFIERS — full wave and single junction half wave 1500-volt silicon units stable to 150° C. NEW HIGH CONDUCTANCE DIODES — 4 types of axial-lead silicon junction diodes with 100 ma forward currents and 0.1 μ a back currents.

All these devices in production and available immediately. Write today!

LOOK TO TI FOR: GERMANIUM VHF, POWER, RADIO, & GENERAL PURPOSE TRANSISTORS • SILICON HF, POWER, & SMALL SIGNAL TRANSISTORS • SILICON RECTIFIERS AND DIODES





Albert Lazoni recently joined the Decker Aviation Corp., Phila., Pa., as assistant to the president in charge of engineering, research and development. He was formerly chief engineer of the National Union Electric Corp., Cathode Ray Div.

Dr. Francis E. Vinal has been named head of the new Advanced Development Laboratory established by RCA at the New England Industrial Centre at Needham, Mass. Dr. Vinal will direct the work on ferrites.



Dr. F. E. Vinal



Dr. W. R. Sittner

Dr. W. R. Sittner has been appointed associate director of research and development of Motorola's Semiconductor Division, Chicago, Ill.

Dr. Horace Jacobs joined the administrative staff of the Lockheed Missile Systems division's research laboratory, Van Nuys, Calif.

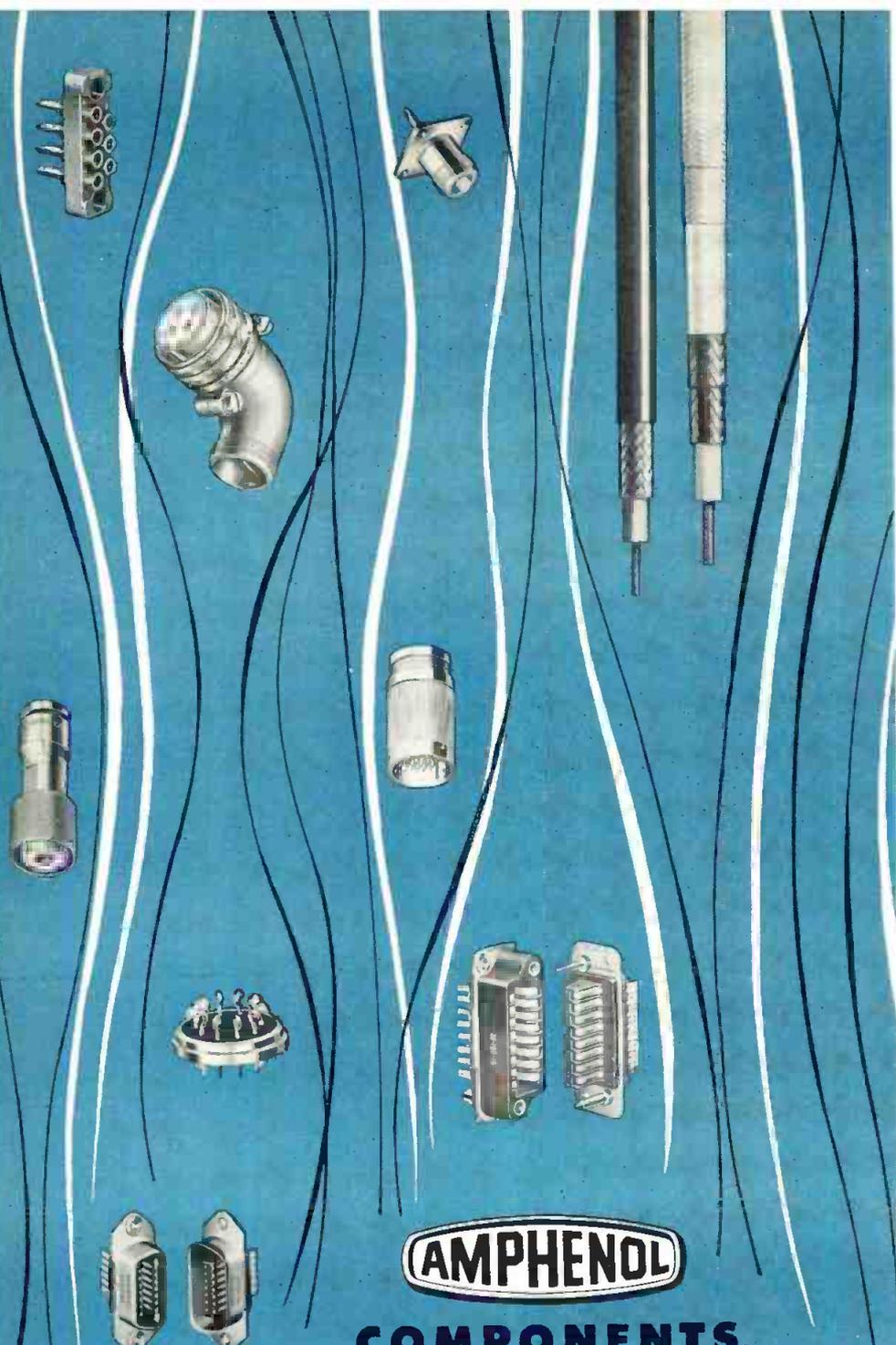
George J. Miller has joined the Customer Service Laboratory of Houghton Labs., Inc., Olean, N. Y., as applications engineer.

Wayne K. Hodder has been appointed senior development engineer specializing in airborne instrumentation systems at the Advanced Electronic Data Laboratory of Consolidated Electrodynamics Corp., Pasadena, Calif.

Dr. John Sterner, former vice-president of Baird Associates, Inc., Cambridge, Mass., has been named director of Flight Test Operations for the Guided Missile Research Division of The Ramo-Wooldridge Corp., Los Angeles, Calif.

Lawrence A. Larson and Le Roy A. Wallace have joined Allen B. Du Mont Laboratories, Inc., Clifton, N. J., as TV transmitter sales engineers.

Daniel F. Morrill, Marlin A. Sloan, Jr., Robert J. Corn, Eugene B. Stewart, Charles Cox, and R. Dean Olson joined the technical staff, Hughes Aircraft Co., Culver City, Calif.



COMPONENTS

meet **HIGH PERFORMANCE STANDARDS**

The emphasis in electronics today is on increased reliability of components and equipment. AMPHENOL's engineering ability and production skill have, therefore, assumed a new significance to avionic and electronic equipment manufacturers. They know that the quality of AMPHENOL connectors and cables assures an unmatched guarantee of reliability. They know that they may come to AMPHENOL with any component design problem and receive assistance based on the need for complete reliability.

AMPHENOL ELECTRONICS CORPORATION
chicago 50, illinois



AMPHENOL CANADA LIMITED • toronto 9, ontario

MICROWAVE SPECTRUM ANALYZERS



Model SA25

800 mc/s to 10,250 mc/s
on fundamentals
K-Band Coverage
to 40,000 mc/s

Plus these features

- Frequency accuracy to 0.05%
- Stable low noise 20 kc bandwidth double conversion IF amplifier
- Amplified transmission wavemeters
- Improved power-response display
- Choice of 2-20 or 6-60 cps sweep
- Fully regulated power supplies
- Simple, reliable, proven circuitry

New single unit K-Band Heads
for use with SA25 or SA30

27K1 for 12.7 — 18.0 kmc/s
27K2 for 18.0 — 26.5 kmc/s
27KQ1 for 34.0 — 40.0 kmc/s



new

Model SA30

... has the features
of Model SA25 plus
many new developments.

- New IF Strip with modified cascode input
- New Image Check permits direct frequency calibration
- New Simplified Control panel speeds operation
- New Frequency Difference Control for direct incremental measurements 100 kc/s to 5 mc/s
- New Brightness Controls for signal and and baseline
- New Dual Unit for rack mounting or portable 80 pound bench top "package"
- New Independent Power Supply for display; klystron power supply includes D.C. filament operation

COMING — NEW WIDE RANGE RF HEAD —
30WR1 — 2000 mc/s to 12,000 mc/s

Interchangeable R.F. Heads for use with SA25 or SA30

25L1	800-2400 mc/s	25C1b	4240-4910 mc/s	25X2b	5700-6600 mc/s	25X1	8500- 9660 mc/s
20S1	2400-3650 mc/s	25C1a	4840-5900 mc/s	25X2	6250-7425 mc/s	25X1b	9500-10250 mc/s
20S1a	2400-4050 mc/s	25C1	5100-5900 mc/s	25X2a	5700-7500 mc/s	25X1a	8500-10250 mc/s

VARIABLE FREQUENCY POWER SUPPLIES

For testing electronic and electrical equipment

For powering vibrators and choppers

For controlling synchronous motors

New design features provide a wider range of applications for this unit. Operating on 105 to 130 volts AC single phase and having no rotating parts, the VFS-250-A requires no filters to prevent interference. It provides up to 300 VA at 0-130 volts, 45 to 200 cycles.

CONTRACT MANUFACTURING

Precision Components



Vectron Potentiometers, manufactured to your specifications, provide performance, uniformity and linearity which fully meet your specification requirements. Close tolerances, mechanical and electrical, are the result of long experience. Write for further information.

Precision Assemblies



Electro-mechanical, mechanical and electronic equipment to your specifications and standards.

Vectron's Manufacturing Division offers complete facilities for the manufacture, on contract or sub-contract, of components, sub-assemblies or complete products. If needed, our Engineering Division can develop and prototype your product idea.



Write for literature and information on the products or services in which you are interested.

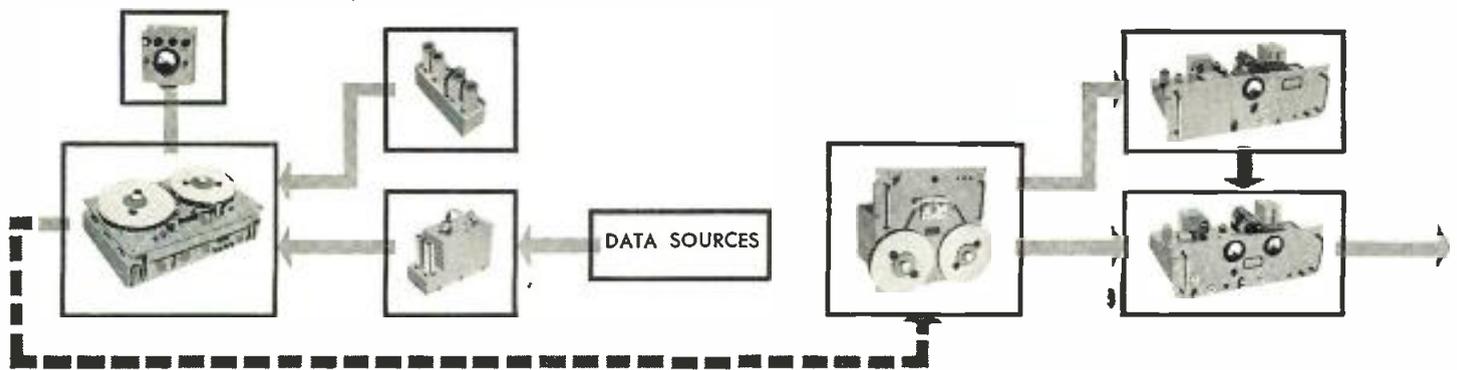
VECTRON, inc.

1611 TRAPELO ROAD



WALTHAM 54, MASSACHUSETTS

Now Located on
Trapelo Road
Off Rte. 128 between Rte. 2 and Rte. 20



Block diagram of a typical FM carrier record-playback system, utilizing electronic wow and flutter compensation.

ELIMINATING WOW and FLUTTER in magnetic tape data recording

"brute force vs. compensation"

The careful transport design that reduced wow-and-flutter to a negligible factor in audio recording met with little success in critical data recording . . . despite superhuman efforts directed toward "perfect" transport design.

It isn't too difficult to see that even if a perfect transport were devised, it would be extremely costly, and limited to operation under only the most highly controlled conditions. That's why Davies bypasses this "head-on" or "brute-force" approach completely, and uses, instead, the surprisingly simple technique of *electronic* wow and flutter compensation.

As incorporated into a Davies magnetic tape data recording system, compensation *uses* wow

and flutter to eliminate itself. A constant frequency reference signal is recorded simultaneously with the data signals on an adjacent channel. Any tape speed irregularity frequency-modulates the reference signal. On playback, the discriminated reference signal is merely added out of phase to the data signals, almost eliminating first order wow-and-flutter problems.

With compensation, overall system performance is never dependent on the transport. For that matter, many a job for which 0.1% rms wow and flutter recording without compensation would not prove sufficient, can easily be accomplished with a 0.5% rms machine.

The illustration shows a sine



Oscillograph of sine wave, without (left) and with (right) compensation signal subtracted.

wave, recorded on a transport with deliberately introduced 1% peak-to-peak wow and flutter. The uncompensated sine wave is to the left, and the compensated sine wave to the right of the line.

Further information on the role of compensation in magnetic tape data recording is provided in Bulletin 2901, "Wow and Flutter Compensation In Magnetic Tape Data Recording (FM Carrier Systems)", available on request to Davies Laboratories, Inc.

 **LABORATORIES
INCORPORATED**

4705 Queensbury Road • Riverdale, Maryland

NEW

PHILCO

"Audio-trio"

medium power transistors

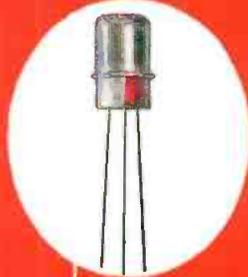
provide 300 mw audio output
with absolute minimum distortion

SHOWN
ACTUAL SIZE

2N223



2N224



2N226



*The output transistors 2N226, 2N224
can be made available in matched pairs

Regardless of your requirements in medium power audio circuits, Philco "Audio-Trio" PNP transistors provide driver and push-pull performance at maximum power with minimum distortion . . . over a wide range of operating voltages!

Extremely linear DC current amplification up to 100 milliamperes of collector current assures low distortion output at battery supply voltages of 3 to 12 volts in class B push-pull operation.

Philco "Audio-Trio" transistors are specifically designed for the audio stages of transistorized radios. Available in production quantities, Philco "Audio-Trio" PNP transistors have inherent stability . . . excellent uniformity . . . reliability assured by meticulous manufacturing control and absolute hermetic sealing. Put these ideal characteristics to use in your mass produced electronic products.

PHILCO PNP GERMANIUM TYPE ALLOY
JUNCTION TRANSISTOR

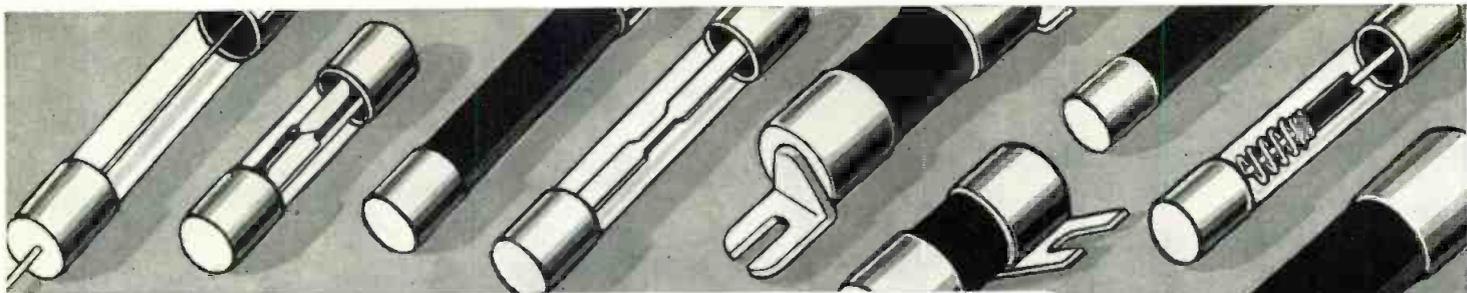
	2 N224	2 N226	2 N223
MAXIMUM RATINGS (absolute values)			
Collector Voltage (v)	-25	-25	-18
Collector Currents (ma)	-150	-150	-60
Collector Dissipation at 45°C (mw) (with heat sink)	100	100	100
Storage Temperature (°C)	-40 to +65	-40 to +65	-40 to +65
TYPICAL OPERATION			
Collector Voltage (v)	-.6	-.6	-4.5
Collector Current (ma)	-100	-100	-2
Large Signal Beta	65	35	
Alpha			.985
Saturation Voltage (v)	-.25	-.25	
Base Input Voltage (v)	-.30	-.35	
Output Impedance (megohms)			1

For Complete Technical information write Dept. TT-4.

LANSDALE TUBE COMPANY, A Division of Philco Corporation, Lansdale, Penna.

PHILCO CORPORATION

LANSDALE TUBE COMPANY DIVISION



Be sure of dependable electrical protection — Standardize on BUSS Fuses

Here's why —

To assure you of safe and trouble-free electrical protection — BUSS fuses are tested in a sensitive electronic device. Any fuse not correctly calibrated, properly constructed and right in all physical dimensions is automatically rejected.

That's why you can rely on BUSS fuses to operate properly and protect completely. This unfailing dependability under all service conditions helps safeguard the good name of your product against loss of customer goodwill.

One source for all types and sizes of fuses —

It's easy for you to select the fuse to meet your requirements. The com-

plete BUSS fuse line includes: standard types, dual-element (slow blowing), renewable and one-time types — in sizes from 1/500 amp. up . . . plus a companion line of fuse clips, blocks and holders.

If you have an electrical protection problem —

Let our fuse engineers help you select the right fuse or fuse mounting. If your protection problem is still in the engineering state, tell us current, voltage, load characteristics, etc. Our engineers are always at your service.

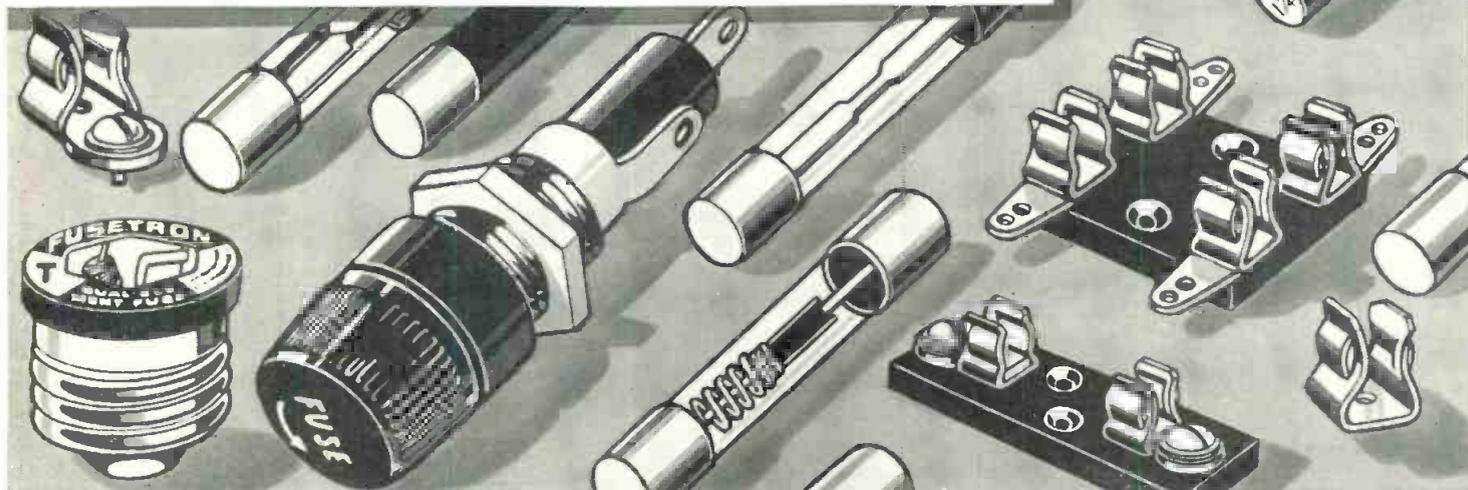
Be sure to get the latest information before your final design is crystallized. Write for bulletin SFB.

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



BUSSMANN MFG. CO.
(Div. of McGraw Electric Co.)
UNIVERSITY AT JEFFERSON, ST. LOUIS 7, MO.

656





new horizons in sound

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THE NAME of Emory Cook has become synonymous with dramatic new horizons in recorded sound — cataclysmic forces of nature, weird noises from outer space; exotic, primitive, enchanting music from distant lands. The very nature of the “out-of-this-world” sounds which skyrocketed Cook Records to world-wide fame necessitates real perfection in every step of the reproduction process, from original tape recording to lacquer master and final pressings. Emory Cook uses Audiotape and Audiocdiscs exclusively for original recording and processing. He has found that this Audiocdisc-Audiotape combination meets his exacting requirements for truly life-like recording and reproduction of the original live sound — from ear-splitting thunder claps or the roar of pounding surf to the most delicate nuances of vocal inflection or instrumental timbre.

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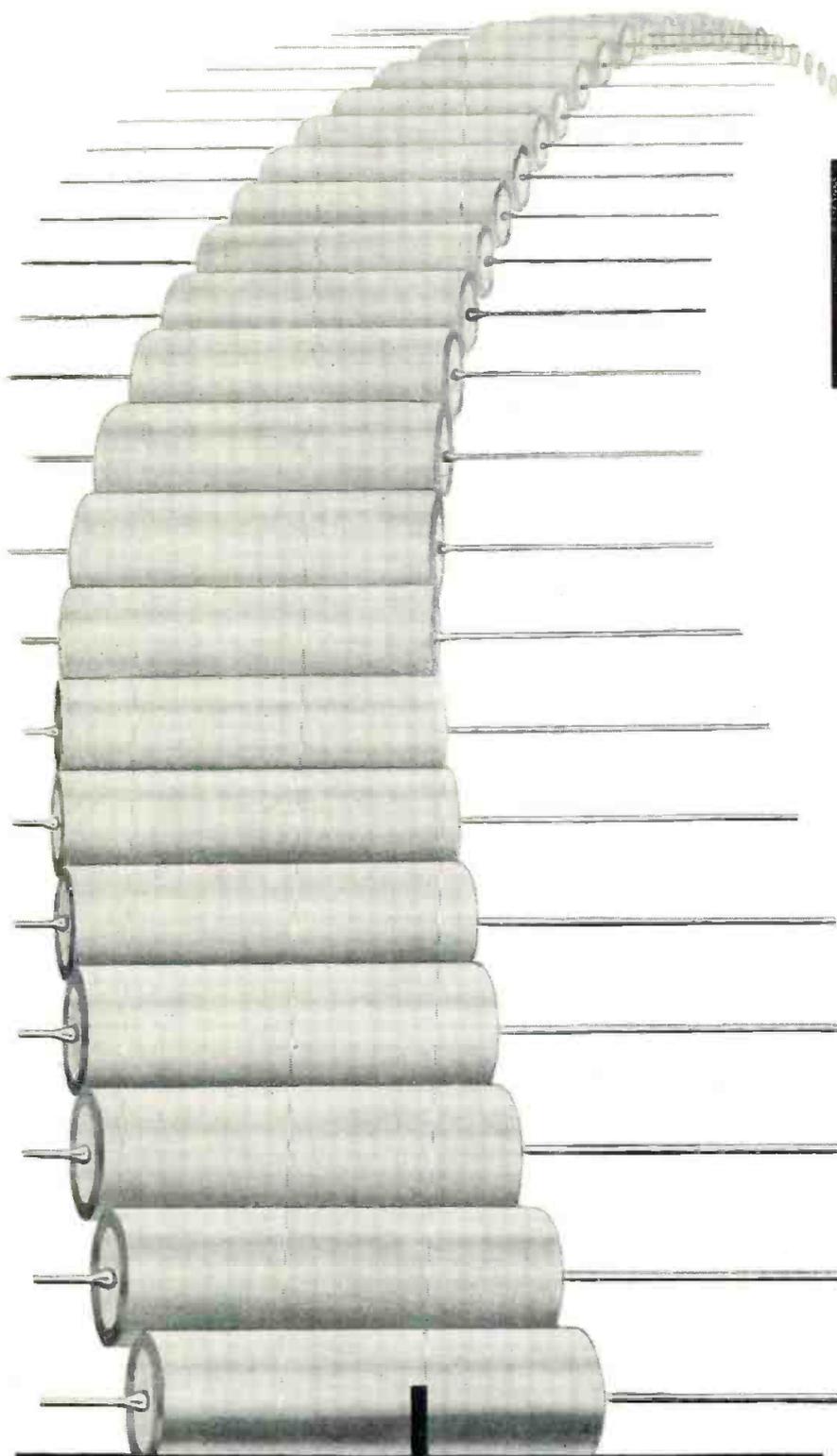
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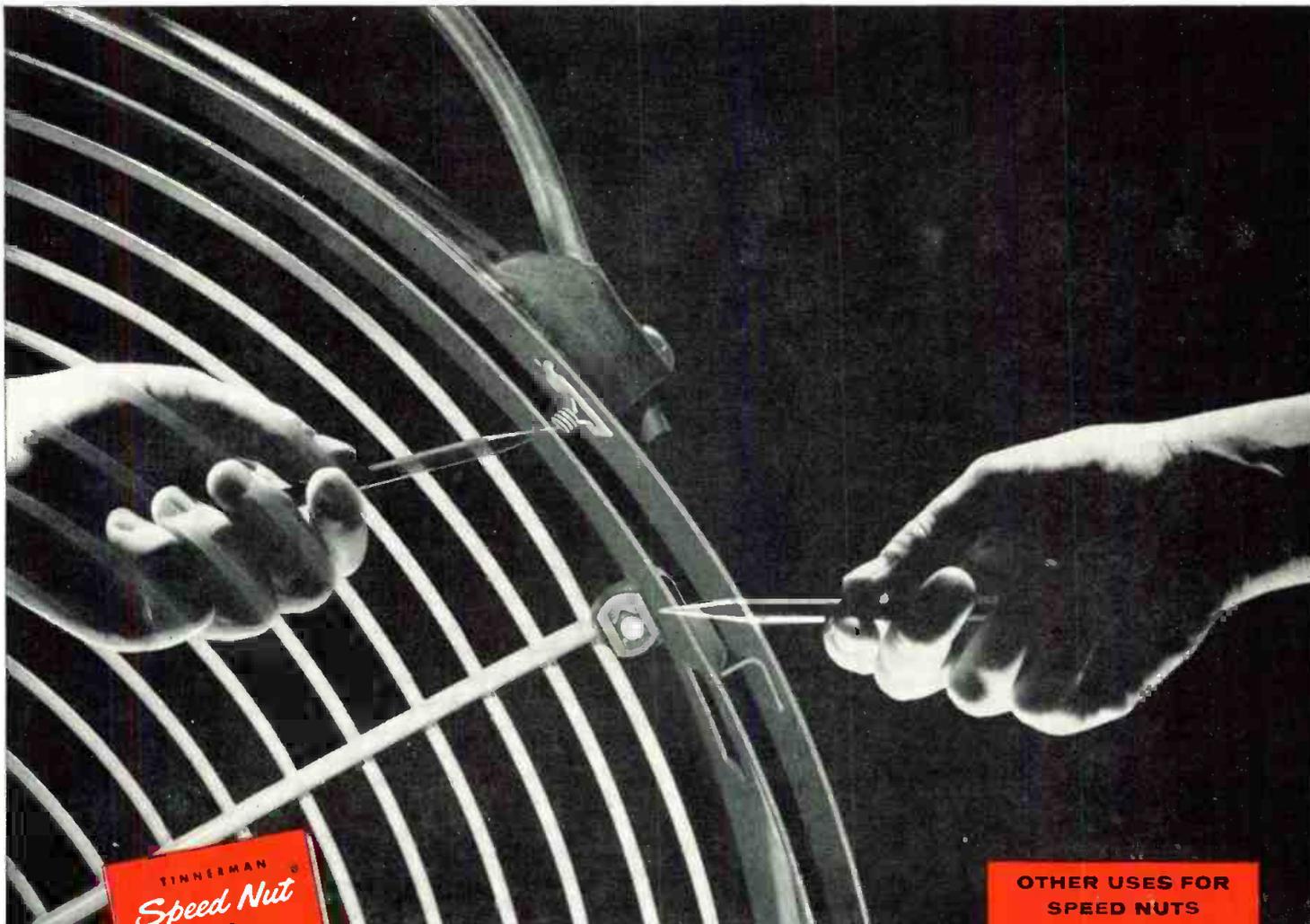


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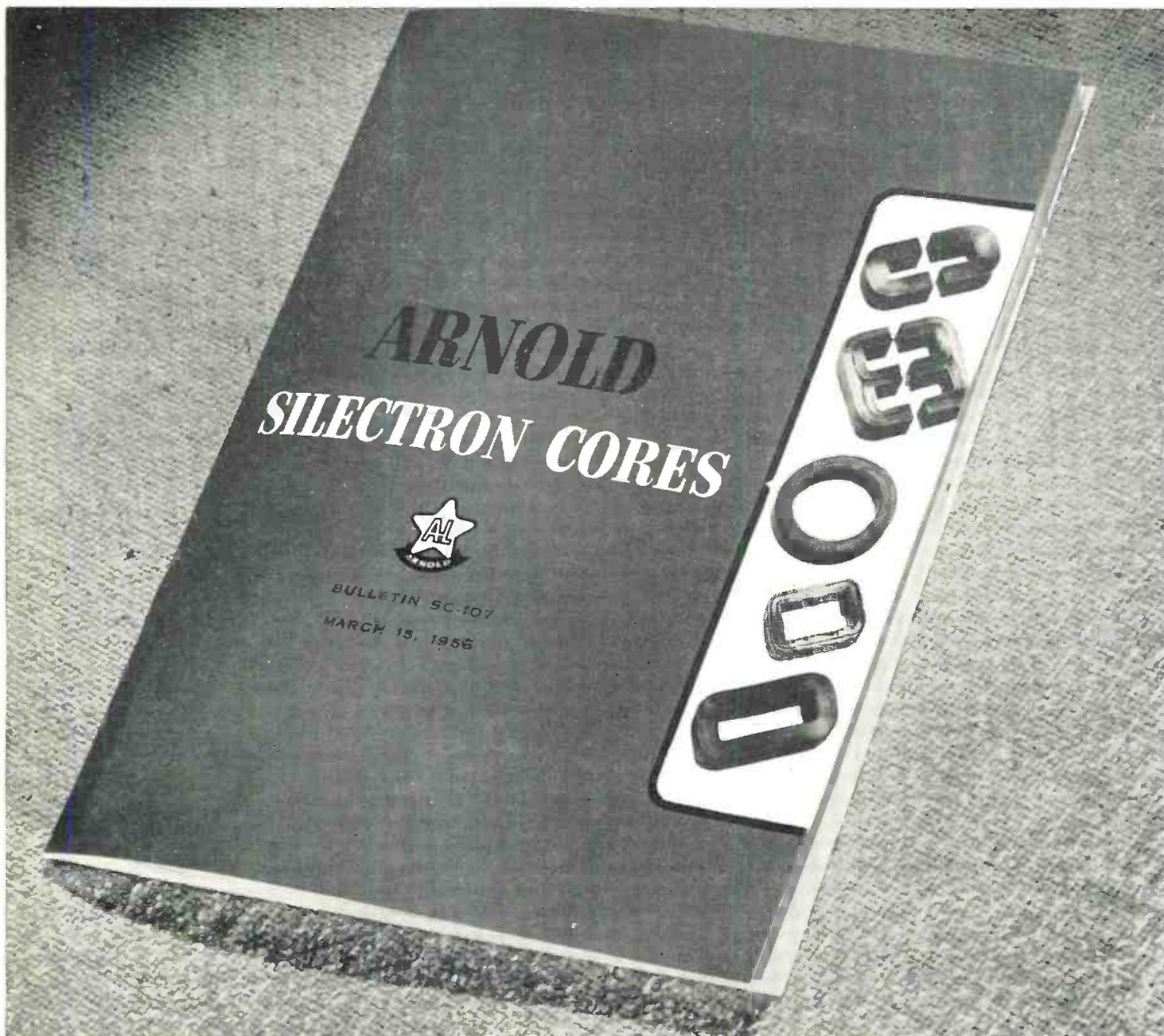
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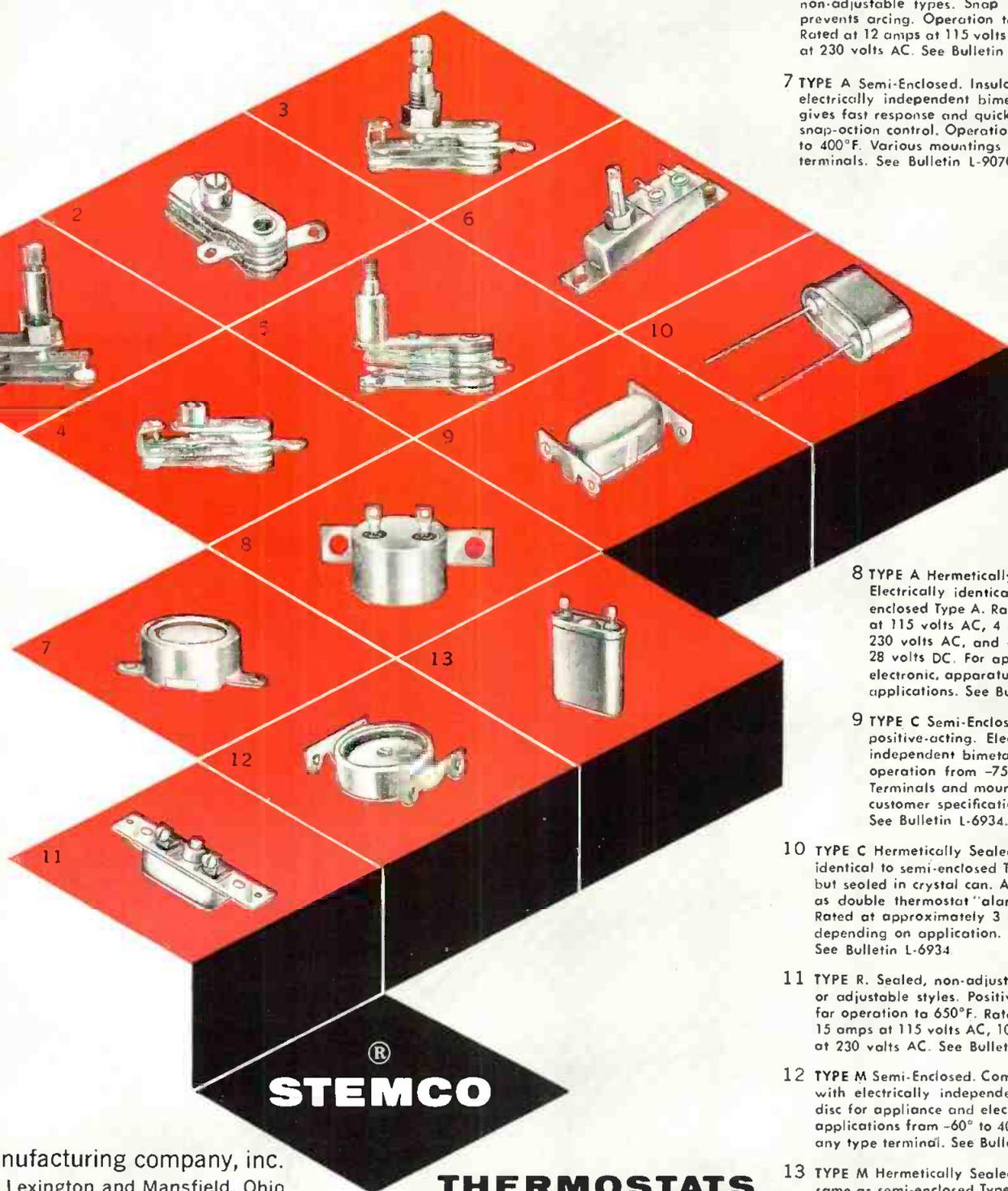
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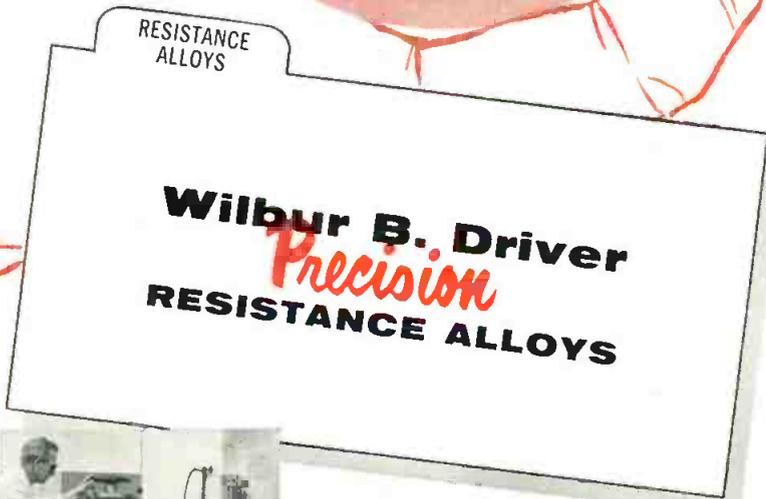
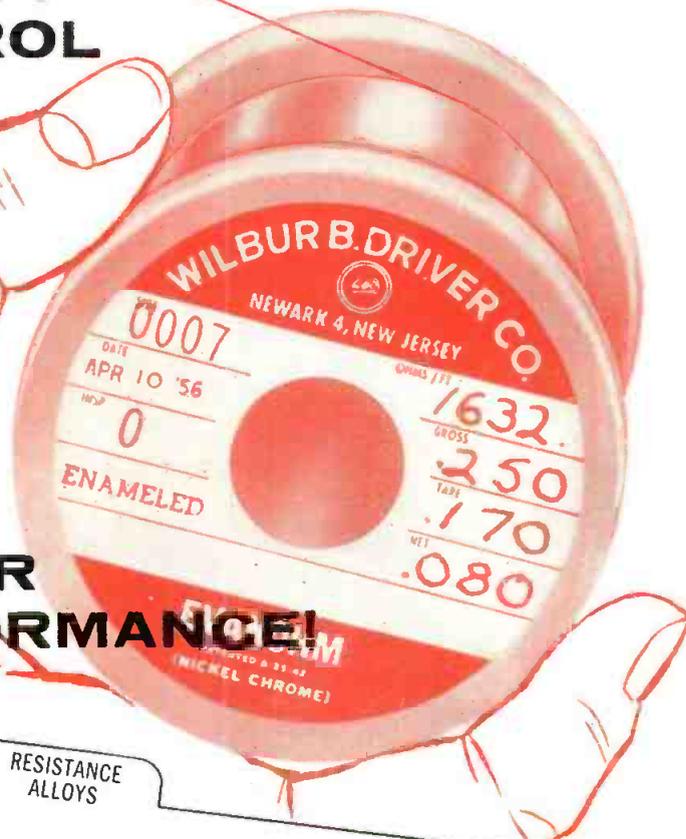


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Finned Magnetron

(Continued from page 101)

Forced Air Cooling

In a particular case, a magnetron dissipating 250 w. in a cylindrical volume approximately 1½ in. in diameter and 1 in. long was to operate with an anode hot spot temperature of only 40°C above the entering air temperature. From Eq. 2, the (hS)_{required} for this is 6.25 W./°C.

Cooling fins were designed for this magnetron with air as a coolant. A typical assembly with 9 stacked fins is shown in Fig. 2. The analytical approach that can be used to give a first approximation for this physical configuration is similar to that outlined in detail in reference 1 and, therefore, will not be repeated here. A cooling fin, economical and simple to manufacture, is shown in Fig. 3, the assembly of 9 of them requiring 37.5 cfm (sea level density) and a pressure drop of 8 in. of water across the unit to maintain an hS value of 6.25 W./°C, with inlet air at 30°C. This was a satisfactory design, provided the flow and pressure drop required could be provided. However, a request was made to cool this particular magnetron using less air horsepower. Consequently more efficient cooling fins had to be designed.

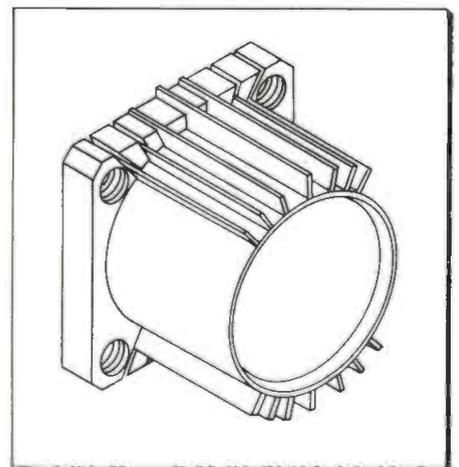


Fig. 8: Fins on output pipe

A number of different types of cooling fins were proposed, as shown in Figs. 5, 6 and 7. Since the effect of these refinements could not be accurately calculated, models (Continued on page 176)

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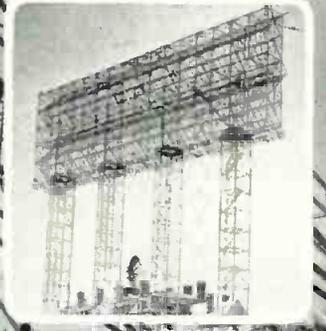
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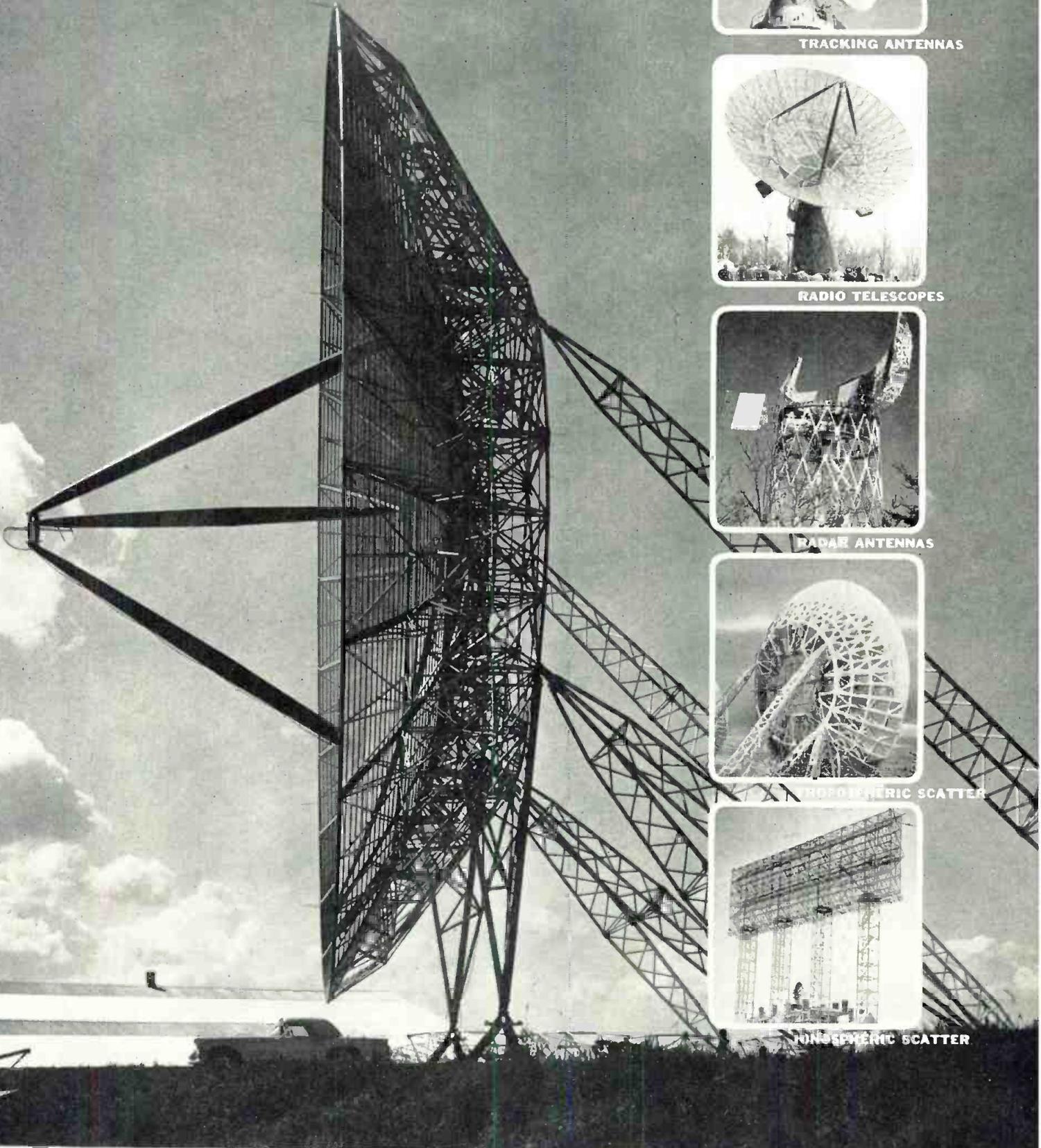
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Finned Magnetron

(Continued from page 174)

were built and tested. The dummy magnetron used for the tests with the various cooling fins employed a coiled nichrome wire heater, housed within a simulated anode block, and a r-f output pipe connected to the simulated anode block (see Fig. 2). The test equipment consisted of a positive displacement blower supplying air, metered by a rotameter, to a plenum chamber; the air passed from the plenum chamber through a transition piece into the magnetron.

For each set of cooling fins, temperature and pressure drop characteristics were obtained over a range of airflows. In all cases fin thickness was .030 in., with .080 in. between fins; overall fin length and width were approximately $3 \times 3\frac{1}{2}$ in. for all fins except the original fin (Fig. 3) which was approximately $2\frac{1}{2}$ in. sq. Inlet air temperature was 30°C. The location of the hot spot temperature $t_{s,max}$ is shown in Fig. 2.

A typical curve of $(t_{s,max} - t_{f,inlet})$ and pressure drop as a function of airflow is given in Fig. 4 for the set of original fins (Fig. 3). All 4 types of fin modifications, shown in Figs. 5, 6 and 7, gave substantial improvements over this original design.

Fig. 5 shows the first modification, a fin with deflector vanes. The purpose of the vanes was to force more air to flow over the output pipe, since the pipe temperature is close to the anode temperature and the pipe conducts much of the heat away from the anode. It was thought this would cause an increase in local h at this region for any given flow, and therefore demand less air to achieve the overall hS product required. The dummy magnetron with a set of this type of fins required only 29 cfm and 2.8 in. of water to have a satisfactory hS value.

An improvement over the fin of Fig. 5 was considered possible by deflecting all of the air more gradually over the outlet pipe, thereby increasing h locally, and reducing the loss associated with the turning. This could be ac-

(Continued on page 178)

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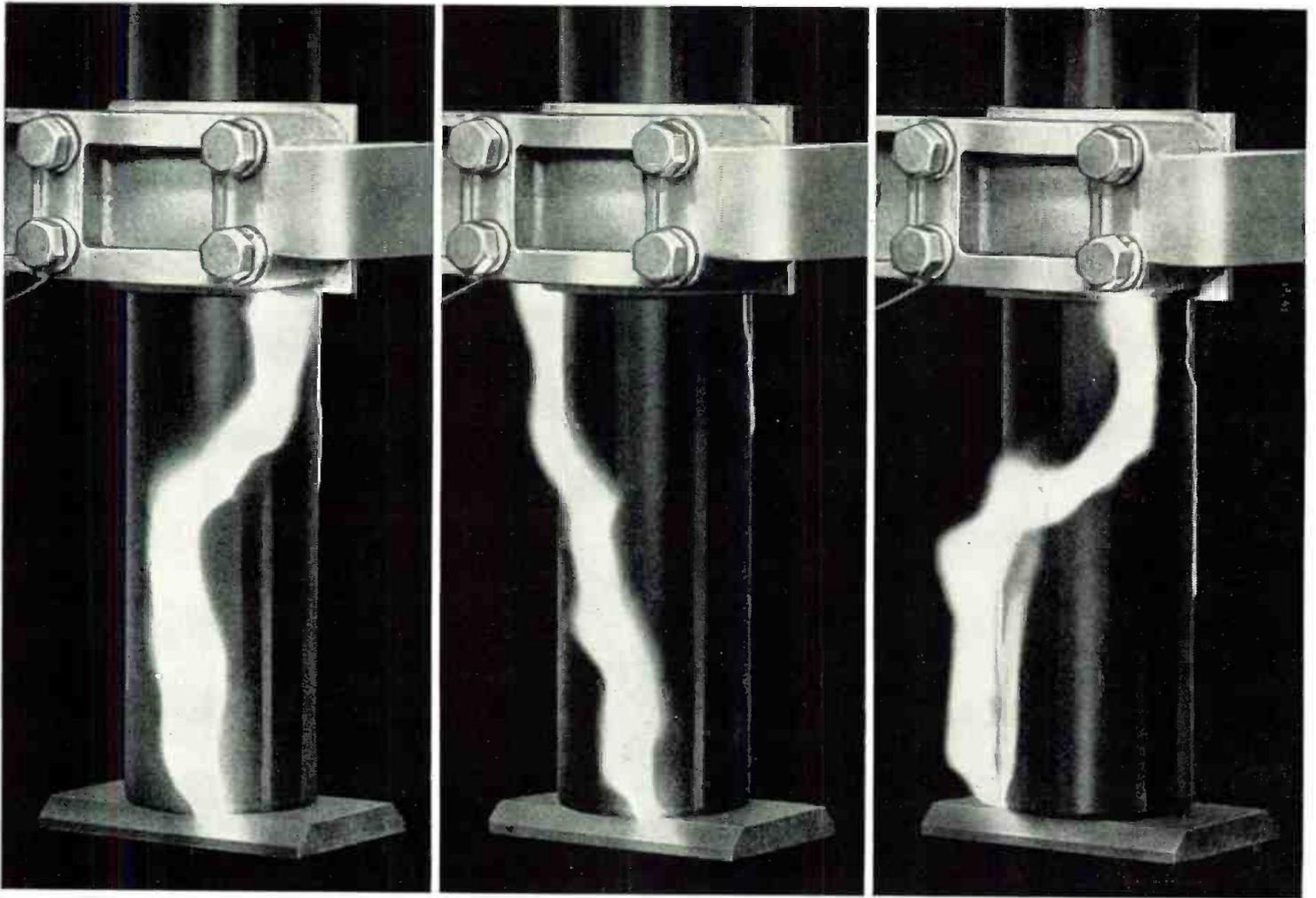
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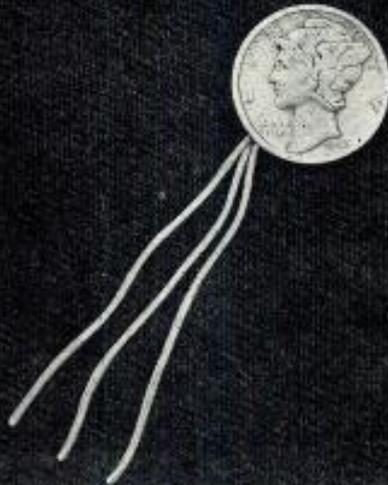


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Finned Magnetron

(Continued from page 176)

complished by streamlining the fin at the exit. A set of the fins shown in Fig. 5 did result in an improvement, 27.5 cfm at 2.1 in. of water being required.

The next attempt to increase the local h involved interrupting the flow over the fins by punchings and ribs. The effectiveness of the punching and ribs is largely due to their acting as a series of short plates with increased heat transfer coefficients due in turn to reduced boundary layer build-up. In designing these fins much attention was given to positioning the ribs and punchings so that the effect of the removal of metal on the heat conduction from anode to outer portions of the fins would be minimized. The fabrication of the fins with ribs and punchings is, of course, more costly than plain fins. The fin of Fig. 6 has punchings and ribs as shown and an assembly of these fins was quite effective, requiring 18 cfm and 2.2 in. of water.

Since streamlining the exit and the addition of ribs and punchings were so effective individually, a combination, shown in Fig. 7, was tried. This reduced horsepower further, requiring only 18 cfm at 1.9 in. of water.

A final thought was to put fins on the output pipe, as shown in Fig. 8. This would increase the heat transfer surface area on a part that is effective in transmitting heat from the anode. The idea was incorporated with the type of fin shown in Fig. 7. The result was an additional improvement, only 15 cfm at 1.8 in. of water being necessary to obtain the required hS value.

The data for these various fin-configurations are summarized in Table I. It can be observed that the air horsepower required to cool the magnetron was reduced by a factor of about 10 with careful cooling design.

Reference

A. L. London, "Air-Coolers for High Power Vacuum Tubes," *Trans. of the IRE*, Prof. Gp. on Electron Devices, Volume ED-1, No. 2, Apr., 1954.



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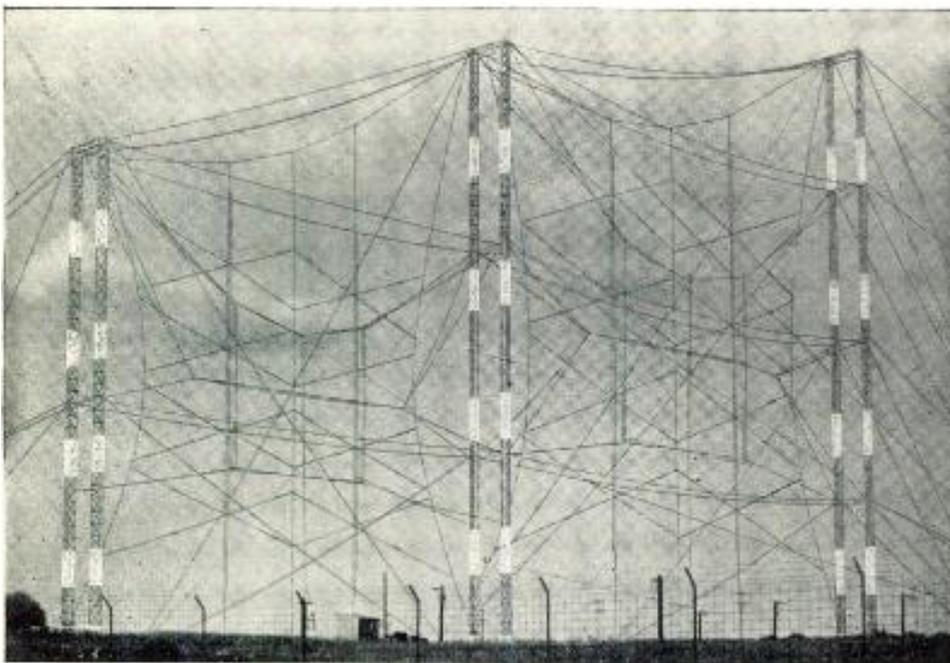


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ASDE Radar

(Continued from page 87)

side the ASR and PAR indicators. This installation was made just before the new tower was put in operation, and the radar was used there for a period of about one year. Fig. 2 is a photograph taken in the control tower showing the location of the PPI. It should be noted that this picture is a deliberate double exposure. An exposure was made during daylight with a black mask over the cathode-ray tube and, without moving the camera, a second exposure was made at night to catch the PPI display. This picture was taken before the second indicator was placed in the approach control room.

Fig. 1 is a photograph of the PPI display showing most of Idlewild Airport.

Although no formal report covering the use of ASDE at Idlewild was issued, there is no question that the controllers made good use of the equipment. The experimental equipment was not considered to be integrated into their operating procedures, but the controllers found it convenient and reassuring to glance frequently at the display at night or during periods of poor visibility. Further, they were able to make some improvements in their operating procedures based on information learned from ASDE.

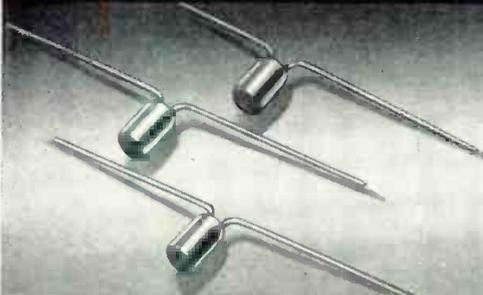
During the time that this modification program was under way, the Air Navigation Development Board came into existence. Since ASDE was considered part of the Common System equipment, it came under the jurisdiction of ANDB. However, the Air Force continued to handle the actual administration of the program from Rome Air Development Center. The operational tests that had been made with the original Taxi Radar and the early tests of the equipment modified for greater resolution had effectively demonstrated the potentialities of radar in the control of surface traffic. There was general agreement among the agencies concerned that the program should be pursued further, and specifications for an Engineering Model of ASDE were prepared, based on the results ob-

(Continued on page 182)

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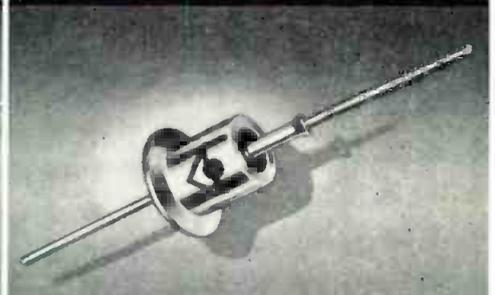
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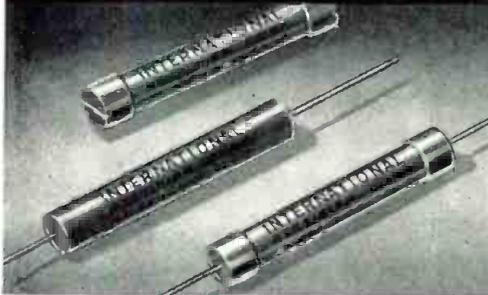
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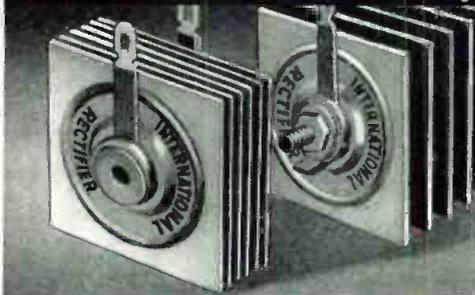
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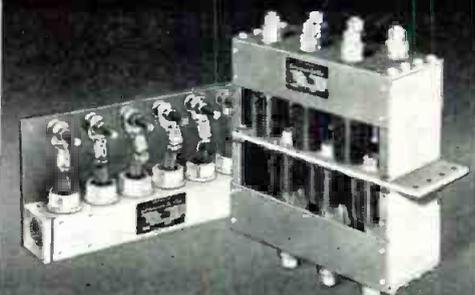
Self-generating photocells available in standard or custom sizes, mounted or unmounted. Optimum load resistance range: 10 to 10,000 ohms. Output from .2 MA to 60 MA in ave. sunlight. Ambient temperature range: -65°C to $+100^{\circ}\text{C}$. Bulletin PC 649

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Tele-Tech & ELECTRONIC INDUSTRIES • June 1956

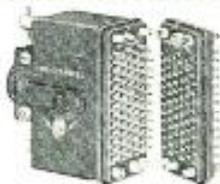
For product information, use inquiry card on pages 209-210.

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TWICE THE SPEED WITH DOUBLE LEAD

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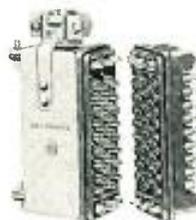
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ASDE Radar

(Continued from page 180)

tained from the Experimental Model. The radar system thus specified was to embody the best features of the Experimental Model and was also to have several improvements in its characteristics that experience had indicated would be desirable. The more important characteristics of the Engineering Model are as follows:

Frequency	24,000 Mc
Pulse width	0.02 μ sec (1/50 μ sec)
PRF	14,440 pps
Azimuth beamwidth	0.25°
Vertical coverage	Horizon to -25°
Antenna scan rate	60 rpm
Antenna polarization	Linear or circular
I-F amplifier pass-band	80 to 180 Mc
PPI, cathode- ray tube	Special 16 inch
Off-centering	-1 radius, any direction
Sweep speeds	1/2, 1, 2, 3 miles per radius

Work on the Engineering Model of ASDE got under way at AIL in the spring of 1953. Fabrication of the equipment was preceded by a design study to overcome the deficiencies of the Experimental Model and to improve some of its basic performance characteristics.

At the outset of this program, a review was made to determine whether or not one of the adjoining frequency bands would prove more desirable. Components for both the 16,000-Mc region and the 34,000-Mc region had become available. From an antenna-beamwidth standpoint, it might appear desirable to increase the frequency, though the surface accuracy of the reflector would then become increasingly difficult to achieve. From a weather standpoint, atmospheric absorption was found to be no problem at all compared with back-scattering from rain; this would favor the use of the lower fre-

quency. After consideration of all the factors involved—including the use of circular polarization—the conclusion was reached that other frequencies offered no real advantage. Considerable experience gained at K-band made it seem advisable to retain this frequency.

In the Engineering Model, the 0.02- μ sec transmitter pulse is produced by a hard-tube modulator driving a K-band magnetron. The peak power of the transmitted pulse is between 30 and 50 kw. A hydrogen thyratron pulser is used to excite the modulator and to control the pulse duration. The pulse repetition frequency of 14,400 pps was chosen to give ten pulses per beamwidth. An investigation into the use of a hydrogen thyratron modulator demonstrated that thyratrons large enough to do the job would not de-ionize rapidly enough to operate at this prf. However, the smaller thyratron used in the driver circuit has proved very stable and trouble-free. One advantage of the short pulse is the fact that the operation of the magnetron is isolated from any reflections in the waveguide that occur more than 8 ft. from the magnetron. It is interesting to realize that this magnetron, operating at 24,000 mc, generates 480 cycles during a pulse.

The antenna reflector is 12 ft. wide by 4 ft. high. The horizontal cross section is parabolic, while the vertical cross section is shaped to fan out the elevation beam. The vertical radiation pattern has a modified cosecant-squared distribution extending to 25° below the peak of the beam. This provides close-in coverage of the ground—for instance, giving a minimum range of 200 ft. when the antenna is mounted at a height of 100 ft.

A better conception of the electrical size of the antenna can be had by considering that 12 feet represents about 300 wavelengths, or that an equivalent antenna at S-band would be almost 100 ft. wide by 30 ft. high. The tolerance on the surface of the reflector is quite severe. In order to be certain of a sidelobe level of 20 db below the peak of the beam, it is necessary to hold the surface to within $\pm 1/64$ inch of the desired shape. To keep the mechanical design of the an-

(Continued on page 184)

Complex Machine Tools Computer Controlled

A new numerical control device that operates complex machine tools by means of digital instructions which are automatically computed and recorded on magnetic tape has been developed by Electronic Control Systems, Inc., an affiliate of Stromberg-Carlson and a subsidiary of General Dynamics Corp.

This device, called "Digimatic," consists of 2 principle parts, a planning desk, the main part of which is a high-speed decimal computer and tape recorder, and a machine control unit which governs the operation of the machine tool from instructions on the magnetic tape.

A demonstration was given in which a typical precision cam was milled from a metal blank, with the magnetic tape controlling all the operations of a vertical milling machine. To prepare for this demonstration, the dimensions of the finished part were fed into the planning desk in sequence, through a keyboard resembling that of an adding machine. The computer converts the dimensional

data into the proper numerical instructions and records it in pulse form on the magnetic tape. The tape is then played back into the machine control unit, which controls the milling machine with servomotors. Tolerances of .001 in. or better are obtainable.

One of the big advantages of "Digimatic" is that any competent machinist who can read a blueprint can learn to program the device with a minimum of training.

Radiosondes Probe Sky 20 Miles Up

Experimental balloons weighing less than 2 lbs. but carrying almost 5 lbs. of weather gathering equipment now are probing areas more than 20 miles aloft and sending back hitherto unobtainable information on atmospheric pressures, temperatures, and humidity through a small radio transmitter.

Incorporated in the radiosonde is a high-altitude hypsometer that gives accurate pressure measurements above 85,000 ft. It allows computation of altitudes and winds to a much greater degree than was possible with standard radiosondes.

Transistor Portable

The following information is published as a supplement to the "1956 Transistor Portable Design" survey which appeared in the April, 1956, issue of *Tele-Tech & ELECTRONIC INDUSTRIES*. Since that date, details on this receiver have been made available.

ZENITH

Model 500

Dimensions: 5 $\frac{3}{4}$ x 3 $\frac{1}{2}$ x 1 $\frac{1}{2}$ in.

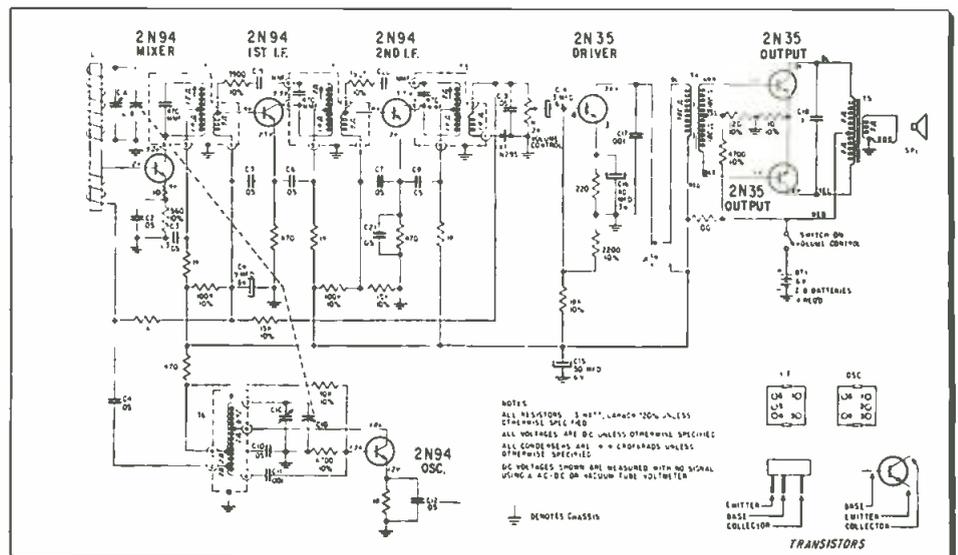
Weight: 19 ozs.

Power Supply: 6 v.

Features: Bat. Max. pwr. out. 180 mw; battery life—approx. 100 hrs.; optional earphone



500



for COLOR TV
Distributed-Constant Type T 30036. Phase characteristics linear within 5% to 4 mc.



for GUIDED MISSILES

Encapsulated multiple-tap Type 384. Stabilized for rugged environments.



for COMPUTERS

Miniature encapsulated plug-in Type T 30009. Only 1 1/4" wide by 1 1/2" high.



Shallcross DELAY LINES

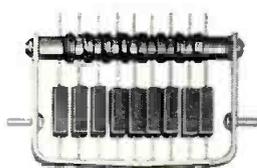
for LABORATORY DEVELOPMENT

Variable step Type 382. Total delay, 1.1 μ s in 0.02 μ s steps. Reflections less than 10%.



for RADAR

Multiple-section, open Type 380. Total delay, 0.33 μ s with 0.04 μ s taps.



for COMMERCIAL INSTRUMENTATION

Enclosed Type T 30030. Total delay, 1.5 μ s with 0.05 μ s taps.



These six Shallcross lumped-constant and distributed-parameter delay lines cover a wide variety of pulse, video, and timing circuit requirements.

Typical specifications are shown above. Modifications of total delay, tap delay, rise time, attenuation, impedance, bandwidth, dimensions, and mounting are readily possible to match individual requirements exactly.

For detailed specifications and dimensions of basic types, send for Bulletin L-38. A copy of Specification Sheet SS-7 will also be enclosed so you may fully outline your delay line requirements for a prompt recommendation by Shallcross Engineers.

ASDE Radar

(Continued from page 183)

tenna within practical limits, the surface tolerance was relaxed to $\pm 1/32$ inch, but with certain conditions on how this could be distributed. For instance, this tolerance could not be allowed to occur in a periodic fashion—in the form of a ripple in the surface.

The reflecting surface is made up of a 2-inch-thick fiberglass-reinforced plastic skin. The reflector was fabricated directly on a precision mold to obtain the desired shape. A tubular aluminum structure is used to support the reflector and provide the necessary rigidity. The measured radiation patterns of the finished antenna have been found to be in good agreement with the original design.

The feed for this antenna is arranged to give either linear or circular polarization, with selection possible from the PPI. Circular polarization is provided to discriminate against signals returning from rain drops, a technique that has proved very effective for other radar sets. Although no quantitative measurements have been made, a pronounced reduction of the signal return from rain has been observed when the feed is switched to circulation polarization.

At the input of the receiver, a conventional branching-circuit duplexer uses a broad-band TR tube. Balanced mixers are used for both the signal channel and AFC channel. The signal i-f amplifier has a bandwidth of 100 MC centered at 130 MC—in other words, a pass band extending from 80 to 180 MC. The i-f amplifier is made up of a low-noise preamplifier, followed by nine stages of distributed amplification. Each distributed-amplifier stage contains six tubes, making a total of 54 tubes. The tube employed is the military version of the 6AK5—the 5654. While 54 may seem an excessive number of tubes, investigations into other methods of obtaining the required gain and bandwidth have shown that the distributed-amplifier technique is the most desirable. No other design has been found that offers real savings in tube cost, total power drain, or simplicity of construction.

Shallcross

MANUFACTURING COMPANY
518 Pusey Avenue, Collingdale, Pa.

Getting back to the front end of the i-f amplifier, the low-noise pre-amplifier uses a type 416B triode in a grounded-grid circuit. The i-f noise figure is about 5 db, and the overall receiver noise figure is about 19 db. An AFC system is utilized that is relatively simple and has proved quite effective. This is a dual-channel system, in which two narrow-band i-f amplifier channels are used, each with a bandwidth of 10 MC. One of these channels is tuned to 20 MC below the center frequency of the i-f amplifier, and the other is tuned 20 MC above the center frequency. These amplifiers effectively sample the energy content of the spectrum of the i-f pulse on either side of its peak. When the receiver is properly tuned, the i-f spectrum will produce equal outputs in the two channels. Any unbalance in the outputs of the two channels signifies improper tuning. This unbalance is detected and used to correct the local-oscillator tuning.

The remainder of the receiver contains a distributed detector, video amplifier and line drivers, gain control circuits, and a sensitivity-time-control circuit.

In the PPI, a special 16-inch cathode-ray tube preserves the high-resolution capabilities of the system. Although the tube has no unusual or unique characteristics, it does represent a combination of the best known techniques to give high resolution for this application. The resolution obtainable is better than 1000 lines/diameter.

Instead of the usual servo system to drive the rotating deflection yoke in step with the antenna, a simplified synchronous motor drive system has been devised. In this system, an alternator is geared to the antenna at about 80 times the speed of the antenna. The 80-cycle voltage from the alternator is used, after amplification, to excite a synchronous motor in the PPI that drives the deflection yoke through a corresponding gear train. The system is designed to hold the deflection yoke within ± 0.1 degree of the relative position of the antenna and hold this accuracy in the face of the greatest accelerations to be expected from the antenna. This system has many possible

(Continued on page 186)



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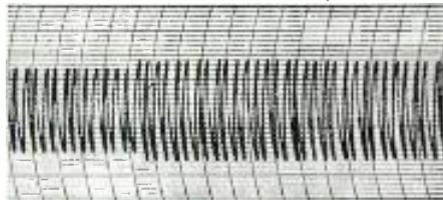
TUBES for COMMUNICATION

Radio Corporation of America • Harrison, N. J.

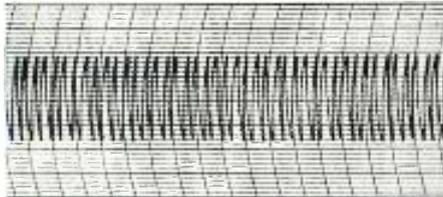
Regulation in less than $1/50$ th cycle . . .

ASDE Radar

(Continued from page 185)



Output of typical electromechanical regulator.



Output of Curtiss-Wright Distortion Eliminating Voltage Regulator from same input. Actual oscillograms of 60 cps voltage.

Actual 60 c.p.s. waveform

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Faster recovery time (less than $1/50$ th cycle, or 330 microseconds) plus the unique ability to eliminate line distortion — these are the reasons why the Curtiss-Wright Distortion Eliminating Voltage Regulator has been chosen by more and more laboratories and production test departments. Besides general laboratory use, this line regulator provides sim-

pler, more accurate calibration of meters . . . better design of transformers, synchros, motors . . . easier testing of such components, with fewer rejects . . . easier, more accurate measurement of magnetic properties and receiver sensitivity . . . better a.c. computer performance . . . elimination of fast line transient effects. Write for details.

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lock-in positions of the deflection yoke with respect to the antenna, so that a simple cam-operated servo system is used to maintain picture orientation.

The design of the deflection system for the cathode-ray tube offered some difficult problems. As mentioned, the sweep is produced by a rotating deflection yoke. Surrounding this is a stationary deflection yoke used for off-centering. The sweep yoke requires 2 amperes peak for one diameter of deflection: on the fastest sweep, the voltage across the coil is about 1000 v. The voltage induced in the off-centering coil by transformer action from the sweep presented another problem. In the off-centering coil it was necessary to use a small number of turns at high current to minimize interaction from the induced voltage. The current for the off-centering yoke must be well regulated to preserve picture stability. This has been accomplished by the use of a carrier modulator-amplifier-rectifier combination, in which the d-c output is maintained equal to a reference voltage. The output voltage is compared with the reference voltage, and any error is used to control the input to the carrier amplifier—and thus the rectified d-c output of the amplifier.

The indicator consists of a display console and a separate equipment cabinet. In order to ease the maintenance problem, an effort was made to keep as much of the equipment as possible out of the display console. Since the equipment cabinet can be located out of the operations room, it will be much more accessible for maintenance.

The resolution obtainable from the Engineering Model of ASDE is shown in Fig. 4. This was obtained during the shake-down tests of the equipment and shows a four-engine aircraft (DC-6) at a range of 0.4 mile. This portion of the 16-inch-diameter PPI is shown at full scale. The airport was covered with snow, and the runways are outlined by the snowbanks along the runways.

(Continued from page 89)

tioned so as to produce a step function of suitable amplitude in all three output signal components. To attain the required precision, this technique demands much care in execution, particularly because the total rise time of a step function in the Q channel is very long as compared to the tolerance. A high order of oscilloscope stability is essential, both as to sweep trigger timing and pattern position.

A Simplified Procedure

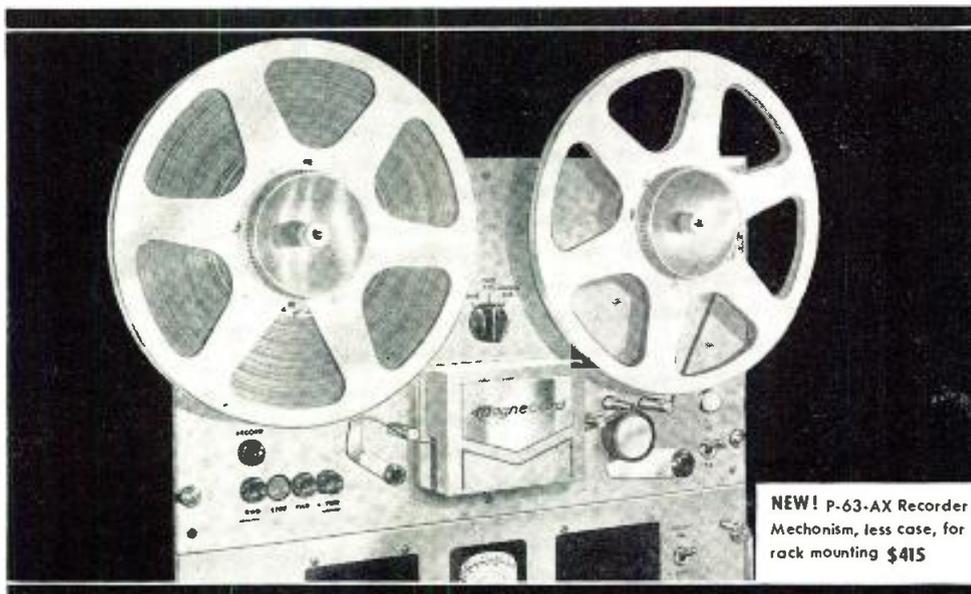
The awkwardness of the direct method can be avoided by use of a more rapid and equally precise technique. A special, easily-generated color-bar pattern can be employed that will provide a sensitive indication of chrominance-vs-luminance delay. The technique is based on the fact that equal, but opposite, simultaneous transitions in the three signal components must, of necessity, produce equal, but opposite, waveform patterns in the composite signal. A narrow gray bar of high luminance, and having sharp edges, in a color field of constant value and low luminance provides an extreme case of such a pair of transitions. Such a pattern is a valuable tool for luminance-vs-chrominance delay indication, since it must present a symmetrical waveform pattern if delays are correct.

Since the pulse rise time of the color signal component is longer than the luminance component, it is apparent that some chroma will overlap the leading and trailing edges of such a gray bar in a color field. This phenomenon will appear on a waveform presentation as two "horns" of subcarrier riding on the top of each edge of the gray bar pulse, as will be illustrated. In a normal signal, these two "horns" cannot be readily compared for symmetry, because of the subcarrier-vs-sweep rate lock-in feature of the NTSC signal. The exact position of the in-

(Continued on page 188)

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(Continued from page 187)

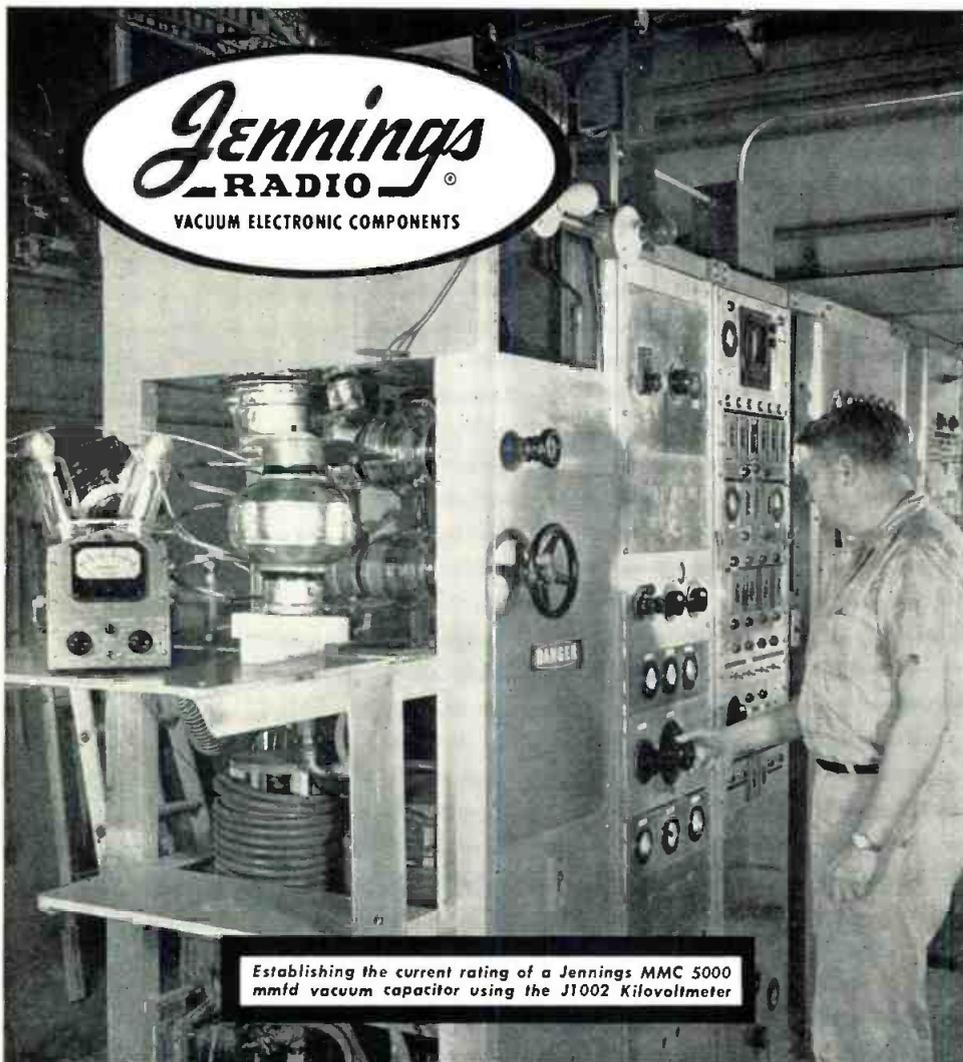
dividual cycles of subcarrier relative to the pulse position tends to confuse any judgment of symmetry. If the subcarrier lock-in is de-activated for the purpose of the test, however, a smooth and complete envelope of the chroma-signal transient response will become distinctly apparent.

The choice of an optimum signal configuration for this test method can be determined within narrow limits by a few elementary considerations. The amplitudes of the chroma subcarrier envelopes (both I and Q components) and luminance (Y) pulse should be roughly equal and of adequate level. In addition, it is desirable that the primary components (RGB) be formed simply by resistance matrixing of pulses of identical polarity to alleviate any suspicion of delay differentials in the special color bar signal source. These conditions are met by using a red-magenta background color field with the red and blue components proportioned to produce equal values of I and Q. An oscillogram of the primary component waveforms is shown in Fig. 1 and the resultant encoder output is illustrated in Fig. 2.

The Unibar Generator

The circuitry needed to generate these waveforms is simple in nature. The three primary pulse signals are derived from only two pulses, a wide one to define the limits of the color field and a narrow one for the gray bar. Inasmuch as the pattern is intended for oscilloscope examination only, there is no necessity for provision of vertical rate blanking, avoiding one of the complications of generating color-bar patterns for monitor display or systems transmission.

A circuit using seven dual triodes satisfies this requirement. A block diagram is given in Fig. 3, above. Adjustments are provided for width and delay of both pulses, as well as balancing controls for level equalization to eliminate all chroma in the gray



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bar. The range of the pulse delay adjustments is such as to permit placing the narrow gray bar close to the beginning of the line interval to permit detailed examination with a minimum of demand on the oscilloscope delay and expansion circuits.

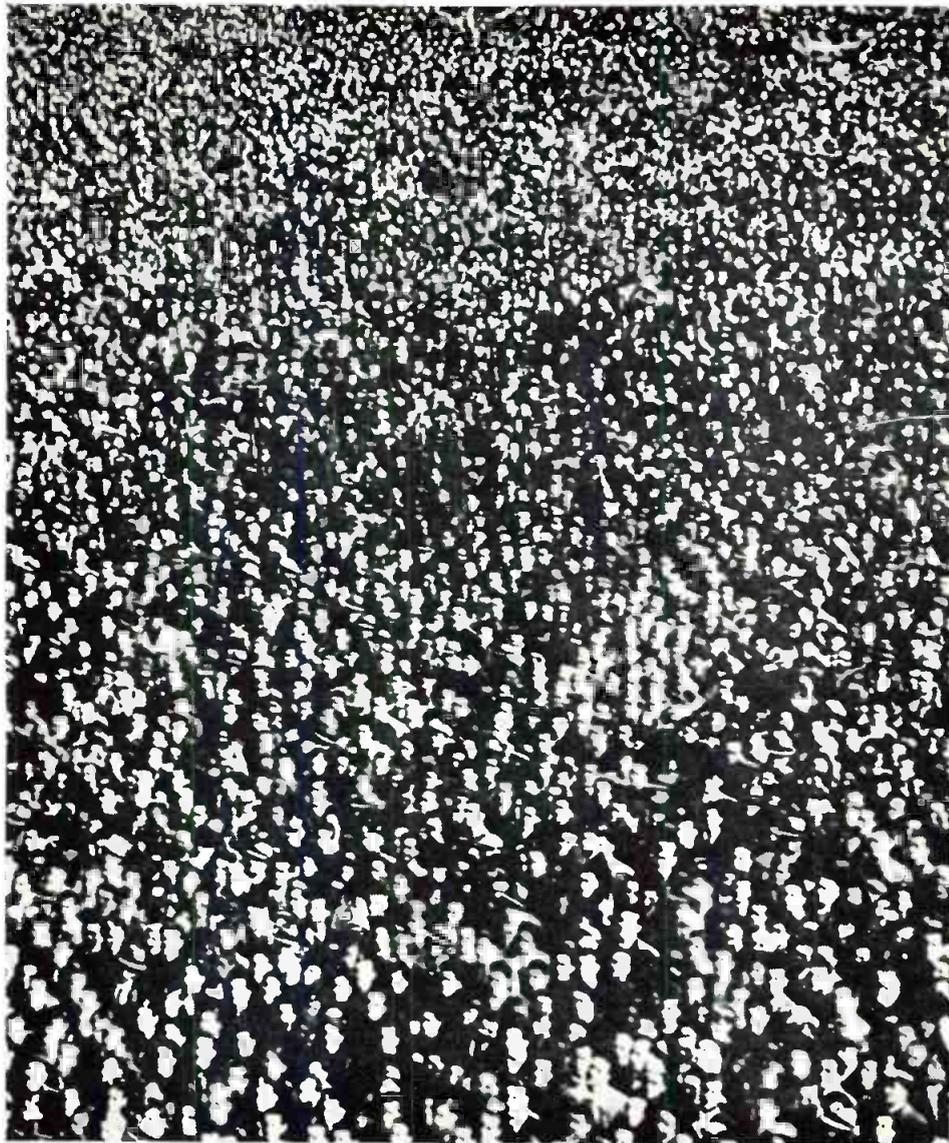
The shape of the edges of the narrow (gray) pulse as generated is of interest, since inherent symmetry is essential. In addition, the rise time of the pulse edges should be such as to permit it to be passed through the luminance channel of a typical encoder without serious effect on its symmetry. It has been found that a rise time of 0.2 μ secs is the shortest that will meet this requirement, as shorter rise times tend to produce in the average luminance channel an overshoot of sufficient amplitude to confuse the desired final symmetry indication. Fortunately, simple capacitive loading in the narrow pulse amplifier of the unibar generator can produce an output pulse of adequate symmetry with this rise time. An oscillogram of the narrow pulse (the green output of the unibar generator) is shown in Fig. 4.

Encoder Application

To check chroma-vs-luminance delay in an encoder, independent tests are made of Y vs Q delay, then I vs Y delay. The delays are stated in this order because, although the Y signal is used as a reference, the Q delay is normally fixed by the characteristic of the Q channel filter. Any required adjustment is accomplished by changing the lengths of the Y and I delay cables.

Checks are made of each chroma signal's delay relative to luminance, deactivating the circuits of the encoder that produce the unwanted chroma signal component. It has been found that a narrower gray pulse width is desirable for checking I vs Y delay than for checking Y vs Q. The optimum widths are roughly 1 μ sec for I and 2 μ secs for Q.

A series of oscillograms are shown in Figs. 5 through 12, to illustrate typical appearances of
(Continued on page 190)



Are You an Engineer Who is lost in the Mob?

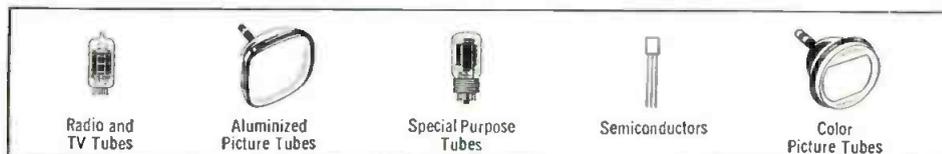
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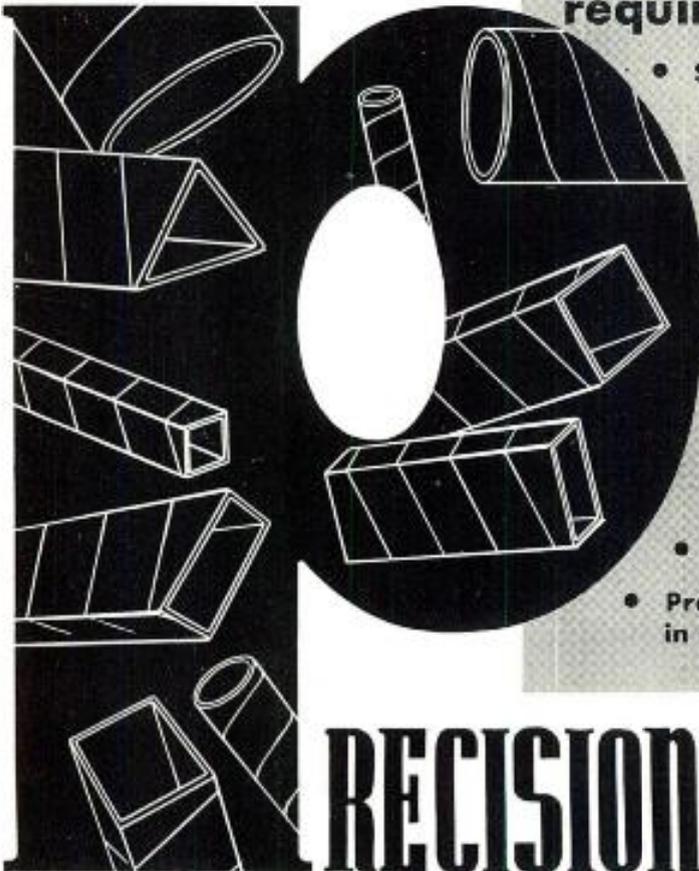
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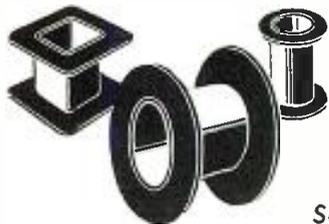
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Color TV

(Continued from page 189)

correct and incorrect delay adjustments. It is apparent that an error in Y vs Q delay of .05 μ secs (the FCC tolerance) is readily observed. For I vs Y delay, errors of .02 μ secs can easily be detected. This sensitivity can be matched by the direct measurement methods only with a great deal of care.

Decoder Application

The unibar generator encoded signal with correctly-adjusted delays is an ideal calibration standard for receiver delay adjustment since its self-proving feature makes it completely trustworthy. An adequately sensitive indication can be obtained by examination of the picture monitor display for symmetry of appearance of the edges of the bar. A more precise determination might be accomplished by a special test matrix of Y, I and Q decoded signals in opposed-polarity pairs to facilitate oscilloscope waveform examination of the residual edge transients for symmetry.

Optical Radar

(Continued from page 111)

than 360/30 or 12 sides to the mirror. At present, a 4-sided mirror and a maximum scan angle of 30° are used. Hence, the mirror turns through 15° for a single full scan. Since there is 90° between facets, there is a dead time of 90-15/90 = 83.3%.

If it were desirable to keep the same time scale as real radar 10.8 μ s/mi. with say, a maximum scan angle at λ m, the parameters would have to be arranged as follows:

Let T = time in microseconds.

M = maximum range in miles.

λ m = maximum scan angle.

hen:

$$10.8M = \left(\frac{1}{360} \frac{2\lambda m}{\omega}\right) \left(\frac{10^6 60}{\omega}\right)$$

$$\omega = \frac{\lambda m 10^6}{13M}$$

or a 200-mile range and $\lambda m = 39^\circ$

$$\omega = \frac{3 \cdot 10^6}{200} = 1500 \text{ rpm}$$

The PRF with a 16-sided mirror would be:

$$\text{PRF} = \frac{\omega N}{60} = \frac{(1500)(16)}{60} = 400$$

E. Resolution. For ultimate realism, it is desirable that the system operate as efficiently as real radar, not more nor less. In the matter of resolution, one must of course specify a particular radar. The resolution in azimuth for radar is said to vary from a fraction of a degree to as much as 10° . The resolution in range of course depends on many things such as pulse width, range scale, the properties of the cathode ray oscilloscope used, etc. For example, on the 200-mile scale the resolution is not better than $\frac{1}{2}$ mile. The resolution capabilities of the pick-up device can be made better than radar if care is observed in the optical system. At present, two spots $\frac{1}{4}$ in. in diameter whose near edges are separated by $\frac{1}{4}$ in. along a radial can be resolved into two separate target pulses by the "pick-up" device when placed 10 ft. from the screen.

Azimuth resolution at present is about $\frac{1}{2}^\circ$. What is as important as equalling the capabilities of radar in simulating it, is not surpassing these capabilities. Adjustment to any desired degree of resolution can be accomplished on the pick-up device by merely replacing the round aperture in the optical system by two adjustable, mutually perpendicular slits, one in the plane of the multi-facet mirror rotation; the other perpendicular to it.

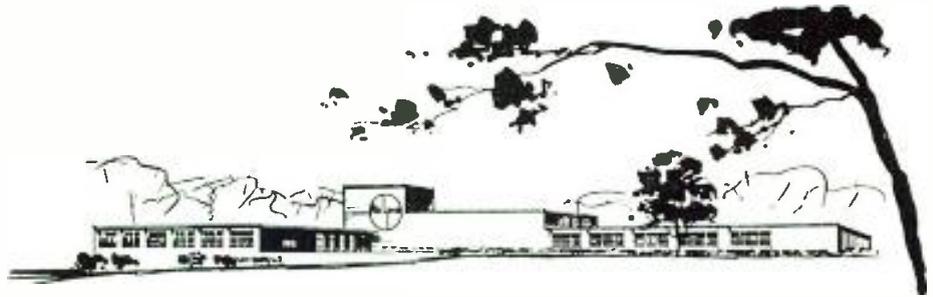
The above figures are, of course, average since resolution depends on many factors, both in real radar and in simulated radar as well.

Simulation of Additional Factors

A. Ground Clutter. Ground clutter is simulated in this system simply by projecting on the screen any prescribed contour of light. This contour is reproduced almost exact-

(Continued on page 192)

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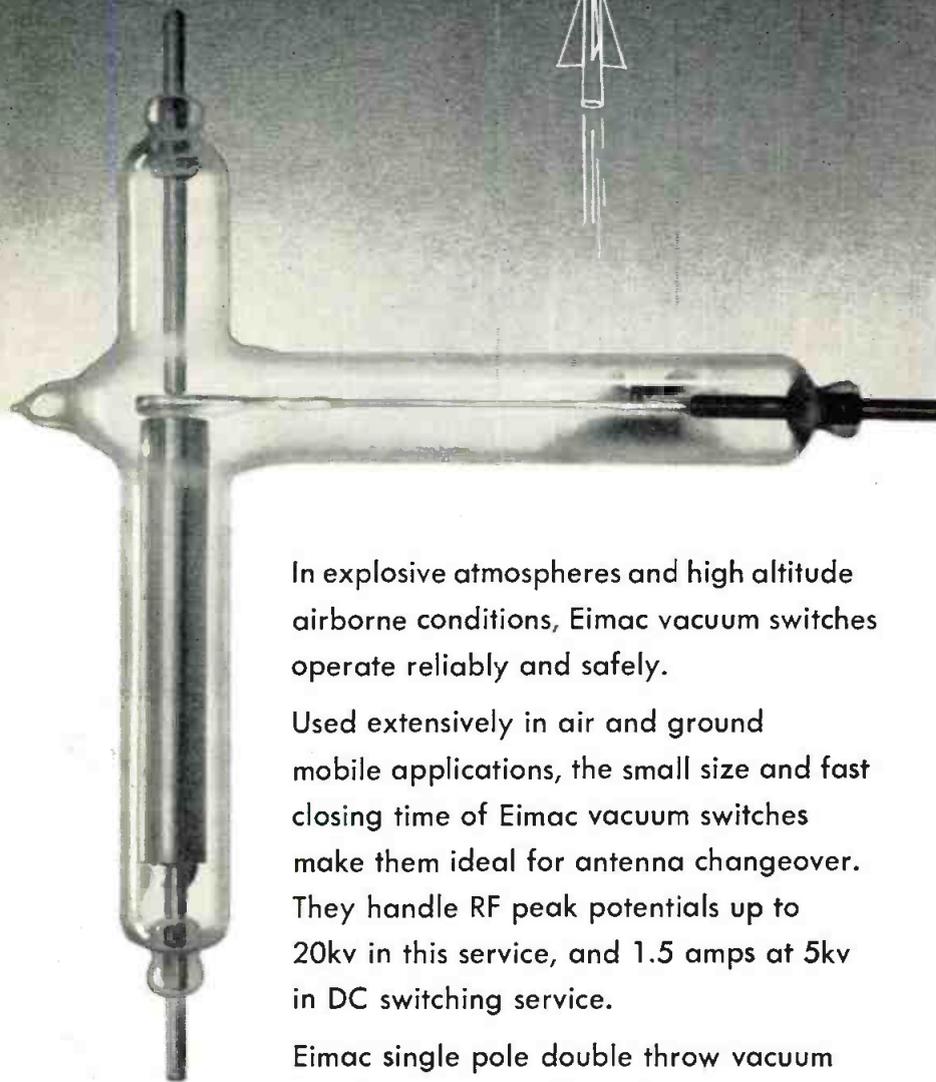
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Optical Radar

(Continued from page 191)

ly by the "pick-up" device on the radar indicator.

B. Noise. The 1P21 photo-multiplier tube is a natural noise generator. The white noise (or grass) can be varied in intensity by varying the level of ambient light. Almost any signal-to-noise ratio desired can be achieved.

C. Target Size. Since the size of the target image on the radar indicator resulting from the signals it receives from the "pick-up" device will be proportional to the size of the light spot, larger targets are simulated by larger spots.

D. Simulation of Altitude and IFF. Future plans involve simulation of altitude and IFF in addition to range and azimuth by means of modulation of the target lights. This is still in the experimental stage however.

Nonlinear Relation Between Range and Time

The time delay between the sending and receiving of a pulse from a radar antenna to a target is directly proportional to the range of the target. Unfortunately this linear relation does not exist between time and range in the present simulated system. As has been pointed out previously in the simulated system $R = h \tan \lambda$, $\lambda = h \tan 2\omega t$. Now for small angles ($\lambda = 20^\circ$) the approximation $\tan \lambda = \lambda$ is quite sufficiently accurate, and if the "pick-up" device is removed sufficiently far from the screen no problem arises. However, if space is limited and/or optical problems become serious at great distances, other solutions must be found.

One simple solution would be to use a non-linear scale on the face of the radar screen. However, this would introduce a degree of unrealism. Several schemes are now under consideration. One method involves producing a sweep voltage shaped like the tangent curve instead of the conventional sawtooth curve. Different methods for generating the tangent curve are now in the experimental stage but a few show good promise of success.

Direction Finders

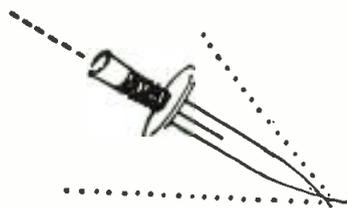
(Continued from page 92)

cates that the necessary screen structures, at the wavelengths in question, would be more cumbersome than appears acceptable. (The screens must be spaced from the antenna a sufficient number of wavelengths to avoid minimizing their effectiveness by diffraction.) Another possibility would be to eliminate ground reflection by suitable treatment of the ground in the vicinity of the antenna. Consideration of the geometry shows that, for low and moderate heights of the antenna above ground, all ground reflections contributing to the interference pattern take place fairly close to the antenna. As an example: For an antenna height of 20 ft., all points of reflection on the ground lie within a radius of 1000 ft. By imparting to the ground surface an adequate "roughness" in relation to the wavelength involved and thereby insuring random scattering of the incident waves, the effect of ground reflection would be practically eliminated. However, shaping the ground within a 1000 ft. radius would seem impractical.

Based on these considerations, a dual height diversity antenna arrangement employing two identical antennas was incorporated in the AN/CRD-6. Antenna heights of 20 and 26.6 ft., respectively, were chosen as a result of a detailed analysis of the two interference patterns to minimize coincidence of nulls. Fig. 5 shows the calculated signal strength at a 20 ft. and 26.6 ft. antenna as a function of distance from the D/F antenna site to the transmitting aircraft for a frequency of 394 MC. The solid curve represents the signal strength at the 20 ft. antenna and the broken curve the signal strength at the 26.6 ft. antenna. It should be noted that the nulls are not coincidental. A horizontal separation of approximately 75 ft. is maintained between antenna structures to minimize mast assembly reflections which might result in D/F bearing errors.

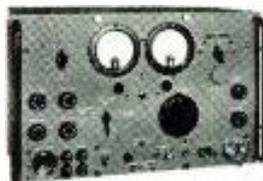
A comparator in conjunction with a single radio receiver automatically compares the signals furnished

(Continued on page 194)



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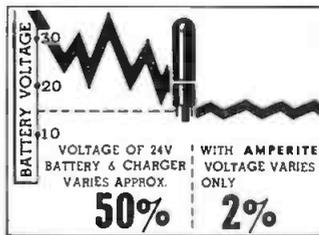
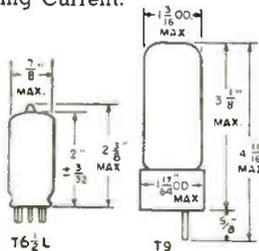
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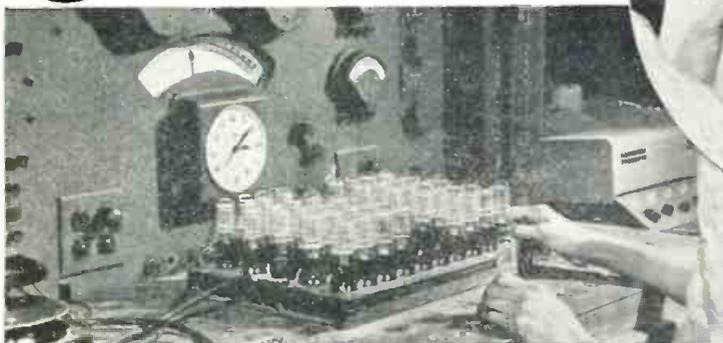
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Direction Finders

(Continued from page 193)

by each antenna, determines which antenna is furnishing the stronger signal, and connects this antenna through the receiver to the bearing indicator circuits. A simplified block diagram of this unit is shown in Fig. 8. Comparison of the two antenna RF outputs is accomplished by switching the receiver periodically from one antenna to the other and comparing the corresponding receiver output voltages.

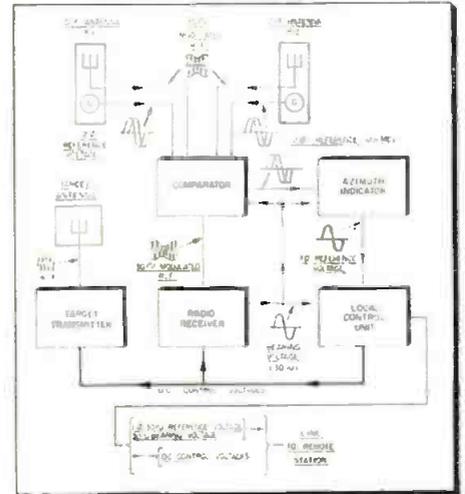


Fig. 9: Block diagram of local station

The antenna furnishing the stronger signal, called the "operating" antenna, supplies directional information for a period of approximately three seconds. The output of the other antenna called the "sampled" antenna is sampled for a period of 0.3 sec.

In analyzing the operation of the comparator (Fig. 8), assume that antenna #1 is furnishing the stronger signal initially and is connected, for approximately 3 sec. to the input of the radio receiver by means of the RF switching relay which is controlled by the multi-vibrator in the timing circuit. The 30 cycle demodulated D/F output of the receiver is applied to the indicator through the disabling relay and also to the amplitude comparison circuits where a DC voltage proportional to the antenna's signal voltage is stored. Simultaneously, the antenna's corresponding reference voltages are applied to the azimuth indicator

through the reference voltage switching relay which is also controlled by the multivibrator. After a lapse of approximately 3 sec., the multivibrator causes the RF switching relay to connect antenna #2 to the receiver for a period of 0.3 sec. During the "sampling" period, the disabling relay shorts the input of the bearing indicator so that the indicator pointer is not affected by the sampling operation. At the same time, the 30 cycle receiver output is applied to the amplitude comparison circuits where a DC voltage proportional to antenna #2's output is developed. If this voltage does not exceed that stored from antenna #1, the original cycle is repeated and the reference voltages are not switched. If, however, antenna #2 provides the stronger signal, the cycling operation is reversed and antenna #2 becomes the operating antenna, antenna #1 the sampled antenna and the corresponding reference voltages are switched to the indicator.

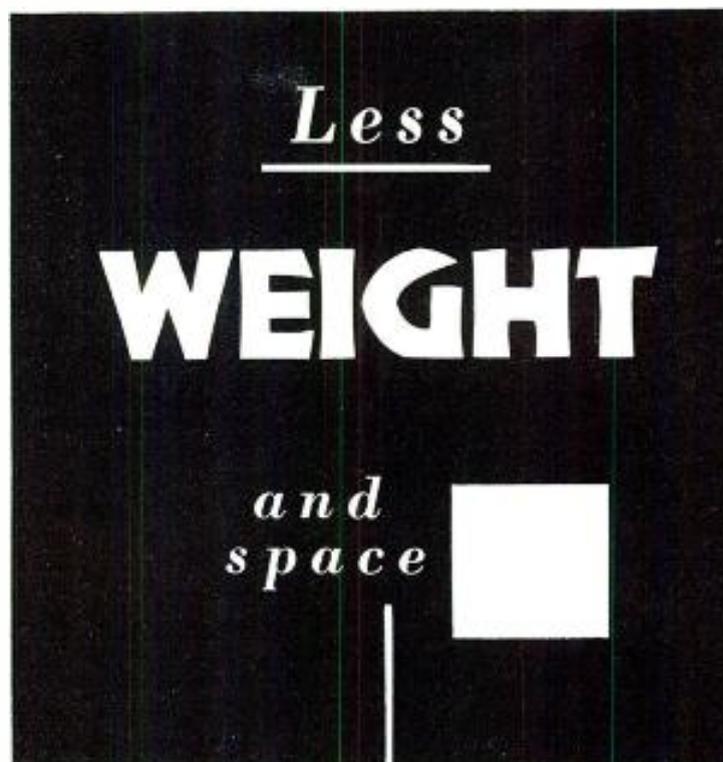
Other System Components

A block diagram of the complete local station is shown in Fig. 9.

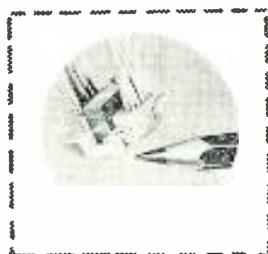
A standard Air Force developed, ground based, military UHF radio receiver is used in the AN/CRD-6 for amplification and demodulation of the D/F signal. The receiver is designed to provide reception of AM signals on any one of 1750 crystal controlled channels, spaced at 100 KC intervals from 225.0 MC. to 399.9 MC, 10 of which may be preset and selected automatically. The receiver is a triple conversion superheterodyne employing a crystal synthesizer utilizing 38 crystal units. These units provide the basic frequency control for the full 1750 channels. The receiver has a 3 μ v sensitivity for a 10:1 signal-to-noise ratio.

Special design features are incorporated in the receiver to provide satisfactory performance when used as part of the D/F facility. A separate D/F detector and low impedance cathode follower responsive to 30 cycles are provided. To minimize system instrument errors, the 30 cycle phase shift resulting from variations in signal amplitude, modulation percentage changes, and

(Continued on page 196)



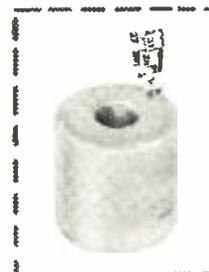
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Direction Finders

(Continued from page 195)

operating frequency changes is kept to a minimum. In addition, the receiver has a long AVC time constant of approximately 2 secs. to maintain the receiver gain constant during the sampling period so that the correct ratio of signals is maintained.

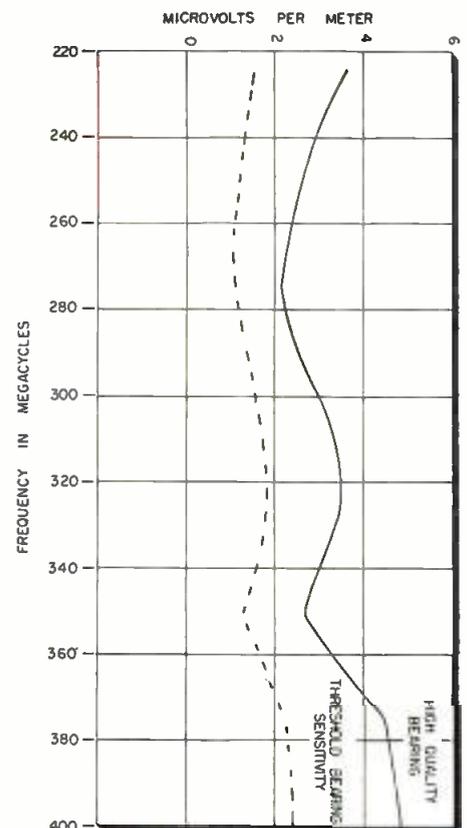


Fig. 10: Av. sensitivity of 16 systems

A target transmitter feeds an omnidirectional antenna placed accurately in line with the D/F antennas and the resulting signal is used for system calibration and self-check. This unit possesses crystal controlled channel capabilities commensurate with the D/F receiver and provides approximately 1 v. of signal energy to the target antenna cable. The unit is built to laboratory signal generator standards and has a calibrated adjustable output from 0.5 μ v to 0.5 v. in addition to the fixed 1 v. output. Both the receiver and transmitter were developed under an Air Force contract by Collins Radio Co.

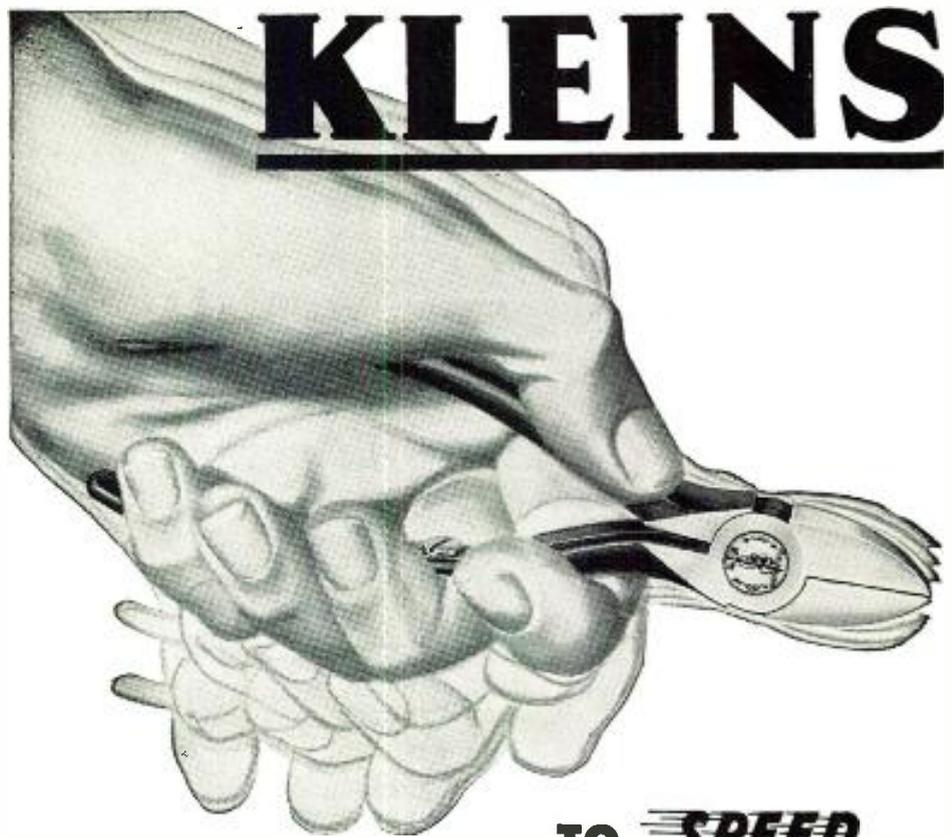
The local control unit in conjunction with a remote control unit permits complete control of the

local station from a remote point over two balanced pairs of telephone type cable and a ground return. The local control unit serves two primary functions: It transmits D/F intelligence to the remote stations and it exercises complete control of the local station upon the receipt of the proper electrical commands from the remote point. For remote operation, the D/F bearing voltage is amplified in the local control unit by means of a low distortion, high quality amplifier and matched to one balanced pair of the remote cable through a repeat coil. In a similar manner, one phase of the antenna reference voltage is amplified and matched to the second balanced pair of the remote cable.

The control circuits in the local control unit provides for system on-off operation, target transmitter operation, and channel selection on both the receiver and transmitter by means of a number of current sensitive and polarized relays. Several direct current possibilities are made available to the coils of one or more of these relays through contact arrangement and manual circuit selection at any one of the remote stations. The current possibilities are zero and various degrees of positive and negative currents. Phantom circuits are used to transmit the control currents over the same conductors used for the D/F and reference signals. The matched pair carrying the D/F signal serves as one leg of the circuit and the matched pair carrying the reference signal serves as the other leg. The ground circuit is used as the common connection. A block diagram of the remote station is shown in Fig. 7. For single remote station operation, the junction box shown in Fig. 7 is not required; only the remote control unit and the azimuth indicator which is identical to the local indicator are used.

The remote control unit receives the bearing voltage arriving over one of the balanced pairs and matches it to the phase meter circuits in the indicator at the proper level. In addition, the D/F signal is also amplified and fed to a loud speaker in the indicator for monitoring purposes. The single

(Continued on page 200)

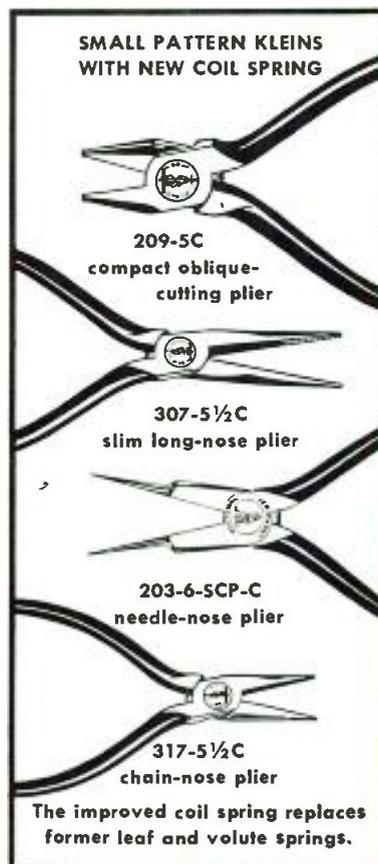


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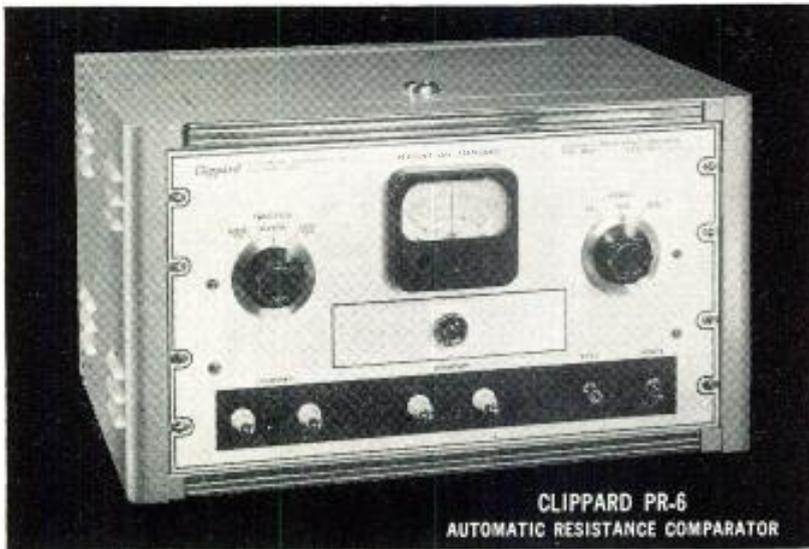
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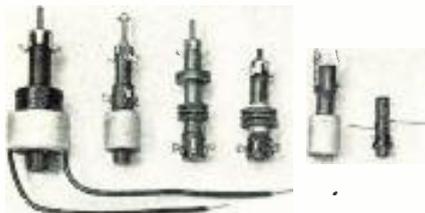
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Harry A. Lasure, Los Angeles, Calif., electronic factory rep for over 30 years, has retired from business due to ill health. Representation on all lines has been arranged for, so that service to the trade will continue without interruption.

Sid Levin and Associates, Cleveland, Ohio, have expanded their coverage on the Amperex Electronic tube line to include West Va., and western Pa., along with their Ohio territory.

Mordy M. Rhodes, formerly with Motorola Engineering, has joined forces with J. L. Cappels of J. L. Cappels & Associates, to form Cappels-Rhodes & Associates, Inc., manufacturers' reps, at 1214 W. Madison St., Chicago, Ill. The firm specializes in the direct sale of industrial electronic instrumentation.

Dougherty Enterprises, a Hawaiian manufacturers' rep firm, has established offices at 149 Kaimi St., Lanikai, Hawaii.

Robert A. Waters, Inc., Wayland, Mass., has been appointed New England rep for Non-Linear Systems, Inc., Del Mar, Calif.

Ralph T. Sullivan, 1551 N. Austin Blvd., Chicago 51, Ill., manufacturers' rep, is in the market for a line of plastic insulated wire.

Jack Berman, manufacturers' rep of Los Angeles, Calif., has been awarded the 1956 Distinguished Salesman's Award by the Sales Executive Club of Cleveland.

R. B. Dunning and Co., Bangor, Me., has been appointed authorized stocking distributors of ASCO solenoid valves, by the Automatic Switch Co., Orange, N. J.

Jack Carney, formerly with Gibbs Mfg. and Research Corp., has opened a reps office at 905 Knott Bldg., Dayton 2, Ohio, as Jack Carney and Associates.

Farnsworth Associates, 228 N. La Salle St., Chicago 1, Ill., is a new firm of manufacturers' reps covering Ill. and Wis.

W. E. Fry & Co., Inc., Kansas City, Mo., has been appointed to represent Krylon, Inc., Norristown, Pa., in Kan., Mo., Neb., and Iowa to cover radio, TV, electronic industries.

Hugh Marland & Co., Chicago, Ill., has been named sales rep for 12 Mid-western states by Non-Linear Systems, Inc., Del Mar, Calif.

Electro Sales Associates, Euclid, Ohio, has been appointed exclusive sales rep in the Ohio, Mich. area, for Electro-Pulse, Inc., Culver City, Calif.

George P. Walker and Co., Minneapolis, Minn., has been named exclusive sales engineering rep for Tenney environmental equipment in Minn., by Tenney Engineering, Inc., Union, N. J.

ORRadio Industries, Inc., Opelika, Ala., has named two new sales reps. The Howard C. Elliott Co., Cleveland, Ohio, will represent Irish Tape in Ohio, western Pa., and West Va. J. J. Clancy & Co., Angola, Ind., will represent ORRadio in Ind. and Ky.

Rocke International Corp., New York, N. Y., has been appointed exporters and international sales reps for Entron, Inc., Bladensburg, Md.

The Speaker Baffle Div. of the B. B. Butler Mfg. Co., Inc., Bellwood, Ill., has appointed the following new sales reps: Anderson Sales Co., Boston, Mass.; Edwards-Lohse & Co., Cleveland, Ohio; R. Nesbitt Co., Dallas, Tex.; and Terwilliger Sales Co., Overland Park, Kan.

N. W. Alexander has announced his resignation as Sales Manager of the Borg Equipment Div. of the George W. Borg Corp., effective June 30. He has founded a new organization, The Redford Corp., Box 1003, Delavan, Wis., to represent manufacturers in Upper New York State.

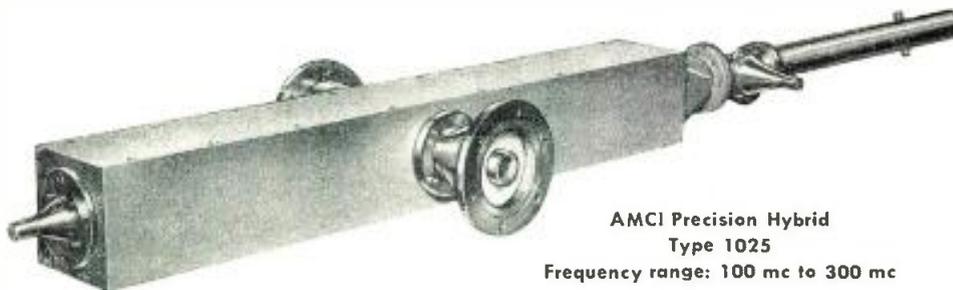
Automatic General Sales, Kansas City, Mo., has been appointed component manufacturer's sales rep for Ford Instrument Co., Long Island City, N. Y., in 7 Central and South Central states.

Guy T. Gunter, Jr. & Associates, Atlanta, Ga., has been appointed rep for Crescent Industries, Inc., Chicago, Ill., to cover Ala., Ga., Fla., N. C., S. C., and eastern Tenn.

NEW TOOLS

for

R-F MEASUREMENTS



AMCI Precision Hybrid
Type 1025
Frequency range: 100 mc to 300 mc

PERMITS DETECTION OF SWR's AS LOW AS 1.002

THE TYPE 1025 PRECISION HYBRID is a five-terminal, high-frequency network built with particular attention to stability and accuracy of construction. It makes possible the *measurement* of quantities that have been, normally, only estimated. For example: this device can be used to measure at about 200 mc. a reflection coefficient as low as 0.01, with a precision of ± 0.001 in magnitude and $\pm 5^\circ$ in phase angle.

VERY LOW SWR's can be measured by using the Type 1025 Hybrid with a suitable receiver and signal generator. With additional equipment, the phase angle also can be obtained, permitting point-by-point plotting of impedance curves like the one shown at the right.

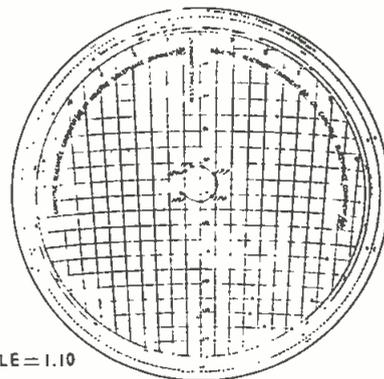
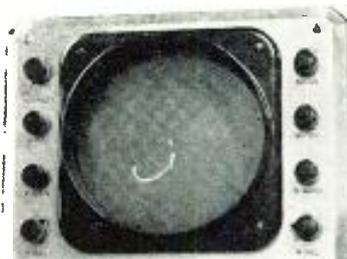


CHART FULL SCALE = 1.10



DIRECT DISPLAY OF IMPEDANCE can be obtained by using the Type 1025 Hybrid in conjunction with the AMCI type 1028 Polar Display Unit (frequency range 120 mc to 240 mc) together with a standard d-c oscilloscope and suitable swept oscillator. A typical display is shown in the unretouched photograph at the left.

OTHER AMCI PRODUCTS

- VHF Television Broadcast Transmitting Antennas
- VHF Television Diplexing Filters
- VOR Antennas
- Slotted Measuring Lines
- Coaxial Line Stretchers
- Transmission Line Hybrids
- Rigid coaxial Transmission line
- Coaxial R-F Switches



ANTENNA SYSTEMS - COMPONENTS - AIR NAVIGATION AIDS - INSTRUMENTS

ALFORD

Manufacturing Co., Inc.

299 ATLANTIC AVE., BOSTON, MASS.

MORE ACTION IN SMALLER SNAP-ACTION SWITCHES

To Hetherington engineers, snap-action in a switch means a whole lot more than a little detent action accompanied by a loud "click". Thus, in every Hetherington snap-action switch, whether for push button, toggle, or rotary operation, the patented beryllium mechanism shown here provides four definite advantages:

... an exceptionally positive snap-action that makes it impossible to "tease" the switch ON or OFF contact.

... lightning-fast contact make or break for reduced arcing. (Hetherington switches are smaller, carry higher ratings because of this unusually fast action.)

... the "snap" and the contact make or break are simultaneous. (Deceptive "clicks" or "snaps" just can't occur with the Hetherington snap-action mechanism.)

... highest quality construction—polished taper, beryllium copper springs, contacts and terminals of copper with heavy silver overlay—all designed for a minimum life of 50,000 cycles under rated load.

Today more and more appliance and equipment manufacturers recognize that using dependable, space-saving Hetherington switches is really far-sighted economy. Send details of your application for a prompt recommendation by Hetherington switch specialists.

also...

Indicator lights • Switch-indicator light combinations • Relays • Aircraft and Electrical Equipment Assemblies

HETHERINGTON

SHARON HILL, PA.

West Coast Division: El Segundo, California

Direction Finders

(Continued from page 197)

phase reference voltage arriving over the second balanced pair is applied to a split phase RC network comprised of two sections. One section shifts the phase $+45^\circ$ from the original and the other -45° , thereby providing two voltages which are displaced in phase by 90° . These voltages are amplified in separate high quality, low distortion amplifiers to the proper level for direct application to the phase meter stators.

The control portion of the remote control unit contains a power supply which provides current for operation of the relays in the local control unit and a removable control panel. The control panel contains a bank of ten push button switches corresponding to the channels established at the local station and toggle switches for the system on-off function and target operation. Operation of any one of these switches selects and transmits the proper current levels to perform the desired function. A switch is also provided to transfer control of the system to any one of the parallel stations when more than one remote station is used.

When multiple remote operation is desired, a junction box is used at the master station to furnish the bearing signal to all remote stations simultaneously. Through a method of sequential switching controlled by the transfer switch on the remote control unit, any one station at a time is allowed to control the system. Each additional station requires a remote control unit and azimuth indicator identical to those employed at the master remote station.

System Performance

Extensive engineering evaluation and operational suitability tests were conducted to determine the performance parameters of the system. System range in all cases has been consistently better than contemporary voice communication equipment. Fig. 10 shows the system sensitivity in microvolts per meter as a function of frequency. The dashed curve illustrates the threshold bearing sensitivity and

the solid curve shows the signal strength required for a high quality bearing. These figures represent the statistical average for 16 systems during pilot production run.

The pick-up factor of the individual antennas compared to a tuned dipole over the same frequency range varies from -5.5db to +2db as shown in Fig. 11.

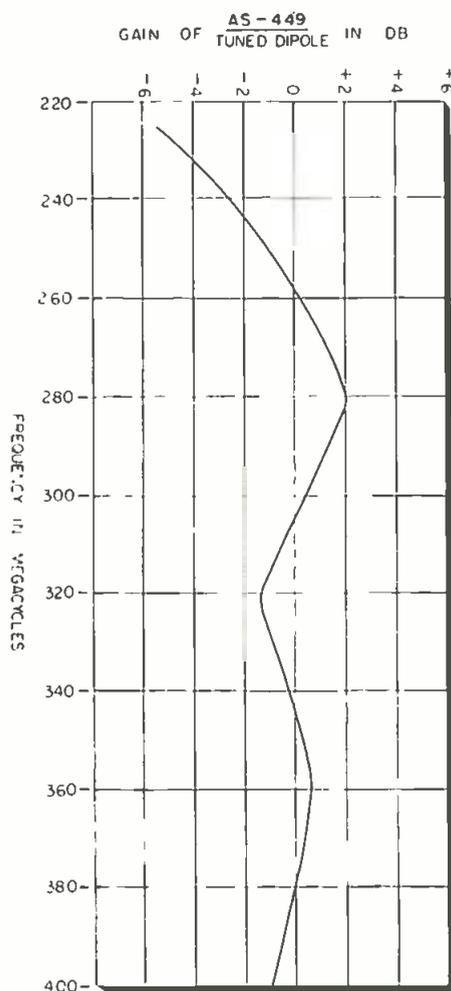


Fig. 11: Pick-up factor of D/F antenna compared to tuned half-wave antenna

System instrumental accuracy curves obtained at three frequencies are shown in Fig. 6. The maximum excursions are +4 degrees and -2 degrees resulting in a total spread of 6°. The system was calibrated at a frequency of 230 MC and was not re-calibrated at the other frequencies, therefore, the figures include zero shift resulting from frequency change. It is obvious that greater accuracy can be obtained if the antenna is specifically oriented for the operating frequency. An analysis of 350 bearings obtained during a series of instrumental accuracy tests indicated that 51% of the observed bearings were within one degree of the true
(Continued on page 202)

Quick and Easy...

Pilot Light Selection!

from Johnson... the "preferred" line!

Now you can save valuable replacement or specification time with Johnson Panel Indicators. Available in a wide variety of types, Johnson "preferred" units are immediately available at parts distributors throughout the country. Careful standardization, with an eye to replacement as well as interchangeability, makes Johnson Pilot Lights the first choice of leading manufacturers.

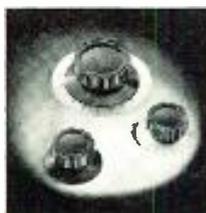


NEW PILOT LIGHT CATALOG!

Write for your copy today. Complete specifications, prices and technical data... everything you need to pick a unit for original equipment manufacture or "in the field" replacement.



Available types include: continuous indication neon types; models for high and low voltage incandescent bulbs; standard or wide angle glass and lucite jewels in clear, red, green, amber, blue or opal. Specials, including those meeting military specifications are also available in production quantities. For full information, write today!



KNOBS AND DIALS

Dramatic in appearance and functional in design, these rugged knobs and dials are made of tough, scratch resistant black phenolic (To MIL-P-14) with heavy, integral molded brass inserts. Three basic diameters: 1 1/8", 1 3/8" and 2 3/8"—available with matching skirts of black phenolic, calibrated nickel silver finish skirts or chromium dial plates. Write for information, to:



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Here's the fastest way to produce finished wire leads!



Allen-Bradley Co., producers of motor controls, use several Artos CS-6 automatic wire cutting and stripping machines in their Milwaukee plant.

high speed ARTOS AUTOMATIC MODEL CS-6

3000 STRIPPED WIRE LEADS in one hour ... each precision-cut with both ends perfectly stripped. That's the speedy pace set by the Artos CS-6 in producing wire leads up to 15 inches in length! Production rates vary in proportion to the length cut.

Highly accurate machine operation reduces work spoilage to an absolute minimum. Errors due to the human element are eliminated. *There is no cutting of strands or nicking of solid wire.*

PROVED PERFORMANCE

Time-consuming hand stripping jobs which once were a bottleneck in many plants are gone forever. As a result, Artos automatic wire strippers are paying their way in the mass production of television and radio sets, electrical appliances, motor controls and instruments of all kinds.

Plan now to cut wire stripping costs in your plant ... with the high speed, automatic Artos CS-6.

CS-6 CAPACITY

Finished Wire Leads Per Hour:
lengths to 15", 3000; 64"-97" lengths, 500.
Stripping Length: 1½" max. both ends.
Cutting Length: max., 97"; min., 2"; special, ⅞".

**MEASURES,
CUTS and
STRIPS
wire, cord
and cable
at speeds up to
3000
pieces per hour**

2-Conductor Twisted Wire

Single Conductor Solid Wire

2-Conductor Parallel Stranded Wire

300 Ohm Television Wire

SJ Cord

Heater Cord

Braided Cord With Rubber Jacket



**WRITE FOR
BULLETIN**

Descriptive technical sheet tells how the Artos CS-6 can save you money, manpower and time.

ARTOS ENGINEERING CO.

Automatic Wire Cutting and Stripping

2753 South 28th Street • Milwaukee 46, Wisconsin

Direction Finders

(Continued from page 201)

bearing, 80% were within 2° and 94% were within 3°. In no instance did the total spread exceed 6½°. These tests were made over the frequency range with the antenna oriented for a single frequency.

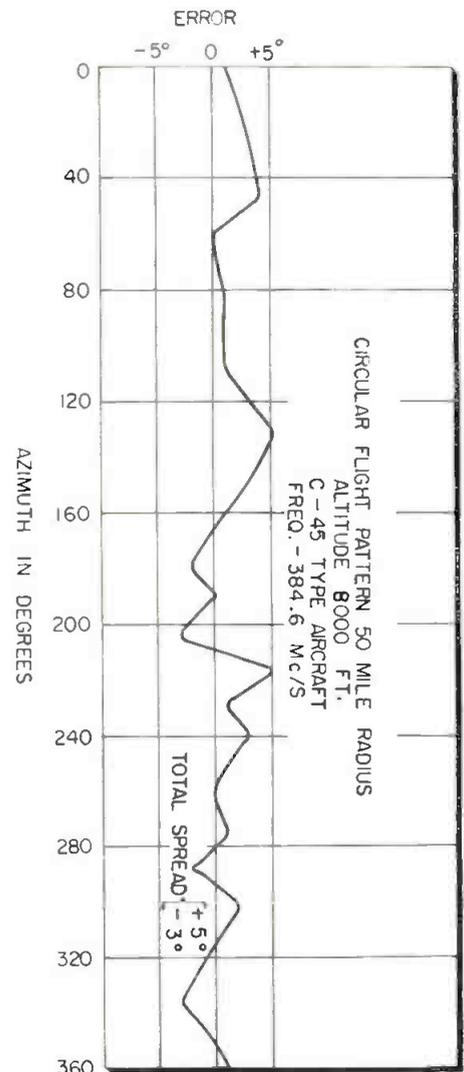


Fig. 12: System operational accuracy

The system operational accuracy at 384.6MC is shown in Fig. 12. A C-45 type aircraft, equipped with a standard airborne UHF transmitter, flew a circular course around the antenna system at a range of 50 mi. and an altitude of 8000 ft. The aircraft's position was accurately determined over known check points. Maximum excursions noted were +5° and -3°. During this test, the D/F was installed at an average site.

Concurrent operational tests of the AN/CRD-6 diversity system and non-diversity systems (Adcock

and others) established the advantages of diversity operation in terms of bearing reliability. The non-diversity equipment failed at times to produce reliable bearings due to multipath transmission. However, during these periods fully reliable data was obtained with the AN/CRD-6.

Comparator tests indicate that it functions on all values of D/F voltages at a signal-to-noise ratio of 1 : 2 or better as measured at the receiver output. Insertion loss of the comparator does not exceed 1 db at any point in the frequency range. Over the entire range of input signal levels, the comparator has a 6 db min. selective sensitivity.

Response time for bearing changes of 180 degrees varies from 1 to 3 secs. depending upon the degree of indicator.

Conclusion

The primary differences between the facility under discussion and conventional systems is the employment of space and height diversity techniques and the design of the individual antennas. It is concluded that the application of diversity techniques employed in the AN/CRD-6 results in a decided improvement over single conventional D/F antenna systems in terms of bearing reliability and accuracy. Considerable thought is being given to antenna beam shaping techniques that may provide a simpler solution in the future.

3 Civil Defense Films

The Federal Civil Defense Administration, Battle Creek, Mich., has available 3 new 16 mm black and white films for showing by TV stations.

"Rehearsal for Danger" is the story of the trucking industry's contribution to civil defense in time of emergency due to enemy attack or natural disaster.

"Bombproof," starring Walter Abel, describes the steps firms should take to preserve vital records against any emergency.

"Big Men in Small Boats," in color and black and white, tells the role the nation's estimated 400,000 privately-owned power boats might play in an emergency requiring evacuation over water.

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and
last
word in
visual communication



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where you can't be"

From Farnsworth, where electronic television was *first* created over 30 years ago, comes the *last* word in visual communication—Farnsworth Model 600A Closed Circuit Television. Engineered especially for industrial, educational and commercial use this compact, light weight camera and portable monitor is saving time, and money in countless applications. If yours isn't one of them it will pay you to get the facts from Farnsworth—today.

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Introducing—

The AUTO-ZOOM lens ... for Vidicon TV Cameras

- 5 to 1 Variable Focal Length (10 to 1 with a simple lens change).
- Completely motorized. Zoom, focus and iris remotely controlled.
- Fills Vidicon format. No vignetting as with standard 16mm movie lens.

The AUTO-ZOOM TV16 is a high resolution, 5 to 1 variable focal length lens for use with Vidicon TV cameras. Its remote control, motor-driven focus and zoom permit smooth, steady tracking with sharp focus throughout the entire range. The AUTO-ZOOM lens system is fully corrected and suitable for color television work.

One Camera Does The Work Of Two—A single stationary TV camera equipped with the new AUTO-ZOOM lens can go from wide angle distance shot to telephoto close-up—smoothly, quickly, automatically . . . without loss of focus or change of lens. With AUTO-ZOOM, one camera provides the near-far coverage normally supplied by two cameras with conventional lenses.

Coupled with the new high quality Vidicon type cameras now coming on the market, the AUTO-ZOOM greatly extends the usefulness of low-cost industrial and broadcast TV equipment. The AUTO-ZOOM TV16 is a product of Perkin-Elmer, world leader in optical and electronic instrument research and development.

Ask your camera manufacturer for further information or write Perkin-Elmer for a descriptive brochure.

The AUTO-ZOOM TV16 mounts easily on any standard Vidicon television camera

Specifications

Focal Length: 5 to 1 ratio. 30mm to 150mm, standard. 60mm to 300mm with optional accessory lens.

Aperture: Maximum opening $f/2.7$ from 30mm to 80mm focal length. Decreases to $f/4.7$ at 150mm. Aperture is automatically held constant throughout range at any opening $f/4.7$ or smaller. Minimum opening $f/11$.

Resolution: Better than 500 TV lines.

Field Size: Covers the full field of the Vidicon without vignetting at the corners.

Object distance: Six feet to infinity.

Perkin-Elmer CORPORATION

NORWALK, CONNECTICUT

Mobile Unit

(Continued from page 95)

The test equipment includes: a bar generator for alignment of colorplexers and color monitors; calibration pulse generator permitting calibration of all signal displaying devices against a common source; linearity checker; color signal analyzer; and oscilloscope.



Fig. 4: Full view of control room

Wiring and Terminations

Interconnection of all equipment located throughout the truck is accomplished by wiring through ducts installed underneath the floor. All incoming and outgoing lines terminate at panels located on the curb side of the truck. There are two such panels. One panel is located directly in line with the camera control racks. This panel provides connections for the 2 camera inputs, 3 microphones, and one remote audio input, one video input, microwave control output, video and audio outputs.

The power entrance panel located more to the rear of the truck contains 4 ac output receptacles and main input power connection. The external source of power required to operate the color mobile unit is single phase, 220 v., 90 a.

Storage of the camera and power cable is located externally in the skirt line of the truck. There are three compartments provided, which are capable of carrying approximately 1500 ft. of camera cable and 100 ft. of 4 conductor No. 4 power cable. Each color camera requires 3 interconnecting cables, therefore, the 1500 ft. of camera cable mentioned above actually serves the requirement of 2

cameras. Past experience has indicated that cable runs up to 350 ft. in length have little effect on the over-all performance of the camera.

Provision for Microwave

To facilitate the setup and use of microwave, a 6 by 15-ft. area of the roof has been reinforced with steel plating. Provision has also been made for storage of parabolic reflectors. A 3-in. pipe has been installed on the curb or passenger's



Fig. 5: General storage area

side of the truck. This pipe extends from the floor to about 3 in. above the roof. There is a smaller pipe which fits inside the 3-in. pipe which can be extended to a maximum of 5 ft. above the roof. In locations where it is necessary to run the camera and power cables overhead, this pipe can be used as a convenient anchorage. It may also be used as a gin pole for lifting equipment to the roof of the truck.

Antenna Arrays

(Continued from page 103)

ation of unequal radiator heights, a fictitious value of equivalent one element array efficiency evolves through a RSS combination of the individual element field strengths. Hence, theoretically, tower height (from height versus efficiency curve) and base impedance may be assigned and assumed to comprise an array of equivalent radiators. An impedance analysis and current

(Continued on page 207)

A NEW

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Combining in one organization a sales, service, engineering and manufacturing group to better serve the Western customers of KEARFOTT COMPANY. Expanded production areas—additional equipment and the latest progressive assembly facility for the production of gyroscope, control components, navigational systems, radar components and test equipment.



• **KEARFOTT**
universal test sets for
X, Ku and C bands

Low cost testing
with one convenient
unit containing:

- Spectrum Analyzer*
- Power Monitor*
- Wavemeter*
- Signal Generator*

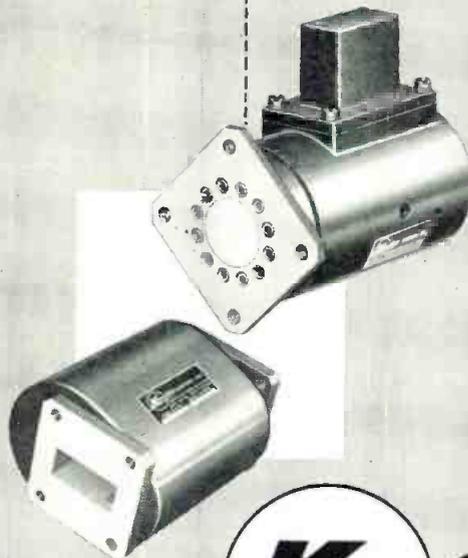
ONE portable unit
does it *all*, on the bench-
or in the field.

• **KEARFOTT**
new rotation-type
FERRITE ISOLATOR*

The new Ferrite Isolator
is a useful device with
applications such as
oscillator isolation with
the following advantages
to system performance:

- Reduces long-line loading*
- Prevents undesired
frequency shift*
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output*
- Improves transmitted
pulse spectrum*

*Patented



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PROBLEM #3

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°C to $+85^{\circ}\text{C}$. The maximum allowable temperature rise to be 40°C over ambient. Transformer to operate at altitudes up to 50,000 feet. Dimensions cannot exceed 5" high, by $2\frac{1}{4}$ " wide, by $2\frac{1}{2}$ " long,

nor can the weight exceed $2\frac{1}{2}$ pounds. The primary source to be 115V, 400 cps, three phase. The three secondary loads to be (a) 30V, three 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 BY PEERLESS

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°C to $+85^{\circ}\text{C}$

Temperature Rise: 35°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 $\pm 1^{\circ}$

Weight: Two pounds

Dimensions: H: $4-1/32"$ + $1/2"$ seven terminal header; W: $2-1/32"$; L: $2-9/32"$

Experience in designing transformers to meet and exceed the most unusual and difficult specifications gives the Peerless engineering staff unique qualifications that speed the solution of every transformer problem. This background combines with rigid quality controls and advanced production techniques throughout the Peerless plant to achieve uniform quality and dependability in all Peerless products.

Consult Peerless for the best solution to your quality transformer requirements.

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Opportunity...

TO WORK WHERE IT'S FUN TO LIVE

Can You Qualify?

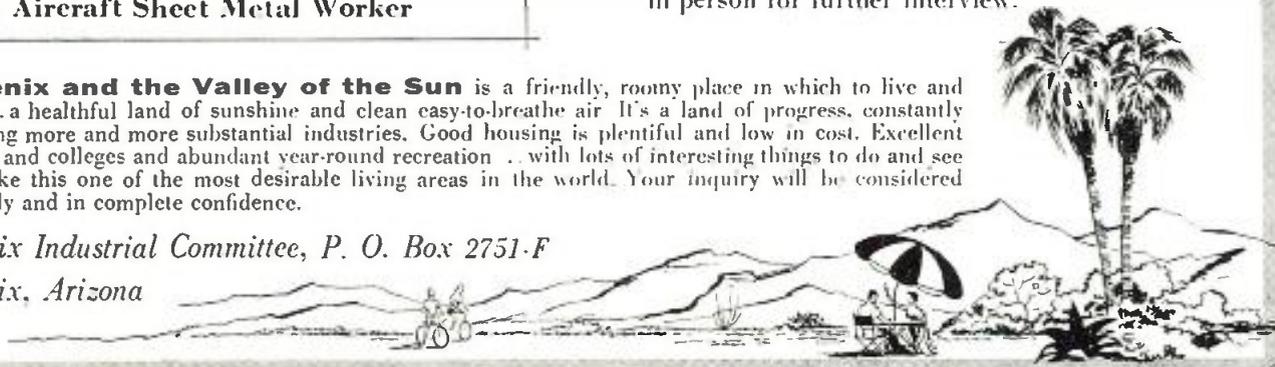
- Electronics Technician or Engineer
- Design, Development and Research Engineer (Aircraft—Mechanical—Electrical)
- Physicist
- Draftsman
- Precision Production Machinist
- Precision Machine Operator
- Experimental Machinist
- Aircraft Sheet Metal Worker

Here is what you should do:

- ✓ Analyze your own qualifications carefully.
- ✓ Send a summary of your qualifications and experience. State when you are available.
- ✓ Do not come to Phoenix without first writing. Job opportunities are mainly restricted to specialists listed here. If your summary qualifies you for consideration you will be contacted by mail, phone or in person for further interview.

Phoenix and the Valley of the Sun is a friendly, roomy place in which to live and work... a healthful land of sunshine and clean easy-to-breathe air. It's a land of progress, constantly attracting more and more substantial industries. Good housing is plentiful and low in cost. Excellent schools and colleges and abundant year-round recreation... with lots of interesting things to do and see... make this one of the most desirable living areas in the world. Your inquiry will be considered promptly and in complete confidence.

Phoenix Industrial Committee, P. O. Box 2751-F
Phoenix, Arizona



Antenna Arrays

(Continued from page 205)

magnitude evaluation is then made and the array efficiency in field strength computed and assigned as previously.

Examples

(a) An array of two 60° radiators spaced at 90°. $I_n = 1.0 / 0$ and $I_b = 0.9 / -150$. The pattern shape is derived from the above, and the RMS value in reference units is 1.033.

From an impedance analysis it is found that $I_n = 8.31$ a. and $I_b = 7.48$ a., assuming a total power of 1 kw. Hence 1.033 is equivalent to 8.60 a.

A 60° radiator alone radiates 181 mv/m at one mile, has a base impedance of $14 - j 76$, and thus a base current of 8.45 a. for 1 kw.

Therefore the array RMS in field strength is $(8.60/8.45) \times 181 = 184$ mv/m at one mile. See Fig. 1.

(b) An array of two 60° radiators spaced at 210°. $I_n = 1.0 / 0$ and $I_b = 0.9 / -10$. The pattern shape is derived and the RMS value in reference units is 1.055.

From an impedance analysis it is found that $I_n = 7.21$ a. and $I_b = 6.49$ a., assuming a power input to the array of 1 kw. Hence 1.055 is equivalent to 7.60 a.

As previously, the array RMS in field strength is $(7.60/8.45) \times 181 = 163$ mv/m at one mile. See Fig. 2.

(c) An array of two radiators A = 90° and B = 60° and spaced at 210°. $I_n = 1.0 / 0$ and $I_b = 0.9 / -10$. The pattern shape is derived and the RMS value in reference units is 1.055.

From an impedance analysis it is found that $I_n = 3.54$ a. and $I_b = 6.61$ a., assuming a power input to the array of 1 kw. It is also found that $P_n = 515$ w. and $P_b = 485$ w. Since A is 90° with an omni field of 190 mv/m and B is 60° with an omni field of 181 mv/m, then $E_n = 136$ mv/m for 515 w. and $E_b = 126$ mv/m for 485 w. The RSS for E_n and E_b combined is 185.5 mv/m. This value is equivalent to a 75° radiator with a base impedance of $27.5 + j0$ and a base current of 6.03 a. for omni operation.

Assume then that the array is of two equivalent radiators 75° in height and spaced at 210°. The parameters are as above and the RMS value is 1.055.

From an impedance analysis (75° radiators) it is found that $I_n = 5.17$

(Continued on page 208)

Quality-Minded Engineers Specify CONRAC MONITORS

Conrac Monitors are designed for continuous, trouble-free service. Engineered to prevent costly repair bills, down time and to save valuable man hours, Conrac Monitors are found wherever exact monitoring is needed. You'll see them in use at all of the major networks and a majority of stations.

Color Monitor—Conrac's CH 21 is a self-contained picture monitor that can be operated from NTSC encoded color video signals or from simultaneous red, green and blue video signals. It employs a three-gun tri-color picture tube—type 21AXP22. All operating and set up controls, as well as a test point for Y, I, Q, R, G and B, are accessible from the front.

Schematic, engineering data and specifications furnished on request.

Monochrome Monitors—Conrac manufactures three monochrome monitors: the CB 17-A, a professional monitor of the highest quality and the CF and CG Series general purpose monitors.

The CB 17-A, designed for control room and on-stage use, employs a 17" aluminized rectangular picture tube. It may be rack mounted in a standard 19" relay rack (No. CB 17A/R), or furnished in utility heavy gauge steel cabinet with carrying handles (No. CB 17A/C).

The CF and CG Series of video monitors are general purpose monitors intended for broadcast or industrial use. They present bright, high definition pictures in continuous operation with a minimum of maintenance.

The CF Series uses a 70° deflection system for both 17" and 21" kinescopes. The CG Series has a 90° deflection system for 24" and 27" kinescopes. All chassis are supplied with picture tube. The CF 17 is available for 19" relay rack mounting, in a utility cabinet or as a chassis. Model numbers are as follows:

CF 17-N CF chassis with 17" picture tube.

CF 17-R CF chassis with 17" picture tube in mounting for standard 19" relay rack.

CF 17-C CF chassis with 17" picture tube in steel housing equipped with carrying handles.

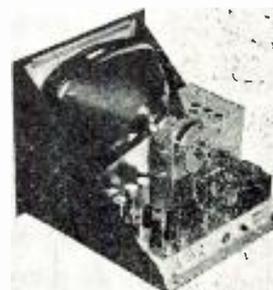
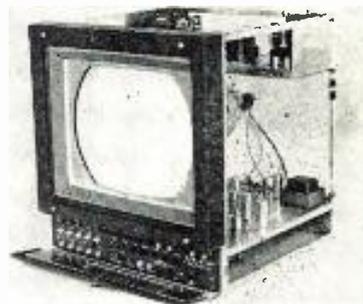
CF 21-N CF chassis with 21" picture tube.

CF 21-C CF chassis with 21" picture tube in steel housing equipped with carrying handles.

CG 24-N CG chassis with 24" picture tube.

CG 27-N CG chassis with 27" picture tube.

Schematics, engineering data and specifications available upon request.



Audio-Video Tuner

The AV-12A is designed especially for re-broadcast applications—both color and monochrome. It tunes any 12 channels. The AV-12A is ideal for unattended operation because any one channel may be crystal controlled, which prevents drift even under extreme conditions. Schematics, engineering data and specifications furnished on request.

CONRAC, INC.

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OFFERS FOR IMMEDIATE
DELIVERY FROM STOCK
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POWER, FILAMENT, PULSE
and AUDIO TRANSFORMERS

POWER TRANSFORMERS									
Cat. No.	Hi Volt Sec.	ct	DC Volts	DC Amps	Filament #1		Filament #2		MIL Case Size
					Volt	Amp.	Volt	Amp.	
MGP1	400/200	✓	185	.070	6.3/5	2	6.3	3	HA
MGP2	650	✓	260	.070	6.3/5	2	6.3	4	JB
MGP3	650	✓	245	.150	6.3	5	5.0	3	KB
MGP4	800	✓	318	.175	5.0	3	6.3	8	LB
MGP5	900	✓	345	.250	5.0	3	6.3	8	MB
MGP6	700	✓	255	.250					KB
MGP7	1100	✓	419	.250					LB
MGP8	1600	✓	640	.250					NB

FILAMENT TRANSFORMERS				
Cat. No.	Secondary		Test VRMS	MIL Case
	Volt	Amp		
MGF1	2.5	3.0	2,500	EB
MGF2	2.5	10.0	2,500	GB
MGF3	5.0	3.0	2,500	FB
MGF4	5.0	10.0	2,500	HB
MGF5	6.3	2.0	2,500	FB
MGF6	6.3	5.0	2,500	GB
MGF7	6.3	10.0	2,500	JB
MGF8	6.3	20.0	2,500	KB
MGF9	2.5	10.0	10,000	JB
MGF10	5.0	10.0	10,000	KB

PULSE TRANSFORMERS									
Cat. No.	Block. Disc.	Int. Coupl'g	Low. Power. Out.	Pulse Voltage Kilovolts	Pulse Duration Microseconds	Duty Rate	No. of Wdgs.	Test Volt. KV RMS	Char. Imp. Ohms
MPT2	✓	✓	✓	0.25/0.25	0.2-1.0	.004	2	0.7	250
MPT3	✓	✓	✓	0.5/0.5/0.5	0.2-1.5	.002	3	1.0	250
MPT4	✓	✓	✓	0.5/0.5	0.2-1.5	.002	2	1.0	250
MPT5	✓	✓	✓	0.5/0.5/0.5	0.5-2.0	.002	3	1.0	500
MPT6	✓	✓	✓	0.5/0.5	0.5-2.0	.002	2	1.0	500
MPT7	✓	✓	✓	0.7/0.7/0.7	0.5-1.5	.002	3	1.5	200
MPT8	✓	✓	✓	0.7/0.7	0.5-1.5	.002	2	1.5	200
MPT9	✓	✓	✓	1.0/1.0/1.0	0.7-3.5	.002	3	2.0	200
MPT10	✓	✓	✓	1.0/1.0	0.7-3.5	.002	2	2.0	200
MPT11	✓	✓	✓	1.0/1.0/1.0	1.0-5.0	.002	3	2.0	500
MPT12	✓	✓	✓	0.15/0.15/0.3/0.3	0.2-1.0	.004	4	0.7	700

AUDIO TRANSFORMERS									
Catalog No.	Application	Impedance				DC Current			
		Prim. Ohms	Cl.	Sec. Ohms	Cl.	Prim. P. Side MA	Max. Unbal. MA	Max. Load OHM	dBm
MAA1	Single or P.P. Plates to Single or P.P. Grids	10K	✓	50K Split	✓	10	10	+15	
MAA2	Line to Voice Coil	600 Split		4, 0, 16		0	0	+33	
MAA3	Line to Single or P.P. Grids	800 Split		135K	✓	0	0	+15	
MAA4	Line to Line	600 Split		600 Split		0	0	+15	
MAA5	Single Plate to Line	7.6K 4.8T		600 Split		40	40	+33	
MAA6	Single Plate to Voice Coil	7.6K 4.8T		4, 0, 16		40	40	+33	
MAA7	Single or P.P. Plates to Line	15K	✓	600 Split		10	10	+33	
MAA8	P.P. Plates to Line	24K	✓	600 Split		10	1	+30	
MAA9	P.P. Plates to Line	60K	✓	600 Split		10	1	+27	

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Antenna Arrays

(Continued from page 207)

a. and $I_b = 4.65$ a. assuming a power input to the array of 1 kw. Hence 1.055 is equivalent to 5.45 a.

The array RMS field strength is then $(5.45/6.03) \times 185.5 = 168$ mv/m at one mile. See Fig. 3.

(d) An array of three 90° radiators in line and spaced at 90° between adjacent elements. I_a (center element) = $1.0 \angle 0$, $I_b = 0.5 \angle -150$ and $I_c = 0.5 \angle +150$. From an impedance analysis it is found that $I_a = 4.90$ a. and $I_b = I_c = 2.45$ a. The pattern shape is derived from the above and the RMS value in reference units is 0.774. Hence 0.774 is equivalent to 3.79 a.

A 90° radiator alone radiates 190 mv/m at one mile, has a base impedance of $55-j85$, and thus a base current of 4.27 a. for 1 kw.

Therefore the array RMS in field strength is $(3.79/4.27) \times 190 = 169$ mv/m at one mile. See Fig. 4.

Conclusion

It has been found in practice that RMS predictions in accordance with the foregoing procedure may be confirmed in the field. Unfortunately, no opportunity has arisen to check the theory on arrays made up of unequal height radiators. Therefore the above statement for the time being must be limited to only arrays with equivalent elements.

In example (a), it is noted that theoretically the array is more efficient than a single element system. A check on the vertical sections of the pattern will, however, demonstrate that this is perhaps not unrealistic inasmuch as radiation skyward from the major lobe is compressed compared to an omni array, and therefore higher efficiency may be the case in practice.

For the other examples the results are as expected and the pattern RMS is of course somewhat less than for a single element. This is due essentially to the high degree of field cancellation throughout a sizable portion of the horizontal pattern.

The method outlined above for the computation of AM pattern RMS values has neglected the effects of ground losses in a system. Certainly these losses are an important consideration and wherever possible should be taken into account. Experience is the best guide in this instance, and it is suggested that the inclusion of ground losses is a matter of individual judgment.

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Turn to the section number given in the *Product Finding Index*. (3) From the manufacturers listed in this section, select only those with the code numbers (listed in the *Product Finding Index*) after their names.

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Solder, silver	13-43	Telemetering, guided missile	9-24	Transmitters, facsimile	74-18	Transmitters, facsimile	74-18
Soldering guns	13-45	Telemetering systems	17-18	Transmitters, facsimile	74-19	Transmitters, facsimile	74-19
Soldering irons	13-44	Telemetering systems	17-18	Transmitters, facsimile	74-20	Transmitters, facsimile	74-20
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Sonar	49-12	Terminal strips	19-41	Transmitters, facsimile	74-26	Transmitters, facsimile	74-26
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Specialties, inductance	37-38	Testers, cathode-ray tube	72- 4	Transmitters, facsimile	74-42	Transmitters, facsimile	74-42
Specialties, resistance	37-39	Testers, circuit	72- 5	Transmitters, facsimile	74-43	Transmitters, facsimile	74-43
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Standards, frequency	38- 2	Testers, radar	72-16	Transmitters, facsimile	74-54	Transmitters, facsimile	74-54
Standards, inductance	38- 3	Testers, relay	72-17	Transmitters, facsimile	74-55	Transmitters, facsimile	74-55
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				Transmitters, facsimile	74-65	Transmitters, facsimile	74-65
				Transmitters, facsimile	74-66	Transmitters, facsimile	74-66
				Transmitters, facsimile	74-67	Transmitters, facsimile	74-67
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				Transmitters, facsimile	74-69	Transmitters, facsimile	74-69
				Transmitters, facsimile	74-70	Transmitters, facsimile	74-70
				Transmitters, facsimile	74-71	Transmitters, facsimile	74-71
				Transmitters, facsimile	74-72	Transmitters, facsimile	74-72
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				Transmitters, facsimile	74-76	Transmitters, facsimile	74-76
				Transmitters, facsimile	74-77	Transmitters, facsimile	74-77
				Transmitters, facsimile	74-78	Transmitters, facsimile	74-78
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1956 ELECTRONIC INDUSTRIES DIRECTORY

Product Listings

This is a listing of end products, component parts, equipment and instruments in the radio-TV-electronic industries—with the names and addresses of the companies that make them. 1,559 electronic

product categories are arranged according to 79 major group headings. Manufacturers are listed alphabetically under the group headings, with numbered references to group sub-divisions.

1—AMPLIFIERS, AUDIO

Amplifiers, audio	1
Amplifiers, cuing	2
Amplifiers, decade	3
Amplifiers, distribution	4
Amplifiers, high-fidelity	5
Amplifiers, industrial sound	6
Amplifiers, isolation	7
Amplifiers, limiting	8
Amplifiers, line	9
Amplifiers, microphone	10
Amplifiers, miniature plug-in ...	11
Amplifiers, mixing	12
Amplifiers, monitoring	13
Amplifiers, musical instrument ..	14
Amplifiers, noise-suppressing ...	15
Amplifiers, plug-in	16
Amplifiers, recording	17
Amplifiers, remote	18
Amplifiers, stereophonic	19
Amplifiers, tape playback	20
Amplifiers, tone-control	21
Amplifiers, transistor	22
Amplifiers, wideband	23

Audio Equip Co 805 Middle Neck Rd Great Neck NY-1-10
 Audio Instrument Co 133 W 14 St New York 11 NY-10
 Avion Div ACF Industries 299 State Highway #17 Paramus NJ-11
 Baird Associates 33 University Rd Cambridge 38 Mass-1-9-10-11-12-17-20-22
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-1-6-14
 Ballantine Labs Boonton NJ-3
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-23
 Beam Instruments Corp 350 5 Ave New York 1 NY-1-5
 Bellaire Electronics Inc 62 White St Red Bank NJ-1-5
 Bell Sound Systems 555 Marion Rd Columbus Ohio-1-5-6-17
 Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-1-7
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-3-11-16
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solano Beach Calif-16
 B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-11-16
 Bliss Electronic Corp Box 366 Sussex NJ-1
 Bogen Co David 29 9 Ave New York 14 NY-1-5-6-9-10-12-13-14-16-18-20-23
 Berndt-Bach Inc 6926 Romaine St Hollywood 38 Calif-1-17
 British Industries Corp 80 Shore Rd Port Washington NY-1-5-6-18
 British Radio Electronics Ltd 1833 Jefferson Pl Washington 6 DC-1-21
 Budelman Radio Corp 375 Fairfield Ave Stamford Conn-6
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-8-9
 Cable Specialists of Conn 474 Prospect Ave Hartford Conn-1-5
 Cadre Industries Corp Box 150 Endicott NY-1-16
 Camera Equipment Co 315 W 43 St New York 36 NY-12-19
 Cascade Research Corp 53 Victory Lane Los Gatos Calif-1
 Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wis-22
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-1-4
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-17
 CGS Labs 391 Ludlow St Stamford Conn-15
 Chase Electronics Lab 2631 Woodlyn Rd Pasadena 8 Calif-1
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-1-5
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-17
 Cole Instrument Co 1000 N Olive St Anaheim Calif-3-11-16-22
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-1-2-7-8-9-10-12-18-22
 Columbia Records Div Columbia Broadcasting System 799 7 Ave New York NY-1-5
 Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-1-4
 Communication Measurements Lab 350 Leland Ave Plainfield NJ-1
 Computing Devices of Can Ltd PO Box 508 Ottawa Ontario Canada-22
 Continental Electronics 302 Oakland St Brooklyn 22 NY-1
 Control Specialists Inc 115 E Arbor Vitae Ave Inglewood 1 Calif-22
 Cooper Electronics Inc 5637 Tulip St Philadelphia Pa-1-6
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-1-5-7-9-11-12-15-16-17-18-21-22
 Curtis-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-1
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-17-20
 Daystrom Instrument Archbald Pa-1-3-4-11-16-22-23
 Denson Electronics Corp Box 122 Rockville Conn-1-5

De Wald Radio Mfg Corp 35-15 37 Ave Long Island City 1 NY-5
 Diatron Co 3327 Dixie Dr Houston 21 Texas-1
 Dilks Co PO Box 139 Seymour Conn-1-6
 Doelcam Div Minneapolis-Honeywell 1400 Soldiers Field Rd Boston 35 Mass-16
 Dubrow Development Co 235 Penn St Burlington NJ-1-8-22
 DuKane Corp St Charles Ill-1-2-4-5-6-7-8-9-10-11-12-14-15-16-17-18-19-20-21-22-23
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-4-5
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-10
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-1-4-5
 Eclipse-Pioneer Div Bendix Aviation Corp Teterboro NJ-22
 Edin Co 207 Main St Worcester 8 Mass-17
 Eldema Corp 9844 Remer St El Monte Calif-16
 Electrend Products Corp State & Water Sts St Joseph Mich-1-5-6-8-9-10-12-13-14-17-18-20-21-23
 Electro Instruments Inc 3794 Rosecrans St San Diego 10 Calif-22
 Electro-Mechanical Research 64 Main St Ridgefield Conn-11-16
 Electron Enterprises 6917 W Stanley Ave Berwyn Ill-1-5-14-22
 Electronic Communication Equip Co 1249 Loyola Ave Chicago Ill-1-4-6-8-9-10-12-13-18
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-16-17-22
 Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 57 Calif-22
 Electronic Eng'g Co 362 W Bowery St Akron 7 Ohio-1-5-6-9-10
 Electronic Industries Inc 7649 San Fernando Rd Burbank Calif-1-11
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-1-5-23
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-1
 Electronic Research Associates 67 E Centre St Nutley 10 NJ-9-22
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-1-4
 Electro Sound Corp 115 Halleck St Boston 20 Mass-14-20
 Electro-Voice Inc Buchanan Mich-1-5-9-10
 El Mec Labs 730 Blvd Kenilworth NJ-1
 El-Tronics Inc Penn Ave Mayfield 1 Pa-1
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-11-22-23
 Endevo Corp 161 E California St Pasadena Calif-3-11
 Erco Radio Labs 637 Stewart Ave Garden City NY-8
 Erwood Inc 1770 W Berteau Ave Chicago 13 Ill-22
 Espy Mfg Co 200 W 57 St New York 19 NY-1-5-16
 Executone Inc 415 Lexington Ave New York 17 NY-1-6-9-13-18
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1
 Feedback Controls Inc 1332 N Henry St Alexandria Va-16
 Fisher Radio Corp 21-21 44 Drive Long Island City NY-1-21
 Foto-Video Labs 25 Amity St Little Falls NJ-4
 Franklin Electronics Inc E 4 St Bridgeport Pa-1-3-5
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-3
 Galbraith & Son Electric Corp C C 450 Avenue of the Americas New York 11 NY-1-6
 Gates Radio Co 123 Hampshire St Quincy Ill-1-2-7-8-9-10-18-22
 General Electric Co Electronics Div Communication Equip Syracuse NY-1
 General Precision Lab 63 Bedford Rd Pleasantville NY-4
 General Radio Co 275 Mass Ave Cambridge 39 Mass-1-23
 General Riveters Inc-Electro Mechanical Div 785 Hertel Ave Buffalo 7 NY-1
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Tex-17

- G & M Equipment Co 7315 Varna Ave N Hollywood Calif-3
 Godfrey Mfg Co 2642 S Michigan Ave Chicago 16 Ill-6
 Goldak Co 1544 W Glenoaks Blvd Glendale 1 Calif-5
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-16-22
 Gotham Audio Development 2 W 46 St New York 36 NY-1-4-5-6-8-9-11-13-16-17-20-23
 Gotham TV Corp 123 W 64 St New York NY-1-22
 Graphic Recorders Inc 62 Walter St Bridgeport 5 Conn-20-22
 Graybar Electric Co 420 Lexington Ave New York 17 NY-1-4-5-6-7-8-9-10-12-13-16-17-18-20-21
 Gray Research & Development 658 Hilliard St Manchester Conn-1-5
 Greene Co L Charlton 314 Washington St Newton 58 Mass-1-16
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-3
 Hallicrafters Co 4401 5 Ave Chicago 24 Ill-1-5
 Hall-Scott Electronics Div 2950 N Ontario St Burbank Calif-16-22
 Harman-Kardon Inc 520 Main St Westbury NY-5
 Harrison Labs 45 Industrial Rd Berkeley Heights NJ-2-22
 Heath Co 305 Territorial Rd Benton Harbor Mich-1-5-23
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-1-4-23
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-16-17
 Hogan Labs 155 Perry St New York 14 NY-17
 Hudson Associates 50 Drumm St San Francisco 11 Calif-9
 Hughes Products Div Hughes Aircraft Co Los Angeles 45 Calif-22
 Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-16-17
 Industrial Test Equip Co 55 E 11 St New York 3 NY-1-3-5-6-7-8-9-17-23
 Interlectronics Corp 2432 Grand Concourse New York 58 NY-1-2-4-5-6-7-8-9-10-11-12-14-15-16-17-18-19-20-21-22-23
 International Projector Corp 55 La France Ave Bloomfield NJ-1-6-9-13-16-19
 International Research Assoc 2221 Warwick Ave Santa Monica Calif-1-5-9-11-13-22
 International Telemeter Corp 2000 Stoner Ave Los Angeles 25 Calif-4
 James Instrument Labs 9116 S 52 Court Oak Lawn Ill-5-9-10-17-19-20
 Johnson Co E F Waseca Minn-1-8
 Kay Electric Co 14 Maple Ave Pinebrook NJ-1-3-8-9-13-23
 Kearfott Co 1378 Main Ave Clifton NJ-11-16-22
 Keithley Instruments 3868 Carnegie Ave Cleveland 15 Ohio-1-3-7
 Krohn-Hite Instrument Co 580 Mass Ave Cambridge 39 Mass-1-5-6-23
 Lankevin Mfg Corp 47-37 Austell Pl Long Island City 1 NY-1-2-6-8-9-10-11-13-17-23
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-1-7-9-15-22
 Lal Inc 380 Oak St Copiague NY-22
 Librascope Inc Burbank Div 133 E Santa Anita Ave Burbank Calif-17
 Lynnmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-4
 Magna Electronics Co 9810 Anza Blvd Inglewood Calif-1-5-6-14
 Magnasync Mfg Co 5546 Satsuma Ave N Hollywood Calif-1-12-15-16-17-19-20
 Magnetic Amplifiers 632 Tinton Ave New York 55 NY-22
 Magnetic Research Corp 200 Center St El Segundo Calif-16-22
 Major Electronics 42 Meserole St Brooklyn 6 NY-1
 Marantz Co 44-15 Vernon Blvd Long Island City 1 NY-1-5
 Martin & Co H S 1916 Greenleaf Ave Evanston Ill-5
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-1-4-6-10
 Maxson Instruments 47-37 Austell Place Long Island City 1 NY-22
 MB Mfg Co Div Textron American 1060 State St New Haven 11 Conn-1
 McGregor Electronic Industries 132 1 Ave McGregor Iowa-1
 McIntosh Lab Inc 320 Water St Binghamton NY-1-5-6-9-12-13-16-17-20-21-23
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-1-3-6-9
 Melody Master Mfg Co 2842 N Cicero Ave Chicago 41 Ill-1-5-6-12-14-19
 Mercury Mfg Corp 45 Brown St Buffalo 11 NY-1-13
 Millivac Instrument Corp 441 2 St Schenectady NY-17
 Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-1
 Motiograph Inc 4441 W Lake St Chicago 24 Ill-1
 Munston Mfg & Service Inc Beech St Islip NY-5
 Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-22
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-1-16
 National Company 61 Sherman St Malden 48 Mass-1-5
 Nevada Air Products Co North Valley Rd Reno Nev-22
 Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-1-6-9-12-13-14-17-18-20-21
 New London Instrument Co 82 Union St New London Conn-4
 Northeast Electronics Corp Municipal Airport Concord NH-4
 North Hills Electric Co Inc 203-18 35 Ave Bayside 61 NY-4
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-1-5-8-9-14-23
 Oberline Inc PO Box 921 Beverly Hills Calif-1-2-5-6-8-9-10-12-13-16-17-23
 Offner Electronics 5320 N Kedzie Ave Chicago 25 Ill-17
 Osterlund Co Edmund Mountain Lakes NJ-3
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-1-11
 Pampa Electronics Corp 7354 Frankford Ave Philadelphia 36 Pa-1-17-19-20
 Paraplegics Mfg Co 10068 Franklin Ave Franklin Park Ill-1-5
 Peer Inc 1200 Milton St Benton Harbor Mich-1-8-9
 Philbrick Researches G A 230 Congress St Boston 10 Mass-16
 Photocircuits Corp Sea Cliff Ave Glen Cove NY-1
 Planet Service Corp 88-02-06 102 St Richmond Hill 18 NY-5
 Plectron Corp Overton Neb-1
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-4-23
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-20
 Precision Associates 354 Cumberland St Brooklyn 38 NY-1-5-6-23
 Precision Electronics Inc 9101 King St Franklin Park Ill-1-5-6
 Precision Inc 730 Lyndale Ave N Minneapolis 11 Minn-20
 Precision Radiation Instruments & Sub Radio Craftsmen 4223 W Jefferson Blvd Los Angeles 16 Calif-1-5
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-8-9-17
 Presto Recording Corp PO Box 500 Paramus NJ-1-8-20
 Pulse Techniques Inc 1411 Palisade Ave W Englewood NJ-1-10
 Pye Corp of America 270 Park Ave New York 17 NY-5-10-18-21-23
 Radiation Inc PO Box 37 Melbourne Fla-1-11-17-20-22
 Radio Corp of America Camden 2 NJ-1-17-22
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-5
 Radio Frequency Labs Powerville Rd Boonton NJ-1
 Rangertone Inc 73 Winthrop St Newark 4 NJ-1-17
 Rauland Borg Corp 3515 W Addison St Chicago 18 Ill-1-6-12-18
 Rayovox Mfg Co 902 Albemarle Rd Brooklyn 18 NY-14
 Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-5
 Rek-O-Kut Co 38-01 Queens Blvd Long Island City 1 NY-17
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-1-7-11-16-17-22-23
 Rhein Sound Systems PO Box 112 Marion Ill-1-2-6-7-8-9-12-13-14-16-17
 Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-1-7-17
 Rixon Electronics 2414 Reddie Dr Silver Spring Md-1-4-23
 Roberts Mfg Co 412 E Chambers St Cleburne Texas-1
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-1-6-14
 Ryan Industries Div Textron American 19159 John R St Detroit 3 Mich-22
 Sargent-Raymont Co 4926 E 12 St Oakland 1 Calif-5
 Scott Inc Hermon Hosmer 385 Putnam Ave Cambridge 39 Mass-1-3-5-15-18-21
 Scott Radio Labs Liberty & Penna St Plymouth Ind-1-4-5-6-7-8-9-10-13-14-17-18-20-21-22-23
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-17
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-16
 Servomechanisms Inc Post & Stewart Aves Westbury NY-11-16
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-23
 Signal Equipment Co 2706 3 Ave Seattle 1 Wash-22
 Simpson Mfg Co Mark 32-28 49 St Long Island City 3 NY-1-4-5-6-10-12-14
 Smith-Meeker Eng'g 157 Chambers St New York 7 NY-6
 Sonex Inc 245 Sansom St Upper Darby Pa-1-5-7-8-9-13-14-21
 SOS Cinema Supply Corp 602 W 52 St New York 19 NY-1-16-17
 Special Products Co PO Box 188 Rockville 1 Md-1-5-15
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-1
 Stencil-Hoffman Corp 921 N Highland Ave Hollywood 38 Calif-8-10-12-17-19-20-22
 Standard Electronics Corp 285 Emmet St Newark NJ-1-4-8-9-12-13-18
 Standard Electronics Research Corp 2 East End Ave New York 21 NY-1
 Stavid Eng'g Inc U S Hwy #22 Plainfield NJ-3-4-20-22-23
 Stelma Inc 190 Henry St Stamford Conn-1
 Stoelting Co C H 424 N Homan Ave Chicago 24 Ill-17
 Stromberg-Carlson Co Industrial Div 1225 Clifford Ave Rochester 21 NY-1-2-5-6-9-12-13-14-18
 Symphony Radio & TV Corp 925 S Western Ave Los Angeles 6 Calif-5
 Taber Instrument Corp 111 Goundry St N Tonawanda NY-1-22
 Tare Electronics 48 Urban Ave Westbury LI NY-1-4-11-12-13-16-17-23
 Tech Master Corp 75 Front St Brooklyn 1 NY-1-5
 Technical Material Corp PO Box 142 Manaronck NY-1-4
 Tektronix Inc PO Box 831 Portland 7 Ore-16
 Telechrome Inc 88 Merrick Rd Amityville LI NY-4
 Tele-Communications Inc 41 E 42 St New York NY-13-17-18
 Telephonics Corp Park Ave Huntington LI NY-1-7-8-9-10-12-16-22-23
 Telesound Inc 1505 Race St Philadelphia 2 Pa-4
 Televiso Corp 1415 Golf Rd Des Plaines Ill-1-3-4-5-8-9-13-15-22-23
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-4
 Ten Bosch Inc M 80 Wheeler Ave Pleasantville NY-22
 Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-1-5-10-21
 Trans-Tel Corp 736 N Highland Ave Los Angeles 38 Calif-5-6
 Transvision Inc 460 North Ave New Rochelle NY-1-5-10-22
 Trio Labs Inc 4025 Merrick Rd Seaford LI NY-11
 Trutone Electronics Inc 812 N Highland Ave Hollywood 38 Calif-5
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-4
 Union Electric & Mfg 1057 Summit Ave Jersey City 7 NJ-10-22
 United Control Corp 4540 Union Bay Pl Seattle 5 Wash-11-16
 United Research Labs 1650 Broadway New York 19 NY-10-17-18
 Universal Atomics Corp 19 E 48 St New York 17 NY-1
 U S Recording Co 1347 S Capitol St Washington 3 DC-1-5-17-20
 Valco Mfg Co 4700 W Walton St Chicago 51 Ill-14
 Varo Mfg Co 2201 Walnut St Garland Texas-1-9-18
 Vidair Electronics Mfg 576-80 W Merrick Rd Lynbrook NY-1-5-16
 Vinson Company E R 1401 Middle Harbor Rd Oakland 20 Calif-22
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-1-4-7-9-10-11-12-13-16-18-22
 Volkers & Schaffer Mfg Corp 444 2 St Schenectady NY-1-22-23
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-1-8-9-13
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-1-16
 Waveforms Inc 333 6 Ave New York 14 NY-3
 Webster Labs Inc Stanley 5225 W Charles Rd Berkeley Ill-1-16-22
 Western Sound & Electric Labs 805 S 5 St Milwaukee 4 Wis-1-6-12-21
 Westinghouse Electric Corp-Electronics Div 2519 Wilkens Ave Baltimore 3 Md-1-4-11-23
 Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-1-8-9-10-12-16-22
 White Instrument Labs 203 E Riverside Dr Austin 4 Texas-16
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-1-4-8-9-10-13

GEOGRAPHICAL LIST of DISTRIBUTORS

This is a complete interfiling of distributors — giving names of firms and addresses. This complete and accurate list of electronic distributors is arranged alphabetically under states and cities.

TELE-TECH 4
**ELECTRONIC
INDUSTRIES**

2—AMPLIFIERS, RF-IF

Amplifiers, antenna	1
Amplifiers, distribution	2
Amplifiers, IF	3
Amplifiers, isolation	4
Amplifiers, keying	5
Amplifiers, limiting	6
Amplifiers, line	7
Amplifiers, microwave	8
Amplifiers, mixing	9
Amplifiers, monitoring	10
Amplifiers, noise-suppressing	11
Amplifiers, radar	12
Amplifiers, R-F	13
Amplifiers, single-sideband	14
Amplifiers, wideband	15



ACF Electronics 800 N Pitt St Alexandria Va-7
Acoustica Associates 2 Shore Rd Glenwood
Landing LI NY-13
Air Associates Inc 511 Joyce St Orange NJ-3-4-
8-9-10-13
Airborne Instruments Lab 160 Old Country Rd
Mineola NY-1-3-7-8-9-10-12-13-15
Allegany Instrument Co Cumberland Md-3-13
Amerac Inc Wenham Mass-8-12-13
American Electronic Labs 641 Arch St Phila-
delphia 6 Pa-2
American Metrix Corp 15 Exchange Pl Jersey
City 2 NJ-1-4-5-6-7-14-15
Amplitel Inc 342 W 40 St New York 18 NY-1-
2-7-13
Andersen Labs Inc 39 Talcott Rd W Hartford
Conn-3
Applied Research Inc 163-07 Depot Rd Flushing
58 NY-3-13-15
ARF Products 7627 Lake St River Forest Ill-8
Avion Div ACF Industries 299 State Highway
#17 Paramus NJ-3-12
Barker & Williamson 237 Fairfield Ave Upper
Darby Pa-3-4-13-14-15
Bellaire Electronics Inc 62 White St Red Bank
NJ-3
Blonder-Tongue Labs 526 Worth Ave E West-
field NJ-1-13-15
Boehme Inc H O 915 Broadway New York 10
NY-5
Bunnell & Co J H 81 Prospect St Brooklyn 1
NY-5-6-7-9-13-15
Canoga Corp 5955 Sepulveda Blvd Van Nuys
Calif-3-12
Central Electronics Inc 1247 W Belmont Ave
Chicago 13 Ill-2-5-12-13-14-15
Chatham Electronics Div Gera Corp 630 W Mt
Pleasant Ave Livingston NJ-12
Clegg Labs Inc Ridgedale Ave Morristown NJ-
8-12
Collins Radio Co 855 35 St NE Cedar Rapids
Iowa-8
Color TV Inc 973 E San Carlos Ave San Carlos
Calif-1
Commercial Radio-Sound Corp 652 1 Ave New
York 16 NY-1
Continental Electronics Mfg Co 4212 S Buckner
Blvd Dallas 27 Tex-12-13-14
Cossor (Canada) Ltd 301 Windsor St Halifax
NS Canada-3-4-7-8-9-12-13
Crosby Labs Box 233 Robbins Lane Hicksville
NY-14
Cubic Corp 2841 Canon St San Diego 6 Calif-15
Daystrom Instrument Archbald Pa-1-2-3-7-8-
12-13
De Mornay-Bonardi Inc 780 S Arroyo Pkwy
Pasadena 1 Calif-3-8
Denson Electronics Corp Box 122 Rockville
Conn-3
DuKane Corp St Charles Ill-2-3-12-13
DuMont Labs Inc Allen B 760 Bloomfield Ave
Clifton NJ-2-10-13-15
Dynamic Electronics-NY Inc 73-39 Woodhaven
Blvd Forest Hills NY-2-3-8-13
Eby Co Hugh H 4701 Germantown Ave Phila-
delphia 44 Pa-1
Eclipse-Pioneer Div Bendix Aviation Corp Tet-
erboro NJ-1
Eldico of NY Inc 72 E 2 St Mineola LI NY-14-
15
Electrend Products Corp State & Water Sts
St Joseph Mich-1-13
Electrical & Physical Instrument Corp 42-19 27
St Long Island City NY-15
Electro-Mechanical Research 64 Main St Ridge-
field Conn-13
Electronic Communication Equip Co 1249 Loy-
ola Ave Chicago 26 Ill-2
Electronic Control Systems 2136 Westwood Blvd
Los Angeles 25 Calif-12-13-15
Electronic Research Associates 67 E Centre St
Nutley 10 NJ-3
Electronic Specialty Co 5121 San Fernando Rd
Los Angeles 39 Calif-1-4-8-9-13-15
Electron-Rader Products 4806 W Chicago Ave
Chicago 51 Ill-1
Emerson Radio & Phonograph Corp 14 & Coles
Sts Jersey City 2 NJ-3-13
Entron Inc 4902 Lawrence St Bladensburg Md-
1-15
Equipment Crafters Inc River Edge NJ-3-13-15
Ereo Radio Labs 637 Stewart Ave Garden City
NY-5-13-14

Espey Mfg Co 200 W 57 St New York 19 NY-
8-12
Fisher Radio Corp 21-21 44 Drive Long Island
City NY-1
F-R Machine Works 26-12 Borough Pl Woodside
77 NY-8
Gates Radio Co 123 Hampshire St Quincy Ill-13
General Electric Co Electronics Div Communi-
cation Equip Syracuse NY-13
General Precision Lab 63 Bedford Rd Pleasant-
ville NY-2
General Riveters Inc-Electro Mechanical Div
785 Hertel Ave Buffalo 7 NY-13
Goodyear Aircraft Corp 1210 Massillon Rd
Akron 15 Ohio-6-12-13-15
Gotham Audio Development 2 W 46 St New
York 36 NY-2
Graybar Electric Co 420 Lexington Ave New
York 17 NY-2-15
Hallamere Electronics Co Div Siegler Corp
Brockhurst & Santa Ana Freeway Anaheim
Calif-1
Hallcrafters Co 4401 5 Ave Chicago 24 Ill-8-12
Hewlett-Packard Co 275 Page Mill Rd Palo
Alto Calif-2-8
Hycon Electronics Inc 321 S Arroyo Pkwy
Pasadena Calif-12
Instruments for Industry Inc 150 Glen Cove
Rd Mineola NY-3-7-13-15
Interelectronics Corp 2432 Grand Concourse
New York 58 NY-2
International Research Assoc 2221 Warwick
Ave Santa Monica Calif-3-9
International Telemeter Corp 2000 Stoner
Ave Los Angeles 25 Calif-2-7
Johnson Co E F Waseca Minn-13-14
J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-
8-12
Kaar Eng'g Corp 2995 Middlefield Rd Palo
Alto Calif-13
Kahn Research Labs 22 Pine St Freeport NY-14
Kay Electronic Co 14 Maple Ave Pinebrook
NJ-1-3-5-6-7-8-10-13-15
Lear Inc 3171 S Bundy Dr Santa Monica Calif-
1-3-11-13
Lel Inc 380 Oak St Copiague NY-3-15
Levinthal Electronic Products 2821 Fair Oaks
Ave Redwood City Calif-8-12
Lynnmar Engrs Inc 1432 N Carlisle St Philadel-
phia 21 Pa-1-2
Marvland Electronic Mfg Corp 5009 Calvert
Rd College Park Md-13
Mattson Electronics Corp 1487 Lincoln Ave
Pasadena Calif-2
Maxson Instruments 47-37 Austell Place Long
Island City 1 NY-3
Mercury Mfg Corp 45 Brown St Buffalo 11 NY-
13
Microwave Associates 22 Cummington St Bos-
ton 15 Mass-8
National Company 61 Sherman St Malden 48
Mass-3
National Electronics Labs 1713 Kalorama Rd
NW Washington 9 DC-13
New London Instrument Co 82 Union St New
London Conn-1-2-10-15
Northeast Electronics Corp Municipal Airport
Concord NH-2
North Hills Electric Co Inc 203-18 35 Ave
Bayside 61 NY-2
Nuclear-Electronics Corp 2632 W Cumberland
St Philadelphia 32 Pa-3-15
Ortho Filter Corp 196 Albion Ave Paterson 2
NJ-3-14
Otis Elevator Co Electronic Div 35 Ryerson St
Brooklyn 5 NY-13-14-15
Polarad Electronics Corp 43-20 34 St Long Is-
land City 1 NY-2-8
Polytechnic Research & Development 202 Til-
lary St Brooklyn 1 NY-8
Precision Associates 354 Cumberland St Brook-
lyn 38 NY-1-3-13-15
Press Wireless Laboratories Inc 25 Prospect
Place West Newton 65 Mass-5
Pye Corp of America 270 Park Ave New York
17 NY-8-13-15
Radio Corp of America Camden 2 NJ-3-8-13
Radio Eng'g Labs 36-40 37 St Long Island
City 1 NY-3-12-13-15
Radionics Inc PO Box 186 Cockeysville Md-3
Radio Receptor Co 251 W 19 St New York 11
NY-3-8-12-14
Railway Communications PO Box 67 Raytown
Mo-14
Rayovox Mfg Co 902 Albemarle Rd Brooklyn
18 NY-3
Raypar Inc 7810 W Addison St Chicago 34 Ill-
4-5-7
Regency Div Idea Inc 7900 Pendleton Pike In-
dianapolis 26 Ind-13-15
Rheem Mfg Co 9236 E Hall Rd Downey Calif-
1-11-13
Rich Electronics Inc 212 NW 8 Ave Miami 36
Fla-1
Rixon Electronics 2414 Reddie Dr Silver Spring
Md-2-13

Rosen Eng'g Products Raymond 32 & Walnut
Sts Philadelphia 19 Pa-9-13
RS Electronics Corp 435 Portage Ave Palo
Alto Calif-3-12
Scott Radio Labs Liberty & Penna St Plymouth
Ind-2-3-4-5-6-7-8-9-10-13-15
Shasta Div Beckman Instruments Inc PO Box
296 Station A Richmond Calif-15
Simpson Mfg Co Mark 32-28 49 St Long Island
City 3 NY-2
Spencer-Kennedy Labs 1320 Soldiers Field Rd
Boston 35 Mass-1-15
Sperry Gyroscope Co Division of Sperry Rand
Corp Great Neck NY-8
Standard Electronics Corp 285 Emmett St New-
ark NJ-2-10
Stanford Labs Co PO Box 252 Menlo Park
Calif-8-15
Stavid Eng'g Inc U S Hwy #22 Plainfield NJ-
1-2-3-4-5-6-7-8-9-10-11-12-13-14-15
Stromberg-Carlson Co Industrial Div 1225 Clif-
ford Ave Rochester 21 NY-7-9-10-15
Tarc Electronics 48 Urban Ave Westburg LI
NY-2
Technical Material Corp PO Box 142 Mama-
roneck NY-1-2-5-7-14-15
Tektronix Inc PO Box 831 Portland 7 Ore-15
Telchrome Inc 88 Merrick Rd Amityville LI
NY-2-3-15
Telephonics Corp Park Ave Huntington LI NY-
3-5-6-8-9-12-13-14-15
Teleradio Eng'g Corp Wilkes-Barre Pa-3-13
Telesound Inc 1505 Race St Philadelphia 2 Pa-
1-2
Televisto Corp 1415 Golf Rd Des Plaines Ill-2-
3-4-5-6-7-10-11-12-13-15
Tel-Instrument Electronics 728 Garden St Carl-
stadt NJ-2
Transvision Inc 460 North Ave New Rochelle
NY-6-7-13-15
TV Utilities Corp 1315 Jericho Turnpike New
Hyde Park LI NY-2
Union Electric & Mfg 1057 Summit Ave Jer-
sey City 7 NJ-3-13
Vanguard Electronics Co 3384 Motor Ave Los
Angeles 34 Calif-3-13-15
Virginia Electronics Co River Rd at B&O RR
Washington 16 DC-2-3-13
Visual Electronics Corp 500 5th Ave New York
36 NY-8
Volkers & Schaffer Mfg Corp 444 2 St Schene-
ctady NY-15
Voron & Co George 835 N 19 St Philadelphia 30
Pa-5-6-7-13
Waveline Inc Passaic Ave Box 470 Caldwell
NJ-8-12
Westinghouse Electric Corp-Electronics Div
2519 Wilkens Ave Baltimore 3 Md-1-2-8-12-
13-14-15
Westlabs Inc PO Box 1111 Palo Alto Calif-13-
15
White Electron Devices Inc Roger 4 Ave
Haskell NJ-8
Wickes Eng'g & Construction 12 St & Ferry
Ave Camden 4 NJ-2-15
Wilcox Electric Co 1400 Chestnut St Kansas
City 27 Mo-13

THE 1956 ELECTRONIC INDUSTRIES DIRECTORY

contains the exclusive

LOCALIZER INDEX

For the first time in a directory of this kind, a manufacturer can list his local representatives, his branch and regional offices, and his executive and regional personnel—right under his own alphabetical listing—right where buying-minded engineers want to see it. Minimizes long-distance telephone and telegraph charges . . . cuts correspondence . . . increases inquiries . . . speeds services . . . gets new orders.



3—AMPLIFIERS, SPECIAL PURPOSE

Amplifiers, bolometer	1
Amplifiers, cathode followers ..	2
Amplifiers, compressor	3
Amplifiers, control	4
Amplifiers, data recording	5
Amplifiers, DC	6
Amplifiers, decade	7
Amplifiers, development	8
Amplifiers, differential	9
Amplifiers, facsimile	10
Amplifiers, integrating	11
Amplifiers, logarithmic	12
Amplifiers, magnetic	13
Amplifiers, medical	14
Amplifiers, null	15
Amplifiers, oscilloscope	16
Amplifiers, photocell	17
Amplifiers, power	18
Amplifiers, printed circuit	19
Amplifiers, pulse	20
Amplifiers, seismograph	21
Amplifiers, servo	22
Amplifiers, strain gage	23
Amplifiers, sweep	24
Amplifiers, synchro	25
Amplifiers, transistor	26
Amplifiers, ultrasonic	27
Amplifiers, vibration pick-up ..	28
Amplifiers, wideband	29

ACF Electronics 800 N Pitt St Alexandria Va-19-29
 Acme Teletronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-3-6-8-10-17-18
 Acoustica Associates 2 Shore Rd Glenwood Landing LI NY-22-27-29
 Advance Electronics Co 451 Highland Ave Passaic NJ-9-20
 Advance Instrument Corp 1709 F St Belmar NJ-4-13-14-22
 Advanced Electronics Inc 94 Silas Deane Hwy Rocky Hill 9 Conn-4-28
 Aeronex Mfr Corp Middletown Ohio-22
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-13-22
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-18
 Ahrendt Instrument Co 4910 Calvert Rd College Park Md-4-13-22-25
 Air Associates Inc 511 Joyce St Orange NJ-4-6-8-10-13-20-22-24-29
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-2-5-6-7-8-9-11-12-20-26-27-29
 Aircom Inc 354 Main St Winthrop 52 Mass-1
 Aircraft Radio Corp Boonton NJ-18
 Airfax Products Co Middle River Baltimore 20 Md-6-13
 Airtronix Development Corp 4902 Church Ave Brooklyn 3 NY-18
 Allegany Instrument Co Cumberland Md-2-6-15-16
 Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-18
 Alto Scientific Co 855 Commercial St Palo Alto Calif-26
 Amelco Inc 2040 Colorado Ave Santa Monica Calif-19
 American Bosch Arma Corp Arma Div Roosevelt Field Garden City NY-4-6-8-12-13-18-19-22-25-26
 American Electric Motors Div American Electronics 2112 N Chico Ave El Monte Calif-13
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-5-13
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-6-9-29
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-2-4-5-6-15-16-18-19-20-24-29
 Analogue Controls Inc 39 Roselle St Mineola LI NY-22
 Antlab 4950 N High St Columbus 14 Ohio-1
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-20
 Applegate & Co C J 1816 Grove St Boulder Colo-27-29
 Applied Research Inc 163-07 Depot Rd Flushing 58 NY-29
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-27-29
 ARF Products Inc 7627 Lake St River Forest Ill-19-20-26-29
 Arza Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-22
 Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-6-13-23
 Askania Regulator Co 240 E Ontario St Chicago 11 Ill-3-22
 Atlantic Research Corp 901 N Columbus St Alexandria Va-8-29
 Atomic Instrument Co 84 Massachusetts Ave Cambridge 39 Mass-6

Audio Equip Co 15749 Wyoming Ave Detroit 38 Mich-26
 Audio Equipment Co 805 Middle Neck Rd Great Neck NY-18
 Audio Instrument Co 133 W 14 St New York 11 NY-2-12
 Audio-Tone Oscillator Co 12 Edgewood Ave Trumbull Conn-22
 Autotron Co 128 W Main St Danville Ill-17
 Avion Div ACF Industries 299 State Highway #17 Paramus NJ-4-5-6-8-9-11-13-17-20-29
 Baird Associates 33 University Rd Cambridge 38 Mass-1-8-9-17-19-22-28
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-8-19
 Ballantine Labs Boonton NJ-7
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-13-15-18-20-29
 Barton Electronics 1000 Farmington Ave Hartford 7 Conn-17
 Beam Instruments Corp 350 5 Ave New York 1 NY-6
 Beck Co Harold 3640 N 2 St Philadelphia Pa-22
 Bergen Labs 11 Godwin Ave Fairlawn NJ-2-6-8-9
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-6-7-9-13-15
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-15-17-18-22
 B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-20
 Blackburn Electronic Corp 55 W 7 St Wyoming Pa-13
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-13
 Bristol Co PO Box 1790 Waterbury Conn-5-15-22-23
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-6-23-27-28
 Budelman Radio Corp 375 Fairfield Ave Stamford Conn-8
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-18
 Cadre Industries Corp Box 150 Endicott NY-6-8-18-22
 Cable Specialists of Conn 474 Prospect Ave Hartford Conn-6-12-13-14-18-20-22-27
 Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-13
 Camera Equipment Co 315 W 43 St New York 36 NY-13
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-20-22
 Carad Corp 2850 Bay Rd Redwood City Calif-13
 CELCO (Constantine Eng'g Labs) PO Box 555 Mahwah NJ-13
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-3-20-29
 Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wisc-26
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-5-6-11-21-23-28-29
 Chase Electronics Lab 2631 Woodlyn Rd Pasadena 8 Calif-6
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-20
 Chesapeake Instrument Corp Shadyside Md-2
 Chicago Electronic Eng'g 3223 Armitage Ave Chicago 47 Ill-13
 Chicago Standard Transformer Corp 3501 Addison St Chicago 18 Ill-13
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-18
 Clerg Labs Inc Ridgedale Ave Morristown NJ-20
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-4-23
 Coast Coil Co 5333 W Washington Blvd Los Angeles 16 Calif-13
 Coil Company of America 207 Washington St Northvale NJ-13
 Cole Instrument Co 1000 N Olive St Anaheim Calif-2-6-7-8-13-14-15-16-17-19-23-26
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-3-26
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-1-12
 Communication Accessories Co 110 St & 71 Hwy Hickman Mills Mo-13
 Computing Devices of Can Ltd PO Box 508 Ottawa Ontario Canada-22-26
 Consolidated Avionics Corp Ludlow & Canal St Stamford Conn-4-5-8
 Consolidated Electrodynamics Corp 300 N Sierra Madre Villa Pasadena Calif-5-23-28
 Control Specialists Inc 115 E Arbor Vitae Inglewood 1 Calif-4-13-22-26
 Corbin Corp 5419 56 Pl Riverdale Md-13
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-2-4-5-6-8-9-12-13-16-18-20-23-24-25-26-27-28-29
 Courier Products Div Model Eng'g & Mfg Boyne City Mich-22
 Crescent Eng'g & Research 11632 McBean St El Monte Calif-4-23-28
 Crosley Div Avco Mfg Corp 2630 Glendale-Milford Rd Evandale Cincinnati 15 Ohio-13
 Cubic Corp 2841 Canon St San Diego 6 Calif-22-29
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-6-22
 Cycle Transformer Corp 356 Glenwood Ave East Orange NJ-13
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-5
 Daystrom Instrument Archbald Pa-2-4-5-6-7-8-9-11-12-13-15-17-19-20-22-26
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-25

DeCoursey Eng'g Lab 11828 W Jefferson Blvd Culver City Calif-13
 Deitz Co S J 9 E Wesley St S Hackensack NJ-4-17
 Delco Radio Div General Motors 700 E. Firmin St Kokomo Ind-22
 Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa-12-15-29
 De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-1-15
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-6-12-20
 Devol Research Co Brookside Dr Greenwich Conn-13
 Diatron Co 3327 Dixie Dr Houston 21 Texas-6-8
 Dilks Co PO Box 139 Seymour Conn-18
 Doelcam Div Minneapolis-Honeywell 1400 Soldiers Field Rd Boston 35 Mass-6-29
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-6-11-29
 Dubrow Development Co 235 Penn St Burlington NJ-3-6-16-19-26-28
 DuKane Corp St Charles Ill-2-4-5-6-8-9-10-11-16-17-18-19-20-22-24-25-26-27-29
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-16-18-25
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-1-5-8-20-29
 Eberline Instrument Div Reynolds Electrical Eng'g PO Box 1539 Santa Fe N Mex-20
 Eclipse-Pioneer Div Bendix Aviation Corp Terboro NJ-4-8-17-22-25-26
 Edin Co 207 Main St Worcester 8 Mass-6-23
 Egan Lab 107-56 113 St Richmond Hill 19 NY-8-13-14
 Eldema Corp 9844 Remer St El Monte Calif-20
 Eldico of NY Inc 72 E 2 St Mineola LI NY-29
 Electrend Products Corp State & Water Sts St Joseph Mich-2-8-18
 Electrical & Physical Instrument Corp 42-19 27 St Long Island City NY-8-20-29
 Electro-Measurements Inc 4312 SE Stark St Portland 15 Ore-15
 Electro-Mechanical Research 64 Main St Ridgefield Conn-5-6-23-28
 Electro Medical Lab S Woodstock 7 Vt-9-14-16
 Electron Enterprises 6917 W Stanley Ave Berwyn Ill-26
 Electronic Communication Equip Co 1249 Loyola Ave Chicago 26 Ill-18
 Electronic Control Corp 1573 E Forest Ave Detroit 7 Mich-17
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-5-6-19-22-29
 Electronic Eng'g Co 362 W Bowery St Akron 7 Ohio-2-18
 Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 57 Calif-6-8-26
 Electronic Industries Inc 7649 San Fernando Rd Burbank Calif-19
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-6
 Electronic Research Associates 67 E Centre St Nutley 10 NJ-6-13-26
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-1-13
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-4-6-8-9-13-14-16-18-19-23-29
 Electron-Radar Products 4806 W Chicago Ave Chicago 51 Ill-17
 Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-8
 Electro-Pulse Inc 11861 Teale St Culver City Calif-20
 Electro-Voice Inc Buchanan Mich-18
 El Mec Labs 730 Blvd Kenilworth NJ-4-8-15-18
 Emerson Radio & Phonograph Corp 14 & Cole Sts Jersey City NJ-2-8-13-19-20-22-26
 Endeavor Corp 161 E California St Pasadena Calif-2-4-5-7-19-23-27-28
 Engineered Magnetic Div Gulton Mfg Corp 11818 Teale St Culver City Calif-13-22
 Erico Radio Labs 637 Stewart Ave Garden City NY-3
 Erwood Inc 1770 W Berteau Ave Chicago 13 Ill-8-26-28
 Espey Mfg Co 200 W 57 St New York NY-13-18-22
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-15-19
 Feedback Controls Inc 1332 N Henry St Alexandria Va-2-4-6-8-13-18-22-23-25
 Fielden Instrument Div Robertshaw Fulton Controls 2920 N 4 St Philadelphia 33 Pa-6
 Fluke Mfg Co John 1111 W Michigan St Seattle 99 Wash-18
 Ford Instrument Co Div Sperry Rand Corp 31-10 Thomson Ave Long Island City 1 NY-13
 Foto-Video Labs 25 Amity St Little Falls NJ-2-18-20
 Franklin Electronics Inc E 4 St Bridgeport Pa-1-4-5-6-22-23
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-27
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-1
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-2-6-7-8-9-16-18-23-29
 Gates Radio Co 123 Hampshire St Quincy Ill-3-19-26
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-13-23
 General Magnetics Inc 135 Bloomfield Ave Bloomfield NJ-13-22
 General Precision Lab 63 Bedford Rd Pleasantville NY-8-13-20-24-25-29
 General Radio Co 275 Mass Ave Cambridge 39 Mass-6-15-18-20-27-28

General Riveters Inc Electro Mechanical Div
785 Hertel Ave Buffalo 7 NY-8-22

General Ultrasonics Co 1240 Main St Hartford
3 Conn-27

Geotechnical Corp 3712 Haggard Dr Dallas 9
Texas-2-4-6-8-15-17-21-28

Geotronic Labs 1314 Cedar Hill Ave Dallas 2
Texas-13-21

Gibbs Mfg & Research 420 Main St Janesville
Wisc-13

Gilmore Industries 5713 Euclid Ave Cleveland
3 Ohio-23

G & M Equipment Co 7315 Varna Ave N Holly-
wood Calif-13

Goldak Co 1544 W Glenoaks Blvd Glendale 1
Calif-13-19

Goodyear Aircraft Corp 1210 Massillon Rd
Akron 15 Ohio-6-19-20-22-26-29

Gotham Audio Development 2 W 46 St New
York 36 NY-3-8-18-29

Gotham TV Corp 123 W 64 St New York NY-26

Graphic Recorders Inc 62 Walter St Bridgeport
5 Conn-22

Graybar Electric Co 420 Lexington Ave New
York 17 NY-1-13-18

Gulton Mfg Corp 212 Durham Ave Metuchen
NJ-2-6

Hadley Co Robert M 5112 S Hoover St Los
Angeles 37 Calif-13

Hallamore Electronics Co Div Siegler Corp
Brockhurst & Santa Ana Freeway Anaheim
Calif-5

Haller Raymond and Brown 124 N Atherton
St State College Pa-8

Hallcrafters Co 4401 5 Ave Chicago 24 Ill-18

Hall-Scott Electronics Div 2950 N Ontario St
Burbank Calif-6-11-26

Hamilton Watch Co Columbia Ave Lancaster
Pa-14-16-18

Hamner Electronics Co Box 531 Princeton NJ-
2-20-29

Hanover Developments 401 E 74 St New York
21 NY-6-14-16-23-28-29

Hanson-Gorrill-Brian Inc 85 Hazel St Glen
Cove NY-22

Harrison Labs 45 Industrial Rd Berkeley
Heights NJ-24-26-29

Heath Co 305 Territorial Rd Benton Harbor
Mich-18

Heiland Div Minneapolis-Honeywell 5200 E
Evans Ave Denver 22 Colo-5-6-8-11-14-21-23
-29

Hermetic Seal Transformer Co 555 N 5 St
Garland Texas-13

Hewlett-Packard Co 275 Page Mill Rd Palo
Alto Calif-13-16-20-29

Hogan Labs 155 Perry St New York 14 NY-
6-10-17

Holland Electronics 2133 Central Drive S East
Meadow L I NY-14

Houston Technical Labs 2424 Branard Houston
6 Texas-21

Hughes Products Div Hughes Aircraft Co Los
Angeles 45 Calif-26

Hycan Electronics Inc 321 S Arroyo Pkwy
Pasadena Calif-5-6-8-13-22-25-26

Hycor Div Int'l Resistance Co Sylmar Calif-13

Industrial Development Labs 17 Pollock Ave
Jersey City 5 NJ-8-14-15

Industrial Electronics Inc 8060 Wheeler St
Detroit 10 Mich-5-15-17-22-23-28

Industrial Test Equip Co 55 E 11 St New York
3 NY-2-4-6-7-8-9-11-15-18-22-25-29

Instruments for Industry Inc 150 Glen Cove
Rd Mineola NY-20-24-29

Insulated Circuits Inc 620 Passaic Ave W Cald-
well NJ-8-19

Interelectronics Corp 2432 Grand Concourse
New York 58 NY-2-3-4-5-8-9-11-14-15-17-18-
19-20-23-26-27-28-29

International Projector Corp 55 La France Ave
Bloomfield NJ-17-18

International Research Assoc 2221 Warwick
Ave Santa Monica Calif-2-6-8-19-26

International Research & Development 797
Thomas Lane Columbus 16 Ohio-28

Invar Instrument Co 1749 N Eastern Ave Los
Angeles 32 Calif-29

I-T-E Circuit Breaker Co 19 & Hamilton Sts
Philadelphia 30 Pa-13

James Instrument Labs 9110 S 52 Court Oak
Lawn Ill-18

Jobbins Electronic Enterprises 771 Hamilton
Ave Menlo Park Calif-13

Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto
Calif-18

Kay Electric Co 14 Maple Ave Pinebrook NJ-
7-20-24-29

Kay Labs Inc 5725 Kearney Villa Rd San
Diego 12 Calif-6-7-27-29

Kearfott Co 1378 Main Ave Clifton NJ-4-13-18-
22-25-26

Keithley Instruments 3868 Carnegie Ave Cleve-
land 15 Ohio-2-6-7-9-14-16-27-28

Keystone Products Co 904 23 St Union City
NJ-13

Kollman Instrument Corp 80-08 45 Ave Elm-
hurst NY-13-22

Krohn-Hite Instrument Co 580 Mass Ave Cam-
bridge 39 Mass-18

Laboratory for Electronics 75 Pitts St Boston
14 Mass-6

La Magna Mfg Co 51 Clinton Pl E Rutherford
NJ-22

Leach Corp Leach Relay Div Inet-Palmer Div
5915 Avalon Blvd Los Angeles 3 Calif-13



Learn Inc 3171 S Bundy Dr Santa Monica Calif-
4-6-8-11-13-19-22-25-26

Leeds & Northrup 4970 Stenton Ave Philadel-
phia 44 Pa-6-15-17

Lee Electric & Mfg Co 2806 Clearwater St Los
Angeles 39 Calif-13

Lel Inc 380 Oak St Copiague NY-19-26-29

Levinthal Electronic Products 2821 Fair Oaks
Ave Redwood City Calif-20

Librascope Inc Burbank Div 133 E Santa Anita
Ave Burbank Calif-2-5-19-20

Librascope Inc 808 Western Ave Glendale 1
Calif-13-22

Light Electric Corp 214 Lackawanna Ave
Newark 3 NJ-13

Liston-Becker Plant Beckman Instruments Inc
649 Hope St Springdale Conn-6

Link Aviation Inc Binghamton NY-22

Loral Electronics Corp 794 E 140 St New York
54 NY-22

McIntosh Lab Inc 320 Water St Binghamton
NY-18-29

McNeill Eng'g Co 4057 W Van Buren St Chi-
cago 24 Ill-17

Machinery Electrification Inc 35 Hudson St
Northboro Mass-17

Magnasync Mfg Co 5546 Satsuma Ave N Holly-
wood Calif-5-18

Magnetic Amplifiers 632 Tinton Ave New York
55 NY-13-18-22-25-26

Magnetic Research Corp 200 Center St El Se-
gundo Calif-4-6-8-13-14-15-17-22-23-25-26-28

Magnetics Inc Box 391 Butler Pa-13

Manning Maxwell & Moore 250 E Main St
Stratford Conn-4-6

Massa Labs 5 Fottler Rd Hingham Mass-29

Maxson Instruments 47-37 Austell Place Long
Island City 1 NY-22-26

MB Mfg Co Div Tectron American 1060 State
St New Haven 11 Conn-28

Measurement Eng'g Ltd John St Arnprior
Ontario Canada-6-7-13-17-29

Melco Products Inc 301 5 Ave So Minneapolis
15 Minn-13

Mercury Mfg Corp 45 Brown St Buffalo 11
NY-6-18

Midwestern Instruments PO Box 7186 Tulsa
Okla-22-23

Miller Instruments Inc Wm 325 N Halstead
Ave Pasadena 8 Calif-5-6-11-23-28

Millivac Instrument Corp 444 2 St Schenectady
NY-6

Mohawk Business Machines 944 Halsey St
Brooklyn 33 NY-6

Motoresearch Co 1600 Junction Ave Racine
Wisc-13

Nader Mfg Co 2661 S Myrtle Ave Monrovia
Calif-6-26

National Aircraft Corp 3411 Tulare Ave Bur-
bank Calif-6-13

Nestor Eng'g Co PO Box 416 Waldwick NJ-6

Nevada Air Products Co North Valley Rd Reno
Nev-14-26-27

Newcomb Audio Products Co 6824 Lexington
Ave Hollywood 38 Calif-18

New London Instrument Co 82 Union St New
London Conn-29

Nuclear-Electronics Corp 2632 W Cumberland
St Philadelphia 32 Pa-2-3-4-6-14-17-18-27-28

Nuclear Measurements Corp 2460 N Arlington
Ave Indianapolis 18 Ind-20

Nyt Electronics Inc 2979 N Ontario St Bur-
bank Calif-13

Offner Electronics 5320 N Kedzie Ave Chicago
25 Ill-6-9-14-23

Ortho Filter Corp 196 Albion Ave Paterson 2
NJ-13

Osterland Co Edmund Mountain Lakes NJ-7

Otis Elevator Co Electronic Div 35 Ryerson St
Brooklyn 5 NY-4-5-6-8-11-13-15-18-20-22-25-
27-29

Pampa Electronics Corp 7354 Frankford Ave
Philadelphia 36 Pa-8

PCA Electronics Inc 2180 Colorado Ave Santa
Monica Calif-19-20

Peer Inc 1200 Milton St Benton Harbor Mich-3

Penn-East Eng'g Corp Box 240 Kutztown Pa-13

Perkins Eng'g Corp 345 Kansas St El Segundo
Calif-13

Philamon Labs Inc 90 Hopper St Westbury LI
NY-10

Philbrick Researches G A 230 Congress St
Boston 10 Mass-2-4-6-9

Phoenix Precision Instrument 3803 N 5 St
Philadelphia 40 Pa-4-6-8-11-12-17-22-23

Photobell Co 43 Vesey St New York 7 NY-29

Photocircuits Corp Sea Cliff Ave Glen Cove
NY-19

Photocon Research Products 421 N Foothill
Blvd Pasadena 8 Calif-6

Photon Instrument Co 6516 Detroit Ave Cleve-
land 2 Ohio-6-14-23-29

Pickard & Burns 240 Highland Ave Needham
94 Mass-1-12

Piezo Products Co Whitney St Sherborn
Mass-27

Plectron Corp Overton Nebr-14

Polarad Electronics Corp 43-20 34 St Long
Island City 1 NY-8-29

Polytechnic Research & Development 202 Til-
lary St Brooklyn 1 NY-1-13-15

Potter Instrument Co 115 Cutter Mill Rd Great
Neck NY-20

Power Supplies Inc 1007 Olive St Highland
Ill-18-27

Power Transformer Co 532 Mulberry St Newark
5 NJ-13

Precision Associates 354 Cumberland St Brook-
lyn 38 NY-4-29

Precision Hearing Aids 5157 W Grand Chicago
39 Ill-14-24

Process & Instruments 15 Stone Ave Brooklyn
33 NY-6-9-14

Pye Corp of America 270 Park Ave New York
17 NY-25-29

Qutronic Transformer Corp 525 Broadway New
York 12 NY-13

Radiation Counter Labs 5122 W Grove St
Skokie Ill-13-14-20

Radiation Inc P O Box 37 Melbourne Fla-2-19-
20-22-23

Radio Corp of America Camden 2 NJ-17-18-26

Radio Eng'g Labs 36-40 37 St Long Island
City 1 NY-18-29

Radio Receptor Co 251 W 19 St New York 11
NY-8-12

Railway Communications PO Box 67 Raytown
Mo-16-23-28-29

Ransom Research PO Box 382 San Pedro
Calif-13

Raypar Inc 7810 W Addison St Chicago 34
Ill-18

Raytheon Mfg Co Component Products Dept
100 River St Waltham 54 Mass-13

Raytheon Mfg Co Equip Marketing Div 190
Willow St Waltham 54 Mass-13-22

Remington Rand Univac Div 315 4 Ave New
York 10 NY-13-20

Rese Eng'g Inc 731 Arch St Philadelphia
Pa-2-8-18-20

Rheem Mfg Co 9236 E Hall Rd Downey Calif-
2-4-5-6-8-12-14-18-19-22-23-26-27-28-29

Rhein Sound Systems PO Box 112 Marion
Ill-3-8-18

Rich Electronics Inc 212 NW 8 Ave Miami 36
Fla-4-5-8-17-20-27

Ripley Co 1 Factory St Middletown Conn-17

Rixon Electronics 2414 Reedie Dr Silver Spring
Md-2

Robinette Co W C 802 Fair Oaks Ave S Pasa-
dena Calif-22

Rockwell Eng'g Co 4065 N New Jersey St Indi-
anapolis 5 Ind-22

Rollins Electronics Corp Schley Ave Lewes
Dela-13

Rowe Industries 1702 Wayne St Toledo 9 Ohio-8

RS Electronics Corp 435 Portage Ave Palo Alto
Calif-8-12-19-29

Rust Industrial Co 41 E 42 St New York 17
NY-8

Rutherford Electronics Co 3707 S Robertson
Blvd Culver City Calif-20

Ryan Industries Div Tectron American 19159
John R St Detroit 3 Mich-8-13-26

Sanborn Co 195 Massachusetts Ave Cambridge
39 Mass-6-9-12-14-23

Sangamo Electric Co Box 7 Marion Ill-13

Sargent-Raymont Co 4926 E 12 St Oakland 1
Calif-18

Scientific Associates 2162 Piedmont Rd N E
Atlanta 9 Ga-1

Scott Inc Hermon Hosmer 385 Putnam Ave
Cambridge 39 Mass-7-12

Scott Radio Labs Liberty & Penna St
Plymouth Ind-2-3-4-6-8-17-18-26-27-28-29

Scully Machine Co 62 Walter St Bridgeports 7
Conn-22

Seismograph Service Corp P O Box 1590 Tulsa
1 Okla-21

Servo Corp of America 20-20 Jericho Turnpike
New Hyde Park LI NY-1-4-6-13-14-22

Servomechanisms Inc Post & Stewart Aves
Westbury NY-4-9-22

Servo-Tek Products Co 1086 Goffle Rd Haw-
thorne NJ-22

Shasta Div Beckman Instruments Inc PO Box
296 Station A Richmond Calif-29

Signal Equipment Co 2706 3 Ave Seattle 1
Wash-2-13-26

Simmonds Aerossories 105 White Plains Rd
Tarrytown NY-22

Simpson Mfg Co Mark 32-28 49 St Long Island
City 3 NY-2-17-18

Sonex Inc 245 Sansom St Upper Darby Pa-4-8

S O S Cinema Supply Corp 602 W 52 St New
York 19 NY-4

Southwestern Industrial Electronics 2831 Post
Oak Rd Houston 19 Texas-6-13-21-29

Spencer-Kennedy Labs 1320 Soldiers Field Rd
Boston 35 Mass-20-29

Sperry Gyroscope Co Division of Sperry Rand
Corp Great Neck NY-28

Stancil-Hoffman Corp 921 N Highland Ave
Hollywood 38 Calif-19-26

Standard Electronics Research Corp 2 East
End Ave New York 21 NY-13-22

Stavid Eng'g Inc U S Hwy #22 Plainfield NJ-
5-6-7-8-9-11-12-13-14-15-16-17-19-20-22-24-26-
29

Sterling Precision Corp—Instrument Div 34-17
Lawrence St Flushing LI NY-13-22

Stoelting Co C H 424 N Homan Ave Chicago 24 Ill-5-6-14-22
 Stromberg-Carlson Co Industrial Div 1225 Clifford Ave Rochester 21 NY-28-29
 Syntronix Instruments Inc 100 Industrial Rd Addison Ill-24
 Taber Instrument Corp 111 Goundry St N Tonawanda NY-5-16-22-23-26-28
 Tarc Electronics 48 Urban Ave Westbury LI NY-2-3-8-24-29
 Taylor Instrument Companies 95 Ames St Rochester 1 NY-15-22-23
 Technical Instrument Co Div Brush Electronics 3732 Westheimer Rd Houston 6 Texas-21
 Tektronix Inc PO Box 831 Portland 7 Ore-6-9-14-16
 Telechrome Inc 88 Merrick Rd Amityville LI NY-17-29
 Tele-Communications Inc 41 E 42nd St New York NY-18
 Telephonics Corp Park Ave Huntington LI NY-2-6-8-18-19-20-22-24-26-27-29
 Televiso Corp 1415 Golf Rd Des Plaines Ill-2-4-5-6-7-8-9-13-20-24-26-27-28-29
 Ten Bosch Inc M 80 Wheeler Ave Pleasantville NY-22-26
 Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-18
 Timely Instruments & Controls Corp 1645 W 135 St Gardena Calif-4-13-23
 Torwico Electronics 1090 Morris Ave Union NJ-13
 Transformer Technicians 2608 N Cicero Ave Chicago 39 Ill-8-13
 Transcoil Corp Worcester Pa-22
 Transonic Inc 808 16 St Bakersfield Calif-13
 Transvision Inc 460 North Ave New Rochelle NY-8-26-29
 Tri-Dex Electronics PO Box 1207 Lindsay Calif-19
 Union Electric & Mfg 1057 Summit Ave Jersey City 7 NJ-26
 United Control Corp 4540 Union Bay Pl Seattle 5 Wash-4-6
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-5-8-19-21
 United Transformer Co 150 Varick St New York NY-13
 Univox Corp 102 Warren St New York 7 NY-4
 Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-13-29
 Vari-L Co 432 Fairfield Ave Stamford Conn-13
 Vickers Electric Div Vickers Inc A Unit of Sperry Rand Corp 1815 Locust St St Louis 3 Mo-13-22-25
 Victor Adding Machine Co 3900 N Rockwell St Chicago 18 Ill-6-9
 Vinson Company E R 1401 Middle Harbor Rd Oakland 20 Calif-17-26
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-4-6-8-18-19-24-26
 Visual Electronics Corp 500 5 Ave New York 36 NY-24
 Volkert & Schaffer Mfg Corp 444 2 St Schenectady NY-6-9-14-16-23-26-29
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-18
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-2-9-18-19-20
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-13
 Waveforms Inc 333 6 Ave New York 14 NY-7
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-1
 Western Radiation Lab 1107 W 24 St Los Angeles 7 Calif-8-28
 Western Sound & Electric Labs 805 S 5 St Milwaukee 4 Wisc-18
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-5-13-18-27-29
 Westinghouse Electric Corp Box 868 Pittsburgh Pa-13-27-29
 Westlabs Inc PO Box 1111 Palo Alto Calif-8
 Weston Labs Old Littleton Rd Harvard Mass-1-29
 Webster Labs Inc Stanley 5225 W St Charles Rd Berkeley Ill-8-14-19-26
 Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-18-19-26
 Worner Electronic Devices Rankin Ill-4-17

American Electronic Labs 641 Arch St Philadelphia 6 Pa-2
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-3-4-5-6-10-11-12
 Amplitel Inc 342 W 40 St New York 18 NY-1-2-3-6-7-10-12
 ARF Products 7627 Lake St River Forest Ill-12
 Baird Associates 33 University Rd Cambridge 38 Mass-1
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-1
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-1-6-7-10-12
 Bogen Co David 29 9 Ave New York 14 NY-1
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-2
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-1-12
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-1-10
 Continental Electronics Mfg Co 4212 S Buckner Blvd Dallas 27 Texas-12
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-1
 Dage Television Div Thompson Products W 10 St Michigan City Ind-12
 Daystrom Instrument Archbald Pa-1-2
 DuKane Corp St Charles Ill-1-2
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-2-6-7-8-9-10-11-12
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-1-2-10
 Electrend Products Corp State & Water Sts St Joseph Mich-1
 Electronic Communication Equip Co 1249 Loyola Ave Chicago 26 Ill-1-2
 Electronic Eng'g Co 362 W Bowers St Akron 7 Ohio-1
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1
 Entron Inc 4902 Lawrence St Bladensburg Md-6-7-10-12
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-12
 Feedback Controls Inc 1332 N Henry St Alexandria Va-1
 Foto-Video Labs 25 Amity St Little Falls NJ-3-4-5-6-7-8-9-10-11-12
 General Precision Lab 63 Bedford Rd Pleasantville NY-2-3-6-8-11-12
 Gotham Audio Development 2 W 46 St New York 36 NY-1-2
 Graybar Electric Co 420 Lexington Ave New York 17 NY-1-2-6-10-12
 Harrison Labs 45 Industrial Rd Berkeley Heights NJ-6-7-11
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-2
 Holland Electronics 2133 Central Drive S East Meadow LI NY-3-6-12
 Industrial Test Equip Co 55 E 11 St New York 3 NY-1
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-1-2
 International Telemeter Corp 2000 Stoner Ave Los Angeles 25 Calif-1-2-6
 Kay Electric Co 14 Maple Ave Pinebrook NJ-4-5-6-8-11-12
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-1
 Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-2-6
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-2
 Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-1
 New London Instrument Co 82 Union St New London Conn-2
 Northeast Electronics Corp Municipal Airport Concord NH-2-10
 North Hills Electric Co 203-18 35 Ave Bayside 61 NY-2-12
 Philbrick Researches G A 230 Congress St Boston 10 Mass
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-2-6
 Precision Associates 354 Cumberland St Brooklyn 38 NY-1
 Pye Corp of America 270 Park Ave New York 17 NY-4-5-8-10-11-12
 Rheim Mfg Co 9236 E Hall Rd Downey Calif-1
 Rhein Sound Systems PO Box 112 Marion Ill-1
 Rixon Electronics 2414 Reddie Dr Silver Spring Md-2
 Scott Radio Labs Liberty & Penna St Plymouth Ind-1-2-3-4-5-6-7-8-9-10-11-12
 Simpson Mfg Co Mark 32-28 49 St Long Island City 3 NY-1-2
 Spencer-Kennedy Labs 1320 Soldiers Field Rd Boston 35 Mass-1-6-8-12
 Standard Electronics Corp 285 Emmet St Newark NJ-2-7-8-12
 Stavid Eng'g Inc U S Hwy #22 Plainfield NJ-2
 Stromberg-Carlson Co Industrial Div 1225 Clifford Ave Rochester 21 NY-6-7
 Tarc Electronics 48 Urban Ave Westbury LI NY-2-4-6-7-8-9-10-11-12
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-3-4-5-6-7-8-9-10-11-12
 Technical Material Corp PO Box 142 Mamaroneck NY-2
 Telesound Inc 1505 Race St Philadelphia Pa-2-7
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-2-3-6
 Telechrome Inc 88 Merrick Rd Amityville LI NY-2-3-4-6-7-8-9-10-11-12

Televise Corp 1415 Golf Rd Des Plaines Ill-2
 Trans-Tel Corp 736 N Highland Ave Los Angeles 38 Calif-3
 Transvision Inc 460 North Ave New Rochelle NY-3-5-6-7-10-12
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-2-6
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-2
 Visual Electronics Corp 500 5 Ave New York 36 NY-10-11-12
 Western Sound & Electric Labs 805 S 5 St Milwaukee 4 Wisc-1
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-2
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-2-3-8-12

5—ANALYZERS

Analizers, antenna pattern	1
Analizers, audio-amplifier	2
Analizers, cable	3
Analizers, capacitor	4
Analizers, circuit	5
Analizers, coincidence	6
Analizers, color	7
Analizers, dimensional	8
Analizers, electrochemical	9
Analizers, engine	10
Analizers, frequency	11
Analizers, gas	12
Analizers, harmonic	13
Analizers, intermodulation	14
Analizers, internal combustion	15
Analizers, magnetic	16
Analizers, microwave	17
Analizers, noise	18
Analizers, radar	19
Analizers, servo	20
Analizers, spectrm	21
Analizers, stress	22
Analizers, surface	23
Analizers, transducer	24
Analizers, transistor	25
Analizers, ultrasonic	26
Analizers, vibration	27
Analizers, video	28
Analizers, waveform	29

Advanced Electronics Inc 94 Silas Deane Hwy Rocky Hill 9 Conn-3-18-27
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-4
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-1-11-17-18-19-21-24-25-26-28
 Allegany Instrument Co Cumberland Md-5-24
 Alpar Mfg Corp 2910 Spring St Redwood City Calif-3-5
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-19-25
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-4
 Applied Research Labs 3717 Park Pl Glendale 8 Calif-9-21-23
 ARF Products Inc 7627 Lake St River Forest Ill-14
 Atomic Instrument Co 84 Massachusetts Ave Cambridge 39 Mass-6
 Audio Instrument Co 133 W 14 St New York 11 NY-14
 Audio-Tone Oscillator Co 12 Edgewood Ave Trumbull Conn-14
 Bailey Meter Co 1050 Ivanhoe Rd Cleveland Ohio-12
 Baird Associates 33 University Rd Cambridge 38 Mass-12-18-21-25
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-11-13-14
 Barton Electronics 1000 Farmington Ave Hartford 7 Conn-8
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-5
 Bristol Co PO Box 1790 Waterbury Conn-5
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-11-21-23
 Bulova Watch Co—Dept of Gov't & Indust'l Sales 62-10 Woodside Ave Woodside 77 NY-16
 Cambridge Instrument Co 3611 Grand Central Terminal New York 17 NY-12
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-17-19-21
 Cavitron Oscillator Div Short Wave Plastic Forming Co 2921 W Alameda Ave Burbank Calif-11
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-22
 Chromatic TV Labs 1501 Broadway New York 36 NY-19
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-8-24
 Cole Instrument Co 1000 N Olive St Anaheim Calif-4-5-24-25

4—AMPLIFIERS, TELEVISION

Amplifiers, booster	1
Amplifiers, distribution	2
Amplifiers, isolation	3
Amplifiers, keying	4
Amplifiers, limiting	5
Amplifiers, line	6
Amplifiers, mixing	7
Amplifiers, monitoring	8
Amplifiers, montage	9
Amplifiers, remote	10
Amplifiers, sweep	11
Amplifiers, television	12

Coleman Instruments 318 Madison St Maywood Ill-9
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-1-5-19
 Consolidated Avionics Corp Ludlow & Canal St Stamford Conn-11
 Consolidated Electrodynamics Corp 300 N Sierra Madre Villa Pasadena Calif-9-12-22-24-27
 Corbin Corp 5419 56 Pl Riverdale Md-19
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-4
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-2-17-24-26
 Crescent Eng'g & Research 11632 McBean St El Monte Calif-27
 Crown Eng'g Sta B Box 6127 Albuquerque N Mex-29
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-11-13-21-27-29
 Daystrom Instrument Archbald Pa-3-4-19
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-24
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-12
 De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-17
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-6
 Dit-Mco Inc 911 Broadway Kansas City 5 Mo-3-5
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-2-11-13-21-29
 Dubrow Development Co 235 Penn St Burlington NJ-4-27
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-10
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-16-24
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-11-17-18-21
 Electro-Measurements Inc 4312 SE Stark St Portland 15 Ore-4
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-3-5
 Electronic Research Associates 67 E Centre St Nutley 10 NJ-25
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-18
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-2-11-21-22
 Electron-Radar Products 4806 W Chicago Ave Chicago 51 Ill-17
 Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-15
 Electro-Physics Co 287-P Broadway New York 7 NY-9
 Ellison Draft Gage Co 548 W Monroe St Chicago 6 Ill-12
 El Mac Labs 730 Blvd Kenilworth NJ-5
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-19
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-13-18-26
 Endeveco Corp 161 E California St Pasadena Calif-10-24-27
 Englehard Inc Charles 850 Passaic Ave E Newark NJ-12
 Erwood Inc 1770 W Berteau Ave Chicago 13 Ill-27
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-13-29
 Feiler Eng'g & Mfg 8026 N Monticello Ave Skokie Ill-5
 Foto-Video Labs 25 Amity St Little Falls NJ-5-11-28
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-1-17-21
 Gaertner Scientific Corp 1250 Wrightwood Ave Chicago 14 Ill-21
 General Communications Co 681 Beacon St Boston Mass-19
 General Electric Co-Semiconductor Products Electronics Park Syracuse 1 NY-25
 General Mills Inc Mechanical Div 2600 Far Hills Bldg Dayton 9 Ohio-19-28
 General Precision Lab 63 Bedford Rd Pleasantville NY-7-21
 General Radio Co 275 Mass Ave Cambridge 39 Mass-2-11-13-14-18-27-29
 General Transistor Corp 130-11 90 Ave Richmond Hill 18 NY-25
 Goldak Co 1544 W Glenoaks Blvd Glendale 1 Calif-25
 Gow-Mac Instrument Co 100 Kings Rd Madison NJ-12
 Graybar Electric Co 420 Lexington Ave New York 17 NY-18
 Hallcrafters Co 4401 5 Ave Chicago 24 Ill-19-21
 Hays Corp 742 E 8 St Michigan City Ind-12
 Heath Co 305 Territorial Rd Benton Harbor Mich-2
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-2
 Hogan Labs 155 Perry St New York 14 NY-9-19
 Hycon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-18-24
 Industrial Development Labs 17 Pollock Ave Jersey City 5 NJ-27
 Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-8-22-27
 Industrial Instruments Inc 89 Commerce Rd Cedar Grove NJ-5



Industrial Test Equip Co 55 E 11 St New York 3 NY-11-13-20-29
 Instrument Labs 315 W Walton Pl Chicago 10 Ill-5
 International Research Assoc 2221 Warwick Ave Santa Monica Calif-25
 International Research & Development 797 Thomas Lane Columbus 16 Ohio-27
 Irwin Labs 1238 S Gerhart Ave Los Angeles 22 Calif-16-22
 Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-4
 Johnson-Williams Inc 2625 Park Blvd Palo Alto Calif-12
 JVM Eng'g 8846 W 47 St Brookfield Ill-17-19-21
 Kay Electric Co 14 Maple Ave Pinebrook NJ-2-3-5-7-11-17-18-19-21-25-27-28
 Kearfoot Co 1378 Main Ave Clifton NJ-20
 King Electric Equip 9123 Inman Ave Cleveland 5 Ohio-12-15
 Kruger Instruments Harold 323 W Valley Blvd San Gabriel Calif-12
 Lavoie Labs Inc Matawan and Freehold Rd Morganville NJ-19-21
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-9
 Leru Labs 827 Black Oak Ridge Rd Paterson 2 NJ-19
 Loral Electronics Corp 794 E 140 St New York 54 NY-28-29
 Magnetic Amplifiers 632 Tinton Ave New York 55 NY-25
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-21
 Manufacturers Eng'g Equip Hatboro Pa-12
 Marconi Instruments Ltd 44 New St New York 4 NY-17
 Measurements Corp Boonton NJ-14
 Menlo Research Lab Box 522 Menlo Park Calif-9-23
 Metronix Inc PO Box 549 New London Conn-13-25
 Mico Instrument Co 80 Trowbridge St Cambridge 38 Mass
 Mine Safety Appliances Co 201 N Braddock Ave Pittsburgh 8 Pa-12-18
 Muirhead & Co Ltd 677 5 Ave New York 22 NY-29
 Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-25
 Narda Corp 160 Herricks Rd Mineola NY-17-19
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-16-25
 National Research Corp 160 Charlemont St Newton Highlands 6 Mass-12
 Norden-Ketay Corp Boston Electronics Div Snow & Union Sts Boston 35 Mass-25
 Northeastern Eng'g Co Bedford St Manchester NH-21
 New London Instrument Co 82 Union St New London Conn-25
 NRD Instrument Co 6425 Etzel Ave St Louis 14 Mo-21
 Panoramic Radio Products 10 S 2 Ave Mt Vernon NY-2-11-13-14-17-18-21-24-26-27-29
 Patwin Instruments Div Patent Button Co 41 Brown St Waterbury 20 Conn-14
 Perkin-Elmer Corp Norwalk Conn-12
 Phaestron Co 151 Pasadena Ave S Pasadena Calif-4-5-11
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-17-21
 Polyphase Instrument Co 701 Haverford Rd Bryn Mawr Pa-25
 Polytechnic Research & Development 202 Tillary St Brooklyn 1 NY-21
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-5
 Probescope Co 44-05 30 Ave Long Island City 3 NY-2-11-13-14-18-21-22-26-27-28-29
 Process & Instruments 15 Stone Ave Brooklyn 33 NY-12
 Pyramid Electric Co 1445 Hudson Blvd North Bergen NJ-4
 Quantum Electronics Inc 1921 Virginia St NE Albuquerque New Mex-25
 Radar Engineers 403 E 45 St Seattle 5 Wash-3
 Radiation Counter Labs 5122 W Grove St Skokie Ill-21
 Radio Frequency Labs Powerville Rd Boonton NJ-14
 Radio Receptor Co 251 W 19 St New York 11 NY-21
 Railway Communications PO Box 67 Raytown Mo-21
 Reeder & Co C M 173 Victor Ave Detroit Mich-12
 Rese Eng'g Inc 731 Arch St Philadelphia Pa-16
 Research Electronics Labs Roslyn Pa-25
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-5
 Rubicon Co Ridge Ave & 35 St Philadelphia 32 Pa-12-16
 Scott Inc Hermon Hosmer 385 Putnam Ave Cambridge 39 Mass-18

Self-Winding Clock Co Kybernetes Div 205 Willoughby Ave Brooklyn 5 NY-27
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-5-16
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-20
 Shallcross Mfg Co Pusey & Jackson Aves Collingdale Pa-4
 Sierra Electronic Corp 1050 Britton Ave San Carlos Calif-13-29
 Signal Equipment Co 2706 3 Ave Seattle 1 Wash-9
 Sonex Inc 245 Sansom St Upper Darby Pa-25
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-10-17-19-21-27
 Sprague Electric Co Marshall St North Adams Mass-4
 Stelma Inc 190 Henry St Stamford Conn-29
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-21
 Sun Electric Corp Harlem & Avondale Aves Chicago 31 Ill-10-12-15
 Tarc Electronics 48 Urban Ave Westbury LI NY-7-28-29
 Technical Development Corp 4060 Ince Blvd Culver City Calif-3-5
 Technical Instrument Co Div Brush Electronics 3732 Westheimer Rd Houston 6 Texas-27
 Telechrome Inc 88 Merrick Rd Amityville NY-21
 Televisio Corp 1415 Gold Rd Des Plaines Ill-19-26-27
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-7-28
 Telechrome Inc 88 Merrick Rd Amityville LI NY-7-14-28
 Ten Bosch Inc M 80 Wheeler Ave Pleasantville NY-27
 Tracerlab Inc 130 High St Boston 10 Mass-6-21
 Vacuum Tube Products Co 506 S Cleveland St Oceanside Calif-21
 Vectron Inc 1611 Trapola Rd Waltham 54 Mass-17-21
 Vibro-Ceramics Corp 212 Durham Ave Metuchen NJ-26
 Vibroscope Co PO Box 97 Glenford NY-27
 Visual Electronics Corp 500 5 Ave New York 36 NY-17
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-6
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-17
 Westberg Mfg Co 144 S Coombs St Napa Calif-27
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-5-14-21
 Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-5
 Weston Labs Old Littleton Rd Harvard Mass-21
 Westronics Inc 3605 McCart Ft Worth 10 Texas-5
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-7-28
 Winston Electronics Inc 4312 Main St Philadelphia 27 Pa-5-28

6—ANTENNAS, COMMERCIAL

Antennas, aircraft	1
Antennas, amateur	2
Antennas, broadcasting, AM ...	3
Antennas, broadcasting, FM & TV	4
Antennas, direction finding	5
Antennas, fixed station	6
Antennas, loop	7
Antennas, loop-core	8
Antennas, marine	9
Antennas, microwave	10
Antennas, mobile	11
Antennas, radar	12
Antennas, radiation test	13
Antennas, railroad	14
Antennas, receiving, FM & TV ..	15
Antennas, rotary beam	16
Antennas, slotted line	17
Antennas, UHF	18
Antennas, VHF	19
Radiators, FM & TV	20
Reflectors	21
Rotators	22
Towers & Supports, commercial.	23

ACF Electronics 800 N Pitt St Alexandria Va-10
 Aero Instrument Co 11423 Vanowen St N Hollywood Calif-10
 Aeronautical Electronics PO Box 6043 Raleigh NC-1-6
 Ainalee Corp 312 Quincy Ave Quincy 69 Mass-21
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-1-5-10-12

Aircraft Radio Corp Boonton NJ-1-5-11-18-19
Airtren Inc 1101 W Elizabeth Ave Linden NJ-12
Alford Mfg Co 299 Atlantic Ave Boston 10 Mass-6
Alliance Mfg Co Alliance Ohio-15-16-18-19-22
Allied Research & Eng'g Div 6916 Santa Monica Blvd Hollywood 38 Calif-12-18-19
Alpar Mfg Corp 2910 Spring St Redwood City Calif-3-6-18-19-23
Alprodc Inc Mineral Wells Texas-15-23
Amerac Inc Wenham Mass-10-12
American Electronic Labs 641 Arch St Philadelphia 6 Pa-4-10-12
American Electronics Co 1203 Bryant Ave New York 59 NY-2-4-15
American Radio Hdw Co 152 MacQuestion Pkwy S Mt Vernon NY-1
American Tower Co Shelby Ohio-23
Amphenol Electronics Corp 1830 S 54 Ave Chicago 50 Ill-2
Andrew Corp 363 E 75 St Chicago 19 Ill-3-4-6-10-11-12-14-17-18-19-23
Antenna Specialists Co 12435 Euclid Ave Cleveland 6 Ohio-1-2-9-11-13-14-15-18-19
Antlab 4950 N High St Columbus 14 Ohio-22
Applied Electronics Co 1246 Folsom St San Francisco 3 Calif-9
ARF Products 7627 Lake St River Forest Ill-5-10-12
Bache Semon & Co 636 Greenwich St New York 14 NY-21
Barker & Williamson 237 Fairfield Ave Upper Darby Pa-2-5-16
Bassett Inc Rex 1314 N E 17 Court Fort Lauderdale Fla-2-6-9-11
BDN Steel Erecting Co 82 W Washington Blvd Chicago 2 Ill-23
Bell Aircraft Corp PO Box 1 Buffalo 5 NY-1-12-13
Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-1-5-7-12-14
Birnbach Radio Co 145 Hudson St New York 13 NY-15
Blaw-Knox Co Blawnox Pa-23
Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-5-7-12
Bokart Mfg Corp 315 Siegel St Brooklyn 6 NY-1-10-12-13-17
Broadway Coil Co 5638 Broadway Chicago 40 Ill-7
Buchan Co R J PO Box 9 Bricelyn Minn-2
Budd-Stanley Co 43-01 22 St Long Island City 1 NY-10-12-17
Budelman Radio Corp 375 Fairfield Ave Stamford Conn-19
Bugie Inc H H PO Box 817 Toledo 1 Ohio-11-19
Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-1-10-12
Channel Master Corp Ellenville NY-4
Chu Associates 634 Waverly St Framingham Mass-6-10-18-19
Clear Beam TV Antenna Corp 21341 Roscoe Blvd Canoga Park Calif-15
Clum Mfg Co 611 National Ave Milwaukee 4 Wis-5
Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-1-10-12-13-17-18
Colleraft Inc Gary Ill-8
Collins Radio Co 855 35 St NE Cedar Rapids Iowa-1-5-10
Conn Marine Instrument Co Essex Conn-9
Corbin Corp 5419 56 Pl Riverdale Md-1-5-6-9-10-12-16
Cornell-Duhilier Electric Corp 333 Hamilton Blvd S Plainvld NJ-2-15
Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-1-5-10-12-19
Craig Systems Inc 90 Holten St Danvers Mass-6-11-23
Creative Eng'g Corp 10816 Burbank Blvd N Hollywood Calif-1-10-12-13-21
Crouse-Hinds Wolf & 7th North Sts Syracuse 1 NY-21
Dale Products PO Box 136 Columbus Neb-1
Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-1-10-11-12
Danbury-Knudsen Inc Box 170 Danbury Conn-11
Davis Electronics Co 4002 W Burbank Blvd Burbank Calif-2-9-11-14
Daystrom Instrument Archbald Pa-12
Dayton Aviation & Radio Vandalia Ohio-1
Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-10-12-17
DeMornay-Bonardi Inc 780 E Arroyo Pkwy Pasadena 1 Calif-13
Diamond Microwave Corp 7 North Ave Wakefield Mass-1-5-9-10-12-13-16-17-21
Dielectric Products Eng'g Raymond Me-6-11-14-18-19
Dorne & Margolin 30 Sylvester St Westbury NY-1-10-12
Douglas Microwave Co 11 Beechwood Ave New Rochelle NY-10
Downing Crystal Co 191 Shaffer Ave Westminster Md-12
Dresser-Ideco Co 875 Michigan Ave Columbus 8 Ohio-23
DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-8
EBCOR Products Corp 87 Merrick Rd Baldwin NY-9
Eclipse-Pioneer Div Bendix Aviation Corp Teeterboro NJ-1-12
Electrend Products Corp State & Water Sts St Joseph Mich-9
Electronics Research Inc 2300 N New York Ave Evansville 4 Ind-1
Electronic Coil Co 2506 N Ontario St Burbank Calif-7
Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-1-5-10-17-18-19-22
Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 13 Pa-1
Electron-Radar Products 4806 W Chicago Ave Chicago 51 Ill-10-12
El-Rad Mfg Co 2800 W Cullom Ave Chicago 18 Ill-8
Emerson & Cuming 869 Washington St Canton Mass-10-21
Emso Mfg Co PO Box 2098 Terminal Annex Los Angeles 54 Calif-23
Equipment Crafters Inc River Edge NJ-2
Erco Radio Labs 637 Stewart Ave Garden City NY-6-18-19
Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-12
E-Z Way Towers 5901 E Broadway Tampa Fla-3-23
Federal Telecommunication Labs 500 Washington Ave Nutley NJ-14
Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-6-10-11-14-18-19
FKB Opticon Inc 202 E Fairview South Bend 14 Ind-10-12
Frederick Tool & Eng Frederick Md-2
Fretco Inc 406 N Craig St Pittsburgh 13 Pa-10-13-15-16-18-19
Gabriel Electronics Div 135 Crescent Rd Needham Hgts 94 Mass-1-2-4-5-6-9-10-11-12-14-17-18-21
Gates Radio Co 123 Hampshire St Quincy Ill-3
Gavitt Wire & Cable Co Div American Hard Rubber Brookfield Mass-8
General Instrument Corp 65 Gouverneur St Newark 4 NJ-8
General Mills Inc Mechanical Div 2600 Far Hills Bldg Dayton 9 Ohio-12
General Precision Lab 63 Bedford Rd Pleasantville NY-10
General Riveters Inc Electro Mechanical Div 785 Hertel Ave Buffalo 7 NY-22
Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-1-6-10-12
Graybar Electric Co 420 Lexington Ave New York 17 NY-3-4-6-10-11-14-15-18-19-20-23
Hackensack Cable Corp 110 Orchard St Hackensack NJ-1
Haller Raymond and Brown 124 N Atherton St State College Pa-5-10-13
Hallcrafters Co 4401 5 Ave Chicago 24 Ill-1-5-12
Harwood Electronics Inc 466 W Superior St Chicago 10 Ill-21
Hillburn Electronic Products 55 Nassau Ave Brooklyn 22 NY-8
Hi-Gain Television Products Co 249 N 48 St Lincoln Neb-2
Houlihan Co T J 2508 W Lawrence Chicago 25 Ill-8
Houston Fearless Div Color Corp of America 11901 W Olympic Blvd Los Angeles 64 Calif-22
Hudson American Corp 25 W 43 St New York 36 NY-9
Industrial Products Box 148 Danbury Conn-11
Insuline Corp of America 186 Granite St Manchester NH-11
International Telemeter Corp 2000 Stoner Ave Los Angeles 25 Calif-15
I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 20 Pa-10-12-21
JaMac Products Co 8845 N E Sandy Blvd Portland 2 Ore-1-3-4-6-9-11-14-18-19
Jarvis Electronics Corp 6058 W Fullerton Ave Chicago 39 Ill-5
Jefferson Inc Ray 40 E Merrick Rd Freeport NY-9
JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-15
Johnson Co E F Waseca Minn-2-16-22
J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-10-12-17
Kennedy & Co D S 155 King St Cohasset Mass-1-6-10-12-17-22
Kent Co F C 64 Howard St Irvington NJ-1-10-12
Kimco Towers 11 W 42 St New York 36 NY-23
Kuehne Mfg Co Mattoon Ill-23
K-W Eng'g Works 3145-A North 48 St Milwaukee 16 Wis-2-11
La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-1-4-5-9-12
Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-10
Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-1-9-11-12-16-18-19
Learn Inc 3171 S Bundy Dr Santa Monica Calif-1-5-7-18-19
Lehigh Structural Steel Co 17 Battery Pl New York NY-23
Leru Labs 827 Black Oak Ridge Rd Paterson 2 NJ-12
Lico Inc 147 Ocean Ave Lynbrook NY-10-12
Link Radio Corp 110 Jericho Turnpike New Hyde Park LI NY-6
Luria-Cournand Inc Havre De Grace Md-10-12
Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-15-18-19
Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-5-7-9
Macon Electronics Warrensburg Ill-2-4-5-6-15
Mark Products Co 6412 W Lincoln Ave Morton Grove Ill-1-2-4-5-6-10-11-12-13-14-18-19
Mar-Ko TV 441 Summit St Toledo 4 Ohio-3-4-16-19-23
Maryland Electronic Mfg Corp 5009 Calvert Rd College Park Md-10-12
Mathis Co G E 5745 S Claremont Ave Chicago 36 Ill-10-21-23
Mathis Tower & Equip 2200 E Washington St E Peoria Ill-23
Measurement Eng'g Ltd John St Arnprior Ontario Canada-1-6-9
Melpar Inc Sub Westinghouse Air Brake Falls Church Va-1-10-11-12
Meridan Metalcraft Inc 8739 S Miller Grove Dr Whittier Calif-10-12-17
Merkle-Korff Gear Co 213 N Morgan St Chicago 7 Ill-22
Metal Fabricators Corp 73 Pond St Waltham Mass-12
Microphase Corp PO Box 1166E Greenwich Conn-10
Microwave Associates 22 Cummington St Boston 15 Mass-10
Miller Electronics 2840 Naomi St Burbank Calif-15-19
Mitchell Industries PO Box 17 Mineral Wells Texas-1
Molded Insulation Co 335 E Price St Philadelphia 44 Pa-1
Mosley Electronics Inc 8622 St Charles Rock Rd St Louis 14 Mo-2-16
Munston Mfg & Service Inc Beech St Islip NY-9
Narda Corp 160 Herricks Rd Mineola NY-10-12-17
National Aeronautical Corp 180 S Main St Ambler Pa-1
National Moldite Co 1410 Chestnut Ave Hillside 5 NJ-8
National Wire & Cable Corp 136 San Fernando Rd Los Angeles 31 Calif-2
Nichols Products 325 W Main St Moorestown NJ-10-17
N R K Mfg & Eng'g 4601 W Addison St Chicago 41 Ill-10-12
Omega Labs Inc Haverhill St Rowley Mass-13
Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-12
Panero Mirrors Inc 2958 Los Feliz Blvd Los Angeles 39 Calif-21
Pearce-Simpson Inc 3023 Coral Way Miami 34 Fla-9
Phaotron Co 151 Pasadena Ave S Pasadena Calif-1
Phileo Corp 4700 Wissahickon Ave Philadelphia 44 Pa-10
Philson Mfg Co 60 Sackett St Brooklyn 31 NY-1
Photo Crystals Inc 15 S St Geneva Ill-19-12-13
Pickard & Burns 240 Highland Ave Needham 94 Mass-1-12-13
Planet Service Corp 88-02-06 102 St Richmond Hill 18 NY-9
PM Industries 280 Fairfield Ave Stamford Conn-10-12
Polarad Electronics Corp 43-20 34 Long Island City 1 NY-10
Polytechnic Research & Development 202 Tillary St Brooklyn 1 NY-13
Premax Products Div Chisholm Ryder Co Highland & College Aves Niagara Falls NY-1-2-6-9-11
Premier Instrument Corp 52 W Houston St New York 12 NY-10
Prodelin Inc 307 Bergen Ave Kearny NJ-4-10-18-19-21-23
Pye Corp of America 270 Park Ave New York 17 NY-4-6-10-11-15
Q I C Corp 409 Main St Greenport LI NY-8
Radio Corp of America Camden 2 NJ-9-10
Radiomarine Corp of America 75 Varick St New York 13 NY-9
Railway Communications PO Box 67 Raytown Mo-14
Raypar Inc 7810 W Addison St Chicago 34 Ill-2-16
Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-9-10-12
Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-11
Rich Electronics Inc 202 N W 8 Ave Miami 36 Fla-4-6-9-19
Rohn Mfg Co 116 Limestone Bellevue Peoria Ill-23
Rosen Eng'g Products Raymond 32 & Walnut Sts Philadelphia 19 Pa-19
Rostan Corp 56-60 59 St Maspeth LI NY-23
Rowe Industries 1702 Wayne St Toledo 9 Ohio-1
Sape Labs 30 Guinan St Waltham 54 Mass-17
Sanders Associates 95 Canal St Nashua NH-1-10-12
Scientific Associates 2162 Piedmont Rd N E Atlanta 9 Ga-10-12
Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-6-7
Skysweeper Inc 51 Bridge St McHenry Ill-2-19
Smith-Meeker Eng'g 157 Chambers St New York 7 NY-2
Snyder Mfg Co 22 & Ontario Sts Philadelphia 40 Pa-9-11-12-14-15-19
S O S Cinema Supply Corp 602 W 52 St New York 19 NY-21
South River Metal Products 377 Turnpike South River NJ-23
Spaulding Products Co 550 W Barnes St Frankfurt Ind-23
Spincraft Inc 4122 W State St Milwaukee 8 Wis-20
Stainless Inc North Wales Pa-23
Stanwyck Winding Co 137 Walsh Ave Newburgh NY-8
Stavid Eng'g Inc U S Hwy #22 Plainfield NJ-1-10-12
Sterling Precision Corp Instrument Div 34-17 Lawrence St Flushing LI NY-1-5-10-12
Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-1-12

Superex Electronics Corp 4 Radford Pl Yonkers NY-6-7
 Tabet Mfg Co 1336 Ballentine Blvd Norfolk 12 Va-23
 Technical Appliance Corp 1 Taco Ave Sherburne NY-1-6-9-10-11-12-14-15-19
 Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-10-12
 Teiner Eng'g Corp 116 Madison St Malden Mass-10
 Tele-Ex-Pand Corp PO Box 392 Berwick Pa-23
 Telephonics Corp Park Ave Huntington LI NY-1
 Telerad Mfg 1440 Broadway New York 18 NY-10-12
 Telesine Antenna Corp PO Box 1387 Shreveport 92 La-15-18-19
 Tele-Vue Towers Inc 701 49 St So St Petersburg 7 Fla-23
 Televison Labs Inc Mill St Wauconda Ill-8
 Tempo TV Sales Corp 21341 Roscoe Blvd Canoga Park Calif-2-4-5-6-7-12-15-16-17-18-19-22-23
 Tennialab 417 S 10 St Quincy Ill-2-19
 Tower Construction Co 2700 Hawkeye Dr Sioux City Iowa-3-4-10-21-23
 Tower Structures Inc Gregg St Lodi NJ-3-6-23
 Tricraft Products Corp 1535 N Ashland Ave Chicago 22 Ill-15
 Trilsch Inc John D PO Box 14201 Houston 21 Texas-21-23
 Truscon Steel Div Republic Steel Corp Youngstown 1 Ohio-3-23
 T-V Products Co 145-68 228 St Springfield Gardens 13 NY-15
 Union Electric & Mfg 1057 Summit Ave Jersey City 7 NJ-2-3-7-8-15
 Universal Products Eng'g 4100 Taylor Ave Racine Wis-2-23
 Up-Right Scaffolds 1013 Pardee Berkeley 10 Calif-23
 Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-8
 Varo Mfg Co 2201 Walnut St Garland Texas-19
 Vesto Co 1916 Clay St N Kansas City 16 Mo-23
 Virginia Electronics Co River Rd at B & O RR Washington 16 D C-11-12
 Visual Electronics Corp 500 5 Ave New York 36 NY-4-10-21
 Vokar Corp Dexter Mich-8
 Ward Products Corp Div Gabriel Co 1148 Euclid Ave Cleveland 15 Ohio-2-11-15-19
 Waveline Inc Passaic Ave Box 470 Caldwell NJ-1-10-12
 Webster Mfg Co 242 Shoreline Blvd Mill Valley Calif-11
 Western Coil & Electrical Co 215 State St Racine Wis-2-6-23
 Western Gear Corp Electro Products Div 132 W Colorado St Pasadena Calif-22
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-12-14
 Wheeler Labs Inc 122 Cutter Mill Rd Great Neck NY-10-12-18-19
 White & Son James L 374 Verona Ave Newark 4 NJ-6-9-10-11-18-19
 Wilcox Electric Co 1400 Chestnut St Kansas City 27 Mo-1-19
 Wincharger Corp E 7th & Division Sts Sioux City 2 Iowa-3-23
 Wind Turbine Co E Market St & Penna RR West Chester Pa-2-3-16-18-19-21-22-23
 Z&W Machine Prod Inc Electronics Div 30240 Lakeland Blvd Wickliffe Ohio-1
 Zenith Optical Lab 1940 Great Neck Rd Copiague NY-21



Birnbach Radio Co 145 Hudson St New York 13 NY-3-5
 Broadway Coil Co 5638 Broadway Chicago 40 Ill-6
 Buchan Co R J PO Box 9 Bricelyn Minn-1-5
 CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-8
 Channel Master Corp Ellenville NY-4-5-10-11-12
 Clear Beam TV Antenna Corp 21341 Roscoe Blvd Canoga Park Calif-4-5-9-10-11
 Clum Mfg Co 611 National Ave Milwaukee 4 Wis-7
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-5
 Colcraft Inc Gary Ill-6-7
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-1-2-4-9-10-11-12
 Crown Controls Co 40 S Washington St New Bremen Ohio-12
 Davis Electronics Co 4002 W Burbank Blvd Burbank Calif-1-2-3-5-9-11
 Diamond Microwave Corp 7 North Ave Wakefield Mass-3-5
 DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-4-7
 Dynamic-Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-4
 Easy-Up Inc 908 State St Racine Wis-13
 Electrend Products Corp State & Water Sts St Joseph Mich-2
 Electronic Coil Co 2506 N Ontario St Burbank Calif-6
 El-Rad Mfg Co 2800 W Cullom Ave Chicago 18 Ill-7
 Equipment Crafters Inc River Edge NJ-1
 Entron Inc 4902 Lawrence St Bladensburg Md-8
 E-Z Way Towers 5901 E Broadway Tampa Fla-13
 Finney Co 4612 St Clair Ave Cleveland 3 Ohio-11
 FKB Opticon Inc 202 E Fairview South Bend 14 Ind-10
 Fretco Inc 406 N Craig St Pittsburgh 13 Pa-4-5-9-10-11
 Gabriel Electronics Div 135 Crescent Rd Needham Hgts 94 Mass-1-2-5
 Gavitt Wire & Cable Co Div American Hard Rubber Brookfield Mass-6
 Gee-Lar Mfg Co 418 S Wyman St Rockford Ill-5
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-2-4-6-9-10-11
 General Instrument Corp 65 Gouverneur St Newark 4 NJ-7
 Graybar Electric Co 420 Lexington Ave New York 17 NY-8
 Hillburn Electronic Products 55 Nassau Ave Brooklyn 22 NY-6-7
 Hi-Gain Television Products Co 249 N 48 St Lincoln Neb-1-5-9-10-11
 Houlihan Co T J 2508 W Lawrence Chicago 25 Ill-7
 Insuline Corp of America 186 Granite St Manchester NH-2-4-6-9
 JaMac Products Co 8845 NE Sandy Blvd Portland 20 Ore-4-8-9-10-11
 Jerrold Electronics Corp 2222 Chestnut St Philadelphia 3 Pa-8
 JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-2-4-9-11-12
 Johnson Co E F Waseca Minn-1-12
 Kay-Townes Antenna Co PO Box 593 Rome Ga-9-11
 K-G Electronics Corp 2738 N Sheffield Ave Chicago 14 Ill-9-10-11
 Kuehne Mfg Co Mattoon Ill-13
 K-W Eng'g Works 3145-A North 48 St Milwaukee 16 Wis-1
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-2-9-10-11
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-5
 Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-8
 Macon Electronics Warrensburg Ill-1-3-4-5-9
 Mar-Ko TV 441 Summit St Toledo 4 Ohio-5-9-10-11-12-13
 Mark Products Co 6412 W Lincoln Ave Morton Grove Ill-1-5
 Mathis Co G E 5745 S Claremont Ave Chicago 36 Ill-5
 Mathis Tower & Equip 2200 E Washington St E Peoria Ill-13
 Medal Mfg Co 194 Silver St Sharon Pa-4-5-9-10-11
 Merkle-Korff Gear Co 213 N Morgan St Chicago 7 Ill-12
 Miller Electronics 2840 Naomi St Burbank Calif-2-4-5-9-10-11
 Modern Wire Co 39-30 Review Ave Long Island City 1 NY-5
 Mosley Electronics Inc 8622 St Charles Rock Rd St Louis 4 Mo-1
 National Electric Products Corp 2 Gateway Center Pittsburgh 22 Pa-10-11

National Moldite Co 1410 Chestnut Ave Hillside 5 NJ-7
 National Wire & Cable Corp 136 San Fernando Rd Los Angeles 31 Calif-1
 Peerless Products Industries 812 N Pulaski Rd Chicago 51 Ill-4
 Philco Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-9-12
 Philmore Mfg Co 113 University Pl New York 3 NY-5
 Philson Mfg Co 60 Sackett St Brooklyn 31 NY-2-3-9-11
 Premax Products Div Chisholm Ryder Co Highland & College Aves Niagara Falls NY-1
 Pye Corp of America 270 Park Ave New York 17 NY-2-9
 Q L C Corp 409 Main St Greenport LI NY-6-7
 Radiart Corp 3455 Vega Ave Cleveland 13 Ohio-2-4-9-10-11-12
 Radio Merchandise Sales 2016 Bronxdale Ave New York 62 NY-4-5-9-10-11-12
 Radion Corp 1130 W Wisconsin Ave Chicago 14 Ill-4-10-11
 Ramsey Radio & TV 925 St Louis Ave Vandalia Ill-13
 Raypar Inc 7810 W Addison St Chicago 34 Ill-1
 Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-11
 Rohn Mfg Co 116 Limestone Bellevue Peoria Ill-13
 Rostan Corp 56-60 59 St Maspeth LI NY-13
 S/C Laboratories 37 George St Newark 5 NJ-3-4
 Skysweeper Inc 51 Bridge St McHenry Ill-1-4-9-10-11
 Smith-Meeker Eng'g 157 Chambers St New York 7 NY-1-5
 Snyder Mfg Co 22 & Ontario Sts Philadelphia 40 Pa-2-4-5-9-10-11
 South River Metal Products 377 Turnpike South River NJ-13
 Spaulding Products Co 550 W Barnes St Frankfort Ind-13
 Spiraling Products Co Henrietta St & Duffy Ave Hicksville LI NY-2-9-11
 Stanwyck Winding Co 137 Walsh Ave Newburgh NY-6-7
 Superex Electronics Corp 4 Radford Pl Yonkers NY-6-7
 Tabet Mfg Co 1336 Ballentine Blvd Norfolk 12 Va-13
 Technical Appliance Corp 1 Taco Ave Sherburne NY-8-9-10-11
 Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-5
 Tele-Ex-Pand Corp PO Box 392 Berwick Pa-13
 Telesine Antenna Corp PO Box 1387 Shreveport 92 La-4-9-10-11
 Telesound Inc 1505 Race St Philadelphia 2 Pa-8
 Teletenna Co 1033 Indiana Ave La Porte Ind-10-11
 Tele-Vue Towers Inc 701 49 St So St Petersburg 7 Fla-13
 Telkor Inc N Murray Ridge Rd Elyria Ohio-10
 Television Labs Inc Mill St Wauconda Ill-4-7
 Tempo TV Sales Corp 21341 Roscoe Blvd Canoga Park Calif-1-2-3-4-5-6-9-10-11-12-13
 Tennialab 417 S 10 St Quincy Ill-1-9
 Thompson Products Inc Electronics Div 2196 Clarkwood Rd Cleveland 3 Ohio-12
 Tower Corp 3332 E 55 St Cleveland 27 Ohio-13
 Tower Structures Inc Gregg St Lodi NJ-5-13
 Tricraft Products Corp 1535 N Ashland Ave Chicago 22 Ill-4-5-9-10-11
 Trio Mfg Co Griggsville Ill-10-11
 TV Hdw Mfg Co 919 Taylor Ave Rockford Ill-4-5-6-7-9-10-11-13
 T-V Products Co 145-68 228 St Springfield Gardens 13 NY-4-5-9-10-11
 Union Electric & Mfg 1057 Summit Ave Jersey City 7 NJ-1-6-7
 Universal Products Eng'g 4100 Taylor Ave Racine Wis-1-13
 Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-7
 Vokar Corp Dexter Mich-7
 Walco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-9-10-11
 Ward Products Corp Div Gabriel Co 1148 Euclid Ave Cleveland 15 Ohio-1-2-9
 Webster Mfg Co 242 Shoreline Blvd Mill Valley Calif-2
 Welco Mfg Co 225 S 3 St Burlington Iowa-3-11
 Western Coil & Electrical Co 215 State St Racine Wis-1-13
 Wincharger Corp E 7th & Division Sts Sioux City 2 Iowa-13
 Wind Turbine Co E Market St & Penna RR West Chester Pa-1-3-5
 Winegard Co 3000 Scotten Blvd Burlington Iowa-9
 Winpower Mfg Co 1207 1 Ave E Newton Iowa-13

7—ANTENNAS, HOME

Antennas, amateur 1
Antennas, Auto Radio 2
Antennas, home all-wave 3
Antennas, Indoor FM & TV 4
Antenna kits 5
Antennas, loop 6
Antennas, loop-core 7
Antennas, master community ... 8
Antennas, Outdoor FM & TV ... 9
Antennas, UHF 10
Antennas, VHF 11
Rotators 12
Towers & Supports, home 13

Advance Electronics Co 8510 North End Ave Oak Park 37 Mich-9-10-11
 All Channel Antenna Corp 47-39 49 St Woodside 77 NY-3-4
 Alliance Mfg Co Alliance Ohio-9-10-11-12
 Alpar Mfg Corp 2910 Spring St Redwood City Calif-13
 Alproco Inc Mineral Wells Texas-12-13
 American Electronics Co 1203 Bryant Ave New York 59 NY-1-4-5-9
 Amphenol Electronics Corp 1830 S 54 Ave Chicago 50 Ill-1-3-9-10-11
 Ampitel Inc 342 W 40 St New York 18 NY-8
 Amy Aceves & King 11 W 42 St New York 36 NY-8
 Antenna Specialists Co 12435 Euclid Ave Cleveland 6 Ohio-1-2-4
 ARF Products 7627 Lake St River Forest Ill-8
 Bassett Inc Rex 1314 NE 17 Court Fort Lauderdale Fla-1-2

AT YOUR FINGERTIPS . . .

Manufacturers' addresses! Reps! Distributors! Brand names! Societies! Consultants! All are listed in other sections of this directory.

8—ANTENNA ACCESSORIES

Assemblies, HF	1
Baluns	2
Clamps, ground	3
Coupling & phasing units	4
Diplexers	5
Dummy loads	6
Duplexers	7
Feed systems	8
Hardware	9
Heaters	10
Housings	11
Insulators	12
Isolation units	13
Lenses, R-F	14
Lightning arresters	15
Links	16
Masts	17
Monitors	18
Monitors, R-F power	19
Mounts	20
Multi-set Couplers	21
Outlets	22
Remote Controls	23
Spreaders, feeders	24
Springs, grounding	25
Switching equipment	26
Tower lighting	27
Tuning units	28

Aerulite Electronics Corp 507 26 St Union City NJ-15
 Aeromotive Equipment 1632 Central St Kansas City 8 Mo-1
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-19
 Aircorn Inc 354 Main St Winthrop 52 Mass-5-7
 Aircraft & Electronic Specialties 22 S Green St Brownsburg Ind-1
 Airtron Inc 1101 W Elizabeth Ave Linden NJ-6-15
 Alden Electronic & Impulse Recording Equipment Co Westboro Mass-46
 Algo Inc 251 West St S Hackensack NJ-11
 Alproco Inc Mineral Wells Texas-17
 Amerac Inc Wenham Mass-19
 American Electronics Co 1203 Bryant Ave New York 59 NY-5-21
 American Lava Corp Subsidiary of Minn Mining & Mfg Cherokee Blvd & Mfrs Rd Chattanooga 5 Tenn-12
 American Matrix Corp 15 Exchange Pl Jersey City 2 NJ-1
 American Radio Hdw Co 152 MacQuesten Pkwy S Mt Vernon NY-3-9
 American Silver Co 36-07 Prince St Flushing 54 NY-2
 Amphenol Electronics Corp 1830 S 54 Ave Chicago 50 Ill-15-21
 Amplitel Inc 342 W 40 St New York 18 NY-22
 Anatron Eng'g Corp 165 E California St Pasadena Calif-23
 Anchor Products Co 2712 W Montrose Ave Chicago 18 Ill-21
 Andrew Corp 363 E 75 St Chicago 19 Ill-5-7-9-17-27-28
 Arens Controls Inc 2017 Greenleaf St Evanston Ill-23
 A R F Products Inc 7627 Lake St River Forest Ill-14-16-23
 Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-18
 Askania Regulator Co 240 E Ontario St Chicago 11 Ill-23
 Associated Eng'g Mfg Corp Glen Ridge NJ-10
 Automatic Switch Co 391 Lakeside Ave Orange NJ-23
 Bache Semon & Co 636 Greenwich St New York 14 NY-14
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-2-3-4-6-7-8-12-13-19
 Bassett Inc Rex 1314 NE 17 Court Fort Lauderdale Fla-17
 Bell Aircraft Corp PO Box 1 Buffalo 5 NY-23
 Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-23
 Barton Electronics 1000 Farmington Ave Hartford 7 Conn-23
 B-I-F Industries 345 Harris Ave Providence 1 RI-23
 Birnbach Radio Co 145 Hudson St New York 13 NY-3-9-12-24
 Bliss Electronic Corp Box 366 Sussex NJ-23
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-2-5-21-22
 Bogart Mfg Corp 315 Siegel St Brooklyn 6 NY-4-6-7
 Borden Eng'g Co Div M J Johnson Aircraft Eng'g Co 39 E Hanover Ave Morris Plains NJ-23
 Bristol Co PO Box 1790 Waterbury Conn-23
 Budd-Stanley Co 43-01 22 St Long Island City 1 NY-1-5-7

Bud Radio Inc 2118 E 55 St Cleveland 3 Ohio-11
 Buggie Inc H H PO Box 817 Toledo 1 Ohio-17
 Burke & James 321 S Wabash Ave Chicago Ill-14
 Camera Equipment Co 315 W 43 St New York 36 NY-14-20
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-2-7-19
 Capps & Co 20 Addison Pl Valley Stream LI NY-10
 Cavitron Oscillator Div Short Wave Plastic Forming Co 2921 W Alameda Ave Burbank Calif-10
 Central Sales & Mfg Corp 2 Richwood Pl Denville NJ-7
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-18
 Century Lighting Inc 521 W 43 St New York NY-26
 Chemalloy Electronics Corp Gillespie Airport Santee Calif-6
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-18
 Claipostat Mfg Co Washington St Dover NH-6
 Clear Beam TV Antenna Corp 21341 Roscoe Blvd Canoga Park Calif-17
 Cole Instrument Co 1000 N Olive St Anaheim Calif-23
 Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-11
 Consolidated Avionics Corp Ludlow & Canal St Stamford Conn-23
 Control Corp 718 Central Ave S Minneapolis 14 Minn-23
 Corbin Corp 5419 56 Pl Riverdale Md-2
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-15
 Cox & Co 115 E 23 St New York 10 NY-10
 Crouse-Hinds Wolf & 7th North St Syracuse 1 NY-11-27
 Crown Controls Co 40 S Washington St New Bremen Ohio-21
 Cubic Corp 2841 Canon St San Diego 6 Calif-7
 Cunningham Son & Co Jas 33 Litchfield St Rochester 8 NY-26
 Cutler-Hammer Inc 315 N 12 St Milwaukee 1 Wis-10-26
 Damp-Chaser Inc 1440 Ridgewood Blvd Hendersonville N Car-10
 Daystrom Instrument Archbald Pa-23
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-23
 Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-14
 Deleo Radio Div General Motors 700 E Firmin St Kokomo Ind-25
 Diamond Microwave Corp 7 North Ave Wakefield Mass-5-6-7-20
 Du-Co Ceramics Co Box 586 Butler Pa-12
 Dudek & Bock 4014 W Grand Ave Chicago 51 Ill-25
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-18-23-26
 Dynamic-Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-1
 Eberline Instrument Div Reynolds Electrical & Eng'g PO Box 1539 Santa Fe N Mex-18
 Eby Co Hugh H 4701 Germantown Ave Philadelphia 44 Pa-21
 Edmund Scientific Corp 101 E Gloucester Pike Barrington 3 NJ-14
 Electrend Products Corp State & Water Sts St Joseph Mich-10
 Electro-Devices Inc Servospeed Div 4 Godwin Ave Paterson 1 NJ-23
 Electro-Flex Heat Inc 516 Asylum St Hartford 5 Conn-10
 Electromode Div Commercial Controls Corp 45 Crouch St Rochester 3 NY-10
 Electronics Development 3743 Cahuenga Blvd N Hollywood Calif-5
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-23
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-1-2-7-13
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-19
 Elgin Metalformers Corp 901 N Liberty St Elgin Ill-11
 Ellis & Sons George D 4028 N American St Philadelphia 40 Pa-11
 Emerson & Cuming 869 Washington St Canton Mass-6-14
 Empire Electronics Co 166 River St Paterson 1 NJ-1
 Engineering Associates 434 Patterson Rd Dayton 9 Ohio-28
 Epco Electronics Inc 140 Liberty St New York 6 NY-21
 Finn & Co T R 200 Central Ave Hawthorne NJ-20
 Fischer & Porter 19 Warminster Rd Hatboro Pa-8-23
 Fish-Schurman Corp 70 Portman Rd New Rochelle NY-14
 Fretco Inc 406 N Craig St Pittsburgh 13 Pa-12
 Friez Instrument Div Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-23
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-5-6
 Garde Mfg Co 588 Eddy St Providence 3 RI-15
 Gates Radio Co 123 Hampshire St Quincy Ill-6
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-9-15
 General Control Co 1224 Soldiers Field Rd Boston 34 Mass-26

General Controls Co 801 Allen Ave Glendale 1 Calif-23
 General Devices Inc Princeton NJ-26
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-10-15-23
 General Instrument Corp 65 Gouverneur St Newark 4 NJ-28
 General Precision Lab 63 Bedford Rd Pleasantville NY-18
 General Radio Co 275 Mass Ave Cambridge 39 Mass-2
 General Riveters Inc Electro Mechanical Div 785 Hertel Ave Buffalo 7 NY-23
 Giannini & Co G M 918 E Green St Pasadena Calif-23
 Gordon Enterprises 5362 N Cahuenga Blvd N Hollywood Calif-20
 Gorrell & Gorrell 336 Old Hook Rd Westwood NJ-26
 Graybar Electric Co 420 Lexington Ave New York 17 NY-10-15-18-23-27
 Great Eastern Mfg Co 165 Remsen Ave Brooklyn 12 NY-21
 Gries Reproducer Corp 125 Beechwood Ave New Rochelle NY-9
 Guardian Electric Mfg Co 1621 W Walnut St Chicago 12 Ill-23
 Gustin-Bacon Mfg Co 210 W 10 St Kansas City 5 Mo-12
 Gyro Electronics Co 325 Canal St New York 13 NY-23
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-18-23
 Hallett Mfg Co 1601 W Florence Ave Inglewood Calif-25
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-23
 Hanson-Gorrill-Brian Inc 85 Hazel St Glen Cove NY-23
 Harmon Electronics Co 11431 Truman Rd Independence Mo-23
 Haydon Co A W 232 N Elm St Waterbury 20 Conn-23
 Haydon Switch Inc 536 S Leonard St Waterbury Conn-26
 Healy-Ruff Co 2255 University Ave St Paul 14 Minn-23
 Hermetic Seal Products 29 S 6 St Newark NJ-11
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-4
 Hughey & Phillips 3300 N San Fernando Blvd Burbank Calif-27
 IE Mfg 325 N Hoyle Ave Chicago 12 Ill-12-20
 Industrial Electronic Engrs 3973 Lankershim Blvd North Hollywood Calif-26
 Instrument Specialties Co Little Falls NJ-25
 Insuline Corp of America 186 Granite St Manchester NH-9-15
 Integrated Mica Corp 202 Franklin Pl Woodmere NY-10
 Isolantite Mfg Corp Stirling NJ-12
 I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 30 Pa-8-14-20
 Janco Corp 3111 Winona Ave Burbank Calif-10-12
 Jan Hdw Mfg Co 75 N 11 St Brooklyn 11 NY-4
 Javex PO Box 646 Redlands Calif-21
 Jeffrey Mfg Co N 4 St & 1 Ave Columbus 16 Ohio-24
 JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-9-12-17-20
 Johnson Co E F Waseca Minn-2-6-12-18
 Jones Electronics Co M C 185 N Main St Bristol Conn-6
 Jones & Laughlin Steel Corp 3 Gateway Center Pittsburgh 30 Pa-17
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-1-6-7-8-14-16
 Kearfott Co 1378 Main Ave Clifton NJ-23
 Kennedy & Co D S 155 King St Cohasset Mass-5-7
 Kenwood Eng'g Co 265 Colfax Ave Kenilworth NJ-9-20
 Kimco Towers 11 W 42 St New York 36 NY-27
 Korfund Co 48-15 32 Pl Long Island City 1 NY-20
 Kupfrian Mfg Corp 395 State St Binghamton NY-23
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-9-12-20
 Lapp Insulator Co Radio Specialties Div Gilbert St Le Roy NY-6-12-24
 Larson Instrument Co 24 Orchard St Tarrytown NY-23
 Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-10
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-13-16
 Lieco Inc 147 Ocean Ave Lynbrook NY-5
 Lord Mfg Co 1635 W 12 St Erie 6 Pa-20
 Luxor Lighting Products 350 5 Ave New York 1 NY-27
 Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-2
 Malkin-Illion Co 400 Coit St Irvington 11 NJ-11-20
 Manning Maxwell & Moore 250 E Main St Stratford Conn-23
 Mar-Ko TV 441 Summit St Toledo 4 Ohio-17-21
 Mathis Co G E 5745 S Claremont Ave Chicago 36 Ill-9-11-20
 Mathis Tower & Equip 2200 E Washington St E Peoria Ill-9-17-20-27

Mattson Electronics Corp 1487 Lincoln Ave
Pasadena Calif-23
Measurement Eng'g Ltd John St Arnprior
Ontario Canada-9-12
Measurements Corp Boonton NJ-2
Medal Mfg Co 194 Silver St Sharon Pa-15
Mercury Electronic Co Box 450A Red Bank
NJ-20
Mercury Mfg Corp 45 Brown St Buffalo 11
NY-1
Meridian Metalcraft Inc 8739 S Millergrove Dr
Whittier Calif-6-7-8
Meyer & Co Hugo 39 W 60 St New York 23
NY-11-14-20
Microphase Corp PO Box 1166E Greenwich
Conn-2-6-7-21
Midwest Electric Products Mankato Minn-23
Modern-Aire Mfg Corp 4436 W Roosevelt Rd
Chicago 24 Ill-9-20
Modern Wire Co 39-30 Review Ave Long
Island 1 NY-3-15-17-20
Mosley Electronics Inc 8622 St Charles Rock Rd
St Louis 14 Mo-2-12-21-22
Motorola Communications & Electronics 4501
W Augusta Blvd Chicago 51 Ill-18
Narda Corp 160 Herricks Rd Mineola NY-6-7
National Coil Co PO Box 1237 Sheridan Wyo-2
National Electric Products Corp 2 Gateway
Center Pittsburgh 22 Pa-17-20
Nestor Eng'g Co PO Box 416 Waldwick NJ-23
Newcomb Audio Products Co 6824 Lexington
Ave Hollywood 38 Calif-18
Newcomb Spring of Conn College Hwy South-
ington Conn-25
New York Mfg & General Supply 10-38 Jack-
son Ave Long Island City 1 NY-14
N R K Mfg & Eng'g 4601 W Addison St Chi-
cago 41 Ill-6
Nuclear Measurements Corp 2460 N Arlington
Ave Indianapolis 18 Ind-18
Ohmite Mfg Co 3601 Howard St Skokie Ill-6
Perma-Power Co 4727 N Damen Ave Chicago
25 Ill-23
Philmore Mfg Co 113 University Pl New York
3 NY-23
Philson Mfg Co 60 Sackett St Brooklyn 31
NY-20
Photocircuits Corp Sea Cliff Ave Glen Cove
NY-21
Polytechnic Research & Development 202 Till-
ary St Brooklyn 1 NY-6-19-20
Portchester Instrument Corp 114 Wilkins Ave
Port Chester NY-5-7-8
Potter Co 1950 Sheridan Rd N Chicago Ill-15
Precision Scientific Co 3737 W Cortland St
Chicago 47 Ill-10
Premax Products Div Chisholm Ryder Co High-
land & Colleße Aves Niagara Falls NY-12-20
Premier Instrument Corp 52 W Houston St
New York 12 NY-5-6-7
Premier Metal Products 337 Manida St New
York 59 NY-11
Prodelin Inc 307 Bergen Ave Kearny NJ-2-5-7
Pye Corp of America 270 Park Ave New York
17 NY-16
Pyramid Instrument Corp 630 Merrick Rd
Lynbrook NY-23
Radiart Corp 3455 Vega Ave Cleveland 13
Ohio-15
Radio Corp of America Tube Div 215 S 5 St
Harrison NJ-21
Radio Merchandise Sales 2016 Bronxdale Ave
New York 62 NY-12-15
Radion Corp 1130 W Wisconsin Ave Chicago 14
Ill-15
Railway Communications PO Box 67 Raytown
Mo-13
Reliable Spring & Wire Forms Co 3167 Fulton
Rd Cleveland 9 Ohio-25
Resistoflex Corp Belleville NJ-12
Rich Electronics Inc 212 NW 8 Ave Miami 36
Fla-6-23
Richardson Co 2790 Lake St Melrose Park Ill-12
Rixon Electronics 2414 Reddie Dr Silver Spring
Md-18-19-26
Robinson Aviation Teterboro NJ-20
Rohn Mfg Co 116 Limestone Bellevue Peoria
Ill-17
Rust Industrial Co 41 E 42 St New York 17
NY-23
Sage Labs 30 Guinan St Waltham 54 Mass-1-6-
7-8-19
Saxton Products Inc 1661 Boone Ave Bronx 60
NY-12-15
Schafer Custom Eng'g 235 S 3 St Burbank
Calif-23
Sciaky Bros 4915 W 67 St Chicago 38 Ill-10
Scientific Associates 2162 Piedmont Rd NE
Atlanta 9 Ga-14
Seismograph Service Corp PO Box 1590 Tulsa
1 Okla-6
Self-Winding Clock Co Kybernetes Div 205
Willoughby Ave Brooklyn 5 NY-18
Servomechanisms Inc Post & Stewart Aves
Westbury NY-23
Servo-Tek Products Co 1086 Goffe Rd Haw-
thorne NJ-23
Setchell-Carlson New Brighton St Paul 12
Minn-18
Sherman Mfg Co H B 22 Barney St Battle
Creek Mich-3
Sierra Electronic Corp 1050 Britton Ave San
Carlos Calif-6
Simmonds Aeroccessories 105 White Plains Rd
Tarrytown NY-23



Snyder Mfg Co 22 & Ontario Sts Philadelphia
40 Pa-17-21
South River Metal Products 377 Turnpike
South River NJ-9-17-20
Spencer-Kennedy Labs 1320 Soldiers Field Rd
Boston 35 Mass-22
Standard Electronics Corp 285 Emmet St
Newark NJ-5-6
States Co 19 New Park Ave Hartford 6 Conn-6
Stavid Eng'g Inc U S Hwy #22 Plainfield NJ-
14
Stone City Machine & Tool Co PO Box 351
Bedford Ind-9-11-12
Stupakoff Div Carborundum Co Latrobe Pa-12
Suffolk Products Corp Woodbine & Scudder
Aves Northport LI NY-1-6-11-20
Sun Tube Corp Route 69 Washington NJ-11
Superior Electronics Corp 208 Piaget Ave Clif-
ton NJ-20
Ta-Mar Inc 11571 W Jefferson Blvd Culver
City Calif-13
Tarc Electronics Inc 48 Urban Ave Westbury
LI NY-18
Taylor Instrument Companies 95 Ames St
Rochester 1 NY-23
Tech Labs Inc Bergen & Edsall Blvd Palisades
Park NJ-26
Technical Appliance Corp 1 Taco Ave Sher-
burne NY-17
Technicraft Labs Inc Thomaston-Waterbury Rd
Thomaston Conn-5-6-7
Telechrome Inc 88 Merrick Rd Amityville LI
NY-26
Tele-Ex-Pand Corp PO Box 392 Berwick Pa-17-
27
Telephonics Corp Park Ave Huntington LI
NY-23
Telerad Mfg 1440 Broadway New York 18
NY-6
Telkor Inc N Murray Ridge Rd Elyria Ohio-21
Tempo TV Sales Corp 21341 Roscoe Blvd
Canoga Park Calif-15-17-20
Thermiflex Corp 311 W Maumee St Angola
Ind-10
Tower Construction 2700 Hawkeye Dr Sioux
City Iowa-27
Tower Corp 3332 E 55 St Cleveland 27 Ohio-17
Tower Structures Inc Gregg St Lodi NJ-27
Trans-Tel Corp 736 N Highland Ave Los An-
geles 38 Calif-23
Transvision Inc 460 North Ave New Rochelle
NY-18
Tricraft Products Corp 1535 N Ashland Ave
Chicago 22 Ill-15-17
T-V Products Co 145-68 228 St Springfield
Gardens 13 NY-15-17
TV Utilities Corp 1315 Jericho Turnpike New
Hyde Park LI NY-18
Union Switch & Signal Div Westinghouse Air
Brake Pittsburgh 18 Pa-15-23
United Mineral & Chemical Corp 16 Hudson
St New York 13 NY-12
Univox Corp 102 Warren St New York 7 NY-2
Up-Right Scaffolds 1013 Pardee Berkeley 10
Calif-17
U S Electronic Research & Devel 1605 W
Lafayette St Detroit 16 Mich-23
U S Gasket Co Fluorocarbon Div 600 N 10 St
Camden 1 NJ-12
Ventrak Corp 11 W 42 St New York 36 NY-20
Vidaire Electronics Mfg 576-80 W Merrick Rd
Lynbrook NY-21
Video Accessory Mfg Co PO Box 223 Tulsa 1
Okla-9-17-20
Virginia Electronics Co River Rd at B&O RR
Washington 16 DC-1-18-23
Visual Electronics Corp 500 5 Ave New York
36 NY-18
Voron & Co George 835 N 19 St Philadelphia
30 Pa-28
Vulcan Electric Co 88 Holten St Danvers
Mass-10
Wac Line Inc 35 S St Clair St Dayton 2 Ohio-6
Walsco Electronics Corp 3225 Exposition Pl
Los Angeles 18 Calif-9
Waveline Inc Passaic Ave Box 470 Caldwell
NJ-6-7
Weinschel Eng'g & Mfg Corp 10505 Metro-
politan Ave Kensington Md-6-20
Western Coil & Electrical Co 215 State St
Racine Wis-9
Westinghouse Electric Corp Electronics Div
2519 Wilkens Ave Baltimore 3 Md-1-4-21
Westinghouse Electric Corp Box 868 Pittsburgh
30 Pa-10-26
West Instrument Corp 4363 W Montrose Ave
Chicago 41 Ill-23
Wicks Eng'g & Construction 12 St & Ferry
Ave Camden 4 NJ-23
Wiegand Co Edwin L 7713 Thomas Blvd Pitts-
burgh 8 Pa-10
Wind Turbine Co E Market St & Penna RR
West Chester Pa-8-17-20-26
Wright Electronics Inc 1519 McGee St Kansas
City Mo-10

9-AVIATION

AUXILIARY ELECTRONIC EQUIPMENT

Antenna accessories	1
Antennas, aviation	2
Controls, aircraft	3
Emergency equipment	4
Gyroscopes	5
Power supplies	6
Power supplies, emergency	7
Power supplies, 400 CPS	8
Recorders, airborne film	9
Recorders, airborne magnetic ..	10
Recorders, airport controller ...	11
Test Equipment	12
Vibration mountings	13

COMMUNICATIONS NAVIGATION EQUIPMENT

Airborne landing systems	14
Altimeters, radio	15
Computers	16
Controls, aircraft navigation ...	17
Controls, guided missile	18
Controls, remote radio	19
Distance measuring equip.	20
Facsimile	21
Flight simulators & trainers ...	22
Ground landing systems	23
Guided Missile telemetering	24
Intercommunication systems	25
Lamps, aircraft	26
Navigation equipment, airborne..	27
Navigation equipment, ground ..	28
Radar	29
Radar beacons	30
Receivers	31
Transmitters	32

ACF Electronics 800 N Pitt St Alexandria Va-
24
Admiral Corp 3800 Cortland St Chicago 47 Ill-29
Advance Electronics Co 451 Highland Ave Pas-
saic NJ-12
Aeronautical Communications Equip 3090 S W
37 Ave Miami 33 Fla-30-31-32
Aeronautical Electronics PO Box 6043 Raleigh
NC-2-6-27-31-32
Aerovox Corp Pacific Coast Div 2724 Peck Rd
Monrovia Calif-6-7-8
Ahrendt Instrument Co 4910 Calvert Rd College
Park Md-28
Air Associates Inc 511 Joyce St Orange NJ-3-
14-17-21-24-27-29-30
Airborne Instruments Lab 160 Old Country Rd
Mineola NY-29
Aircrom Inc 354 Main St Winthrop 52 Mass-24
Aircraft Armaments Inc Cockeysville Md-30
Aircraft & Electronic Specialties 22 S Green
St Brownsburk Ind-3
Aircraft Radio Corp Boonton NJ-2-27-31-32
Airpax Products Co Middle River Baltimore 20
Md-8
Airtron Inc 1101 W Elizabeth Ave Linden
NJ-1-12
Alden Electronic & Impulse Recording Equip-
ment Co Westboro Mass-21
Alden Systems Co Washington St Westboro
Mass-21
Alfax Paper & Eng'g PO Box 125 Westboro
Mass-21
Alford Mfg Co 299 Atlantic Ave Boston 10
Mass-2
All American Tool & Mfg 8027 Lawndale Ave
Skokie Ill-12
Allegany Instrument Co Cumberland Md-18-24
Allied Radio Corp 100 N Western Ave Chicago
25 Ill-12
Amerac Inc Wenham Mass-30
American Bosch Arma Corp Arma Div Roose-
velt Field Garden City NY-3-5-16-17-18-24-27-
28-29
American Electronics Inc 655 W Washington
Blvd Los Angeles 15 Calif-8-10
American Electronics Co 1203 Bryant Ave New
York 59 NY-1
American Electronic Labs 641 Arch St Phila-
delphia 6 Pa-29
American Metrix Corp 15 Exchange Pl Jersey
City 2 NJ-8-12-15
American TV & Radio Co 300 E 4 St St Paul 1
Minn-7
Ampex Corp 934 Charter St Redwood City
Calif-10
Analogue Controls Inc 39 Roselle St Mineola
LI NY-16
Anchor Specialty Mfg 300 N. Industrial Ave
Teterboro NJ-12
Andrew Corp 363 E 75 St Chicago 19 Ill-1
Antenna Specialties Co 12435 Euclid Ave Cleve-
land 6 Ohio-1-2

Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-6-7-8-16
 Applegate & Co C J 1816 Grove St Boulder Colo-8
 Applied Science Corp of Princeton PO Box 44 Princeton NJ-10-24
 Arena Controls Inc 2017 Greenleaf St Evanston Ill-3
 ARF Products 7627 Lake St River Forest Ill-17-27
 Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-8-24
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-16-18-30
 Babcock Radio Eng'g 7942 Woodley Ave Van Nuys Calif-19-24
 Baer Co N S 1 Montgomery St Hillside 5 NJ-1
 Baird Associates 33 University Rd Cambridge 38 Mass-3-12-14-27-28
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-20
 Barry Controls Inc 700 Pleasant St Watertown 72 Mass-13
 Bassett Inc Rex 1314 N E 17 Court Fort Lauderdale Fla-12
 Bell Aircraft Corp PO Box 1 Buffalo 5 NY-3-14-17-18-24-27-28
 Bendix Aviation Corp Red Bank Div Eatontown NJ-6-8
 Bendix Aviation Corp Bendix Computer Div 5630 Arbor Vitae St Los Angeles 45 Calif-16
 Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-18-19-24-25-30
 Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-2-27-29-31-32
 Bergen Labs 11 Godwin Ave Fairlawn NJ-12
 Bergen Wire Rope 455 Gregg St Lodi NJ-1
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-16
 Bernat-Baeh Inc 6926 Romaine St Hollywood 38 Calif-9-10
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-12
 Birnbach Radio Co 145 Hudson St New York 13 NY-1
 Bliss Electronic Corp Box 366 Sussex NJ-12-19
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-1
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-16-29
 Boehme Inc H O 915 Broadway New York 10 NY-28
 Bogart Mfg Corp 315 Siegel St Brooklyn 6 NY-1
 Bogue Electric Mfr Co 52 Iowa Ave Paterson 3 NJ-8
 Boonton Radio Corp Intervale Rd Boonton NJ-12
 Borden Eng'g Co Div M J Johnson Aircraft Eng'g Co 39 E Hanover Ave Morris Plains NJ-3-12
 Bowser Technical Refrigeration Div Bowser Inc Terryville Conn-12
 Brailsford & Co 670 Milton Rd Rye NY-3
 Breeze Corporations 700 Liberty Ave Union NJ-3
 Bristol Co PO Box 1790 Waterbury Conn-3
 Broadcast Equipment Specialties PO Box 149 Beacon NY-10
 Buchan Co R J PO Box 9 Bricelyn Minn-1
 Burroughs Corp Electronic Instruments Div 1209 Vine St Philadelphia 7 Pa-16
 Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-6-7-8
 Cal-Tronics Corp 11307 Hindry Ave Los Angeles 45 Calif-12
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-2-29
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-8-12
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-32
 Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wis-18
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-9-10
 Channel Master Corp Ellenville NY-1
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-6-7
 Chatillon & Sons John 85 Cliff St New York 38 NY-12
 Chromatic TV Labs 1501 Broadway New York 36 NY-29
 Cincinnati Sub Zero Products 3932 Reading Rd Cincinnati 29 Ohio-12
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-12
 Clifton Precision Products Co Marple & Broadway Clifton Heights Pa-16
 Cline Electric Mfg Co 3405 W 47 St Chicago Ill-3-6-18
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-1-2
 Coil Company of America 207 Washington St Northvale NJ-8
 Cole Instrument Co 1000 N Olive St Anaheim Calif-12-18-19
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-2-6-14-27-28-31-32
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-12-22
 Colvin Labs 364 Glenwood Ave East Orange NJ-3-15-18
 Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-8
 Communications Co Coral Gables Fla-32
 Communication Measurements Lab 350 Leland Ave Plainfield NJ-8
 Computer Control Co 92 Broadway St Babson Park 57 Mass-16
 Computing Devices of Can Ltd PO Box 508 Ottawa Ontario Canada-16
 Condenser Products Co Div New Haven Clock & Watch 140 Hamilton St New Haven 4 Conn-6-7-8
 Conrad Inc 141 Jefferson St Holland Mich-12
 Consolidated Avionics Corp Ludlow & Canal St Stamford Conn-18
 Consolidated Electro-dynamics Corp 300 N Sierra Madre Villa Pasadena Calif-10-16
 Continental Electronics Mfg Co 4212 S Buckner Blvd Dallas 27 Texas-19
 Controls Corp of America—Soreng Div 9555 Soreng Ave Schiller Park Ill-3
 Cook Co Frank R 600 Mile High Center Denver 2 Colo-18
 Corbin Corp 5419 56 Pl Riverdale Md-1-2-14-16-20-21-23-24-27-28-29-30
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-8-12
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-2-29
 Craig Systems Inc 90 Holten St Danvers Mass-14-28
 Creative Eng'g Corp 10816 Burbank Blvd N Hollywood Calif-2
 Crescent Eng'g & Research 11632 McBean St El Monte Calif-3-18
 Crosby Labs Box 233 Robbins Lane Hicksville NY-12-28
 Crosley Div Avco Mfg Corp 2630 Glendale-Milford Rd Evendale Cincinnati 15 Ohio-24-27-29
 Crown Controls Co 40 S Washington St New Bremen Ohio-1
 C-Thru Ruler Co 827 Windsor St Hartford Conn-16
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-16-22
 Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-2-3-10-18-24-30
 Daven Co Route 10 Livingston NJ-12-18
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-10-11
 Davis Electronics Co 4002 W Burbank Blvd Burbank Calif-1
 Daystrom Instrument Archbald Pa-3-5-12-16-17-18-20-24-29-30-31
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-3-5-8-24
 Deming Indicator Co 1016 Acorn Dr Dayton 9 Ohio-12
 Diamond Microwave Corp 7 North Ave Wakefield Mass-1-2-12
 Doelcam Div Minneapolis-Honeywell 1400 Soldiers Field Rd Boston 35 Mass-3-5-6-17-24
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-12-16-24-27
 Drossen-Barnes Corp 250 N Vinedo Ave Pasadena 8 Calif-6-8
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-12
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-3-12
 Dynamic-Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-12-31
 Eastern Specialty Co 3617 N 8 St Philadelphia 40 Pa-12
 Easy-Up Inc 908 State St Racine Wis-1
 Eclipse-Pioneer Div Bendix Aviation Corp Terborgh NJ-3-5-16-17-18-24
 Edo Corp 13-10 111 St College Point 56 NY-29
 Eicor Inc 1501 W Congress St Chicago 7 Ill-6-8
 Eldico of NY Inc 72 E 2 St Mineola LI NY-7-31-32
 Electrend Products Corp State & Water Sts St Joseph Mich-1
 Electro-Craft Co 5 Milton Ave Dorchester Mass-27-29
 ElectroData Corp 460 Sierra Madre Villa Pasadena Calif-16
 Electro-Mechanical Research 64 Main St Ridgefield Conn-24
 Electronic Control Systems 2136 Westwood Blvd Los Angeles Calif-10-14-17-18-24-25-27-28-29-30-31
 Electronic Development Labs 4468 N Harlem Ave Chicago 31 Ill-12
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-12
 Electronic Mfg 227 W Chestnut Ave Monrovia Calif-12
 Electronic Measurements Co Lewis & Maple Ave Eatontown NJ-6-7
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-19
 Electronic Research Associates 67 E Centre St Nutley 10 NJ-12
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-3-6-17-18-24
 Electronic Test Instrument Corp 13224 Livernois Ave Detroit 38 Mich-12
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-3
 Electronics Development 3743 Cahuenga Blvd N Hollywood Calif-32
 Electron-Radar Products 4806 W Chicago Ave 51 Ill-2
 Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-20
 Electro-Snap Switch & Mfg 4218 W Lake St Chicago 24 Ill-3
 El Mec Labs 730 Blvd Kenilworth NJ-8-12
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-6-7-14-16-18-24-27-28-29-30-31
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-12
 Endeveco Corp 161 E California St Pasadena Calif-13
 Entron Inc 4902 Lawrence St Bladensburg Md-1
 Epo Electronics Inc 140 Liberty St New York 6 NY-1
 Epsylon Sound Accessories The Barons St Margarets Twickenham Middlesex England-10
 Erco Radio Labs 637 Stewart Ave Garden City NY-23-28
 Espey Mfg Co 200 W 57 St New York 19 NY-12-31
 Federal Mfg & Eng'g 1055 Stewart Ave Garden City NY-24
 Federal Shock Mount Corp 1060 Washington Ave New York 56 NY-13
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-14-20-27-28-29-31
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-6-7-12-19-27-31-32
 Fenwal Inc Pleasant St Ashland Mass-3
 Ferranti Electric Inc 30 Rockefeller Plaza New York 20 NY-16
 Finn & Co T R 200 Central Ave Hawthorne NJ-13
 Flight Research Inc PO Box 1-F Byrd Airport Richmond 1 Va-9
 Florman & Babb 68 W 45 St New York 36 NY-16
 Ford Instrument Co Div Sperry Rand Corp 31-10 Thomson Ave Long Island City 1 NY-5-16-22-24-27-28
 Foto-Video Labs 25 Amity St Little Falls NJ-12
 Franklin Electronic Inc E 4 St Bridgeport Pa-6-8
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-12
 Gabriel Electronics Div 135 Crescent Rd Needham Hgts 94 Mass-1-2
 Gee-Lar Mfg Co 418 S Wyman St Rockford Ill-1
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-1
 General Ceramic Corp Kearsbey NJ-1
 General Communication Co 681 Beacon St Boston 15 Mass-30
 General Controls Co 801 Allen Ave Glendale 1 Calif-3-18
 General Electric Co—Apparatus Sales Div 1 River Rd Schenectady 5 NY-27
 General Mills Inc Mechanical Div 2600 Far Hills Bldg Dayton 9 Ohio-9-16-29-30
 General Precision Equip Corp 82 Gold St New York 38 NY-29
 General Radio Co 275 Mass Ave Cambridge 39 Mass-12
 General Riveters Inc—Electro Mechanical Div 785 Hertel Ave Buffalo 7 NY-3-18-22-24-32
 Genisco Inc 2233 Federal Ave Los Angeles 64 Calif-12-24
 Georator Corp Manassas Va-8
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Tex-16
 Giannini & Co G M 918 E Green St Pasadena Calif-3-5-16-18-24
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-3-12-16-18-22-24-27-29
 Gorn Electric Co Stamford Conn-3
 Gray Research & Development 658 Hilliard St Manchester Conn-15
 Graybar Electric Co 420 Lexington Ave New York 17 NY-1-19
 Greenleaf Mfg Co 7814 Maplewood Industrial Court St Louis 17 Mo-5
 Guardian Electric Mfg Co 1621 W Walnut St Chicago 12 Ill-3
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-10-24-27
 Gyro Electronics Co 325 Canal St New York 13 NY-19
 Gyromechanisms Inc Halesite LI NY-5
 Hallamere Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-3-8-12-24-25-32
 Haller Raymond and Brown 124 N. Atherton St State College Pa-29
 Hallierafters Co 4401 W 5 Ave Chicago 24 Ill-30
 Hamilton Kent Mfg Co Kent Ohio-13
 Hanover Developments 401 E 74 St New York 21 NY-8
 Harmon Electronics Co 11431 Truman Rd Independence Mo-19
 Hart Mfg Co 218 Bartholomew Ave Hartford 1 Conn-18
 Heath Co 305 Territorial Rd Benton Harbor Mich-12
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-9
 Hickok Electrical Instrument Co 10514 Dupont Ave Cleveland 8 Ohio-12
 Hill Electronic Eng'g & Mfg New Kingstown Pa-8-18-24
 Hillyer Instrument Co 54 Lafayette St New York 13 NY-22
 Hoffman Labs 3761 S Hill St Los Angeles 7 Calif-16-24-29
 Hogan Labs 155 Perry St New York 14 NY-21
 Hycon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-18-24
 Impact-O-Graph Corp 1900 Euclid Ave Cleveland 15 Ohio-12
 Industrial Development Labs 17 Pollock Ave Jersey City 5 NJ-12
 Industrial Electronic Engrs 3973 Lankershim Blvd North Hollywood Calif-16
 Industrial Test Equip Co 55 E 11 St New York 3 NY-8-12
 Industronics PO Box 424 Arlington Hts Ill-8

Instrument Labs 315 W Walton Pl Chicago 10 Ill-12
 Insuline Corp of America 186 Granite St Manchester NH-1
 Interelectronics Corp 2432 Grand Concourse New York 53 NY-6-7-8-18
 International Business Machines 590 Madison Ave New York 22 NY-16
 International Research Assoc 2221 Warwick Ave Santa Monica Calif-8
 Invar Instrument Co 1749 N Eastern Ave Los Angeles 32 Calif-18
 Iron Firearm Electronics Div 2838 SE 9 Ave Portland 2 Ore-5
 Isolantite Mfg Corp Stirling NJ-1
 I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 30 Pa-29
 Jacobs Instrument Co 4718 Bethesda Ave Bethesda 14 Md-16-27
 Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-12
 JaMac Products Co 8845 NE Sandy Blvd Portland 2 Ore-1-2
 Jarvis Electronics Corp 6058 W Fullerton Ave Chicago 39 Ill-17-27-31-32
 Javex PO Box 646 Redlands Calif-1
 Jet Propulsion Lab Calif Institute of Tech 4800 Oak Grove Dr Pasadena 3 Calif-18-24
 Johnson Co E F Waseca Minn-1
 Jones Electronics Co M C 185 N Main St Bristol Conn-12
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-1-24-30
 Kahn & Co 541 Windsor St Hartford 1 Conn-12
 Kaiser Aircraft & Electronics Electronics Div Toledo Ohio-12
 Kay Electric Co 14 Maple Ave Pinebrook NJ-12
 Kearfott Co 1378 Main Ave Clifton NJ-5-12-17-24-27
 Kennedy & Co D S 155 King St Cohasset Mass-1-2
 Kenwood Eng'g Co 265 Colfax Ave Kenilworth NJ-1
 Kenyon Instrument Co 1345 New York Ave Huntington Station NY-9
 Kepeco Labs 131-38 Sanford Ave Flushing 55 NY-6-7-8
 Kilgen Aircraft Div Kilgen Organ Co 4632 W Florissant Ave St Louis 15 Mo-18
 Korfund Co 48-15 32 Pl Long Island City 1 NY-13
 Kollman Instrument Corp 80-08 45 Ave Elmhurst NY-27
 Krueger & Hudepohl 5 E 3 St Cincinnati 2 Ohio-1
 K V Transformer Corp 20 E Franklin St Danbury Conn-8
 K-W Eng'g Works 3145-A N 48 St Milwaukee 16 Wisc-1
 Laboratory for Electronics 75 Pitts St Boston 14 Mass-29
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-2-13
 Lambda Electronics Corp 11-11 131 St College Point 56 NY-6-8
 Land-Air Inc Instrument & Electronic Div Oakland 14 Calif-6-31
 Lane Electronics Co 7254 Atoll Ave N Hollywood Calif-3-12-15-19-25-31
 Lavoie Labs Inc Matawan and Freehold Rd Morganville NJ-2-12-27-29-30
 Lawn Electronics E Freehold Rd Freehold NJ-8
 Leach Corp Leach Relay Div Inet-Palmer Div 5915 Avalon Blvd Los Angeles 3 Calif-6-8
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-2-3-4-5-6-7-8-17-18-24-25-27-31-32
 Leland Electric Co—Div American Mach & Fdry 1501 Webster St Dayton 1 Ohio-6-7-8
 Leru Labs 827 Black Oak Ridge Rd Paterson 2 NJ-29-30
 Librascope Inc Burbank Div 133 E Santa Anita Ave Burbank Calif-16
 Librascope Inc 808 Western Ave Glendale 1 Calif-16
 Link Aviation Inc Binghamton NY-16
 Lockheed Aircraft Corp Missile Systems Div Van Nuys Calif-18-24-27-29
 Logistics Research 141 S Pacific Ave Redondo Beach Calif-16
 Loral Electronics Corp 794 E 140 St New York 54 NY-27-29
 Lord Mfg Co 1635 W 12 St Erie Pa-13
 Magnasync Mfg Co 5546 Satsuma Ave N Hollywood Calif-9-10-11
 Magnatran Inc PO Box 211 Kearny NJ-12
 Magnetic Research Corp 200 Center St El Segundo Calif-6-7-8-12-24
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-12
 Manning Maxwell & Moore 250 E Main St Stratford Conn-3-17
 Manson Labs 207 Greenwich Ave Stamford Conn-12
 Marchant Calculators Inc 1475 Powell St Oakland Calif-16
 Marion Electrical Instrument Co Grenier Field Manchester NH-27-28
 Mark Products Co 6412 W Lincoln Ave Morton Grove Ill-1-2
 Mar-Ko TV 441 Summit St Toledo 4 Ohio-1



Martin Co Glenn L Baltimore Md-17
 Maryland Electronic Mfg Corp 5009 Calvert Rd College Park Md-28
 Mathis, Co G E 5745 S Claremont Ave Chicago 36 Ill-1
 Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-12
 MB Mfg Co Div Textron American 1060 State St New Haven 11 Conn-12-13
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-2-12-28
 Measurements Corp Boonton NJ-12
 Medal Mfg Co 194 Silver St Sharon Pa-1
 Melpar Inc Sub Westinghouse Air Brake Falls Church Va-1-6
 Mercury Electronic Co Box 450A Red Bank NJ-6-7-8
 Meridian Metalcraft Inc 8739 S Millergrove Dr Whittier Calif-1
 Merkle-Korff Gear Co 213 N Morgan St Chicago 7 Ill-19
 Meyer & Co Hugo 39 W 60 St New York 23 NY-20
 Miles Reproducer Co 812 Broadway New York 3 NY-9
 Miller Electronics 2840 Naomi St Burbank Calif-1
 Millivac Instrument Corp 444 2 St Schenectady NY-12
 Mitchell Industries PO Box 17 Mineral Wells Texas-2-3-17-31-32
 Model Rectifier Corp 557 Rogers Ave Brooklyn 25 NY-6-7-12
 Modern-Aire Mfg Corp 4436 W Roosevelt Rd Chicago 24 Ill-1
 Moloney Electric Co 5390 Bircher Blvd St Louis 20 Mo-8
 Monitor Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-31
 Moran Instrument Corp 170 E Orange Grove Ave Pasadena 3 Calif-29-30
 Mosley Electronics Inc 8622 St Charles Rock Rd St Louis 14 Mo-1
 Motor Generator Corp Hobart Bros Affiliate Troy Ohio-8
 Mueller Electric Co 1583 E 31 St Cleveland 14 Ohio-1
 Munston Mfg & Service Inc Beach St Islip NY-12
 Mutual Electronic Industries 85 Beechwood Ave New Rochelle NY-3-17-19
 Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-6-8-12
 Narda Corp 160 Herricks Rd Mineola NY-12
 National Aeronautical Corp 180 S Main St Ambler Pa-2-6-20-27-31-32
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-3-6-18-22-24
 National Cash Register Co Main and K Sts Dayton 9 Ohio-16
 Navigation Devices Inc PO Box 668 Binghamton NY-3
 Nevada Air Products Co North Valley Rd Reno Nev-3-12-14-16-18-23-24
 New England Electronics Co Box 143 New London Conn-12
 New London Instrument Co 82 Union St New London Conn-31-32
 New York Mfg & General Supply 10-38 Jackson Ave Long Island City 1 NY-26
 NJE Corp 345 Carnegie Ave Kenilworth NJ-8
 North American Aviation Autometrics Div 12214 Lakewood Blvd Downey Calif-24
 North American Instruments 2420 N Lake Ave Altadena Calif-10
 Oerlikon Tool & Arms Corp of America PO Box 3049 Asheville N Car-16-24
 Onan & Sons D W University Ave SE at 25 St Minneapolis 14 Minn-4
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-6-7-8
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-12-16-24-30-32
 Pacific Scientific Co 1430 Grande Vista Ave Los Angeles 23 Calif-5-27
 Panoramic Radio Products Co 10 S 2 Ave Mt Vernon NY-12
 Par Products Corp 926 N Citrus Lane Hollywood 38 Calif-12
 Peer Inc 1200 Milton St Benton Harbor Mich-32
 Peirce Wire Recorder Corp 5900 N Northwest Hwy Chicago 31 Ill-10
 Perkin Eng'g Corp 345 Kansas St El Segundo Calif-6-7-8
 Perma-Power Co 4727 N Damen Ave Chicago 25 Ill-19
 Peschel Electronics Inc 13 Garden St New Rochelle NY-6-7-8

Philamon Labs Inc 90 Hopper St Westbury LI NY-8
 Phibrick Researches G A 230 Congress St Boston 10 Mass-16
 Philco Corp 4700 Wiasahickon Ave Philadelphia 44 Pa-16-27-29
 Philmore Mfg Co 113 University Pl New York 3 NY-1
 Philson Mfg Co 60 Sackett St Brooklyn 31 NY-1-2
 Photocon Research Products 421 N Foothill Blvd Pasadena 8 Calif-24
 Plastic Capacitors Inc 2511 W Moffat St Chicago 47 Ill-7-8
 Polarad Electronics Corp 43-20 34 St Long Island City 1-NY-12
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-16
 Power Supplies Inc 1007 Olive St Highland Ill-3-6-7-8
 Power Transformer Co 532 Mulberry St Newark 5 NJ-6-7-8
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-12
 Precision Associates 354 Cumberland St Brooklyn 38 NY-12-25
 Premax Products Div Chisholm Ryder Co Highland & College Aves Niagara Falls NY-1-2
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-12
 Probe Scope Co 44-05 30 Ave Long Island City 3 NY-12
 Pye Corp of America 270 Park Ave New York 17 NY-19-20-32
 Radiant Lamp Co 300 Jellic Ave Newark 8 NJ-26
 Radiart Corp 3455 Vega Ave Cleveland 13 Ohio-1
 Radiation Inc PO Drawer 37 Melbourne Fla-24
 Radio City Products Co Center & Glendale Sts Easton Pa-12
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-1-12
 Radiomarine Corp of America 75 Varick St New York 13 NY-29
 Radio Merchandise Sales 2016 Bronxdale Ave New York 62 NY-1
 Radion Corp 1130 W Wisconsin Ave Chicago 14 Ill-1
 Radionics Inc PO Box 186 Cocksaysville Md-6
 Radio Receptor Co 251 W 19 St New York 11 NY-6-14-20-25-27-28-30-31-32
 Ransom Research Box 382 San Pedro Calif-12
 Rayovox Mfg Co 902 Albemarle Rd Brooklyn 18 NY-25
 Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-6
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-29
 Rea Co J B 1723 Cloverfield Blvd Santa Monica Calif-5-16
 Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-31
 Remington Rand Univac Div 315 4 Ave New York 10 NY-16
 Resdel Eng'g Corp 330 S Fair Oaks Ave Pasadena 1 Calif-29
 Rese Eng'g Inc 731 Arch St Philadelphia Pa-12
 Research Electronics Labs Roslyn Pa-12
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-8-18-24
 RHO Eng'g Co 2240 Sepulveda Blvd Los Angeles 64 Calif-6-8
 Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-3-18
 Riverbank Labs Eng'g Dept PO Box 65 Geneva Ill-8
 Rosen Eng'g Products Inc Raymond 32 & Walnut Sts Philadelphia 4 Pa-24
 RS Electronics Corp 435 Portage Ave Palo Alto Calif-29
 Rust Industrial Co 41 E 42 St New York 17 NY-19
 Sanders Associates 95 Canal St Nashua NH-15-29-30
 Saxton Products Inc 1661 Boone Ave Bronx 60 NY-1
 Schutter Mfg Co Carl W Lindenhurst NY-29
 Scott Radio Labs Liberty & Penna St Plymouth Ind-31
 Seco Mfg Co 5015 Penn Ave S Minneapolis 19 Minn-12
 Seeburg Corp 1500 N Dayton St Chicago 22 Ill-24
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-27-28
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-12
 Servomechanisms Inc Post & Stewart Aves Westbury NY-3-16-17-18-24-27
 Shallcross Mfg Co Pusey & Jackson Aves Collingdale Pa-12
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-12
 Sierra Electronic Corp 1050 Britton Ave San Carlos Calif-12
 Simmonds Aerocessories 105 White Plains Rd Tarrytown NY-3-12
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-17-27
 Snyder Mfg Co 22 & Ontario Sts Philadelphia 40 Pa-1
 Sonar Radio Corp 3050 W 21 St Brooklyn 24 NY-31-32
 Sorensen & Co 375 Fairfield Ave Stamford Conn-6-8

Soroban Eng's Inc Box 338 Melbourne Fla-16
 South River Metal Products 377 Turnpike South
 River NJ-1
 Southwestern Industrial Electronics 2831 Post
 Oak Rd Houston 19 Texas-16
 Spencer-Kennedy Labs 1320 Soldiers Field Rd
 Boston 35 Mass-1
 Sperry Gyroscope Co Division of Sperry Rand
 Corp Great Neck NY-3-5-12-24-27-29-30
 Spincraft Inc 4122 W State St Milwaukee 8
 Wis-1
 Stancil-Hoffman Corp 921 N Highland Ave
 Hollywood 38 Calif-10-11
 Standard Electronics Corp 285 Emmet St New-
 ark NJ-19
 States Co 19 New Park Ave Hartford 6 Conn-1
 Stavid Eng'g Inc U S Hwy #22 Plainfield NJ-
 2-6-8-12-14-17-18-20-22-24-27-29-30
 Stelma Inc 190 Henry St Stamford Conn-12
 Sterling Precision Corp—Instrument Div 34—
 17 Lawrence St Flushing LI NY-5-16
 Stewart Instrument Co 6507 Grand River De-
 troit 8 Mich-12
 Stewart-Warner Electronics 1300 N Kostner
 Ave Chicago 51 Ill-16-30
 Stoddart Aircraft Radio Co 6644 Santa Monica
 Blvd Hollywood 38 Calif-12
 Strong Electric Corp 87 City Park Ave Toledo
 2 Ohio-6-8
 Suffolk Products Corp Woodbine & Scudder
 Aves Northport LI NY-20-29
 Sun Electric Corp Harlem & Avondale Aves
 Chicago 31-Ill-12
 Superex Electronics Corp 4 Radford Pl Yonkers
 NY-1
 Superior Electric Co 83 Laurel St Bristol
 Conn-8
 Sylvania Electric Products 1740 Broadway New
 York 19 NY-16-31-32
 Taber Instrument Corp 111 Goundry St N
 Tonawanda NY-18
 Ta-Mar Inc 11571 W Jefferson Blvd Culver
 City Calif-19
 Tarc Electronics Inc 48 Urban Ave Westbury
 LI NY-12
 Technical Appliance Corp 1 Taco Ave Sher-
 burne NY-2
 Technical Development Corp 4060 Ince Blvd
 Culver City Calif-12-24
 Technical Material Corp PO Box 142 Mama-
 ronck NY-1-31
 Technician Labs Inc Thomaston-Waterbury Rd
 Thomaston Conn-1-29
 Telechrome Inc 88 Merrick Rd Amityville LI
 NY-12-24
 Teletron Co 4019 Prospect St Cleveland 3 Ohio-
 19
 Telephonics Corp Park Ave Huntington LI NY-
 1-2-3-13-25-32
 Telerad Mfg 1440 Broadway New York 18 NY-
 30
 Teletronics Lab Inc 54 Kinkel St Westbury LI
 NY-12
 Televiso Corp 1415 Golf Rd Des Plaines Ill-
 18-19-25-27-28-30-31-32
 Tel-Instrument Electronics 728 Garden St Carl-
 stadt NJ-6-12
 Tempo TV Sales Corp 21311 Roscoe Blvd Ca-
 noga Park Calif-1
 Ten Bosch Inc M 80 Wheeler Ave Pleasantville
 NY-3-5-18-22-24-27
 Tenney Eng'g Inc 1090 Springfield Rd Union
 NJ-12
 Texas Instruments Inc 6000 Lemmon Ave
 Dallas 9 Texas-29
 Thompson Products Inc Electronics Div 2196
 Clarkwood Rd Cleveland 3 Ohio-3
 Thordarson-Meissner Mfg Div Maguire Indus-
 tries Mt Carmel Ill-8
 Times Facsimile Corp 540 W 58 St New York
 19 NY-21
 Topflight Corp 160 E 9 Ave York Pa-27
 Trad TV Co 1001 1 Ave Ashbury Park NJ-12
 Transvision Inc 460 North Ave New Rochelle
 NY-12
 Tricraft Products Corp 1535 N Ashland Ave
 Chicago 22 Ill-1
 Triplette Electrical Instrument Harmon Rd
 Bluffton Ohio-12
 Trio Labs Inc 4025 Merrick Rd Seaford LI
 NY-12
 Tune-Sol Electric Inc 95 8 Ave Newark 4
 NJ-26
 T-V Products Co 145-68 228 St Springfield Gar-
 dens 13 NY-1
 Ultrasonic Corp 640 Memorial Dr Cambridge
 39 Mass-8-29
 Ultra-Violet Products 5114 Walnut Grove Ave
 San Gabriel Calif-12
 Underwood Corp Electronic Computer Div 35-10
 36 Ave Long Island City 6 NY-16
 Union Electric & Mfg 1057 Summit Ave Jer-
 sey City 7 NJ-6-13-15-29-31-32
 Union Switch & Signal Div Westinghouse Air
 Brake Pittsburgh 18 Pa-18-22-24
 United Control Corp 4540 Union Bay Pl Seattle
 5 Wash-3
 United Electrodynamics Div United Geophysical
 Corp 1200 S Marengo Ave Pasadena Calif-18-
 20-24
 United Mfg Div W L Moxson Corp 41 Haig
 St Hamden 14 Conn-12
 United States Dynamics Corp 1250 Columbus
 Ave Boston 20 Mass-6
 Universal Electronics Co 1720 22 St Santa
 Monica Calif-6
 Univox Corp 102 Warren St New York 7 NY-3
 U S Electronics Corp of America 800 Slaters
 Lane Alexandria Va-12

U S Recording Co 1347 S Capitol St Washing-
 ton 3 DC-10
 U S Time Corp 500 5 Ave New York 36 NY-5
 Vacuum Tube Products Co 506 S Cleveland St
 Oceanside Calif-12
 Varo Mfg Co 2201 Walnut St Garland Texas-
 6-8
 Vectron Inc 1611 Trapola Rd Waltham 54
 Mass-11
 Vibration Research Labs 97 Lake Ave Tucka-
 hoe NY-6-7-8
 Victor Adding Machine Co 3900 N Rockwell St
 Chicago 18 Ill-10-11
 Victoreen Instrument Co 3814 Perkins Ave
 Cleveland 14 Ohio-6
 Vidair Electronics Mfg 576-80 W Merrick Rd
 Lynbrook NY-1
 Virginia Electronics Co River Rd at B&O RR
 Washington 16 DC-1-19-24
 Visual Electronics Corp 500 5 Ave New York
 36 NY-1-8-12
 Vitro Corp of America 261 Madison Ave New
 York 16 NY-18
 Wabash Metal Products Box 305 Wabash Ind-12
 Walsco Electronics Corp 3225 Exposition Pl
 Los Angeles 18 Calif-1
 Waco Inc 2032 Broadway Santa Monica Calif-8
 Wang Labs Inc 37 Hurley St Cambridge 41
 Mass-16
 Weber Aircraft Corp—Electronics Div 2820 On-
 tario St Burbank Calif-16
 Welch Mfg Co W M 1515 Sedgwick St Chicago
 10 Ill-5
 Western Gear Corp Electro Products Div 132
 W Colorado St Pasadena Calif-8
 Westinghouse Electric Corp Air Arm Div
 Friendship Intl Airport Baltimore 27 Md-3-
 24-27
 Westinghouse Electric Corp—Electronics Div
 2519 Wilkens Ave Baltimore 3 Md-8-16-18-24-
 28-29
 Weston Electrical Instrument Corp Subsidiary
 Duystrom Inc 614 Frelinxhuysen Ave Newark
 5 NJ-12-14
 Weston Labs Old Littleton Rd Harvard Mass-12
 Westronics Inc 3605 McCart Ft Worth 10
 Texas-12
 Whittington Pump & Eng'g 1126 Prospect St
 Indianapolis 3 Ind-12
 Wickes Eng'g & Construction 12 St & Ferry
 Ave Camden 4 NJ-12-28
 Wilcox Electric Co 1400 Chestnut St Kansas
 City 27 Mo-2-27-28-31-32
 Wincharger Corp E 7 & Division Sts Sioux
 City 2 Iowa-6-8
 Wind Turbine Co E Market St & Penna RR
 West Chester Pa-1
 Wright Equipment Co 128 N Main St Mill-
 town NJ-12
 Yardney Electric Corp 40 Leonard St New York
 13 NY-6-7
 Yonkers Industries 28 School St Yonkers NY-12
 Z&W Machine Prod Inc—Electronics Div 30240
 Lakeland Blvd Wickliffe Ohio-1

Control Corp 718 Central Ave S Minneapolis 14
 Minn-10-11
 Dresser Electric Co 942 E Larned St Detroit 7
 Mich-10
 Electra Mfg Co 4051 Broadway Kansas Cit 11
 Mo-10
 Electric Storage Battery Co Exide Industrial
 Div 42 S 15 St Philadelphia 2 Pa-8
 Electro-Craft Co 5 Milton Ave Dorchester
 Mass-5-8
 Electronic Instrument Co 84 Withers St Brook-
 lyn 11 NY-10-12
 Elgin Electronic Corp Box 13 Bluffton Ind-10
 Epo Products 2500 Atlantic Ave Brooklyn 7
 NY-10
 Fansteel Metallurgical Corp 2200 Sheridan Rd
 N Chicago Ill-10
 Federal Telephone & Radio Co Div IT&T 100
 Kingsland Rd Clifton NJ-10
 Fox Products Co 4720 N 18 St Philadelphia 41
 Pa-10-11-12
 General Dry Batteries Inc 13000 Athens Ave
 Cleveland 7 Ohio-2-3-4-7-9
 General Electric Co—Apparatus Sales Div 1
 River Rd Schenectady 5 NY-10
 Georator Corp Manassas Va-10
 Goldak Co 1544 W Glenoaks Blvd Glendale 1
 Calif-12
 Graybar Electric Co 420 Lexington Ave New
 York 17 NY-2-3-4-8-9-10-11
 Gray Instrument Co 200 E Church Lane Phila-
 delphia 44 Pa-6-7
 Gyro Electronics Co 325 Canal St NY 13 NY-10
 Hastings Instrument Co Newcomb Ave off Ivy
 Home Rd Hampton Va-7
 Heath Co 305 Territorial Rd Benton Harbor
 Mich-12
 Hertner Electric Co 12690 Elmwood Ave Cleve-
 land 11 Ohio-10
 Hickok Electrical Instrument Co 10514 Dupont
 Ave Cleveland 8 Ohio-12
 Hobart Bros Hobart Square Troy 1 Ohio-10
 Interlectronics Corp 2432 Grand Concourse
 New York 58 NY-1-2-4-5-6-8-9
 King Electric Equip 9123 Inman Ave Cleveland
 5 Ohio-10-12
 Kopp Inc 4224 Holden St Oakland 8 Calif-10
 Lee Electric & Mfg Co 2806 Clearwater St
 Los Angeles 39 Calif-10-11
 Lincoln Electric Co 22801 St Clair Ave Cleve-
 land 17 Ohio-10
 Mackay Radio & Telegraph Co Marine Div 133
 Terminal Ave Clark NJ-10
 Mallory & Co Inc P R 42 So Gray St Indi-
 anapolis 6 Ind-2-3-4-9
 Marathon Battery Co 840 Henrietta St Wausau
 Wis-2-3
 Mar-Co TV 441 Summit St Toledo 4 Ohio-7
 McColpin-Christie Corp 3410 W 67 St Los
 Angeles 43 Calif-10-12
 Melco Products Inc 301 5 Ave S Minneapolis
 15 Minn-10
 Model Rectifier Corp 557 Rogers Ave Brooklyn
 25 NY-10
 Motoresearch Co 1600 Junction Ave Racine
 Wis-10
 National Carbon Co 30 E 42 St New York 17
 NY-2-3-9
 National Fabricated Products Div Hoffman
 Electronics 2650 W Belden Ave Chicago 47
 Ill-9-10
 Nickel Cadmium Battery Corp Easthampton
 Mass-1-5
 NJE Corp 345 Carnegie Ave Kenilworth NJ
 -10-11
 Olin Mathieson Chem Co 275 Winchester Ave
 New Haven Conn-2-3-7
 Onan & Sons D W University Ave S E at 25
 St Minneapolis 14 Minn-10
 Ortho Filter Corp 196 Albion Ave Paterson 2
 NJ-10-11
 Perkin Eng'g Corp 345 Kansas St El Segundo
 Calif-10
 Pioneer Gen-E-Motor Corp 5841 W Dickens Ave
 Chicago 43 Ill-10
 Power Supplies Inc 1007 Olive St Highland
 Ill-10-11
 Radio Corp of America Tube Div 215 S 5 St
 Harrison NJ-2-3-9-12
 Ray-O-Vac 212 E Washington Ave Madison 10
 Wis-2-3-7
 Raytheon Mfg Co Component Products Dept
 100 River St Waltham 54 Mass-10
 Raytheon Mfg Co Equip Marketing Div 190
 Willow St Waltham 54 Mass-10
 Rectifier Engineering Co 1803 E 7 St Los An-
 geles 21 Calif-10-12
 Regulator Eng'g & Development 11545 W Jef-
 ferson Blvd Culver City Calif-10
 Saft Corp of America 2 Gregg St Lodi NJ-
 1-5
 Schauer Mfg Corp 4500 Alpine Ave Cincinnati
 36 Ohio-10
 Sensitive Research Instrument Corp 310 Main
 St New Rochelle NY-17
 Shasta Div Beckman Instruments Inc PO Box
 296 Station A Richmond Calif-12
 S O S Cinema Supply Corp 602 W 52 St New
 York 19 NY-2-8
 Standard Electric Time Co 89 Logan St Spring-
 field 2 Mass-1-5
 Sun Electric Corp Harlem & Avondale Aves
 Chicago 31 Ill-10-12
 TV Specialty Co 350 W 31 St NY 1 NY-10
 Yardney Electric Corp 40 Leonard St New
 York 13 NY-1-6-8

10—BATTERIES, CHARGERS & ACCESSORIES

Batteries, dry cell	2
Batteries, hearing aid	3
Batteries, lead-acid	8
Batteries, mercury	4
Batteries, nickel alkaline	5
Batteries, nickel cadmium	1
Batteries, silver	6
Batteries, standard cell	7
Batteries, transistor	9
Battery chargers	10
Battery charging regulators ...	11
Testers	12

Acme Electric Corp Water St Cuba NY-10
 Advance Relay Co Div Elgin National Watch
 2435 N Naomi St Burbank Calif-9
 Airdesign Inc 241 Fairfield Ave Upper Darby
 Pa-10
 Allied Radio Corp 100 N Western Ave Chicago
 25 Ill-10
 American Metrix Corp 15 Exchange Pl Jersey
 City 2 NJ-12
 American TV & Radio Co 300 E 4 St St Paul 1
 Minn-10
 Assembly Products Wilson Mills Rd Chester-
 land 21 Ohio-11
 BoRue Electric Mfg Co 52 Iowa Ave Paterson
 3 NJ-10
 Bright Star Industries 600 Getty Ave Clifton
 NJ-2
 Burgess Battery Co Foot of Exchange St Free-
 port Ill-2-3-9
 Camera Equipment Co 315 W 43 St New York
 36 NY-1-2-5-10
 Carol Electronics Corp 315 W Stephen St
 Martinsburg W Va-10
 Chatham Electronics Div Gera Corp 630 W Mt
 Pleasant Ave Livingston NJ-10
 Chicago Industrial Instrument 865 N Sanga-
 mon St Chicago 22 Ill-2

11—CAPACITORS, Fixed

Capacitors, air	1
Capacitors, bathtub	2
Capacitors, ceramic	3
Capacitors, composition	4
Capacitors, decade	5
Capacitors, electrolytic dry ...	6
Capacitors, electrolytic wet ...	7
Capacitors, feed through	8
Capacitors, gas-filled	9
Capacitors, glass	10
Capacitors, high voltage	11
Capacitors, industrial	12
Capacitors, MIL type	13
Capacitors, metallized paper ...	14
Capacitors, mica	15
Capacitors, miniature	16
Capacitors, Mylar dielectric ...	17
Capacitors, neutralizing	18
Capacitors, oil	19
Capacitors, paper	20
Capacitors, plastic dielectric ...	21
Capacitors, plug-in	22
Capacitors, polystyrene insulated	23
Capacitors, porcelain	24
Capacitors, printed circuit	25
Capacitors, silicone-filled	26
Capacitors, silvered mica	27
Capacitors, standard	28
Capacitors, tantalum	29
Capacitors, Teflon dielectric ...	30
Capacitors, temperature com- pensated	31
Capacitors, transmitting	32
Capacitors, vacuum	33



Dilectron Div Gudeman Co 2669 S Myrtle Ave
Monrovia Calif-3-11-31
Dolinko & Wilkens 1907 Summit Ave Union
City NJ-32-33
DuMont Airplane & Marine Instruments 15
William St New York 5 NY-2-6-7-11-12-13-16-
17-19-20-21-22-23-25-26-28-29-30-31
Eitel-McCullough Inc 798 San Mateo Ave San
Bruno Calif-33
Electrical Utilities Co 2425 St Vincent's Ave
LaSalle Ill-2-11-12-13-17-19-20-21-22-23-25-30
Electro-Measurements Inc 4312 SE Stark St
Portland 15 Ore-2-5-15-23
Electro Motive Mfg Co Willimantic Conn-3-4-
13-15-20-25-27
Electron Products 430 N Halstead Pasadena
Calif-2-11-13-14-16-17-20-21-22-23-25-26
Electronic Fabricators 682 Broadway New York
12 NY-2-13-17-19-20-21-23-26-27-30
Erie Resistor Corp 644 W 12 St Erie 6 Pa-3-8-
11-12-13-15-16-22-25-27-28-31
Fansteel Metallurgical Corp 2200 Sheridan Rd
N Chicago Ill-16-29
Federal Telephone & Radio Co Div IT&T 100
Kingsland Rd Clifton NJ-5
Film Capacitors Inc 3400 Park Ave New York
56 NY-2-5-21-23-28
Freed Transformer Co 1718 Weirfield St Brook-
lyn 27 NY-5
General Electric Co-Capacitor Dept John St
Hudson Falls NY-2-7-8-11-12-13-16-17-19-20-
21-28-29-32
General Electric Co Apparatus Sales Div 1
River Rd Schenectady 5 NY-11-12-16-20-21-29
General Products Corp Webb St Union Springs
NY-20
General Radio Co 275 Mass Ave Cambridge 39
Mass-1-5-15-23-28
Geotronic Labs 1314 Cedar Hill Ave Dallas 3
Texas-21
Girard-Hopkins 1000 40 Ave Oakland 1 Calif-
2-11-12-19-20-32
Glenco Corp 212 Durham Ave Metuchen NJ-3-
10
Good-All Electric Mfg Co Good-All Bldg
Ogallala Neb-2-3-4-12-13-16-17-19-21-22-25-
26
Gudeman Co 340 W Huron St Chicago 10 Ill-2-
3-6-8-10-11-12-13-14-16-17-19-20-21-22-23-25-30
-31
Hallett Mfg Co 1601 W Florence Ave Ingle-
wood Calif-8
Hammarlund Mfg Co 460 W 34 St New York
1 NY-1-13-16-28-32
Hansen Electronics Co 7117 Santa Monica Blvd
Los Angeles 46 Calif-25
Heath Co 305 Territorial Rd Benton Harbor
Mich-5
Herlec Corp Div Sprague of Wis Inc Grafton
Wis-3-8-13-25-31-32
Honkins Eng'g Co 2082 Lincoln Ave Altadena
Calif-8-13-14-16-19-20-21-23-31
Illinois Condenser Co 1616 N Throop St Chi-
cago 22 Ill-2-3-6-12-13-14-16-17-19-20-22-25-28
-32-33
Industrial Condenser 3243 N California Ave
Chicago 18 Ill-2-6-12-14-19-20-21-22-23-30-32
Insulated Circuits Inc 620 Passaic Ave W Cald-
well NJ-25
Jennings Radio Mfg Corp 970 McLaughlin Ave
San Jose 8 Calif-11-18-32-33
Johnson Co E F Waseca Minn-1-9-11-16-18-28-
32
Lapp Insulator Co Radio Specialties Div Gil-
bert St LeRoy NY-9-11
Leeds & Northrup 4970 Stenton Ave Philadel-
phia 44 Pa-1-5-27
Luther Electronic Mfg Co 5728 W Washington
Blvd Los Angeles 16 Calif-11-17-20-26-30
Macleod & Hanopol 10 Roland St Charlestown
29 Mass-28
Maida Development 214 Academy St Hampton
Va-3-8-11-13-25-31
Mallory & Co Inc P R 42 So Gray St Indian-
apolis 6 Ind-2-6-7-13-16-25-29
Micamold Electronics Mfg Corp 1087 Flushing
Ave Brooklyn 37 NY-2-6-8-10-11-12-13-15-16-
17-19-20-21-22-23-25-26-27-30-31-32
Mucon Corp 9 St Francis St Newark 5 NJ-3-
16-25-31
Muter Co 1255 S Michigan Ave Chicago 5 Ill-
3-25
National Capacitor Co 18 Webster St Brook-
line 46 Mass-2-5-8-11-12-13-14-16-17-19-20-21-
22-23-24-25-26-30-32
National Company 61 Sherman St Malden 48
Mass-1-18-32
New York Coil Co 40 2 Ave Phoenixville Pa-20
Ohmite Mfg Co 3601 Howard St Skokie Ill-29
Onondaga Pottery Co Electronics Div 1858 W
Fayette St Syracuse NY-3-25
Perfection Mica Co Magnetic Shield Div 1322
N Elston Ave Chicago 22 Ill-15
Planet Mfg Corp 225 Belleville Ave Bloom-
field NJ-6-22-25

Plastic Capacitors Inc 2511 W Moffat St Chi
Ill-2-11-12-16-17-19-20-21-23-26-28-30-31-32
Potter Co 1950 Sheridan Rd N Chicago Ill-2-8-
11-12-13-14-16-17-19-20-21-22-23-25-26-30-31-32
Pyramid Electric Co 1445 Hudson Blvd North
Bergen NJ-2-6-7-13-14-19-20-25
Quality Components Inc St Marys Pa-4
Radio Condenser Co Davis & Copewood Sts
Camden 3 NJ-1-13-16-25
Radio Materials Corp 3325 N California Ave
Chicago 18 Ill-3
Sanders Associates 95 Canal St Nashua NH-17
San Fernando Electric Mfg 1509 1 St San
Fernando Calif-2-8-13-14-16-17-19-20-22-23-25-
26
Sangamo Electric Co Box 7 Marion Ill-2-6-7-8-
12-13-15-16-17-19-20-25-27-28-29-32
Sangamo Generators-Sub Sangamo Electric Co
Springfield Ill-2-6-8-11-13-15-16-20-22-23-25-27
-32
Skottie Electronics 204 Bridge St Peckville Pa-
3-8-11-25-31
Solar Mfg Corp E 46 St & Seville Ave Los
Angeles 58 Calif-3-8-16
Southern Electronics Corp 239 W Orange Grove
Ave Burbank Calif-2-5-11-13-16-17-21-22-23-
25-28-30-31-33
Sprague Electric Co Marshall St North Adams
Mass-2-3-6-8-11-12-13-14-15-16-17-19-20-21-22-
23-25-27-28-29-30-31-32
Stackpole Carbon Co Tannery St St Marys Pa-
4-25
Standard Condenser Corp 3749 N Clark St Chi-
cago 13 Ill-2-6-8-11-12-16-17-19-20-22-23-25-26
-28-30
Stupakoff Div Carborundum Co Latrobe Pa-25
Sylvania Electric Products 1740 Broadway New
York 19 NY-4-7-9-11-13-14-16-18-20-22-24-25-
26
Tarzian Inc Sarkes 415 N College Ave Bloom-
ington Ind-1
Texas Instruments Inc 6000 Lemmon Ave
Dallas 9 Texas-10-11
Teleradio Eng'g Corp Wilkes Barre Pa-1-3-4-
8-11-13-15-16-17-21-27-30-31-32
United Electronics Co 42 Spring St Newark 4
NJ-33
United Mineral & Chemical Corp 16 Hudson St
New York 13 NY-3-8-31
Vacumet Inc 1009 W Weed St Chicago 22 Ill-33
Vitramon Inc Box 544 Bridgeport 1 Conn-3-16-
24
Vokar Corp Dexter Mich-16-27

12—CAPACITORS, VARIABLE

Capacitors, air	1
Capacitors, ceramic trimmer ...	2
Capacitors, gas-filled	3
Capacitors, glass trimmer	4
Capacitors, mica trimmer	5
Capacitors, miniature	6
Capacitors, modulated sweep ...	7
Capacitors, neutralizing	8
Capacitors, oil filled	9
Capacitors, piston	10
Capacitors, plastic	11
Capacitors, precision	12
Capacitors, printed circuit	13
Capacitors, receiver tuning ...	14
Capacitors, transmitter tuning ...	15
Capacitors, vacuum	16

ACF Electronics 800 N Pitt St Alexandria Va-
11-13
Aerovox Corporation & Divisions 740 Belleville
Ave New Bedford Mass-2-9-11-12
Aerovox Corp Pacific Coast Div 2724 Peck Rd
Monrovia Calif-2-6-9-11-12-13
Aircraft Marine Products 2100 Paxton St
Harrisburg Pa-6
Allen-Bradley Co 136 W Greenfield Ave Mil-
waukee 4 Wis-13
All Star Products Inc Squire Ave Defiance
Ohio-1-2-14
American Condenser Co 4410 N Ravenswood
Ave Chicago 40 Ill-6-13
American Radionic Co 51 Austin St Danbury
Conn-6-9
Astron Corp 255 Grant Ave E Newark NJ-9-11-
12-13
Axel Bros Electronic Div 134-20 Jamaica Ave
Jamaica NY-9-11
Balco Research Labs 49 Edison Pl Newark 2
NJ-12
Barker & Williamson 237 Fairfield Ave Upper
Darby Pa-15
British Radio Electronics Ltd 1833 Jefferson
Pl Washington 6 DC-1
Broadway Coil Co 5638 Broadway Chicago 40
Ill-13
Cambridge Thermionic Corp 445 Concord Ave
Cambridge 38 Mass-2-10
Cardwell Electronics Productions Allen D 97
Whiting St Plainville Conn-1-8-12-14-15
Centralab Div Globe-Union 900 E Keefe Ave
Milwaukee 1 Wis-2-6

Chicago Condenser Corp 3255 W Armitage Ave Chicago 47 Ill-1-9-13
 Cole Instrument Co 1000 N Olive St Anaheim Calif-1
 Condenser Products Co Div New Haven Clock & Watch 140 Hamilton St New Haven 4 Conn-6-9-11-12-13
 Continental-Diamond Fibre Div Budd Co Newark Del-11
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-6-9-11-12
 Corning Glass Works Corning NY-4
 Dearborn Electronic Labs 231 S LaSalle St Chicago 4 Ill-6-9-11
 Deutschmann Corp Tobe 921 Providence Hwy Norwood Mass-6-9-11-13
 Dolinko & Wilkens 1907 Summit Ave Union City NJ-15
 DuMont Airplane & Marine Instruments 15 William St New York 5 NY-6-9-11-12-13
 Eitel-McCullough Inc 798 San Mateo Ave San Bruno Calif-16
 Electrical Utilities Co 2425 St Vincent's Ave LaSalle Ill-9
 Electro-Ceramics 120 State St New Haven 9 Conn-2
 Electro Motive Mfg Co Willimantic Conn-2-5-9-13
 Electron Products 430 N Halstead Pasadena Calif-9-12-13
 Electronic Fabricators 682 Broadway New York 12 NY-9-12
 Erie Resistor Corp 644 W 12 St Erie 6 Pa-2-5-6-11-12-13-14
 Fansteel Metallurgical Corp 2200 Sheridan Rd W Chicago Ill-6
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-12
 General Electric Co-Capacitor Dept John St Hudson Falls NY-6-9-11-15
 General Electric Co-Apparatus Sales Div 1 River Rd Schenectady 5 NY-6
 General Radio Co 275 Mass Ave Cambridge 39 Mass-1-12
 Girard-Hopkins 1000 40 Ave Oakland 1 Calif-9
 Good-All Electric Mfg Co Good-All Bldg Ogalala Neb-6-9-11-13
 Gudeman Co 340 W Huron St Chicago 10 Ill-2-9-11
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-1-6-12-14-15
 Hansen Electronics Co 7117 Santa Monica Blvd Los Angeles 46 Calif-13
 Herlec Corp Div Sprague of Wis Inc Grafton Wis-2-12-13
 Illinois Condenser Co 1616 N Throop St Chicago 22 Ill-6-9-13-14-15
 Insulated Circuits Inc 620 Passaic Ave W Caldwell NJ-13
 Jennings Radio Mfg Corp 970 McLaughlin Ave San Jose 8 Calif-8-15-16
 JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-10
 Johnson Co E F Waseca Minn-1-3-6-7-8-15
 Lapp Insulator Co Radio Specialties Div Gilbert St Le Roy NY-3-15
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-1
 Luther Electronic Mfg Co 5728 W Washington Blvd Los Angeles 16 Calif-9
 Maida Development 214 Academy St Hampton Va-2
 Mallory & Co Inc P R 42 So Gray St Indianapolis 6 Ind-6-13
 Micomold Electronics Mfg Corp 1087 Flushing Ave Brooklyn 37 NY-6-9-11-12-13
 Mitronics Inc 232 13 Ave Newark NJ-2
 Mucron Corp 9 St Francis St Newark 5 NJ-6-13
 Muter Co 1255 S Michigan Ave Chicago 5 Ill-2-10-13
 National Capacitor Co 18 Webster St Brookline 46 Mass-6-9-11-12-13
 National Company 61 Sherman St Malden 48 Mass-1-8-12
 Nilsen Mfg Co 21 N Church St Addison Ill-12
 Onondaga Pottery Co Electronics Div 1858 W Fayette St Syracuse NY
 Perfection Mica Co Magnetic Shield Div 1322 N Elston Ave Chicago 22 Ill-5
 Planet Mfg Corp 225 Belleville Ave Bloomfield NJ-13
 Plastic Capacitors Inc 2511 W Moffat St Chicago 47 Ill-6-9-11-12
 Potter Co 1950 Sheridan Rd N Chicago Ill-6-9-11-13
 Pyramid Electric Co 1445 Hudson Blvd North Bergen NJ-9-13
 Radio Condenser Co Davis & Copewood Sts Camden 3 NJ-1-6-12-13-15
 Radio Frequency Co Medfield Mass-15
 San Fernando Electric Mfg 1509 1 St San Fernando Calif-6-9-13
 Sangamo Electric Co Box 7 Marion Ill-6-9-15
 Sangamo Generators-Sub Sangamo Electric Co Springfield Ill-6-9-13-14-15
 Skottie Electronics 204 Bridge St Peckville Pa-13
 Solar Mfg Corp 1 46 St & Seville Ave Los Angeles 58 Calif-2-6
 Southern Electronics Corp 239 W Orange Grove Ave Burbank Calif-6-11-13
 Spaulding Fibre Co 310 Wheeler St Tonawanda NY-11
 Special Products Co PO Box 188 Rockville 1 Md-5
 Sprague Electric Co Marshall St North Adams Mass-2-6-9-11-13-15
 Stackpole Carbon Co Tannery St St Marys Pa

Standard Condenser Corp 3749 N Clark St Chicago 13 Ill-6-9-12-13
 Stupakoff Div Carborundum Co Latrobe Pa-2
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-1-14
 Teleradio Eng'g Corp Wilkes-Barre Pa-1-2-5-6-14-15
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-7
 United Mineral & Chemical Corp 16 Hudson St New York 13 NY-2
 Vacap Corp 1905 Summit Ave Union City NJ-16
 Vitramon Inc Box 544 Bridgeport 1 Conn-6
 Vokar Corp Dexter Mich-6
 Wheaton Co T C Wheaton Ave Millville NJ-4
 Wilmar Mfg Co 1110 Truman Rd Kansas City 6 Mo-15

Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-18
 Aircraft & Electronic Specialties 22 S Green St Brownburg Ind-8
 Aircraft Marine Products 2100 Paxton St Harrisburg Pa-3-20-23
 A-K Mfg Co 115 S Northwest Hwy Barrington Ill-8
 Alden Products Co 123A N Main St Brockton Mass-3-4-5-11-12-23-24
 Alden Systems Co Washington St Westboro Mass-25
 Allied Engraving & Stamping 17 Elm St Buffalo 3 NY-23
 Allied Research and Eng'r Div 6916 Santa Monica Blvd Hollywood 38 Calif-15
 Alpha Metals Inc 56 Water St Jersey City NJ-34-41-42-43-47-49
 Alpha Wire Corp 200 Varick St New York 14 NY-40
 A L Products Inc 311 Hickory St Kearny NJ-4
 Aluminum Co of America 1501 Alcoa Bldg Pittsburgh 19 Pa-41-42
 Amelco Inc 2040 Colorado Ave Santa Monica Calif-8
 American Electric Cable Co 181 Appleton St Holyoke Mass-8
 American Electrical Heater 6110 Cass Ave Detroit 3 Mich-44
 American Electronics Co 1203 Bryant Ave New York 59 NY-23
 American Lava Corp Sub Minn Mining & Mfg Cherokee Blvd & Mfrs Rd Chattanooga 5 Tenn-18-23
 American Radio Hdw Co 152 MacQuesten Pkwy S Mt Vernon NY-3-4-7-8-11-13-18-19-23-24-25
 American Silver Co 36-07 Prince St Flushing 54 NY-41-43
 American Solder & Flux Co 19 & Willard Sts Philadelphia 40 Pa-41
 Amphenol Electronics Corp 1830 S 54 Ave Chicago 50 Ill-7-11-18-23
 Anchor Metal Co 244 Boerum St Brooklyn 6 NY-42-43-44-46-49
 Anchor Products Co 2712 W Montrose Ave Chicago 18 Ill-4
 Anchor Specialty Mfg 300 N Industrial Ave Teterboro NJ-4
 Andrew Corp 363 E 75 St Chicago 19 Ill-7
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-14-23
 Armo Steel Corp 703 Curtis St Middletown Ohio-35
 Arnel Electronics Inc 840 5 Ave Brooklyn 32 NY-23
 Associated Eng'g Corp 65 Kent St Brookline 46 Mass-4-13
 Atlas E-E Corp Bedford Airport Terminal Bldg Bedford Mass-17-24-40
 Auburn Mfg Co 110 Stack St Middletown Conn-37
 Audio Accessories Amityville NY-11
 Audio Development Co 2833 13 Ave S Minneapolis 7 Minn-11
 Avery Adhesive Label Corp 1616 S California Ave Monrovia Calif-22
 Bache Semon & Co 636 Greenwich St New York 14 NY-31
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-16
 Beck's Inc 298 E 5 St St Paul 1 Minn-15
 Bentley-Harris Mfg Co Conshohocken 20 Pa-21
 Berg Mfg Corp 142 Reno Ave New Cumberland Pa-23
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-8-15
 Birnbach Radio Co 145 Hudson St New York 13 NY-6-11-13-18-19-20-21-23-24-25-33
 Blaco Mfg Co 6541 Euclid Ave Cleveland 3 Ohio-20
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-7
 Brady Co W H 727 W Glendale Ave Milwaukee 12 Wis-22-23
 Brand & Co Wm North & Valley Sts Wilimantic Conn-21
 Breeze Corporations 700 Liberty Ave Union NJ-13-15-34
 Buchanan Electrical Products Dept TT Hillside NJ-13-20-23
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-11-13
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-8
 Burndy Eng'g Co-Tricon Div Norwalk Conn-13-20-23
 Bussmann Mfg Co University at Jefferson St Louis 7 Mo-24-25-26-27-28
 Cable Electric Products 234 Daboll St Providence 7 RI-2-3-28
 Cadre Industries Corp Box 150 Endicott NY-8-12
 Cambridge Thermionic Corp 445 Concord Ave Cambridge 38 Mass-6-11-13-19-20-23
 Camera Equipment Co 315 W 43 St New York 36 NY-22
 Canadium Radium & Uranium Corp 630 5 Ave New York 20 NY-36
 CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-8
 Chase Brass & Copper Co 236 Grand St Waterbury 20 Conn-44
 Chase & Sons 19 Highland Ave Randolph Mass-22
 Chester Morton Electronics 10 St & Morton Ave Chester Pa-8

13—CHASSIS ACCESSORIES & SOLDER

Adapters, crystal	1
Adapters, lamp socket	2
Adapters, plug	3
Adapters, test	4
Adapters, tube socket	5
Binding posts	6
Coaxial cable fittings	7
Harnesses	8
Implosion plates	9
Jack covers	10
Jacks	11
Jumpers	12
Lugs	13
Pliers	48
Safety terminals	14
Slip rings	15
Sockets, coil	16
Sockets, transistor	17
Sockets, tube	18
Soldering guns	45
Soldering irons	44
Soldering lugs	19
Soldering pots	46
Solderless lugs	20
Spaghetti	21
Tapes, pressure sensitive	22
Terminals & terminal strips	23

FUSES & FUSE HOLDERS

Fuse clips	24
Fuse holders	25
Fuses, cartridge	26
Fuses, instrument	27
Fuses, plug	28

SHIELDING

Coil shielding	29
Electrostatic shielding	30
Glass r-f shielding	31
Heat shielding	32
Ignition shielding	33
Lead shielding	34
Magnetic shielding	35
Radiation shielding	36
Rubber shielding	37
Screen shielding	38
Solid shielding	39
Tube shielding	40

SOLDER & TIN

Solder fluxes	41
Solder, indium	47
Solder, lead-tin	42
Solder, silver	43
Tin	49

Ace Eng'g & Machine Co 3644 N Lawrence St Philadelphia 40 Pa-35-38-39
 Acme Electric Heating 1217 Washington St Boston 18 Mass-44-46
 Aerolite Electronics Corp 507 26 St Union City NJ-6-8-11-12-23-24-25
 Aeronautical Electric Co 5656 Northwest Hwy Chicago 30 Ill-16-17-18-23
 Aeronautical Electronics PO Box 6043 Raleigh NC-33
 Aeroprojects Inc PO Box 555 W Chester Pa-44
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-15-18

Chicago Tool & Eng'g Co 8383 S Chicago Ave Chicago 17 Ill-48
 Cinch Mfg Co Jones Div 1026 S Homan Ave Chicago 24 Ill-5-11-17-18-20-23
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-11
 Circon Component Co Santa Barbara Municipal Airport Goleta Calif-6-11-13-23
 Clum Mfg Co 611 National Ave Milwaukee 4 Wis-25
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-3-4-8-11
 Cole Radio Works 86 Westville Ave Caldwell NJ-44-45
 Collector Corp 216 E 45 St New York 17 NY-15
 Connector Corp 6025 N Keystone Ave Chicago 30 Ill-17-18-24-25-40
 Conn Hard Rubber Co 407 East St New Haven 9 Conn-22
 Continental Connector Corp 30-30 Northern Blvd Long Island City 1 NY-23
 Controls Corp of America Soreng Div 9555 Soreng Ave Schiller Park Ill-23
 Co-Operative Industries 100 Oakdale Rd Chester NJ-8-30-33-36
 Corning Glass Works Corning NY-18-31
 Croname Inc 3701 Ravenswood Ave Chicago 13 Ill-10
 Daniels Inc C R 75 West St New York 6 NY-8
 Dante Elec Mfg Bantam Conn-25
 Davies Molding Co Harry 1428 N Wells St Chicago 10 Ill-6
 Diamonite Products Div U S Ceramic Tile Co 217 4 St NE Canton 2 Ohio-6
 Dielectric Products Eng'g Raymond Me-7
 Dow-Key Co PO Box 57 Warren Minn-7
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-18-30-35
 Eastern Smelting & Refining Corp 109 W Brookline St Boston Mass-43
 Eastern Specialty Co 3617 N 8 St Philadelphia 40 Pa-6
 Eby Co Hugh H 4701 Germantown Ave Philadelphia 44 Pa-1-5-6-11-15-17-18-23-24-40
 Eisler Eng'g Co 770 S 13 St Newark 3 NJ-46
 Eitel-McCullough Inc 798 San Mateo Ave San Bruno Calif-18
 Elco Corp "M" St below Erie Ave Philadelphia 24 Pa-6-17-18
 Eldico of NY Inc 72 E 2 St Mineola LI NY-36-38
 Electric Soldering Iron Co Deep River Conn-44-45-46
 Electri-Wire Assemblies 700 W Virginia Milwaukee 4 Wis-8
 Electrocraft Div Hamilton-Pax Inc 3739 N Kedzie Ave Chicago 18 Ill-11
 Electro Development Co 14701 Keswick St Van Nuys Calif-15
 Electrofilm Inc 7116 Laurel Canyon Blvd N Hollywood Calif-42
 Electro Miniatures Corp 1060 Elm Ave Ridgefield NJ-15
 Electronic Brazing Co 140 Glenridge Ave Montclair NJ-8
 Electronic Mechanics Inc 101 Clifton Blvd Clifton NJ-18
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-1-7
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-18-40
 Electro-Physics Co 287-P Broadway New York 7 NY-8
 Electro Tec Corp 4 Romanelli Ave S Hackensack NJ-15
 Ellanor Chemical Co 2308 Oakton St Evanston Ill-41
 El-Tronics Inc Penn Ave Mayfield 1 Pa-8-34
 Empire Electronics Co 166 River St Paterson 1 NJ-8-12-23
 Enthoven Solders Ltd 113 N Water St Rochester 4 NY-42-44-46-49
 Entron Inc 4902 Lawrence St Bladensburg Md-7
 Esser Maurice H 113 N Water St Rochester NY-44-46
 Eutectic Welding Alloys 40-40 172 St Flushing 58 NY-41-42-43
 Federal Screw Products 3917 N Kedzie Ave Chicago 18 Ill-6-13-19-20-25
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-11
 Fish-Schurman Corp 70 Portman Rd New Rochelle NY-31
 Garde Mfg Co 588 Eddy St Providence 3 RI-23
 Gavitt Wire & Cable Co Div American Hard Rubber Brookfield Mass-8
 Gee-Lar Mfg Co 418 S Wyman St Rockford Ill-25
 Gem Electric Mfg Co 233 37 St Brooklyn 32 NY-26-28
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-3-4-11-13-19-20-21-23-41
 General Ceramic Corp Keasbey NJ-18
 General Electric Co Construction Materials Div 1285 Boston Ave Bridgeport 2 Conn-8-28
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-24-44-46
 General Products Corp Webb St Union Springs NY-23
 General Radio Co 275 Mass Ave Cambridge 39 Mass-6-7-11
 General RF Fittings Inc 702 Beacon St Boston 15 Mass-1-3-7
 Goat Co Fred 308 Dean St Brooklyn 17 NY-40



Goldsmith Bros S & R Co 1300 W 59 St Chicago 36 Ill-41-43
 Graphik Circuits Div Cinch Mfg Corp 221 S Arroyo Pkwy Pasadena 1 Calif-17-18
 Graphite Metallizing Corp 1002 Nepperhan Ave Yonkers NY-15
 Graybar Electric Co 420 Lexington Ave New York 17 NY-7-23-25-26-27-28
 Grayhill 561 Hillgrove Ave La Grange Ill-4-11
 Gregg Electric Co 2 S Broadway Lawrence Mass-45
 Guild Electronics 388 Broadway New York 13 NY-18
 Hallett Mfg Co 1601 W Florence Ave Inglewood Calif-7-8-12-29-30-31-33-34-35-36
 Halogen Insulator & Seal Corp 10121 Franklin Ave Franklin Park Ill-21
 Harwood Electronics Inc 466 W Superior St Chicago 10 Ill-6
 Haydu Bros of NJ Sub Burroughs Corp PO Box 1226 Plainfield NJ-18
 Heath Co 305 Territorial Rd Benton Harbor Mich-6
 Hitemp Wires Inc 26 Windsor Ave Mineola NY-21
 Hobson Bros 4940 W Lawrence Ave Chicago 30 Ill-13-19-20
 Houlihan Co T J 2508 W Lawrence Chicago 25 Ill-8
 Hudson Tool & Die Co 118 S 14 St Newark NJ-30-40
 Ideal Industries 5127 Park Ave Sycamore Ill-24-25-44
 Ilco Corp 5742 Mariemont Ave Cincinnati 27 Ohio-13
 Industrial Devices Inc 982 River Rd Edgewater NJ-4
 Industrial Hdw Mfg Co 109 Prince St New York 12 NY-17-18-19-20-23
 Industrial Products Box 148 Danbury Conn-7-11
 Industrial Wire Products 1106 Carnegie Ave Cleveland 15 Ohio-8
 Instrument Corp of America PO Box 219 Blacksburg Va-15
 Insulated Circuits Inc 620 Passaic Ave W Caldwell NJ-15
 Insulation Mfrs Corp 565 W Washington Blvd Chicago 6 Ill-22
 Insuline Corp of America 186 Granite St Manchester NH-3-6-11-13-23-24-25-44
 Interference Measurements Lab 907 E 51 St Brooklyn 3 NY-36
 Interlectric Corp Box 239 Warren Pa-26-28
 International Electronic Research Corp 145 W Magnolia Blvd Burbank Calif-40
 Iron Firearm Electronics Div 2838 SE 9 Ave Portland 2 Ore-15
 Irvington Div Minn Mining & Mfg 6 Argyle Terrace Irvington 11 NJ-22
 I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 30 Pa-20
 Janco Corp 3111 Winona Ave Burbank Calif-12-25
 Jan Hdwe Mfg Co 75 N 11 St Brooklyn 11 NY-10-35-40
 Javex PO Box 646 Redlands Calif-1
 JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-21-33
 Johns-Manville Dutch Brand Div 7800 Woodlawn Ave Chicago 19 Ill-22
 Johnson Co E F Waseca Minn-6-11-16-18
 Johnson Mfg Co Mt Vernon 3 Iowa-41-42
 Kahle Eng'g Co 1307 7 St N Bergen NJ-46
 Kendall Co Polyken Sales Div 222 W Adams St Chicago 6 Ill-22
 Kester Solder Co 4210 Wrightwood Ave Chicago Ill-24-42-47
 Keystone Electronics 423 Broome St New York 13 NY-6-11-13-23-25
 Klein & Sons Mathias 7200 W McCormick Rd Chicago 45 Ill-48
 Kolton Electric Mfg Co 123 NJ Railroad Ave Newark 5 NJ-13-19-20-24-25
 Krueger & Hudepohl 5 E 3 St Cincinnati 2 Ohio-13
 Kulite Tungsten Co 723 Sip St Union City NJ-36
 Kulka Electric Mfg Co 633 S Fulton Ave Mt Vernon NY-2-3-12-13-19-23-24
 Kupfrian Mfg Corp 395 State St Binghamton NY-8-33
 Labelon Tape Co PO Box 1212 Rochester 3 NY-22
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-8-10-23
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-8
 Lerco Electronics 501 S Varney St Burbank Calif-23
 Lieco Inc 147 Ocean Ave Lynbrook NY-1
 Littelfuse Inc 1865 Miner St Des Plaines Ill-23-24-25-26-27
 Livingston Electronic Corp Livingston NJ-18-40
 Long Inc Thomas J 215 Stonehinge Lane Carle Pl LI NY-23

Luma Electric Equip Co PO Box 132 Toledo Ohio-44
 Mackay Inc A D 198 Broadway New York 38 NY-43-49
 Macleod & Hanopol 10 Roland St Charlestown 29 Mass-8
 Magnetic Metals Co 21 & Hayes Ave Camden 1 NJ-35
 Magnetics Inc Box 391 Butler Pa-35
 Makepeace Co D E Div Union Plate & Wire Attleboro Mass-15
 Malayan Tin Bureau 1028 Conn Ave Washington 6 DC-49
 Malco Tool & Mfg Co 4025 W Lake St Chicago 24 Ill-6-19-20
 Mallory & Co Inc P R 42 S Gray St Indianapolis 6 Ind-11-36
 Mandex Mfg Co 2608 W 16 St Chicago 8 Ill-5-6-18-19-23
 Marathon Electric Mfg Corp Randolph & Cherry Sts Wausau Wisc-23
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-8
 Metal Textile Corp 647 E 1 Ave Roselle NJ-32-33-37-38-39-40
 Metals & Controls Corp Spencer Thermostat Div 34 Forest St Attleboro Mass-43
 Methode Mfg Corp 2021 W Churchill St Chicago 47 Ill-17-18-40
 Mico Instrument Co 80 Trowbridge St Cambridge 38 Mass-41-42
 Microlab 17 Okner Pkwy Livingston NJ-7
 Millen Mfg Co James 150 Exchange St Malden Mass-35
 Mitchell Industries Box 17 Mineral Wells Texas-44
 Modern Adhesives & Electronics 402 Garden Blvd Garden City S L I N Y-22
 Modern Wire Co 39-30 Review Ave Long Island City 1 N Y-24-42
 Molded Insulation Co 335 E Price St Philadelphia 44 Pa-3
 Morse Co Frank W 1300 Soldiers Field Rd Boston 35 Mass-2-25
 Mosley Electronics Inc 8622 St Charles Rock Rd St Louis 14 Mo-1
 Multicore Sales Corp Sub British Industries 80 Shore Rd Port Washington N Y-41-42
 Muter Co 1255 S Michigan Ave Chicago 5 Ill-34-40
 Mycalex Corp of America 125 Clifton Blvd Clifton NJ-18
 Mystik Adhesive Prods 2635 N Kildare Ave Chicago 39 Ill-22
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-17
 National Carbon Co 30 E 42 St New York 17 NY-36
 National Company 61 Sherman St Malden 48 Mass-6-11-18
 National Fabricated Products Div Hoffman Electronics 2650 W Belden Ave Chicago 47 Ill-5-13-16-17-18-19-20-23-24-40
 Nems-Clarke Inc 919 Jesup-Blair Dr Silver Spring Md-11-40
 Newcomb Spring of Conn College Hwy Southington Conn-15
 New York Solder Co 684 E 133 St New York 54 NY-41-42
 Ney Co J M 71 Elm St Hartford Conn-15-43
 Nichols Products 325 W Main St Moorestown NJ-1-7
 NRD Instrument Co 6425 Etzel Ave St Louis 14 Mo-36
 Nuclear Instrument & Chemical Corp 223 W Erie St Chicago 10 Ill-24
 Nuclear Research Corp Southampton Pa-24
 Nucleonic Corp of America 196 DeGraw St Brooklyn 31 NY-34
 Olympic Plastics Co 5741 W Jefferson Blvd Los Angeles 16 Calif-23
 Oryx Co 9015 Wilshire Blvd Beverly Hills Calif-44
 PCA Electronics Inc 2180 Colorado Ave Santa Monica Calif-8
 Perfection Mica Co Magnetic Shield Div 1322 N Elston Ave Chicago 22 Ill-29-30-35-38-39-40
 Permacel Tape Corp US Hwy #1 New Brunswick NJ-22
 Permaglass Inc Box 195 Sta A Toledo 5 Ohio-9
 Permonite Mfg Co 4554 N Broadway Chicago 40 Ill-13-18-19-23-24-25
 Philmore Mfg Co 113 University Pl New York 3 NY-6
 Pittsburgh Plate Glass Co 632 Fort Duquesne Blvd Pittsburgh 22 Pa-9-31
 Pix Mfg Co 75 Hudson St Newark 3 NJ-13-19-20
 PM Industries 280 Fairfield Ave Stamford Conn-15
 Polymer Corp of Penn Reading Pa-21
 Polyphase Instrument Co 701 Haverford Rd Bryn Mawr Pa-15
 Pomona Electronics 1126 W 5 Ave Pomona Calif-3-4-5-12
 Precision Metal Products 41 Elm St Stoneham 80 Mass-13-19-23
 Precision Paper Tube Co 2035 W Charleston St Chicago 47 Ill-29-34-39
 Pres Industrial Products Box 302 New Paltz NY-22
 Prodelin Inc 307 Bergen Ave Kearny NJ-7-8
 Radiation Counter Labs 5122 W Grove St Skokie Ill-36
 Radio Merchandise Sales 2016 Bronxdale Ave New York 62 NY-20

Raypar Inc 7810 W Addison St Chicago 34 Ill-18
 Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-24
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-6-11-24
 Reed-Curtis Nuclear Industries Inc 307 Culver Blvd Playa del Rey Calif-36
 Roberts Mfg Co 412 Chambers St Cleburne Texas-8
 Rodale Mfg Co Emaus Pa-23
 Rollins Electronics Corp Schley Ave Lewes Dela-8
 Royal Electric Co 95 Grand Ave Pawtucket RI-26-28
 Sage Labs 30 Guinan St Waltham 54 Mass-1
 Sealco Corp 186 Union Ave New Rochelle NY-6-11-14-19-23
 Sherman Mfg Co H B 22 Barney St Battle Creek Mich-19-20
 Shielding Inc Dept TT Box 217 Riverside NJ-30-33-35-38-39
 Sightmaster Corp 111 Cedar St New Rochelle NY-26-27
 Smith Inc Herman H 2326 Nostrand Ave Brooklyn 10 NY-3-6-11-13-19-20-23-24-25-40
 Special Products Co PO Box 188 Rockville 1 Md-8
 Spencer-Kennedy Labs 1320 Soldiers Field Rd Boston 35 Mass-8
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-6-11
 Star-A Electric Mfg 269 Meserole St Brooklyn 6 NY-28
 Stark Mfg Co PO Box 489 Tuscaloosa Ala-44
 States Co 19 New Park Ave Hartford 6 Conn-23
 Staver Co 41-51 N Saxon Ave Bay Shore NY-40
 Sta-Warm Electric Co 1000 N Chestnut St Ravenna Ohio-46
 Stone City Machine & Tool Co PO Box 351 Bedford Ind-13-14-19-20-23-24
 Stratoseal Mfg Co 3039 W Fullerton Ave Chicago 47 Ill-23
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-8-23-40
 Sunrise Products Co PO Box 173 Hawthorne 1 NJ-44-46
 Super Ear Products 675 Merrick Rd Lynbrook NY-17-18
 Superex Electronics Corp 4 Radford Pl Yonkers NY-4
 Superior Carbon Products 9115 George Ave Cleveland 5 Ohio-15
 Superior Electric Co 83 Laurel St Bristol Conn-6
 Switchcraft Inc 1328 N Halsted St Chicago 22 Ill-3-10-11
 Taylor Fibre Co Norristown Pa-18
 Technic Inc 39 Snow St Providence 3 RI-41
 Technicraft Co 1156 Commonwealth Ave Boston 34 Mass-41-44
 Techron Corp 254 Friend St Boston 14 Mass-17
 Tele Coil Co 2733 Saunders St Camden 5 NJ-29
 Telephonics Corp Park Ave Huntington LI NY-11
 Teleradio Eng'g Corp Wilkes Barre Pa-23
 Telex Inc 1633 Eustis St St Paul 1 Minn-11
 Thale Eng'g Corp 2104 E Villa St Pasadena 8 Calif-8
 Thompson-Bremer & Co 520 N Dearborn St Chicago 10 Ill-14
 Thompson Clock Co H C 38 Federal St Bristol Conn-41-44-48
 Times Facsimile Corp 540 W 58 St New York 19 NY-40
 Toledo Commutator Co 1101 S Chestnut St Owosso Mich-15
 Tracerlab Inc 130 High St Boston 10 Mass-31-34-36
 Trico Fuse Mfg Co 2948 N 5 St Milwaukee 12 Wis-24-26-28-48
 Tricon Mfg Co 8008 Wallace St Chicago 20 Ill-15-43
 Tri-Dex Electronics PO Box 1207 Lindsay Calif-8-23
 Trimm Inc 400 W Lake St Libertyville Ill-11
 Trutone Electronics Inc 812 N Highland Ave Hollywood 38 Calif-23
 Ucinite Co Div United-Carr Fastener 459 Watertown St Newtonville Mass-11-18
 Union Plastics Corp Wire & Cable Div 1627 Paterson Plank Rd Secaucus NJ-21
 United Mineral & Chemical Corp 16 Hudson St New York 13 NY-22
 U S Eng'g Co Div Litton Industries 521 Commercial St Glendale 3 Calif-6-13-24
 U S Gasket Co Fluorocarbon Div 600 N 10 St Camden 1 NJ-18-21-23
 Vaco Products Co 317 E Ontario St Chicago 11 Ill-48
 Varflex Corp 512 W Court St Rome NY-21
 Vector Electronic Co 3352 San Fernando Rd Los Angeles 65 Calif-3-4-5-13-17-18-23
 Vemaline Products Co PO Box 222 Hawthorne 1 NJ-44-46
 Vibro-Ceramics Corp 212 Durham Ave Metuchen NJ-44
 Vidair Electronics Mfg 576 W Merrick Rd Lynbrook NY-4
 Viking Instruments Inc E Haddam Conn-44
 Visulite Co 423 Broome St New York 13 NY-11-13
 Vitrosal Corp 709 E 106 St Indianapolis 20 Ind-23
 Waage Electric Inc 720 Colfax Ave Kenilworth NJ-46

Wac Line Inc 35 S St Clair St Dayton 2 Ohio-4
 Walsco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-11-19-21
 Welch Connectors 520 Morino Ave Los Angeles 49 Calif-17-18
 Wenco Mfg Co 1133 W Hubbard Chicago 22 Ill-13
 Wen Products Inc 5806 N West Hwy Chicago 31 Ill-44-45
 Western Electric Co 195 Broadway New York NY-11
 Western Gold & Platinum Co 589 Bryant St San Francisco 7 Calif-43
 Western Int'l Co 45 Vesey St New York 7 NY-1-3-10-11
 Westline Prods Div Western Lithograph Co 600 E 2 St Los Angeles 54 Calif-22
 Whitso Inc 9330 Byron St Schiller Park Ill-11
 Wildberg Bros 742 Market St San Francisco 2 Calif-43
 Winchester Electronics Willard Rd Norwalk Conn-18

14—CHOKES

Chokes, audio	1
Chokes, filter	2
Chokes, heavy-wire	3
Chokes, power	4
Chokes, R-F receiving	5
Chokes, R-F transmitting	6

Ace Coil & Electronics 916 Lincoln Hwy Metuchen NJ-5-6
 Acme Coil & Transformer Corp 1915 N Clybourn Ave Chicago 14 Ill-1-2-3-4
 Aero Transformer & Mfg Corp 26-02 4 St Long Island City 2 NY-1-2-4
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-1-2-5-6
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-1-2-3-4
 Airdesign Inc 241 Fairfield Ave Upper Darby Pa-1-2-3-4
 Airpax Products Co Middle River Baltimore 20 Md-1-2-4
 Aladdin Radio Industries 703 Murfreesboro Rd Nashville 2 Tenn-2-5
 All-Tronics Inc 45 Bond St Westbury NY-5
 Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-1-2-4
 American Bosch Arma Corp Arma Div Roosevelt Field Garden City NY-1-2-3-4
 A P W Co 72 W Main St Rockaway NJ-2
 Artisan Electronics Corp 171 Ridgedale Ave Morristown NJ-1
 Artted Co 367 Worthington St Springfield 3 Mass-5-6
 Atlantic Transformer Div New London Instrument 30 Hynes Ave Groton Conn-1-2-3-4
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-1-2
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-2-3-5-6
 Barry Electronics Corp 512 Broadway New York 12 NY-2
 Basler Electric Co 605 5 St Highland Ill-1-2-3-4
 Bellaire Electronics Inc 62 White St Red Bank NJ-2-3-4-5-6
 Berkshire Transformer Corp 15 South Ave New Milford Conn-5-6
 Better Coil & Transformer Corp 202 W Union St Goodland Ind-1-2
 Bittermann Electric Co Barlow St Cannan Conn-2-3-4
 Broadway Coil Co 5638 Broadway Chicago 40 Ill-2-3-4-5-6
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-6
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-5-6
 Burnett Radio Lab William W L 4814 Idaho St San Diego 16 Calif-5-6
 Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-1-2-3-4
 Cambridge Thermionic Corp 445 Concord Ave Cambridge 38 Mass-5-6
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-1-2-3-4
 CELCO (Constantine Eng'g Labs) PO Box 555 Mahwah NJ-1-2-3-4-5-6
 Central Transformer Co 910 W Jackson Blvd Chicago 7 Ill-1-2-3-4
 Centran Inc PO Box 168 Greensburg Ind-1-2-3-4-5-6
 Chicago Standard Transformer Corp 3501 Addison St Chicago 18 Ill-1-2
 Coast Coil Co 5333 W Washington Blvd Los Angeles 16 Calif-1
 Coil Company of America 207 Washington St Northvale NJ-1-2-3-4
 Coilercraft Inc Cary Ill-5
 Coil Eng'g & Mfg 200 Main St Roanoke Ind-1-2-4
 Crest Transformer Corp 1834 W North Ave Chicago 22 Ill-1-2-3-4
 Cycle Transformer Corp 356 Glenwood Ave East Orange NJ-1-2-3-4

Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-2
 Delta Radio Co 115 Worth St New York 13 NY-2
 Developmental Electronics Corp 4213 S Broadway Los Angeles 37 Calif-5
 Dietz Design & Mfg Co Grandview 13 Mo-1-2-5-6
 DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-1-2-3-4-5-6
 Electro Eng'g Works 401 Preda St San Leandro Calif-2-4
 Electron Products 430 N Halstead Pasadena Calif-2
 Electronic Coils Inc PO Box 1665 Springfield 1 Mass-2-3-4-5-6
 El-Rad Mfg Co 2800 W Cullom Ave Chicago 18 Ill-5-6
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-2
 Epo Products 2500 Atlantic Ave Brooklyn 7 NY-1-2-3-4
 Espy Mfg Co 200 W 57 St New York 19 NY-1-2-3-4-5-6
 Essex Electronics 550 Springfield Ave Berkeley Heights NJ-2-5
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-2-4
 Ferranti Electric Inc 30 Rockefeller Plaza New York 20 NY-1-2-3-4
 Forbes & Wagner 345 Central Ave Silver Creek NY-5-6
 Forest Electric Co 7216 Circle Ave Forest Park Ill-1-2-3-4
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-1-2-3-4
 Furler-Miller Labs Central Ave Clark NJ-5-6
 Galbraith & Son Electric Corp C C 450 Avenue of the Americas New York 11 NY-1-2-3-4
 General Instrument Corp 65 Gouverneur St Newark 4 NJ-1-5
 General Transformer Co 18240 Howard Ave Homewood Ill-1-2
 Geotronic Labs 1314 Cedar Hill Ave Dallas 8 Texas-1-2
 Goslin Electric & Mfg Co 2921 W Olive St Burbank Calif-1-2-4
 Grand Transformers Inc Beechtree & Marion Grand Haven Mich-1-2-3-4
 Hadley Co Robert M 5112 S Hoover St Los Angeles 37 Calif-1-2-4
 Hamilton-Hall Mfg 227 N Water St Milwaukee 2 Wis-5
 Hanovia Chemical & Mfg Co 100 Chestnut St Newark 5 NJ-5-6
 Harnett Electric Corp Lincoln & Hallett Ave Riverhead LI NY-1-2-5-6
 Hermetic Seal Transformer Co 555 N 5 St Garland Texas-1-2-4
 Highland Eng'g Co 90 Magnolia St Westbury LI NY-1-2-3-4
 Hillburn Electronic Products 55 Nassau Ave Brooklyn 22 NY-5-6
 Hindle Transformer Co Woods Church Rd Flemington NJ-2-4-6
 Houlihan Co T J 2508 W Lawrence Chicago 25 Ill-5-6
 Illinois Transformer Co 412 S Green St Chicago 7 Ill-1-2-4
 Illumitronic Eng'g Co Sunnyvale Calif-6
 Industrial Transformer Corp Gouidsboro Pa-1-2-3-4
 Insuline Corp of America 186 Granite St Manchester NH-5-6
 International Resistance Co 401 N Broad St Philadelphia 8 Pa-5
 Islip Transformer & Metal Co Beech St Islip LI NY-1-2-3-4-5-6
 I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 30 Pa-5
 Jeffers Electronics Div Speer Carbon Co Dubois Pa-5
 Jobbins Electronic Enterprises 771 Hamilton Ave Menlo Park Calif-1-2-3-4
 Johnson Co E F Waseca Minn-6
 Johnson Electronics 521 Elwell St Orlando Fla-5-6
 Kearfott Co 1378 Main Ave Clifton NJ-2-4
 Kenyon Transformer Co 840 Barry St New York 59 NY-4
 K V Transformer Corp 20 E Franklin St Danbury Conn-1-2-4
 Laboratory for Electronics 75 Pitts St Boston 14 Mass-1-2-3-4-5-6
 Lee Electric & Mfg Co 2806 Clearwater St Los Angeles 39 Calif-2-3-4
 Levinthal Electronic Products 2821 Fair Oaks Ave Redwood City Calif-5
 Light Electric Corp 214 Lackawanna Ave Newark 3 NJ-2-3-4
 Magnatran Inc PO Box 211 Kearny NJ-1-2-4
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-1-2-5-6
 McGregor Electronic Industries 132 1 Ave McGregor Iowa-1-3-4
 Melco Products Inc 301 5 Ave So Minneapolis 15 Minn-2-3-4
 Merit Coil & Transformer Corp 4427 N Clark St Chicago 40 Ill-1-2-4-5-6
 Microtran Co 84-11 Rockaway Beach Blvd Rockaway Beach 93 NY-1-2-4
 Moloney Electric Co 5390 Bircher Blvd St Louis 20 Mo-2-4
 Moran Electronic Components 7660 Woodbury Dr Silver Spring Md-1-2-4-5-6

Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-2
Mutter Co 1255 S Michigan Ave Chicago 5 Ill-5
Mystic Transformers 63 Swanton St Winchester Mass-1-2-3-4
National Aircraft Corp 3411 Tulare Ave Burbank Calif-1-2-3-5-6
National Coil Co PO Box 1237 Sheridan Wyo-2-3-5-6
National Company 61 Sherman St Molden 48 Mass-5-6
New York Coil Co 40 2 Ave Phoenixville Pa-5-6
New York Transformer Co 3 Ave Alpha NJ-1-2-4
NJE Corp 345 Carnegie Ave Kenilworth NJ-1-2-3-4
Nothelfer Winding Labs PO Box 455 Trenton 3 NJ-5
North Hills Electric Co 203-18 35 Ave Bayside 61 NY-5
Nyt Electronics Inc 2979 N Ontario St Burbank Calif-1-2-3-4
Ogden Coil & Transformer Co 2124 W Carroll Ave Chicago 12 Ill-2-4-5-6
Ohmite Mfg Co 3601 Howard St Skokie Ill-4-5-6
Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-1-2-3-4
Osborne Transformer Corp 948 E Lafayette Ave Detroit 7 Mich-2-3-4
Partridge Transformers Ltd Tolworth Surrey England-1-2-3-4
Perkin Eng'g Corp 345 Kansas St El Segundo Calif-2
Philmore Mfg Co 113 University Pl New York 3 NY-5
Polyphase Instrument Co 701 Haverford Rd Bryn Mawr Pa-1-2-5
Potter Co 1950 Sheridan Rd N Chicago Ill-2-3
QLC Corp 409 Main St Greenport LI NY-5
Radio Frequency Co Medfield Mass-5-6
Ratigan Electronics 3614 Maple Ave Los Angeles 11 Calif-5-6
Raypar Inc 7810 W Addison St Chicago 34 Ill-1-2-3-4-5-6
Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-2-5-6
Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-1-2-4
Redman Electronics Corp PO Box 72 Thompsonville Conn-5-6
R K Mfg Co PO Box 112 Marion Ill-1-2
Rollins Electronics Corp Schley Ave Lewes Dela-2-3-4
Signal Transformer Co 2518 Coney Island Ave Brooklyn 23 NY-1-2-3-4
SNC Mfg Co PO Box 277 Oshkosh Wis-1-2-3-4
Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-1-2
Standard Electronics Corp 285 Emmet St Newark NJ-1-2-3-4
Stanwyck Winding Co 137 Walsh Ave Newburgh NY-4
Sterling Transformer Corp 297 N 7 St Brooklyn 11 NY-1-2-3-4
Summit Coil Co 4 Claremont Rd Bernardsville NJ-5-6
Superex Electronics Corp 4 Radford Pl Yonkers NY-1-5-6
Tele Coil Co 2733 Saunders St Camden 5 NJ-3-5-6
Teleradio Eng'g Corp Wilkes-Barre Pa-5-6
Telex Inc 1633 Eustis St St Paul 1 Minn-1-2
Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-1-2
Thermador Electrical Mfg Electronics Div 2000 S Camfield Ave Los Angeles 22 Calif-1-2-3-4
Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-1-2-3-4-5-6
Torwico Electronics 1090 Morris Ave Union NJ-1-2
Transformer Technicians 2608 N Cicero Ave Chicago 39 Ill-1-2-3-4
Tranasonic Inc 808 16 St Bakersfield Calif-1-2-3-4
Tresco Inc 3824 Terrace St Philadelphia 28 Pa-1-2-3-4
Triad Transformer Corp 4055 Redwood Ave Venice Calif-1-2-3-4
Union Electric & Mfg 1057 Summit Ave Jersey City 7 NJ-1-2-3-4-5-6
Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-5-6
Varo Mfg Co 2201 Walnut St Garland Texas-2-4
Vibration Research Labs 97 Lake Ave Tucka-hoe NY-2-3-4
Vokar Corp Dexter Mich-5
Western Coil Products 2989 Middlefield Rd Palo Alto Calif-5-6
Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-1-2-4
Wiegand Mfg Co 120 E Hawthorne Ave Valley Stream LI NY-4
Wilco Corp 546 Drover St Indianapolis 21 Ind-5-6
Wilmar Mfg Co 1110 Truman Rd Kansas City 6 Mo-5-6
Wirt Co 5221 Greene St Philadelphia 44 Pa-5-6

15—CIRCUITS

Circuits, etched	1
Circuits, embossed	2
Circuits, plated	3
Circuits, potted	4
Circuits, printed	5
Circuits, stamped	6
Delay lines	7
Plug-in circuit units	8
Printed circuit copper laminates	9
Pulse forming networks	10

ACF Electronics 800 N Pitt St Alexandria Va-5-8
Admiral Corp 3800 Cortland St Chicago 47 Ill-5-7
Advance Electronics Co 451 Highland Ave Pas-saic NJ-7
Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-1-2-4-5-6-7-8-10
Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-1-3-5-10
Air Associates Inc 511 Joyce St Orange NJ-10
Aircraft Marine Products 2100 Paxton St Har-risburg Pa-10
Airdesign Inc 241 Fairfield Ave Upper Darby Pa-7
Alden Products Co 123A N Main St Brockton Mass-8
Allied Engraving & Stamping 17 Elm St Buf-falo 3 NY-5-6
All-Tronics Inc 45 Bond St Westbury NY-7
Amelco Inc 2040 Colorado Ave Santa Monica Calif-1-3-4-5
American Printed Circuits Co Box 282 Me-tuchen NJ-3-5-9
Andersen Labs Inc 39 Talcott Rd W Hartford Conn-7
Ansley Mfg Co Arthur New Hope Pa-1-5
Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-7
Atlas E-E Corp Bedford Airport Terminal Bldg Bedford Mass-1-5
Automatic Processing Corp 1335 N Wells St Chicago 10 Ill-1-5
Avion Div ACF Industries 299 State Highway #17 Paramus NJ-1-4
Axel Bros Electronic Div 134-20 Jamaica Ave Jamaica NY-7-10
Beck's Inc 298 E 5 St St Paul 1 Minn-1-4-5-8-9
Bendix Aviation Corp Bendix Computer Div 5630 Arbor Vitae St Los Angeles 45 Calif-5
Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-1
Bliley Electric Co Union Station Bldg Erie Pa-7
Brady Co W H 727 W Glendale Ave Milwaukee 12 Wisc-5
Brew & Co Richard D 90 Airport Rd Concord NH-7
Broadway Coil Co 5638 Broadway Chicago 40 Ill-5
Buckbee Mears Co 4 & Rosabel Sts St Paul 1 Minn-1-3-5-6
Burnell & Co 45 Warburton St Yonkers NY-7
Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-10
Carad Corp 2850 Bay Rd Redwood City Calif-7
CELCO (Constantine Eng'g Labs) PO Box 555 Mahwah NJ-7
Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wisc-5
Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-10
Cinch Mfg Co Jones Div 1026 S Homan Ave Chicago 24 Ill-5
Circon Component Co Santa Barbara Municipal Airport Goleta Calif-1-2-3-5-6
Circuitron Inc 155 W Main St Rockville Conn-1-3-4-5-8
Clarostat Mfg Co Washington St Dover NH-8
Cleveland Metal Specialties Co 1783 E 21 St Cleveland 14 Ohio-1
Coilcraft Inc Cary Ill-4-7
Columbia Technical Corp 5 E 57 St New York 22 NY-7
Condenser Products Co Div New Haven Clock & Watch 140 Hamilton St New Haven 4 Conn-10
Continental-Diamond Fibre Div Budd Co New-ark Dela-9
Cornell-Dublier Electric Corp 333 Hamilton Blvd S Plainfield NJ-5
Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-10
Croname Inc 3701 Ravenswood Ave Chicago 13 Ill-5
Davelle Labs 145-68 228 St Springfield Gardens NY-5
Daystrom Instrument Archbald Pa-1-3-4-5-8-10
Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-5
Deutschmann Corp Tobe 921 Providence Hwy Norwood Mass-10
Developmental Electronics Corp 4213 S Broad-way Los Angeles 37 Calif-7-10
Dilectron Div Gudeman Co 2669 S Myrtle Ave Monrovia Calif-7-10
Dwyer Eng'g Co PO Box 452 Nashua NH-1-3-4-5
Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-7

Eaton Associates Moodus Conn-1-3-5
Eby Co Hugh 4701 Germantown Ave Philadel-phia 44 Pa-1-5
Ecco Products 506 E 1 St Santa Ana Calif-8
Eldema Corp 9844 Remer St El Monte Calif-8
Electralab Div Farrington Co Needham Heights Mass-5
Electrochemical Industries Inc 35 Armyory St Worcester 3 Mass-1-2-3-6
Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-1-5-8
Electronic Mechanics Inc 101 Clifton Blvd Clif-ton NJ-5
Electronic Research Associates 67 E Centre St Nutley 10 NJ-4
Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-4-5
El Mec Labs 730 Blvd Kenilworth NJ-1-5
El-Rad Mfg Co 2800 W Cullom Ave Chicago 18 Ill-7
Emerson & Cuming 869 Washington St Canton Mass-4
Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-2-4-5
Erie Resistor Corp 644 W 12 St Erie 6 Pa-2-5-7-8-9
ESC Corp 534 Bergen Blvd Palisades Park NJ-7-10
Essex Electronics 550 Springfield Ave Berkeley Heights NJ-7
Etched Products Corp 39-01 Queens Blvd Long Island City 4 NY-1-3-5
Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-5-7
Forbes & Wagner 345 Central Ave Silver Creek NY-7
Ford Instrument Co Div Sperry Rand Corp 31-10 Thomson Ave Long Island City 1 NY-5
Formica Co 4614 Spring Grove Ave Cincinnati Ohio-5
F-R Machine Works 26-12 Borough Pl Wood-side 77 NY-10
Freed Transformer Co 1718 Weirfield St Brook-lyn 27 NY-10
Gavitt Wire & Cable Co Div American Hard Rubber Brookfield Mass-1-3-5
General Electric Co Capacitor Dept John St Hudson Falls NY-10
General Electric Co Components Dept Auburn NY-5
General Instrument Corp 65 Gouverneur St Newark 4 NJ-7
Geotronic Labs 1314 Cedar Hill Ave Dallas 8 Texas-7
Glass Products Co 6911 S Chicago Ave Chicago 37 Ill-5
Goldak Co 1544 W Glenoaks Blvd Glendale 1 Calif-1-5
Goslin Electric & Mfg Co 2921 W Olive St Burbank Calif-10
Gotham TV Corp 123 W 64 St New York NY-66
Graphik Circuits Div Cinch Mfg Corp 221 S Arroyo Pkwy Pasadena 1 Calif-5
Gulton Mfg Corp 212 Durham Ave Metuchen NJ-5
Gurley W & L E 514 Fulton St Troy NY-5
Haller Raymond and Brown 124 N Atherton St State College Pa-8
Hansen Electronics Co 7117 Santa Monica Blvd Los Angeles 46 Calif-5
Harnett Electric Corp Lincoln & Hallett Ave Riverhead LI NY-7-10
Helipot Corp 916 Meridian Ave S Pasadena Calif-7
Herlec Corp Div Sprague of Wisc Inc Grafton Wisc-5
Hill Electronic Eng'g & Mfg New Kingstown Pa-8
Hycor Div Int'l Resistance Co Svlmar Calif-10
Industrial Electronic Engrs 3973 Lankershim Blvd North Hollywood Calif-8
Insulated Circuits Inc 620 Passaic Ave W Cald-well NJ-1-2-3-4-5-6
Interelectronics Corp 2432 Grand Concourse New York 58 NY-1-4-5
International Crystal Mfg 18 N Lee Ave Okla-homa City 2 Okla-5
Jacobs Instrument Co 4718 Bethesda Ave Bethes-da 14 Md-7-10
Laboratory for Electronics 75 Pitts St Boston 14 Mass-7
Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-1-5
Lavoie Labs Inc Matawan and Freehold Rd Morranville NJ-10
Learn Inc 3171 S Bundy Dr Santa Monica Calif-1-4-5
Lerco Electronics 501 S Varney St Burbank Calif-8
Lihrascope Inc Burbank Div 133 E Santa Anita Ave Burbank Calif-8
Long Inc Thomas J 215 Stonehenge Lane Carle Place LI NY-9
Luther Electronic Mfg Co 5728 W Washington Blvd Los Angeles 16 Calif-10
Macleod & Hanopol 10 Roland St Charlestown 29 Mass-4-7
Mallory & Co Inc P R 42 So Gray St Indi-anapolis 6 Ind-5
Mandex Mfg Co 2608 W 16 St Chicago 8 Ill-5
May Eng'g Co 6055 Lankershim Blvd N Holly-wood Calif-7
Melpar Inc Sub Westinghouse Air Brake Falls Church Va-10
Methode Mfg Corp 2021 W Churchill St Chi-cago 47 Ill-1-3-5

Mica Corp 4031 Elenda St Culver City Calif-9
 Micamold Electronics Mfg Corp 1087 Flushing Ave Brooklyn 37 NY-10
 Micro-Circuits New Buffalo Mich-5
 Microwave Associates 22 Cummington St Boston 15 Mass-17-21
 Modern Adhesives & Electronics 402 Garden Blvd Garden City S I.I NY-5
 Mycalex Corp of America 125 Clifton Blvd Clifton NJ-1-5
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-8
 National Capacitor Co 18 Webster St Brookline 46 Mass-10
 National Coil Co PO Box 1237 Sheridan Wyo-4
 National Vulcanized Fibre Co PO Box 311 Wilmington 99 Dela-9
 NJE Corp 345 Carnegie Ave Kenilworth NJ-10
 Oberline Inc PO Box 921 Beverly Hills Calif-8
 Onondaga Pottery Co Electronics Div 1858 W Fayette St Syracuse NY-5
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-8-10
 Pacific Industrial Electronics 521 5 St San Francisco 3 Calif-1-3-5
 PCA Electronics Inc 2180 Colorado Ave Santa Monica Calif-4-7-8-10
 Phen-O-Tron Inc 455 Main St New Rochelle NY-5
 Philbrick Researches G A 230 Congress St Boston 10 Mass-7-8
 Photo Chemical Products 479 Walton Ave New York 51 NY-1-5-9
 Photocircuits Corp Sea Cliff Ave Glen Cove NY-1-2-3-4-6-9
 Plastic Capacitors Inc 2511 W Moffat St Chicago 47 Ill-10
 Polyphase Instrument Co 701 Haverford Rd Bryn Mawr Pa-7
 Potter Co 1960 Sheridan Rd N Chicago Ill-4
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-18
 Printed Circuits Inc 36 Tunxis Ave Bloomfield Conn-1-3-5
 Printed Electronics Corp 7 North Ave Natick Mass-5
 Pyle-National Co 1334 N Kostner Ave Chicago 51 Ill-8
 Q L C Corp 409 Main St Greenport LI NY-7
 Radio Corp of America Camden 2 NJ-1-5-6
 Ransom Research Box 382 San Pedro Calif-8
 Ratigan Electronics 3614 Maple Ave Los Angeles 11 Calif
 Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-7
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-10
 Remington Rand Univac 1902 W Minnehaha Ave St Paul W4 Minn-8
 Revere Copper & Brass 230 Park Ave New York 17 NY-9
 Richardson Co 2790 Lake St Melrose Park Ill-1-5-6-9
 Rollins Electronics Corp Schley Ave Lewes Dela-4
 RS Electronics Corp 435 Portage Ave Palo Alto Calif-5-8
 Sanders Associates 95 Canal St Nashua NH-1-3-4-5
 Shallcross Mfg Co Pusey & Jackson Aves Colingdale Pa-7
 Shallite Inc 10 Mill St Paterson NJ-7
 Shamban Eng'g Co 11617 W Jefferson Blvd Culver City Calif-9
 Solar Mfg Corp E 46 St & Seville Ave Los Angeles 58 Calif-5
 Spaulding Fibre Co 310 Wheeler St Tonawanda NY-5
 Sprague Electric Co Marshall St North Adams Mass-5-10
 Stackpole Carbon Co Tannery St St Marys Pa-5
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-8
 Stavid Eng'g Inc U S Hwy #22 Plainfield NJ-5-9
 Stupakoff Div Carborundum Co Latrobe Pa-5
 Sylvania Electric Products 1740 Broadway New York 19 NY-6
 Synthane Corp Montgomery Ave Oaks Pa-9
 Taylor Fibre Co Norristown Pa-9
 Technitrol Eng'g Co 2751 N 4 St Philadelphia 33 Pa-7
 Technograph Printed Electronics 185 Valley St Tarrytown NY-1-3-5
 Techron Corp 254 Friend St Boston 14 Mass-1-5
 Telechrome Inc 88 Merriek Rd Amityville LI NY-7
 Teleradio Eng'g Corp Wilkes-Barre Pa-5-9
 Televiso Corp 1415 Golf Rd Des Plaines Ill-10
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-7
 Tel-Rad Electronics Corp 73-20 Trotting Course Lane Glendale 27 NY-7
 Thermyte Inc 414 Amory St Boston 30 Mass-5
 Tinsol Co 1461 Grand Ave Chicago 22 Ill-1-9
 Transonic Inc 808 16 St Bakersfield Calif-7-10
 Tri-Dex Electronics PO Box 1207 Lindsay Calif-1-5
 Trimount Plastic Co 71 Dudley St Arlington 71 Mass-9
 Underwood Corp Electronic Computer Div 35-10 36 Ave Long Island City 6 NY-7
 Union Electric & Mfg 1057 Summit Ave Jersey City 7 NJ-7-8-10
 U S Eng'g Co Div Litton Industries 521 Commercial St Glendale 3 Calif-1-5

Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-4-7-10
 Vector Electronic Co 3352 San Fernando Rd Los Angeles 65 Calif-8
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-8
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-4-8
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-10
 Westronics Inc 3605 McCart Ft Worth 16 Texas-4

16—COILS

Coil assemblies 1
Coil forms 2
Coil winding machines 3
Coils, antenna 4
Coils, audio crossover 5
Coils, color purity 6
Coils, deflection yokes 7
Coils, flyback 8
Coils, heating 9
Coils, IF 10
Coils, ignition 11
Coils, inductors 12
Coils, magnet 13
Coils, pickup 14
Coils, PM focusing 15
Coils, printed circuit 16
Coils, reactors 17
Coils, relay 18
Coils, R-F receiving 19
Coils, R-F transmitting 20
Coils, solenoids 21
Coils, speaker 22
Coils, toroidal 23
Coils, toroidal variable 24
Coils, transducer 25
Coils, TV centering 26
Coils, TV convergence 27
Coils, TV field 28
Coils, TV focusing 29
Coils, TV linearity 30
Coils, variable 32
Coils, TV width 31
Coils, video peaking 33

Accurate Paper Tube Co 806 N Peoria St Chicago 22 Ill-2
 Ace Coil & Electronics 916 Lincoln Hwy Metuchen NJ-1-4-10-16-19-20-32-33
 Acme Coil & Transformer Corp 1915 N Clybourn Ave Chicago 14 Ill-22
 Acme Wire Co 1250 Dixwell Ave New Haven 14 Conn-11-13-18-21-22
 Acro Transformer & Mfg Corp 26-02 4 St Long Island City 2 NY-17-23
 Aerolite Electronics Corp 507 26 St Union City NJ-1
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-1-2-4-10-11-16-17-19-20-23-33
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-10-23-24
 Ahrendt Instrument Co 4910 Calvert Rd College Park Md-23
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-7
 Airdesign Inc 241 Fairfield Ave Upper Darby Pa-13-21
 Airpac Products Co Middle River Baltimore 20 Md-17-23
 Aladdin Radio Industries 703 Murfreesboro Rd Nashville 2 Tenn-10-12-19-20
 Alden Products Co 123A N Main St Brockton Mass-2-23
 Allied Control Co 2 East End Ave New York 21 NY-13-18-21
 All-Tronics Inc 45 Bond St Westbury NY-4-10-14-16-18-19-21-30-31-32-33
 American Lava Corp Subsidiary of Minn Mining & Mfg Cherokee Blvd & Mfrs Rd Chattanooga 5 Tenn-2
 American Molded Products 2727 W Chicago Ave Chicago 22 Ill-2
 A P W Co 72 W Main St Rockaway NJ-1-13-14-18-21-23
 Arnold Magnetics Co 5962 Smiley Dr Culver City Calif-12-23
 Artisan Electronics Corp 171 Ridgedale Ave Morristown NJ-1-12-13-17-21
 Artted Co 367 Worthington St Springfield 3 Mass-1-4-5-6-10-16-18-19-20-21-23-30-31-32-33
 Associated Production 162 N Clinton St Chicago 6 Ill-3
 Atlantic Transformer Div New London Instrument 30 Hynes Ave Groton Conn-18-21-23
 Atlas Coil Inc 205 Main St Ansonia Conn-7-10-13-14-15-19-27-28-29-30-31-32
 Automatic Processing Corp 1335 N Wells St Chicago 10 Ill-4-16

Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-4-5-9-10-12-13-18-19-20-21-23-24-32
 Basler Electric Co 605 5 St Highland Ill-1-12-21-23-24-32
 Basset Inc Rex 1314 N E 17 Court Fort Lauderdale Fla-1-4
 Batson Electronics Corp Waterloo Neb-1-4-5-6-8-10-15-19-20-25-26-27-28-29-30-31-32-33
 Bellaire Electronics Inc 62 White St Red Bank NJ-1-10-19-20-32-33
 Bergen Labs 11 Godwin Ave Fairlawn NJ-33
 Berkshire Transformer Corp 15 South Ave New Milford Conn-1
 Better Coil & Transformer Corp 202 W Union St Goodland Ind-1-22
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-23
 Bittermann Electric Co Barlow St Canaan Conn-5-13-14-18-21-23
 Blackburn Electronic Corp 55 W 7 St Wyoming Pa-7-15-29
 Boesch Mfg Co 45 River St Danbury Conn-3
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-1-17-23
 Bradford Components 33 Bishop St Bradford Pa-10-19-20-30-33
 Broadway Coil Co 5638 Broadway Chicago 40 Ill-1-2-4-6-10-13-16-19-20-21-23-26-27-28-29-30-31-32-33
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-20
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-1-10-13-19-20
 Burnell & Co 45 Warburton St Yonkers 2 NY-12-23-24
 Burnett Radio Lab William W L 4814 Idaho St San Diego 16 Calif-19-20
 Caledonia Electronics & Transformer Caledonia NY-17
 Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-1-5-7-13-14-17-18-21-23-24-25
 Cambridge Thermionic Co 445 Concord Ave Cambridge 38 Mass-1-2-4-10-12-16-19-20-21-32
 Carad Corp 2850 Bay Rd Redwood City Calif-23
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-17
 Celco (Constantine Eng'g Labs) PO Box 555 Mahwah NJ-1-7-8-9-10-11-13-17-18-19-20-21-23-24-25-26-27-28-29-30-31-32
 Central Coil Co 1720 N Luett St Indianapolis Ind-1-4-10-12-16-17-19-20-31-33
 Central Transformer Co 910 W Jackson Blvd Chicago 7 Ill-12
 Centran Inc PO Box 168 Greensburg Ind-1-4-5-6-8-9-10-12-13-14-15-16-18-19-20-21-23-25-27-29-30-31-33
 CGS Labs 391 Ludlow St Stamford Conn-19-20-24-32
 Chicago Electric Eng'g 3223 Armitage Ave Chicago 47 Ill-17
 Chicago Standard Transformer Corp 3501 Addison St Chicago 18 Ill-17-23
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-26-27-28-29
 Cleveland Container Co 6201 Barberton Ave Cleveland 2 Ohio-2
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-25
 Clippard Instrument Lab 7350 Colerain Ave Cincinnati 24 Ohio-3-4-10-19
 Clum Mfg Co 611 National Ave Milwaukee 4 Wisc-4-21-22
 Coast Coil Co 5333 W Washington Blvd Los Angeles 16 Calif-12-23
 Coil Company of America 207 Washington St Northvale NJ-1-11-13-18-21
 Coil Eng'g & Mfg 200 Main St Roanoke Ind-11-13-17
 Coil Winders Inc New York Ave Westbury NY-1-4-7-9-10-13-14-18-19-20-21-23-24
 Coil Winding Equip Co 19 Maxwell Ave Oyster Bay NY-3
 Coilcraft Inc Cary Ill-1-4-10-16-18-19-20-21-23-30-31-32-33
 Coils-Electronics Co 2943 N 2 St Philadelphia Pa-10-13-18-20-23
 Colvin Labs 364 Glenwood Ave East Orange NJ-25
 Columbia Technical Corp 5 E 57 St New York 22 NY-1
 Communication Accessories Co 110 St & 71 Hwy Hickman Hills Mo-12-23
 Continental Electronics 302 Oakland St Brooklyn 22 NY-1
 Control Components Co 1 Holden St Brookline 46 Mass-25
 Corning Glass Works Corning NY-2
 Cossor (Canada) Ltd 301 Windsor St Halifax N S Canada-7
 Coto-Coil Co 65 Pavilion Ave Providence RI-1-13-18
 Courter Products Div Model Eng'g & Mfg Boyne City Mich-1-21
 Crest Transformer Corp 1834 W North Ave Chicago 22 Ill-17
 Crown Industrial Products 304 Amsterdam St Woodstock Ill-3
 Cycle Transformer Corp 356 Glenwood Ave East Orange NJ-5-7-11-13-18-21-26-27-28-29-30-31
 Dano Electric Co Main St Winsted Conn-11-13-18-21
 Davis Electronics Co 4002 W Burbank Blvd Burbank Calif-4
 Daystrom Instrument Archbald Pa-10-17



Daystrom Pacific Corp 3030 Nebraska Ave
Santa Monica Calif-14-25
DeCoursey Eng'g Lab 11828 W Jefferson Blvd
Culver City Calif-23
Delco Radio Div General Motors 700 E Firmin
St Kokomo Ind-1-4-10-13-18-19-21-22
Delta Radio Co 115 Worth St New York 13
NY-1-10-12-18-19-20
DeLuxe Coils Inc Wabash Ind-1-13-18-21
Deutschmann Corp Tobe 921 Providence Hwy
Norwood Mass-23
Developmental Electronics Corp 4213 S Broad-
way Los Angeles 37 Calif-10-19-33
DeWitt Development Co 3008 W 127 St Blue
Island Ill-1-14-18-21
Diamonite Products Div U S Ceramic Tile Co
217 4 St NE Canton 2 Ohio-2
Dietz Design & Mfg Co Grandview 13 Mo-1-4-
10-19-20-21-23-24
Downing Crystal Co 191 Shaffer Ave Westmin-
ster Md-1
D & R Ltd 402 E Gutierrez St Santa Barbara
Calif-23
DX Radio Products Co 2300 W Armitage Ave
Chicago 47 Ill-2-4-5-6-7-8-10-19-20-21-22-23-
26-27-28-29-30-31-33
Eaton Associates Moodus Conn-16
Eby Co Hugh H 4701 Germantown Ave Phila-
delphia 44 Pa-2
Eisler Eng'g 750 S 13 St Newark 3 NJ-3
Electrend Products Corp State & Water Sts
St Joseph Mich-1-4-19-20
Electric Coil 4911 S Marshfield Ave Chicago 9
Ill-7
Electronic Coil Co 2506 N Ontario St Burbank
Calif-1-4-6-10-11-19-21-30-31-32-33
Electronic Coils Inc PO Box 1665 Springfield
1 Mass-1-12-13-14-18-21-23-33
Electronic Mechanics Inc 101 Clifton Blvd
Clifton NJ-2
Electronic Parts Mfg Co 508 25 St Union City
NJ-1
Electronic Specialty Co 5121 San Fernando Rd
Los Angeles 39 Calif-20
Electronic Transformer Co 70 Washington St
Brooklyn 1 NY-5-17
El-Rad Mfr Co 2800 W Cullom Ave Chicago 18
Ill-4-5-10-19-30-31
Emerson Plastics Corp 564 3 Ave New York 16
NY-2
Emerson Radio & Photograph Corp 14 & Coles
Sts Jersey City 2 NJ-1-10-23
Engelhard Inc Charles 850 Passaic Ave E
Newark NJ-11
EpcO Products 2500 Atlantic Ave Brooklyn 7
NY-5-23
Espey Mfg Co 200 W 57 St New York 19 NY-
1-23
Essex Electronics 550 Springfield Ave Berkeley
Heights NJ-4-10-12-19-21-23-24-27-30-31-33
Five Star Co 10 W Main St Plantsville Conn-
13-18-21
Forbes & Wagner 345 Central Ave Silver
Creek NY-1-2-4-5-8-10-13-19-21-30-31-32
Forest Electric Co 7216 Circle Ave Forest Park
Ill-11-13
Freed Transformer Co 1718 Weirfield St Brook-
lyn 27 NY-12-17-23
Fugle-Miller Labs Central Ave Clark NJ-4-10-
12-19-20-30-31-32-33
Galbraith & Son Electric Corp C C 450 Avenue
of the Americas New York 11 NY-9
Garde Mfg Co 588 Eddy St Providence 3 RI-2
Gates Radio Co 123 Hampshire St Quincy Ill-20
Gavitt Wire & Cable Co Div American Hard
Rubber Brookfield Mass-4-16
General Controls Co 801 Allen Ave Glendale 1
Calif-18-21
General Electric Co-Apparatus Sales Div 1
River Rd Schenectady 5 NY-17
General Instrument Corp 65 Gouverneur St
Newark 4 NJ-1-4-6-7-8-10-16-19-21-23-24-25-
27-28-29-30-31-32-33
General Radio Co 275 Mass Ave Cambridge 39
Mass-12
Geotechnical Corp 3712 Haggard Dr Dallas 9
Tex-1-14
Geotronic Labs 1314 Cedar Hill Ave Dallas 8
Texas-17-23
Gertsch Products 11846 Mississippi Ave Los
Angeles 25 Calif-24
Glaser-Steers Corp 2 Main St Belleville NJ-15
Good-All Electric Mfg Co Good-All Bldg Ogala-
lala Nebr-21
Goslin Electric & Mfg Co 2921 W Olive St
Burbank Calif-17
Grand Ra-Tronics Inc 17360 Hayes St Grand
Haven Mich-5-13
Grand Transformers Inc Beechtree & Marion
Grand Haven Mich-13-21
Grayhill 561 Hillgrove Ave La Grange Ill-1-2
Guardian Electric Mfg Co 1621 W Walnut St
Chicago 12 Ill-13
Hallett Mfg Co 1601 W Florence Ave Ingle-
wood Calif-11
Hamilton-Hall Mfg 227 N Water St Milwaukee
2 Wis-1
Hansen Electronics Co 7117 Santa Monica Blvd
Los Angeles 46 Calif-16
Harder Co Donald C 3710 Midway Dr San
Diego 10 Calif-3
Harnett Electric Corp Lincoln & Hallett Ave
Riverhead LI NY-1-4-8-10-12-19-20-21-23-26-
27-28-29-30-31-32-33
Hart Mfg Co 218 Bartholomew Ave Hartford 1
Conn-18
Heppner Mfg Co Box 1207 Round Lake Ill-26-29

Hermetic Seal Transformer Co 555 N 5 St
Garland Texas-23
Highland Eng'g Co 90 Magnolia St Westbury
LI NY-1-12-21
Hillburn Electronic Products 55 Nassau Ave
Brooklyn 22 NY-1-4-8-10-19-30-31-32-33
Hindle Transformer Co Woods Church Rd
Flemington NJ-9-13-20
Houlihan Co T J 2508 W Lawrence Chicago 25
Ill-1-4-9-10-13-14-19-20-21-30-31-32-33
Hycor Div Int'l Resistance Co Sylmar Calif-
12-23
Hydro Molding Co 100 Sharron Ave Platts-
burgh NY-2
Illumitronic Eng'g Co Sunnyvale Calif-12-20
Insulated Circuits Inc 620 Passaic Ave W Cald-
well NJ-16
Insuline Corp of America 186 Granite St Man-
chester NH-2
Islip Transformer & Metal Co Beech St Islip
LI NY-4-19-20
I-T-E Circuit Breaker Co 19 & Hamilton Sts
Philadelphia 30 Pa-1-2-7-10-15-23-29
Jeffers Electronics Div Speer Carbon Co Dubois
Pa-19
Jobbins Electronic Enterprises 771 Hamilton
Ave Menlo Park Calif-13-15-18-21
Johnson Co E F Waseca Minn-1-20-21-32
Johnson Electronics 521 Elwell St Orlando Fla-
1-4-10-12-16-18-19-20-21-23-30-31-32-33
Kenyon Transformer Co 840 Barry St New
York 59 NY-12-17
Klipsch & Associates PO Box 64 Hope Ark-5
K V Transformer Corp 20 E Franklin St Dan-
bury Conn-13
Laboratory for Electronics 75 Pitts St Boston
14 Mass-10-17
LaCesa Engineering Corp 5614 W Grand Ave
Chicago 39 Ill-3
Lee Electric & Mfg Co 2806 Clearwater St Los
Angeles 39 Calif-23
Leonard Electric Prods 67 34 St Brooklyn 32
NY-1-2-4-5-7-8-9-10-11-12-13-14-17-18-19-20-23-
25-28
Levinthal Electronic Products 2821 Fair Oaks
Ave Redwood City Calif-10-19-32
Light Electric Corp 214 Lackawanna Ave New-
ark 3 NJ-17
Linell Eng'g Corp 447 South Blvd Oak Park
Ill-1-2-4-10-12-19-20-30-31-33
Long Inc Thomas J 215 Stonehinge Lane Carle
Place LI NY-1-2
Magnetic Devices Corp 101 S Van Brunt St
Englewood NJ-3
Magnetic Research Corp 200 Center St El
Segundo Calif-23
Magnetics Inc Box 391 Butler Pa-1
Maryland Lava Co Box 205 Belair Md-1
Master Appliance Mfg Co 4 & Ontario Sts
Racine Wis-1-13
Mattson Electronics Corp 1487 Lincoln Ave
Pasadena Calif-1-4-19-20-23
McGregor Electronic Industries 132 1 Ave
McGregor Iowa-1-2-7-8-10-18-21-22
Measurement Eng'g Ltd John St Arnprior
Ontario Canada-23
Melco Products Inc 3015 Avenue So Minne-
apolis 15 Minn-11-18-21
Merit Coil & Transformer Corp 4427 N Clark
St Chicago 40 Ill-7-8-15-19-29-31-33
Methode Mfg Corp 2021 W Churchill St Chi-
cago 47 Ill-16
Mico Instrument Co 80 Trowbridge St Cam-
bridge 38 Mass-3-12-23
Microtran Co 84-11 Rockaway Beach Blvd
Rockaway Beach 93 NY-1-5-12-14-32
Micro-Wire Stranding Co 252 Chestnut St
Passaic NJ-9
Miller Coil Co J W 5917 S Main St Los An-
geles 3 Calif-1-2-4-10-12-19-20-29-30-31-33
Moran Electronic Components 7660 Woodbury
Dr Silver Springs Md-1-4-10-19-20-21-30-31-33
Mosley Electronics Inc 8622 St Charles Rock
Rd St Louis 14 Mo-1-4
Mount Sopris Instrument Corp 1320 Pearl St
Boulder Colo-2
Muter Co 1255 S Michigan Ave Chicago 5 Ill-
1-10-19
Mystic Transformers 63 Swanton St Win-
chester Mass-1-12-13
National Aircraft Corp 3411 Tulare Ave Bur-
bank Calif-1-7-10-17-19-20-21-23-24
National Coil Co PO Box 1237 Sheridan Wyo-
1-2-4-10-16-19-20-29-30-31-32-33
National Company 61 Sherman St Malden 48
Mass-1-2-10-19-20
National Moldite Co 1410 Chestnut Ave Hill-
side NJ-2
Newcomb Spring of Conn College Hwy South-
ington Conn-13
New London Instrument Co 82 Union St New
London Conn-23
New York Coil Co 40 2 Ave Phoenixville Pa-
1-10-11-18-21-30-31

New York Transformer Co 3 Ave Alpha NJ-
12-17
Nichols Products 325 W Main St Moorestown
NJ-1-2
NJE Corp 345 Carnegie Ave Kenilworth NJ-17
North Hills Electric Co 203-18 35 Ave Bayside
61 NY-1-2-16-32-33
Nothelfer Winding Labs PO Box 455 Trenton
3 NJ-17
Nyt Electronics Inc 2979 N Ontario St Bur-
bank Calif-1-17-23
Ogden Coil & Transformer Co 2124 W Carroll
Ave Chicago 12 Ill-17-21
Ortho Filter Corp 196 Albion Ave Paterson 2
NJ-1-5-10-13-21-23
Osborne Transformer Corp 948 E Lafayette
Ave Detroit 7 Mich-17
Paramount Paper Tube Corp 614 S Lafayette
St Fort Wayne 2 Ind-2
Park Armature Co 883 Boylston St Boston 16
Mass-13-18-21
PCA Electronics Inc 2180 Colorado Ave Santa
Monica Calif-1
Peerless Products Industries 812 N Pulaski Rd
Chicago 51 Ill-2
Penn-East Eng'g Corp Box 240 Kutztown Pa-
1-23
Penn Transformer Corp E Bishop St Ext
Bellefonte Pa-7-8-30
Philmore Mfg Co 113 University Pl New York
3 NY-4
Photocircuits Corp Sea Cliff Ave Glen Cove
NY-16
Pickering & Co 309 Woods Ave Oceanside
NY-21
Pittsburgh Coil Co Box 700 Carnegie Pa-10-
18-19-20-21
Polymer Corp of Penna Reading Pa-2-12
Polyphase Instrument Co 701 Haverford Rd
Bryn Mawr Pa-1-23
Power Transformer Co 532 Mulberry St New-
ark 5 NJ-1-9-11-13-18-21
Precise Measurements Co 942 Kings Hwy
Brooklyn 23 NY-11
Precision Inc 730 Lyndale Ave N Minneapolis
11 Minn-23
Precision Paper Tube Co 2035 W Charleston
St Chicago 47 Ill-2
Premax Products Div Chisholm Ryder Co High-
land & College Aves Niagara Falls NY-1-4
QLC Corp 409 Main St Greenport LI NY-1-3-
10-16-19-30-31-33
Quality Components Inc St Marys Pa-2
Radio Cores Inc 9540 S Tulley Ave Oak Lawn
Ill-1
Radio Corp of America Tube Div 215 S 5 St
Harrison NJ-7-8-27-29-30-31
Radio Industries Inc 5225 N Ravenswood Ave
Chicago 40 Ill-1-4-10-12-13-17-18-19-20-28
Radio & TV Products Grass Lake Mich-1-4-10-
12-19
Rae Motor Corp 2009 Kewaunee St Racine
Wis-1
Railway Communications PO Box 67 Raytown
Mo-23
Randall Inc Douglas 6 Pawcatuk Ave Wester-
ly RI-1-13-18-21
Ratigan Electronics 3614 Maple Ave Los An-
geles 11 Calif-10-19-20
Raypar Inc 7810 W Addison St Chicago 34
Ill-8-20-29-30-31-33
Raytheon Mfg Co Component Products Dept
100 River St Waltham 54 Mass-1-7-23
Raytheon Mfg Co Equip Marketing Div 190
Willow St Waltham 54 Mass-17-23
Redman Electronics Corp PO Box 72 Thomp-
sonville Conn-1-4-10-19-21-23-31
Relay Sales Inc Box 186 Dept 6 West Chicago
Ill-18-21
Reliable Spring & Wire Forms Co 3167 Fulton
Rd Cleveland 9 Ohio-10-19
Resinite Corp 20351 W Charleston St Chicago
Ill-2
Rich Electronics Inc 212 NW 8 Ave Miami 36
Fla-20
Richardson Co 2790 Lake St Melrose Park Ill-2
Rixon Electronics 2414 Reddie Dr Silver Spring
Md-17
Rodale Mfg Co Emaus Pa-9
Rogers Electronic Corp 43 Bleecker St New
York 12 NY-7-8-10-30-31
Rollins Electronics Corp Schley Ave Lewes
Del-1-12-21-23
Rowe Industries 1702 Wayne St Toledo 9
Ohio-14
Sag Harbor Industries May St Sag Harbor
NY-1-4-13-18-21-22
Santa Monica Bay Sheltered Workshop 2521
5 St Santa Monica Calif-1
Scientific Coil Co 5619 Broadway Chicago 40
Ill-1-7-8-10-12-17-19-21-23-24-29-30-31-33
Signal Equipment Co 2706 3 Ave Seattle 1
Wash-23
Signal Transformer Co 2518 Coney Island Ave
Brooklyn 23 NY-11-13-17-18-21
Silicone Insulation Inc 564 3 Ave New York
16 NY-2
Skysweeper Inc 51 Bridge St McHenry Ill-1
SNC Mfg Co PO Box 277 Oshkosh Wis-11-13-
17-21-22-28-32
Spaulding Fibre Co 310 Wheeler St Tona-
wanda NY-2
Spellman TV Co 3029 Webster Ave Bronx 67
NY-20
Standard Coil Prods Co 2085 N Hawthorne
Melrose Park Ill-1-4-7-8-9-10-12-13-14-17-19-
20-23

Standard Electronics Corp 285 Emmet St Newark NJ-20
 Standard Electronics Research Corp 2 East End Ave New York 21 NY-23
 Stanwyck Winding Co 137 Walsh Ave Newburgh NY-1-4-10-16-18-19-21-23-25-26-27-30-31-32-33
 Star-A Electric Mfg 269 Meserole St Brooklyn 6 NY-9
 Sterling Transformer Corp 297 N 7 St Brooklyn 11 NY-1-5-13-17
 Stonite Coil Corp Route 25 Yardville NJ-13-17-18-21
 Stonized Products Co 900 Franklin St NE Washington 17 DC-2
 Stupakoff Div Carborundum Co Latrobe Pa-2
 Summit Coil Co 4 Claremont Rd Bernardsville NJ-1-4-10-19-20-30-31-32-33
 Superex Electronics Corp 4 Radford Pl Yonkers NY-1-2-4-16-19-20-32
 Synthane Corp Montgomery Ave Oaks Pa-2
 Syntronic Instruments Inc 100 Industrial Rd Addison Ill-7-29
 Telechrome Inc 88 Merrick Rd Amityville LI NY-33
 Tele Coil Co 2733 Saunders St Camden 5 NJ-1-2-4-7-8-10-16-19-20-21-32
 Teletron Co 4019 Prospect St Cleveland 3 Ohio-7
 Teleradio Eng'g Corp Wilkes-Barre Pa-2-4-6-7-8-9-10-13-14-15-16-18-19-20-21-22-25-26-27-28-29-30-31-32-33
 Televideo Corp of America 3400 S Main St Los Angeles 7 Calif-7
 Telex Inc 1633 East St St Paul 1 Minn-1-2-22
 Television Labs Inc Mill St Wauconda Ill-1-7-21-23-29
 Tel-Rad Electronics Corp 73-20 Trotting Course Lane Glendale 27 NY-1-2-3-6-10-13-14-16-19-20-21-24-25-26-27-28-29-30-31-32
 Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-12-17-23
 Thermador Electrical Mfg Electronics Div 2600 S Camfield Ave Los Angeles 22 Calif-23
 Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-1-1-7-8-10-11-13-14-19-20-21-23-29-30-31-32-33
 Torwico Electronics 1090 Morris Ave Union NJ-17-23
 Transformer Technicians 2608 N Cicero Ave Chicago 39 Ill-1-12-13
 Transonic Inc 808 16 St Bakersfield Calif-12-23-24
 Triad Transformer Corp 4055 Redwood Ave Venice Calif-7-8-23-30-31-33
 Tri-Dex Electronics PO Box 1207 Lindsay Calif-1-13-21
 United Mineral & Chemical Corp 16 Hudson St New York 13 NY-2
 United Transformer Co 150 Varick St New York NY-12
 Universal Mfg Co 410 Hillside Ave Hillside NJ-23
 Universal Winding Co PO Box 1605 Providence 1 RI-3
 University Loudspeakers Inc 80 S Kensico Ave White Plains NY-5
 Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-1-4-8-10-19-20-21-23-30-31-32-33
 Vari-L Co 432 Fairfield Ave Stamford Conn-12-23-24
 Varo Mfg Co 2201 Walnut St Garland Texas-17
 Vectron Inc 1611 Trabala Rd Waltham 54 Mass-1
 Videocraft Mfg Co 5720 W Armitage Ave Chicago 39 Ill-7
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-1
 Vokar Corp Dexter Mich-1-4-10-19-21
 Volta Mfg Co 2154 N Halsted St Chicago 14 Ill-1-4-10-19-33
 Waco Inc 2032 Broadway Santa Monica Calif-13-14-21
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-23
 Western Coil Products 2989 Middlefield Rd Palo Alto Calif-1-10-14-19-20
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-9-12-13-17
 Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-1-13-21-23
 Wiegand Mfg Co 120 E Hawthorne Ave Valley Stream LI NY-17
 Wilco Corp 546 Drover St Indianapolis 21 Ind-1-4-16-19-20-23
 Wilmar Mfg Co 1110 Truman Rd Kansas City 6 Mo-20
 Wirt Co 5221 Greene St Philadelphia 44 Pa-10-19-30-31-32-33
 Z&W Machine Prod Inc Electronics Div 30240 Lakeland Blvd Wickliffe Ohio-1-13-21

Induction	7
Intercom	8
Marine	9
Microwave	10
Multiplex	11
Portable	12
Railroad	13
Search & rescue	14
Selective paging	15
Single sideband	16
Speech scrambling	17
Telemetering	18
Telephone	19
Teletypewriter	20
Vehicular	21

ACF Electronics 800 N Pitt St Alexandria Va-10
 Acme Electronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-1-5-6-12-13
 Adler Communications 1 Le Fevre Lane New Rochelle NY-10
 Aeronautical Communications Equip 3090 SW 37 Ave Miami 33 Fla-1-5
 Aeronautical Electronics PO Box 6043 Raleigh NC-1-2-4-14-21
 Air Associates Inc 511 Joyce St Orange NJ-1-2-10-11-18
 Aircon Inc 354 Main St Winthrop 52 Mass-18
 Aircraft Armaments Inc Cockeysville Md-18
 Aircraft Radio Corp Boonton NJ-1-8-12
 Airtronix Development Corp 4902 Church Ave Brooklyn 3 NY-8
 Alcor Electronics 180 Lafayette St New York 13 NY-20
 Alden Electronic & Impulse Recording Equipment Co Westboro Mass-4-5-6
 Alden Systems Co Washington St Westboro Mass-6
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-15
 Amerac Inc Wenham Mass-10-18
 American Radio Co 445 Park Ave New York 22 NY-12
 Applied Electronics Co 1246 Folsom St San Francisco 3 Calif-9
 ARF Products 7627 Lake St River Forest Ill-21
 Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-18
 Audio Forming Co 805 Middle Neck Rd Great Neck NY-14
 Automatic Electric Co 1033 W Van Buren St Chicago 7 Ill-19
 Bailey Meter Co 1050 Ivanhoe Rd Cleveland Ohio-18
 Barber Labs Alfred 32-44 Francis Lewis Blvd Flushing 58 NY-5-16
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-5-6-12-16-17-20-21
 Bassett Inc Rex 1314 NE 17 Court Fort Lauderdale Fla-2-4-5-9-12-19
 Bell Aircraft Corp PO Box 1 Buffalo 5 NY-10-18
 Bell & Gossett 8200 N Austin Ave Morton Grove Ill-1-5-12-13-15-20-21
 Bell Sound Systems 555 Marion Rd Columbus Ohio-8
 Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-9-11-14-18
 Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-1-4-12-13-21
 Bennett Labs 2700 Bay Rd Redwood City Calif-8
 B-I-F Industries 345 Harris Ave Providence 1 RI-18
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-8
 Bliss Electronic Corp Box 366 Sussex NJ-8-15-19
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-9
 Boehme Inc H O 915 Broadway New York 10 NY-20
 Bogen Co David 29 9 Ave New York 14 NY-4-5-8-15-19
 Bristol Co PO Box 1790 Waterbury Conn-18
 Budd-Stanley Co 43-01 22 St Long Island City 1 NY-10
 Budelman Radio Corp 375 Fairfeld Ave Stamford Conn-10-11-18
 Camera Equipment Co 315 W 43 St New York 36 NY-10
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-1-16
 Central Sales & Mfg Corp 2 Richwood Pl Den-ville NJ-10
 CGS Labs 391 Ludlow St Stamford Conn-20
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-18
 Clegg Labs Inc Ridgedale Ave Morristown NJ-4-16
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-1-10-11-16
 Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-5-8-15-19
 Communications Co Coral Gables Fla-2-4-5-21
 Continental Electronics 302 Oakland St Brooklyn 22 NY-8-20
 Continental Electronics Mfg Co 4212 S Buckner Blvd Dallas 27 Texas-5-10-16
 Control Corp 718 Central Ave S Minneapolis 14 Minn-18

Corbin Corp 5419 56 Pl Riverdale Md-1-3-5-6-9-10-11-16-18-19-20
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-1-2-8-15
 Craig Systems Inc 90 Holten St Danvers Mass-2-12
 Crosby Labs Box 233 Robbins Lane Hicksville NY-2-5-9-13-16
 Crosley Div Avco Mfg Corp 2630 Glendale-Milford Rd Evendale Cincinnati 15 Ohio-18
 Crown Eng'g Sta B Box 6127 Albuquerque N Mex-8
 Cubic Corp 2841 Canon St San Diego 6 Calif-10
 Davis Electronics Co 4002 W Burbank Blvd Burbank Calif-4-9-13-21
 Daystrom Instrument Archbald Pa-1-2-3-10-11-12-18
 Dayton Aviation & Radio Vandalia Ohio-1
 Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-1
 Denson Electronics Corp Box 122 Rockville Conn-11
 D & R Ltd 402 E Gutierrez St Santa Barbara Calif-16-20
 DuKane Corp St Charles Ill-4-8-12-15-19
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-4-5-13-14-15-21
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-1-8-10-12-21
 Eldico of NY Inc 72 E 2 St Mineola LI NY-16
 Electrical Communications 765 Clementina St San Francisco 3 Calif-4-15-21
 Electrical Tower Service 325 S Washington St Peoria Ill-10
 Electro-Craft Co 5 Milton Ave Dorchester Mass-1
 Electro-Mechanical Research 64 Main St Ridgefield Conn-18
 Electronic Communication Equip Co 1249 Loyola Ave Chicago 26 Ill-8-13-15
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-1-2-5-8-10-11-14-15-16-17-20
 Electronic Eng'g Co 362 W Bowery St Akron 7 Ohio-5-8-15
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-1
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-1
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-1-18
 Electro Sound Corp 115 Halleck St Boston 20 Mass-13-15-19
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-10-12-18-21
 Equipment Crafters Inc River Edge NJ-1-4
 Ereo Radio Labs 637 Stewart Ave Garden City NY-1-2-3-5-9-12-15-16-19-20-21
 Executone Inc 415 Lexington Ave New York 17 NY-5-8-9-13-15
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-10-11
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-2-5-8-9-10-13-15-18-19-20-21
 Feiler Eng'g & Mfg 8026 N Monticello Ave Skokie Ill-3-8-12-15
 Fischer & Porter 19 Warrinster Rd Hatboro Pa-18
 Flush Wall Radio Co 1012 Cleveland St Clearwater Fla-8
 Ford Instrument Co Div Sperry Rand Corp 31-10 Thomson Ave Long Island City 1 NY-18
 Galbraith & Son Electric Corp C C 450 Avenue of the Americas New York 11 NY-8-9
 Gates Radio Co 123 Hampshire St Quincy Ill-1-5-19
 General Devices Inc Princeton NJ-18
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-3-12-13-18
 General Electric Co Electronics Div Communication Equip Syracuse NY-3-4-5-10-11-12-15-21
 General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-8
 Giannini & Co G M 918 E Green St Pasadena Calif-18
 G & M Equipment Co 7315 Varna Ave N Hollywood Calif-5-8-9
 Godfrey Mfg Co 2642 S Michigan Ave Chicago 16 Ill-8
 Gray Radio Co 501 Forest Hill Blvd W Palm Beach Fla-9
 Graybar Electric Co 420 Lexington Ave New York 17 NY-3-4-5-6-7-8-10-11-12-13-15-17-19
 Guild Radio & TV Co 460 N Eucalyptus Ave Inglewood Calif-8
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-18
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-1-8-12-18-21
 Hallcrafters Co 4401 W 5 Ave Chicago 24 Ill-1-16
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-1-18
 Harman-Kardon Inc 520 Main St Westbury NY-8
 Harmon Electronics Co 11431 Truman Rd Independence Mo-3-7-13-18-21
 Harvey-Wells Electronics Southbridge Mass-5-12-21
 Hays Corp 742 E 8 St Michigan City Ind-18
 Hi-Gain Television Products Co 249 N 48 St Lincoln Nebr-15
 Hill Electronic Eng'g & Mfg New Kingstown Pa-18
 Hogan Labs 155 Perry St New York 14 NY-6-11

17—COMMUNICATION SYSTEMS

Aircraft	1
Airport traffic control	2
Carrier current	3
Civil defense	4
Commercial	5
Facsimile	6

Hudson Associates 50 Drumm St San Francisco 11 Calif-4-20
 Hycon Eastern Inc 75 Cambridge Pkwy Cambridge 42 Mass-10
 Impact Register Co PO Box 445 Champaign Ill-4
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-15
 International Business Machines 590 Madison Ave New York 22 NY-12-15
 International Projector Corp 55 La France Ave Bloomfield NJ-5-15
 International Research Assoc 2221 Warwick Ave Santa Monica Calif-1
 Invar Instrument Co 1749 N Eastern Ave Los Angeles 32 Calif-18
 Jarvis Electronics Corp 6058 W Fullerton Ave Chicago 39 Ill-1
 Johnson Co E F Waseca Minn-4-16
 Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-1-2-9-13-21
 Kahn Research Labs 22 Pine St Freeport NY-1-2-5-11-16-19-20
 Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-10
 Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-1
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-1-5
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-18
 Levinthal Electronic Products 2821 Fair Oaks Ave Redwood City Calif-10-15
 Link Radio Corp 110 Jericho Turnpike New Hyde Park LI NY-4-21
 Loge Sound Engrs J M 2171 W Washington Blvd Los Angeles 48 Calif-8-12
 Loral Electronics Corp 794 E 140 St New York 54 NY-1
 Lynch Carrier Systems Inc 695 Bryant St San Francisco 7 Calif-3-11-13-16-17-18-19-20
 Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-9
 Manson Labs 207 Greenwich Ave Stamford Conn-16
 Mathis Tower & Equip 2200 E Washington St E Peoria Ill-2
 Mayer Eng'g Frank 6442 Santa Monica Blvd Los Angeles 38 Calif-5-8-19
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-1-2-5-7-12
 Melpar Inc Sub Westinghouse Air Brake Falls Church Va-6-10-11-12-13-16-18
 Meridian Metalcraft Inc 8739 S Millergrove Dr Whittier Calif-10
 Mitchell Industries PO Box 17 Mineral Wells Texas-1
 Mobil Electronics Mfg 1111 State Rd 67 E Anderson Ind-15
 Mohawk Electronic Research Labs Box 126-A RD #4 Amsterdam NY-1-16-17
 Molded Insulation Co 335 E Price St Philadelphia 44 Pa-1
 Morrow Radio Mfg Co 2794 Market St Salem Ore-5
 Motigraph Inc 4441 W Lake St Chicago 24 Ill-5
 Motorola Communications & Electronics 4501 W Augusta Blvd Chicago 51 Ill-4-5-9-10-11-12-13-14-15-18-21
 Multi-Products Co 21470 Coolidge Hwy Oak Park 37 Mich-4-21
 Munston Mfg & Service Inc Beech St Islip NY-9
 National Aeronautical Corp 180 S Main St Amblar Pa-1-21
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-1-14
 National Company 61 Sherman St Malden 48 Mass-4-5-11-16-20
 National Electronics Labs 1713 Kalorama Rd NW Washington 9 DC-5-21
 Nestor Eng'g Co PO Box 416 Waldwick NJ-3-13-20
 Northern Radio Co 143 W 22 St New York 11 NY-6-11-20
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-3-5-9
 Oberline Inc PO Box 921 Beverly Hills Calif-3-8
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-16-18
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-1-2-5-14-16-18-21
 Partrick & Wilkins 51 N 7 St Philadelphia 6 Pa-6-15-19
 Pearce-Simpson Inc 3023 Coral Way Miami 34 Fla-21
 Peer Inc 1200 Milton St Benton Harbor Mich-2
 Peirce Wire Recorder Corp 5900 N Northwest Hwy Chicago 31 Ill-1
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-10-11-16
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-10
 Pratt Albert 114 W Lake View Ave Milwaukee 17 Wis-12-13-21
 Precision Associates 354 Cumberland St Brooklyn 38 NY-5-8
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-20
 Pye Corp of America 270 Park Ave New York 17 NY-2-9-10-11-12-21
 Radiation Inc PO Drawer 37 Melbourne Fla-18
 Radio Corp of America Camden 2 NJ-1-2-6-10-21
 Radio Eng'g Labs 36-40 37 St Long Island City 1 NY-10-11
 Radio Frequency Labs Powerville Rd Boonton NJ-3-5-10-11-18-20



Radiomarine Corp of America 75 Varick St New York 13 NY-9-16
 Radio Merchandise Sales 2016 Bronxdale Ave New York 62 NY-8
 Radio Receptor Co 251 W 19 St New York 11 NY-1-2-8-10-12-14-21
 Radio Specialty Mfg Co 2023 SE 6 Ave Portland 14 Ore-4-5-12-21
 Railway Communications PO Box 67 Raytown Mo-3-13-16-17-19-20
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-9-10-11-12-19
 Rea Co J B 1723 Cloverfield Blvd Santa Monica Calif-18
 Reeves-Hoffman Corp Carlisle Pa-9
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-18
 Rixon Electronics 2414 Reedie Dr Silver Spring Md-11
 Roberts Mfg Co 412 E Chambers St Cleburne Texas-18
 Rosen Eng'g Products Raymond 32 & Walnut Sts Philadelphia 19 Pa-18
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-9
 Schafer Custom Eng'g 235 S 3 St Burbank Calif-18
 Scott Radio Labs Liberty & Penna St Plymouth Ind-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21
 Seeburg Corp 1500 N Dayton St Chicago 22 Ill-18
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-1-2
 Shrader Sound Inc 2803 M St NW Washington 7 DC-15
 Simmonds Aerocessories 105 White Plains Rd Tarrytown NY-14
 Simpson Mfg Co Mark 32-28 49 St Long Island City 3 NY-3-5-8-12-15
 Smith-Meeker Eng'g Co 157 Chambers St New York 7 NY-9-13-15
 SoundScriber Corp 146 Munson St New Haven 9 Conn-12-19
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-5-15-19
 Standard Telephone & Cables Ltd New Southgate London N 11 England-1
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-10-18
 Stelma Inc 190 Henry St Stamford Conn-3-13-20
 Sutton Electronic Co 424 W Short St Lexington Ky-8
 Technical Material Corp PO Box 142 Mamaroneck NY-1-2-4-5-9-12-16-20-21
 Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-10
 Telechrome Inc 88 Merrick Rd Amityville LI NY-18
 Telecom Inc 1019 Admiral Blvd Kansas City 6 Mo-8-15-18-19
 Tele-Communications Inc 41 E 42 St New York NY-2-3-5-10-21
 Telephonics Corp Park Ave Huntington LI NY-1-8-9-12-13-14-16-19
 Tele-Systems Inc 6442 Santa Monica Blvd Los Angeles 38 Calif-8-19
 Televiso Corp 1415 Golf Rd Des Plaines Ill-1-12-16-18
 Transelectric Mfg Co Hopewell Rd Oxford Pa-8-19
 Trans-Tel Corp 736 N Highland Ave Los Angeles 38 Calif-8-15
 Trutone Electronics Inc 812 N Highland Ave Hollywood 88 Calif-8
 Union Switch & Signal Div Westinghouse Air Brake Pittsburgh 18 Pa-3-7-12-13-19-21
 United Electro-dynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-18
 University Loudspeakers Inc 80 S Kensico Ave White Plains NY-12
 Varo Mfg Co 2201 Walnut St Garland Texas-2-12-21
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-1-2-5-8-9-12-14-15-18-19-21
 Visual Electronics Corp 500 5 Ave New York 36 NY-10
 Vocaline Co of America Old Saybrook Conn-3-8-12
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-5-8-15-19
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-15
 Western Electric Co 195 Broadway New York NY-19
 Western Sound & Electric Labs 805 S 5 St Milwaukee 4 Wis-5-8-15
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Av Baltimore 3 Md-3-5-10-11-13-16-18-19
 Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-5-8-12-19
 Wheelock Signals Inc Long Branch NJ-15
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-2
 Wilcox Electric Co 1400 Chestnut St Kansas City 27 Mo-1-2-5
 Wilmar Mfg Co 1110 Truman Rd Kansas City Mo-8
 Worner Electronic Devices Rankin Ill-8

18—COMPUTERS

Analog	1
Analog-to-digital converter	2
Computer auxiliary equipment ..	3
Computer components	4
Computer heads	5
Data recorders, analog	6
Data recorders, digital	7
Decoders	8
Differential analyzers	9
Digital	10
Digital-to-analog converters	11
Discs, computer	34
Electronic	12
Encoders	13
Function generators	14
Input equipment	15
Magnetic tapehandlers	16
Memory, crystal	17
Memory, drums	18
Memory, multi-core magnetic ..	19
Memory, tape loop	20
Output equipment	21
Plotters, X-Y	22
Proportioning units	23
Punched card equipment	24
Resolvers	25
Samplers	26
Storage, acoustic	27
Storage, dark trace tube	28
Storage, electrostatic	29
Storage, ferroelectric	30
Storage, magnetic	31
Storage, mechanical	32
Storage, photographic	33

ACF Electronics 800 N Pitt St Alexandria Va-2-3-4-11
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-4
 Afton Industries 8300 Flex O Lite Dr St Louis 23 Mo-16
 Air Associates Inc 511 Joyce St Orange NJ-3-12
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-1-2-9-10-12-29
 Aircraft Marine Products 2100 Paxton St Harrisburg Pa-4
 Aladdin Radio Industries 703 Murfreesboro Rd Nashville 2 Tenn-4
 Alden Products Co 123A N Main St Brockton Mass-4-19
 Allegany Instrument Co Cumberland Md-1-6-10-12
 American Bosch Arma Corp Arma Div Roosevelt Field Garden City NY-1-2-3-4-10-11-12-25
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-4-25
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-14-22
 Ampex Corp 934 Charter St Redwood City Calif-3-6-7-15-20-21-31
 Analogue Controls Inc 39 Roselle St Mineola LI NY-1-4-12
 Anatron Eng'g Corp 165 E California St Pasadena Calif-2
 Andersen Labs Inc 39 Talcott Rd W Hartford Conn-4-27
 ANelex Corp 150 Causeway St Boston 14 Mass-3
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-12
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-27
 Arga Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-25
 Assembly Products Wilson Mills Rd Chesterland 21 Ohio-2
 Atomic Instrument Co 84 Massachusetts Ave Cambridge 39 Mass-9
 Audio Devices Inc 444 Madison Ave New York NY-20-31
 Avion Div ACF Industries 299 State Highway #17 Paramus NJ-1-2-3-4-6-7-10-11-12-18-31
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-2-13
 Beck's Inc 298 E 5 St St Paul 1 Minn-4
 Bendix Aviation Corp Bendix Computer Div 5630 Arbor Vitae St Los Angeles 45 Calif-3-4-5-9-10-12-18
 Benson Lehner Corp 11930 W Olympic Blvd Los Angeles 64 Calif-22
 Bergen Labs 11 Godwin Ave Fairlawn NJ-1-2-12-18-20
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-1-2-12-15-21
 B-I-F Industries 345 Harris Ave Providence 1 RI-23
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-3-4-32

B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-4-10-12
 Bristol Co PO Box 1790 Waterbury Conn-22
 Burroughs Corp Electronic Instruments Div 1209 Vine St Philadelphia 7 Pa-3-4-10-12-31
 Cambridge Thermionic Corp 445 Concord Ave Cambridge 38 Mass-4
 Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wis-4
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-1-22
 CGS Labs 391 Ludlow St Stamford Conn-12
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-18
 Circuit Instruments Inc 1927 1 Ave S St Petersburg Fla-4
 Clary Corp 408 Junipero St San Gabriel Calif-2-3-7-15-21
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-4
 Cole Instrument Co 1000 N Olive St Anaheim Calif-2
 Computer Control Co 92 Broad St Babson Park 57 Mass-4-10-12-15-21-27
 Computer Instruments Corp 1964 Utica Ave Brooklyn 34 NY-4-25
 Computer-Measurements Corp 5528 Vineland Ave N Hollywood Calif-4
 Computing Devices of Can Ltd PO Box 508 Ottawa Ontario Canada-32
 Consolidated Avionics Corp Ludlow & Canal St Stamford Conn-2-4-7-11-13-15
 Consolidated Electrodynamics Corp 300 N Sierra Madre Villa Pasadena Calif-2-3-6-7-10-11-12
 Control Specialists Inc 115 E Arbor Vitae Ave Inglewood 1 Calif-1-4-12
 Corbin Corp 5419 56 Pl Riverdale Md-1-2-10-11-12
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-4-5
 Cubic Corp 2841 Canon St San Diego 6 Calif-1
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-1-3-4
 Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-14-22
 Datamatic Corp 151 Needham St Newton Highlands 61 Mass-10
 Daven Co Route 10 Livingston NJ-3-4
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-3-6-7-16-31
 Daystrom Instrument Archbald Pa-1-2-3-4-6-7-8-9-10-11-12-13-15-18-19-21-27-30-31-32
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-4
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-9
 Developmental Electronics Corp 4213 S Broadway Los Angeles 37 Calif-4
 Devol Research Co Brookside Dr Greenwich Conn-2-3-4-11-15-18-19-21-31
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-1-4-9-12-14
 Douglas Aircraft Co 3000 Ocean Park Blvd Santa Monica Calif-3
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-13
 Eclipse Pioneer Div Bendix Aviation Corp Teterboro NJ-1-2-4-11-25
 Eleo Corp "M" St below Erie Ave Philadelphia 24 Pa-4
 Eldema Corp 9844 Remer St El Monte Calif-4
 ElectroData Corp 460 Sierra Madre Villa Pasadena Calif-3-4-10-12-15-16-18-20-21-31
 Electro Instruments Inc 3794 Rosecrans St San Diego 10 Calif-2-3-4-6
 Electro-Measurements Inc 4312 SE Stark St Portland 15 Ore-4
 Electro Miniatures Corp 1060 Elm Ave Ridgefield NJ-4
 Electronic Associates Long Branch NJ-1-3-4-15-21-22
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-2-4-7-8-10-11-13
 Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 57 Calif-1-2-3-4-11-15
 Electronics Corp of America 77 Broadway Cambridge 42 Mass-1-2-3-10-12-13-31
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-9
 El-Tronics Inc Penn Ave Mayfield 1 Pa-10
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-3-4-12-15
 Epsco Inc 588 Commonwealth Ave Boston Mass-2-3-4-6-7-11-12-13-14-15-18-19-20-21-27-30-31
 Epsylon Sound Accessories The Barons St Margarets Twickenham Middlesex England-4
 Erie Resistor Corp 644 W 12 St Erie 6 Pa-4-19
 ESC Corp 534 Bergen Blvd Palisades Park NJ-4
 Essex Electronics 550 Springfield Ave Berkeley Heights NJ-4
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-2-6-7-10
 Feedback Controls Inc 1332 N Henry St Alexandria Va-1-4-9-12-15
 Ferranti Electric Inc 30 Rockefeller Plaza New York 20 NY-3-4-10-12-15-18
 Ferroxcube Corp of America 4290 E Bridge St Saugerties NY-4
 Fischer & Porter 19 Warminster Rd Hathoro Pa-2-6-7
 Florman & Babb 68 W 45 St New York 36 NY-33
 Ford Instrument Co Div Sperry Rand Corp 31-10 Thomson Ave Long Island City 1 NY-1-2-4-6-7-10-11-25
 Franklin Electronics Inc E 4 St Bridgeport Pa-2-3-4-7-11-15-21
 Garde Mfg Co 588 Eddy St Providence 3 RI-4
 General Ceramic Corp Keasbey NJ-4-19
 General Control Co 1224 Soldiers Field Rd Boston 34 Mass-4
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-9
 General Kinetics Inc 555 23 St S Arlington 2 Va-3
 General Mills Inc Mechanical Div 2600 Far Hills Bldg Dayton 9 Ohio-1-10-12-17-18-19-20-27-30-31-32
 General Precision Equip Corp 82 Gold St New York 38 NY-4-22
 General Precision Lab 63 Bedford Rd Pleasantville NY-2
 General Riveters Inc Electro Mechanical Div 785 Hertel Ave Buffalo 7 NY-4
 Genisco Inc 2233 Federal Ave Los Angeles 64 Calif-2
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Tex-2-6-11
 Giannini & Co G M 918 E Green St Pasadena Calif-2-3-7-11-13-15
 Gilbert & Barker Cold Spring Ave W Springfield Mass-26
 Gilmore Industries 5713 Euclid Ave Cleveland 3 Ohio-6
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-1-4-12
 Gorrell & Gorrell 336 Old Hook Rd Westwood NJ-18
 Gurley W & L E 514 Fulton St Troy NY-4
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-6-25
 Haller Raymond & Brown 124 N Atherton St State College Pa-4-10
 Hall-Scott Electronics Div 2950 N Ontario St Burbank Calif-1-14
 Hamilton Watch Co Columbia Ave Lancaster Pa-1
 Hamner Electronics Co Box 531 Princeton NJ-9
 Harnett Electric Corp Lincoln & Hallett Ave Riverhead LI NY-4
 Haydu Bros of NJ Sub Burroughs Corp PO Box 1226 Plainfield NJ-4
 Hays Corp 742 E 8 St Michigan City Ind-1-2-7-10
 Heath Co 305 Territorial Rd Benton Harbor Mich-1-3-4-12-14
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-3-6-33
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-14
 Hillyer Instrument Co 54 Lafayette St New York 13 NY-20
 Industrial Electronic Engrs 3973 Lankershim Blvd North Hollywood Calif-2-10-11-12-13-15-21
 Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-6-9
 Industrial Test Equip Co 55 E 11 St New York 3 NY-1-3-4
 Insulated Circuits Inc 620 Passaic Ave W Caldwell NJ-4
 International Business Machines 590 Madison Ave New York 22 NY-10-12-15-21-30-31
 International Telemeter Corp 2000 Stoner Ave Los Angeles 25 Calif-4-19-31-33
 Jacobs Instrument Co 4718 Bethesda Ave Bethesda 14 Md-3-4-10-12-15-21-31-32
 Jeffrey Mfg Co N 4 St & 1 Ave Columbus 16 Ohio-23
 Johnson Co E F Waseca Minn-26
 Kay Electric Co 14 Maple Ave Pinebrook NJ-9
 Kearfott Co 1378 Main Ave Clifton NJ-2-3-4-9-25
 Kollsman Instrument Corp 80-08 45 Ave Elmhurst NY-25
 Krohn-Hite Instrument Co 580 Mass Ave Cambridge 39 Mass-14
 Laboratory for Electronics 75 Pitts St Boston 14 Mass-7
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-6
 Librascope Inc Burbank Div 133 E Santa Anita Ave Burbank Calif-3-4-5-10-21
 Librascope Inc 868 Western Ave Glendale 1 Calif-1-2-4-5-10-12-18-22-24-31
 Link Aviation Inc Binghamton NY-1-3-4-12
 Logistics Research 141 S Pacific Ave Redondo Beach Calif-3-4-5-10-12-15-16-21-22-30-31-32
 Macleod & Hanopol 10 Roland St Charlestown 29 Mass-2
 Magnasync Mfg Co 5546 Satsuma Ave N Hollywood Calif-2-5
 Magnetic Recording Industries 11 E 16 St New York 3 NY-20
 Magnetic Research Corp 200 Center St El Segundo Calif-3
 Mallory & Co Inc P R 42 So Gray St Indianapolis 6 Ind-4
 Marchant Calculators Inc 1475 Powell St Oakland Calif-3-4-10-12-15-18-19-20-21
 Melpar Inc Sub Westinghouse Air Brake Falls Church Va-1-4-6-10-11-16-18-31
 Metrotype Corp 104 E St Michigan City Ind-2-10
 Mid-Century Instrumental Corp 611 Broadway New York 12 NY-1-14-25
 Midwestern Instruments PO Box 7186 Tulsa Okla-4
 Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-20
 Monroe Calculating Machine Co Electronics Div Morris Plains NJ-10-12-18-38
 Mountain Systems Inc 864 Franklin Ave Thornwood NY-10-18-31
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-4-12
 National Cash Register Co Main and K Sts Dayton 9 Ohio-3-10-12-15-31
 National Company 61 Sherman St Malden 43 Mass-4
 Nevada Air Products Co North Valley Rd Reno Nev-12
 Newton Co 55 Elm St Manchester Conn-2-3-11-15-21-31
 North American Instruments 2420 N Lake Ave Altadena Calif-6-7
 Norton Assoc PO Box 96 Garden City NY-4-5
 Oerlikon Tool & Arms Corp of America PO Box 3049 Asheville N Car-2-7-10-12
 Oster Mfg Co John 1 Main St Racine Wis-25
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-1-3-6-12-15-21
 Pacific Semiconductors Inc 10451 W Jefferson Blvd Culver City Calif-4
 Philbrick Researches G A 230 Congress St Boston 10 Mass-1-3-4-12-14-25
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-3-4-10-12-13
 Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-22
 PIC Design Corp 160 Atlantic Ave Lynbrook LI NY-3-4
 PM Industries 280 Fairfield Ave Stamford Conn-18
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-18
 Polyphase Instrument Co 701 Haverford Rd Bryn Mawr Pa-4
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-2-3-4-5-7-10-12-15-16-19-20-21-30-31-32
 Precision Inc 730 Lyndale Ave N Minneapolis 11 Minn-16
 Precision Photomechanical Corp 170 S Van Brunt St Englewood NJ-34
 Radiation Counter Labs 5122 W Grove St Skokie Ill-1-2-4-7-9-10-19-31
 Radiation Inc PO Drawer 37 Melbourne Fla-2-4-6-7-11-13-21
 Radio Corp of America Camden 2 NJ-2-11
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-19
 Radio Receiver Co 251 W 19 St New York 11 NY-3-8-13
 Rea Co J B 1723 Cloverfield Blvd Santa Monica Calif-2-4-5-10-11-12
 Redman Electronics Corp PO Box 72 Thompsonville Conn-4
 Remington Rand Univac 1902 W Minnehaha Ave St Paul W4 Minn-2-4-10-11-18-19-22
 Remington Rand Univac Div 315 4 Ave New York 10 NY-2-7-10-11-12-15-18-19-21
 Research Instrument Co 233 Broadway New York 7 NY-4
 Rese Eng'g Inc 731 Arch St Philadelphia Pa-19-31
 Rollins Electronics Corp Schley Ave Lewes Dela-4
 Rosen Eng'g Products Raymond 32 & Walnut Sts Philadelphia 19 Pa-26
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-20
 Rutherford Electronics Co 3707 S Robertson Blvd Culver City Calif-4
 Sanborn Co 195 Massachusetts Ave Cambridge 39 Mass-6
 Self-Winding Clock Co Kybernetes Div 205 Willoughby Ave Brooklyn 5 NY-4
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-3-9
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-1-4-22
 Servomechanisms Inc Post & Stewart Aves Westbury NY-1-4-12-15-21
 Skiatron Electronics & TV 3 E 10 St New York 3 NY-2-6-7-21-28
 Soroban Eng'g Inc Box 338 Melbourne Fla-3-4-10-12-15-21-27-29-31-32
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-1-2-3-4-12
 Sprague Electric Co Marshall St North Adams Mass-4
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-1-4
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-1-2-6-7-12-22-24
 Sterling Precision Corp Instrument Div 34-17 Lawrence St Flushing LI NY-1-3-4
 Stewart-Warner Electronics 1300 N Kostner Ave Chicago 51 Ill-10-12
 Stoelting Co C H 424 N Homan Ave Chicago 24 Ill-18
 Streeter-Amet Co 4101 N Ravenswood Ave Chicago 13 Ill-2-6-7
 Sylvania Electric Products 1740 Broadway New York 19 NY-4
 Taller & Cooper 75 Front St Brooklyn 1 NY-2-11
 Tarc Electronics Inc 48 Urban Ave Westbury LI NY-9-13-14
 Taylor Instrument Companies 95 Ames St Rochester 1 NY-7

Tech Labs Inc Bergen & Edsall Blvd Palisades Park NJ-4
 Technitrol Eng'g Co 2751 N 4 St Philadelphia 33 Pa-10-12-27
 Technology Instrument Corp 531 Main St Acton Mass-4
 Telecomputing Corp 12838 Saticoy St N Hollywood Calif-2-3-7-15-21-22-23-24-25-31
 Telemeter Magnetics 11801 Mississippi Ave Los Angeles 25 Calif-3-4-5-10-15-19-31
 Televiso Corp 1415 Golf Rd Des Plaines Ill-8-13
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-9-13
 Ten Bosch Inc M 80 Wheeler Ave Pleasantville NY-4
 Topflight Corp 160 E 9 Ave York Pa-8
 Transdyne Corp 7337 Grand Ave Maspeth NY-19
 Underwood Corp Electronic Computer Div 35-10 36 Ave LI City 6 NY-4-5-10-12-18-19
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-1-3-4-10-11-31-33
 Valor Electronic Components Co 5808 Marilyn Ave Culver City Calif-4-19
 Vector Electronic Co 3352 San Fernando Rd Los Angeles 65 Calif-4
 Victor Adding Machine Co 3900 N Rockwell St Chicago 18 Ill-4-6-7-11
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-4-10-12
 Walsco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-8
 Wang Labs Inc 37 Hurlay St Cambridge 41 Mass-2-3-4-7-8-9-10-11-12-13-15-19-21-23-31
 Weber Aircraft Corp Electronics Div 2820 Ontario St Burbank Calif-1-3-4-10-12
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-1-10-12
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-13



Aircraft & Electronic Specialties 22 S Green St Brownsburg Ind-34-36
 Aircraft Marine Products 2100 Paxton St Harrisburg Pa-3-5-6-21-23-24-25-28-29-30-35-38-39-40-41
 Aircraft Radio Corp Boonton NJ-4-6
 Airtron Inc 1101 W Elizabeth Ave Linden NJ-22-34
 A-K Mfg Co 115 S Northwest Hwy Barrington Ill-30
 Alden Products Co 123A N Main St Brockton Mass-2-3-4-5-6-10-12-13-14-18-19-21-26-27-29-30-31-33-40
 Allied Engraving & Stamping 17 Elm St Buffalo 3 NY-35-40-41
 American Electronics Co 1203 Bryant Ave New York 59 NY-3-7-35
 American Lava Corp Sub Minn Mining & Mfg Cherokee Blvd & Mfrs Rd Chattanooga 5 Tenn-7-12-14-35-36-39-40-41
 American Printed Circuits Co Box 282 Metuchen NJ-40-41
 American Radio Hdw Co 152 MacQuesten Pkwy S Mt Vernon NY-6-14-24-30-31-35-40-41
 Amphenol Electronics Corp 1830 S 54 Ave Chicago 50 Ill-1-3-4-6-7-8-9-10-11-12-13-15-16-17-18-19-20-21-22-23-24-25-26-27-28-31-32
 Amplitel Inc 342 W 40 St New York 18 NY-23
 Anchor Products Co 2712 W Montrose Ave Chicago 18 Ill-2-17
 Anchor Specialty Mfg 300 N Industrial Ave Teterboro NJ-40-41
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-1 thru 41
 Armel Electronics Inc 840 Fifth Ave Brooklyn 32 NY-9-18-21-35-39-41
 Artisan Electronics Corp 171 Ridgedale Ave Morristown NJ-30
 Associated Eng'g Corp 65 Kent St Brookline 46 Mass-30
 Atlantic Research Corp 901 N Columbus St Alexandria Va-28
 Audio Accessories Amityville NY-14-23-30-31-33
 Audio Development Co 2833 13 Ave S Minneapolis 7 Minn-31-33
 Audio Equip Co 15749 Wyoming Ave Detroit 38 Mich-40
 Automatic Metal Products Corp 315 Berry St Brooklyn 11 NY-6-7-9-18-20-22-25
 Automatic & Precision Mfg 252 Hawthorne Ave Yonkers NY-19-31
 Baer Co N S 1 Montgomery St Hillside 5 NJ-40
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-3-7-34
 Barwood Mfg Co L J Williams & Norman Sts Everett 49 Mass-32
 Beck's Inc 298 E 5 St St Paul 1 Minn-40-41
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-34
 Birnbach Radio Co 145 Hudson St New York 13 NY-2-3-6-9-12-13-14-15-17-18-23-24-26-29-30-31-33-35-38-39-40-41
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-7-9-22-23
 Bogart Mfg Corp 315 Siegel St Brooklyn 6 NY-22
 Breeze Corporations 700 Liberty Ave Union NJ-5
 Brillhart Plastics Corp PO Box 31 Mineola NY-36
 Buchanan Electrical Products Dept TT Hillside NJ-8-12-20-23-29-35-38-40-41
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-14-17-31-33
 Buggie Inc H H PO Box 817 Toledo 1 Ohio-12-20-21-28-30
 Burndy Eng'g Co Norwalk Conn-6-7-10-13-18-19-20-23-25-29-31-34-35-38-41
 Cable Electric Products 234 Daboll St Providence 7 R-1-19
 Cadre Industries Corp Box 150 Endicott NY-40-41
 Cambridge Thermionic Co 445 Concord Ave Cambridge 38 Mass-18-21-23-25-31-33-35-38-39-40-41
 Cannon Electric Co 3209 Humboldt St Los Angeles 31 Calif-4-5-12-17-18-19-20-21-25-28-31
 Capitol Stage Lighting Co 527 W 45 St New York NY-6-31
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-4-11-19
 CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-30
 Central Porcelain Co Columbiana Ohio-23
 Cermasal Inc Box 25 New Lebanon Center NY-11
 Cinch Mfg Co Jones Div 1026 S Homan Ave Chicago 24 Ill-3-5-6-7-9-17-18-21-24-25-31-35-39-40-41
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-40
 Circon Component Co Santa Barbara Municipal Airport Goleta Calif-2-3-4-5-6-9-13-16-17-18-19-20-21-24-25-29-35
 Citation Products Co 233 E 146 St New York 51 NY-9-14-30-31-33-35-40-41

Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-41
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-3-4-6-7-9-11-12-13-14-15-16-17-18-19-20-22-25-27-28-29-30-31-33-34-35
 Collectron Corp 216 E 45 St New York 17 NY-40
 Commercial Radio Sound Corp 652 1 Ave New York 16 NY-7
 Connector Corp 6025 N Keystone Ave Chicago 30 Ill-3-4-5-12-13-18-19-21-24-26-31-39
 Connector Corp of America 3223 Burton Ave Burbank Calif-7
 Constantin & Co L L Route 46 Lodi NJ-36
 Continental Connector Corp 30-30 Northern Blvd Long Island City 1 NY-1-6-9-11-12-15-18-19-20-21-23-25-28-29-36-38-39-40-41
 Continental-Diamond Fibre Div Budd Co Newark Dela-41
 Continental Electronics 302 Oakland St Brooklyn 22 NY-14-40
 Controls Corp of America—Soreng Div 9555 Soreng Ave Schiller Park Ill-38-40
 Co-Operative Industries 100 Oakdale Rd Chester NJ-34
 Crouse-Hinds Wolfe & 7 North Sts Syracuse 1 NY-6-28-34
 Dage Electric Co 67 N 2 St Beech Grove Ind-6-7-9-11-18-20-21-22-25-28
 Danbury Knudsen Inc Box 170 Danbury Conn-7
 Dante Elec Mfg Bantam Conn-5-6-19-23-29-35-38
 Davies Molding Co Harry 1428 N Wells St Chicago 10 Ill-40-41
 Daystrom Instrument Archbald Pa-34
 Decatur Electronic Industries 203 Orinoco Dr Brightwaters LI NY-40
 Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-7-21
 DeJur-Amsco Corp 45-01 Northern Blvd Long Island City 1 NY-1-9-11-12-18-19-20-21-23-25-35-39
 Deutsch Co 7000 Avalon Blvd Los Angeles 3 Calif-1-11-18
 Dialight Corp 60 Stewart Ave Brooklyn 37 NY-17
 Diamond Microwave Corp 7 North Ave Wakefield Mass-7-22
 Diamonite Products Div U S Ceramic Tile Co 217 4 St NE Canton 2 Ohio-35-36-39
 Dielectric Products Eng'g Raymond Me-3-7-20-22-23-28
 Donner Scientific Co 2329 7 St Berkeley 10 Calif-30
 Downing Crystal Co 191 Shaffer Ave Westminster Md-40
 Eagle Electronics Corp 177 Hart St New Britain Conn-7-16-18-19-21-29
 Eby Co Hugh H 4701 Germantown Ave Philadelphia 44 Pa-6-14-15-21-31-41
 Eitel-McCullough Inc 793 San Mateo Ave San Bruno Calif-26
 Elco Corp "M" St below Erie Ave Philadelphia 24 Pa-6-8-13-16-18-19-21-23-25
 Electrical Industries 44 Summer Ave Newark 4 NJ-11-36
 Electrocraft Div Hamilton-Pax Inc 3739 N Kedzie Ave Chicago 18 Ill-17-18-31
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-3
 Eltran Corp 109 W Station St St Anne Ill-34
 Emerson Plastics Corp 564 3 Ave New York 16 NY-40-41
 Empire Electronics Co 166 River St Paterson 1 NJ-30-34-40-41
 Entron Inc 4902 Lawrence St Bladensburg Md-7
 Eugene Eng'g Co 1217 Hyde Park Av Hyde Park 36 Mass-34-40-41
 Federal Screw Products 3917 N Kedzie Ave Chicago 18 Ill-35-41
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-31-40-41
 Frenchtown Porcelain Co Muirhead Ave Trenton NJ-36
 Fusite Corp 6000 Fernview Ave Cincinnati 13 Ohio-36-39
 Garde Mfg Co 588 Eddy St Providence 3 RI-3-4-9-10-11-12-18-21-22-23-24-25-35-36-38-39-40-41
 Gates Radio Co 123 Hampshire St Quincy Ill-33
 Gee-Lar Mfg Co 418 S Wyman St Rockford Ill-3-7
 Gem Electric Mfg Co 233 37 St Brooklyn 32 NY-6-29-31
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-3-5-14-18-23-24-33-39
 General Electric Co—Apparatus Sales Div 1 River Rd Schenectady 5 NY-40
 General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-11-36
 General Precision Lab 63 Bedford Rd Pleasantville NY-15-17-27
 General Products Corp Webb St Union Springs NY-40-41
 General Radio Co 275 Mass Ave Cambridge 39 Mass-4-6-7-22-30-31
 General RF Fittings Inc 702 Beacon St Boston 15 Mass-6-7-9-11-12-18-20-22-25-28
 Gorn Electric Co Stamford Conn-11-12-18-19-20-21-28
 Graphik Circuits Div Cinch Mfg Corp 221 S Arroyo Pkwy Pasadena 1 Calif-21-40-41
 Graybar Electric Co 420 Lexington Ave New York 17 NY-3-4-5-6-7-10-12-14-17-19-20-22-23-28-29-30-38
 Grayhill 561 Hillgrove Ave La Grange Ill-27
 Gremar Mfg Co Wright St Lynn Mass-3-4-6-7-9-11-12-13-15-18-22-25-28

19—CONNECTORS & TERMINALS

Connectors, AN	1
Connectors, anode	2
Connectors, antenna	3
Connectors, audio	4
Connectors, battery	5
Connectors, cable	6
Connectors, coaxial cable	7
Connectors, covers	8
Connectors, feed through	9
Connectors, ground sheath	10
Connectors, ground sheath	11
Connectors, high-voltage	12
Connectors, interlock	13
Connectors, jack & telephone... ..	14
Connectors, MIL	15
Connectors, junction	16
Connectors, microphone	17
Connectors, miniature	18
Connectors, power	19
Connectors, pressurized	20
Connectors, printed circuit	21
Connectors, R-F	22
Connectors, solderless	23
Connectors, strip	24
Connectors, subminiature	25
Connectors, tube	26
Connectors, twin line	27
Connectors, waterproof	28
Connectors, wire	29
Patch cords	30
Plugs	31

TERMINALS & JACK PANELS

Headers	32
Jack panels	33
Junction boxes	34
Terminals	35
Terminals, hermetically sealed ..	36
Terminals, snap	37
Terminals, solderless	38
Terminals, standoff	39
Terminal boards	40
Terminal strips	41

Advanced Vacuum Products 18 Liberty St Stamford Conn-35
 Aerolite Electronics Corp 507 26 St Union City NJ-2-3-5-6-7-9-13-30-31-33-35-37-38-39-40-41
 Aeronautical Electric Co 5656 Northwest Hwy Chicago 30 Ill-40-41
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-30-33
 Abalon Precision Mfg Corp 540 Casanova St New York 59 NY-34

Culton Mfg Corp 212 Durham Ave Metuchen NJ-7-18-25

Hallmore Electronics Co Div Siegler Corp Brookhurst & Santa Ana Freeway Anaheim Calif-34

Hallett Mfg Co 1601 W Florence Ave Inglewood Calif-6-7-9-28-29-31

Hallcrafters Co 4401 W 5 Ave Chicago 24 Ill-31

Hart Mfg Co 218 Bartholomew Ave Hartford Conn-40-41

Holder Manufacturing Corp 238 Lewis St Paterson NJ-36-38

Hermaseal Co 1101 Lafayette St Elkhart Ind-11-36

Hermetic Seal Products 29 S 6 St Newark NJ-1-11-32

Hermitite Corp 702 Beacon St Boston 15 Mass-7-11-35-36-39

Hobson Bros 4940 W Lawrence Ave Chicago 30 Ill-2-12-26-40

Hollingsworth Co PO Box 430 Phoenixville Pa-38

Hubbell Inc Harvey Bostwick & State Sts Bridgeport 2 Conn-13-21-24-31

Ideal Industries 5127 Park Ave Sycamore Ill-16-23-29

Ilseco Corp 5742 Mariemont Ave Cincinnati 27 Ohio-5-23-24-26

Industrial Devices Inc 982 River Rd Edgewater NJ-32

Industrial Hdw Mfg Co 109 Prince St New York 12 NY-2-3-5-12-13-10-41

Industrial Products Box 148 Danbury Conn-3-7-11-12-18-21-22-31

Insulated Circuits Inc 620 Passaic Ave W Caldwell NJ-21

Insuline Corp of America 186 Granite St Manchester NH-14-17-35-40-11

International Resistance Co 401 N Broad St Philadelphia 8 Pa-36

Isolantite Mfg Corp Stirling NJ-35-36

Janes Corp 3111 Winona Ave Burbank Calif-34-35

Jan Hdw Mfg Co 75 N 11 St Brooklyn 11 NY-12

Javex PO Box 646 Redlands Calif-3-6-9-18-23-27-29-31

JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-3-27-41

Johnson Co E F Waseca Minn-2-3-12-14-18-23-29-31

Johnson & Hoffman Mfg Co 31 E 2 St Mineola NY-35

Joy Mfg Co 1201 Macklind Ave St Louis 10 Mo-1-6-9-11-16-19-28

J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-3-29

Kearfott Co 1378 Main Ave Clifton NJ-34

Keystone Electronics 423 Broome St New York 13 NY-5-23-29-31-33-35-38-39-40-41

Keystone Watch Case Riverside Metal Co Div H K Porter Co Riverside NJ-11

Kings Electronics Co Microwave Div Tuekaho NY-3-4-6-7-9-12-13-14-15-16-17-18-20-22-25-27-28-30-31-33-34-35-36-40-41

Kliegl Bros 321 W 50 St New York 19 NY-6-9-30

Kolton Electric Mfg Co 123 NJ Railroad Ave Newark 5 NJ-6-23-29-34-35-38

Krueger & Hudepohl 5 E 3 St Cincinnati 2 Ohio-3-6-9-11-19-23-35-36-38

Kulka Electric Mfg Co 633 S Fulton Ave Mt Vernon NY-31-35-37-38-39-40-41

La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-34-35-40-41

Lapp Insulator Co Radio Specialties Div Gilbert St Le Roy NY-12

Lereo Electronics 501 S Varney St Burbank Calif-9-12-18-21-23-25-29-31-35-37-38-39-40-41

Lincoln Electric Co 22801 St Clair Ave Cleveland 17 Ohio-6

Long Inc Thomas J 215 Stonehinge Lane Carle Place LI NY-33-40-41

Lundie Associates 694 Main St Waltham 54 Mass-35-36

Malco Tool & Mfg Co 4025 W Lake St Chicago 24 Ill-21-23-35-38

Malkin-Illion Co 400 Coit St Irvington 11 NJ-34

Mallory & Co Inc P R 42 S Gray St Indianapolis 6 Ind-21-31

Mandex Mfg Co 2608 W 16 St Chicago 8 Ill-2-3-4-5-6-9-13-35-40-41

Marathon Electric Mfg Corp Randolph & Cherry Sts Wausau Wisc-40-41

Marshall Associates Inc John Box 2463 Bridgeport 8 Conn-37

Maryland Lava Co Box 205 Belair Md-41

Method Mfg Corp 2021 W Churchhill St Chicago 47 Ill-6-21

Microdot Inc 1826 Fremont Ave S Pasadena Calif-7-18-21-22-25

Midwest Electric Products Mankato Minn-34

Midwestern Instruments PO Box 7186 Tulsa Okla-28

Millivac Instrument Corp 444 2 St Schenectady NY-31

Molding Corp of America 40 Church St Pawtucket RI-36-40-41

Morse Co Frank W 1300 Soldiers Field Rd Boston 35 Mass-29-35

Mosley Electronics Inc 8622 St Charles Rock Rd St Louis 14 Mo-3-7-9

Mutual Electronics Industries 85 Beechwood Ave New Rochelle NY-3-4-6-7-12-13-15-17-18-20-22-25-28

National Fabricated Products Div Hoffman Electronics 2650 W Belden Ave Chicago 47 Ill-3-31-35-40-41

National Hollywood 1475 El Mirador Dr Pasadena 3 Calif-40-41

Nems-Clarke Inc 919 Jesup-Blair Dr Silver Spring Md-31

New Products Co 1071 E 54 St Indianapolis Ind-6-9-12-13-24-40-41

Nichols Products 325 W Main St Moorestown NJ-3-7-22

Olympic Plastics Co 5741 W Jefferson Blvd Los Angeles 16 Calif-40-41

Page-Fogwell 1311 Riverside Dr Los Angeles 31 Calif-6

Paraplegics Mfg Co 10068 Franklin Ave Franklin Park Ill-40

Permonite Mfg Co 4554 N Broadway Chicago 40 Ill-2-5-6-13-18-29-31-35-37-38-39-40-41

Phostron Co 151 Pasadena Ave S Pasadena Calif-14-31-33

Philadelphia Scientific Glass Co 1866 Eckard Ave Abington Pa-32

PIC Design Corp 160 Atlantic Ave Lynbrook LI NY-40-41

Pix Mfg Co 75 Hudson St Newark 3 NJ-6-18-21-23-25-29-32-35-38

Pomona Electronics 1126 W 5 Ave Pomona Calif-30-33

Potter Co 1950 Sheridan Rd N Chicago Ill-11

Precision Metal Products 41 Elm St Stoneham 80 Mass-18-21-25-29-35-39-40-41

Prodelin Inc 307 Berken Ave Kearny NJ-7

Pye Corp of America 270 Park Ave New York 17 NY-3-6-7-9-22

Pyle-National Co 1334 N Kostner Ave Chicago 51 Ill-6-7-11-13-19-20-28-31

Radio Eng'g Products 1080 University St Montreal 3 Can-35

Rau Fastener Co 142 5 Ave New York NY-2-3-23

Raytheon Mfg Co Ceramic Sales Div Foundry Ave Waltham Mass-7-9-11-12-18-19-20-22-36-39

Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-41

Research Instrument Co 233 Broadway New York 7 NY-32

Richardson Co 5860 Spring Oak Dr Hollywood 28 Calif-21

Richardson Co 2790 Lake St Melrose Park Ill-21-40-41

Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-33-34

Roberts Mfg Co 412 E Chambers St Cleburne Texas-34

Rodale Mfg Co Emaus Pa-6-13-29

Rollins Electronics Corp Schley Ave Lewes Dela-40

Royal Electric Co 95 Grand Ave Pawtucket RI-6-13-31

Ruckelshaus Labs John G Madison NJ-38

Runzel Cord & Wire Co 4723 W Montrose Ave Chicago 41 Ill-30

Saratoga Plastics Inc PO Box 490 Bellows Falls Vt-5

Scintilla Div Bendix Aviation Corp Sidney NY-1-6-7-9-12-15-18-19-20-23-25-28

Senlectro Corp 186 Union Ave New Rochelle NY-9-12-13-14-18-25-35-38-39

Seals Ltd 1010 Mission St S Pasadena Calif-11-18-25-32

Sears Co M J Roxbury NY-17

Seneca Falls Machine Co Falls St Seneca Falls NY-34

Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-18-24-27

Shamban Eng'g Co 11617 W Jefferson Blvd Culver City Calif-39

Shaw Insulator Co 160 Coit St Irvington 11 NJ-40

Sherman Mfg Co H B 22 Barney St Battle Creek Mich-23-29-35-38

Silicone Seals Inc 3125 Milwaukee Ave Chicago 18 Ill-35-36-39

Smith Inc Herman H 2326 Nostrand Ave Brooklyn 10 NY-2-3-5-7-9-13-14-17-30-31-40-41

Standard Electric Time Co 89 Logan St Springfield 2 Mass-6-30-31-33

Standard Electronics Corp 285 Emmet St Newark NJ-33-34

Standard Record Mfg Co 1475 El Mirador Dr Pasadena 3 Calif-40-41

States Co 19 New Park Ave Hartford 6 Conn-35-40-41

Steel Co Herman D 225 Lafayette Bldg Philadelphia 6 Pa-31

Stone City Machine & Tool Co PO Box 351 Bedford Ind-34-35-37-38

Stratoseal Mfg Co 3039 W Fullerton Ave Chicago 47 Ill-9-11-36-38-39-40-41

Stupakoff Div Carborundum Co Latrobe Pa-35-36-39

Suffolk Products Corp Woolbine & Scudder Aves Northport LI NY-31-35-40-41

Super Ear Products 675 Merrick Rd Lynbrook NY-31

Switchcraft Inc 1328 N Halsted St Chicago 22 Ill-4-14-17-31-33

Sylvania Electric Products 1740 Broadway New York 19 NY-2-3-4-13-24-36-38-40-41

Tarc Electronics 48 Urban Ave Westbury LI NY-30

Taylor Fibre Co Norristown Pa-40

Technical Material Corp PO Box 142 Mamaroneck NY-3-7-28

Tele Coil Co 2733 Saunders St Camden 5 NJ-40

Teleradio Eng'g Corp Wilkes-Barre Pa-13-14-16-19-21-22-24-40-41

Telex Inc 1633 Eustis St St Paul 1 Minn-25-30

Thermyte Inc 414 Amory St Boston 30 Mass

Thompson-Bremer & Co 520 N Dearborn St Chicago 10 Ill-35

Torwico Electronics 1090 Morris Ave Union NJ-35-36-41

Transradio Ltd 138A Cromwell Rd London SW 7 England-7-22

Triad Transformer Corp 4055 Redwood Ave Venice Calif-36

Trico Fuse Mfg Co 2948 N 5 St Milwaukee 12 Wisc-5-23

Tri-Dex Electronics PO Box 1207 Lindsay Calif-40-41

Trim Inc 400 W Lake St Libertyville Ill-31-33

Trimmont Plastic Co 71 Dudley St Arlington 71 Mass-40

Tru-Art Industries Inc 8106 W Belmont Ave Chicago 34 Ill-40

Trutone Electronics Inc 812 N Highland Ave Hollywood 38 Calif-40-41

Ucinite Co Div United-Carr Fastener 459 Watertown St Newtonville Mass-2-3-7-17-21-40

Union Electronic & Machine Corp Moulton & Monroe St Georgetown Mass-3-1-6-7-11-12-14-15-18-21-22-25-28

United Mineral & Chemical Corp 16 Hudson St New York 13 NY-36

United Technical Labs Box 425 Morristown NJ-18

Universal Scientific Co 1102 Shelby St Vincennes Ind-23

Univox Corp 102 Warren St New York 7 NY-1-7

U S Components 454 E 148 St New York 55 NY-7-9-11-12-18-19-20-21-22-23-25-28-29

U S Eng'g Co Div Litton Industries 521 Commercial St Glendale 3 Calif-9-35-40-41

U S Gasket Co Fluorocarbon Div 600 N 10 St Camden 1 NJ-4-6-9-11-12-16-18-22-24-25-26-35-36-39-40-41

Vaco Products Co 317 E Ontario St Chicago 11 Ill-37-38

Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-40

Vector Electronic Co 3352 San Fernando Rd Los Angeles 65 Calif-21-24-26-31-35-10-41

Vidaire Electronics Mfg 576-80 W Merrick Rd Lynbrook NY-30

Viking Electric Div Viking Industries 21343 Rosco Blvd Canoga Park Calif-18

Virginia Electronics Co River Rd at B&O RR Washington 16 DC-33-34-40

Visual Electronics Corp 500 5 Ave New York 36 NY-30

Vitroscale Corp 709 E 106 St PO Box 6048 Indianapolis 20 Ind-36-40-41

Walseco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-31

Western Int'l Co 45 Vesey St New York 7 NY-3-4-6-7-8-9-12-13-14-15-16-17-18-19-20-22-23-25-27-28-29

Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-40

Wheaton Co T C Wheaton Ave Millville NJ-36-39

Whitaker Cable Corp 1301 Burlington St N Kansas City 16 Mo-34-38

Whitney Blake Co New Haven 14 Conn-1-4-6-8-11-17-18-20-23-25-28-31

Whitso Inc 9330 Byron St Schiller Park Ill-39

Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-33

Wilmar Mfg Co 1110 Truman Rd Kansas City 6 Mo-41

Winchester Electronics Willard Rd Norwalk Conn-1-7-9-11-12-18-19-20-21-25-28-35-39

W M C Inc 1753 N Damen Ave Chicago 47 Ill-31

Workman TV Inc 309 Queen Anne Rd Teaneck NJ-31

Zell Products Corp 280 Main St Norwalk Conn-11-32-36

MANUFACTURERS' LOCALIZER INDEX

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Lists Manufacturers alphabetically by name and address. Includes manufacturers' local representatives, branch and regional offices, executives and regional personnel, brand names, products, services, telephone numbers, and territory covered.

TELE-TECH &
ELECTRONIC INDUSTRIES

20—CONTROL EQUIPMENT, COMMUNICATIONS

Controls, audio recording	1
Controls, broadcast input	2
Controls, frequency	3
Controls, illumination	4
Controls, motor & generator	5
Controls, photoelectric	6
Controls, photographic	7
Controls, power level	8
Controls, remote radio	9
Controls, remote TV	10
Controls, tower lighting	11
Controls, ventilation	12
Tuners, automatic	13

Aerovox Corp Pacific Coast Div 2724 Peck Rd
Monrovia Calif-5
Andrew Corp 363 E 75 St Chicago 19 Ill-6
Babcock Radio Eng'g 7942 Woodley Ave Van
Nuys Calif-9
Barker & Williamson 237 Fairfield Ave Upper
Darby Pa-3
Bendix Aviation Corp Pacific Div 11600 Sher-
man Way N Hollywood Calif-9
Bendix Aviation Corp Red Bank Div Eaton-
town NJ-5
Bill Jack Scientific Instrument Co 143 S Cedros
Ave Solana Beach Calif-7
Bliss Electronic Corp Box 366 Sussex NJ-9
Bogue Electric Mfg Co 52 Iowa Ave Paterson
3 NJ-3-5-11
Bristol Co PO Box 1790 Waterbury Conn-12
Brush Electronics Co Div Cleveite Corp 3405
Perkins Ave Cleveland 14 Ohio-1
Camera Equipment Co 315 W 43 St New York
36 NY-7
Centralab Div Globe-Union 900 E Keefe Ave
Milwaukee 1 Wis-1-2
Cline Electric Mfg Co 3405 W 47 St Chicago
Ill-3
Cole Instrument Co 1000 N Olive St Anaheim
Calif-9-10
Collins Radio Co 855 35 St NE Cedar Rapids
Iowa-2
Continental Electronics Mfg Co 4212 S Buckner
Blvd Dallas 27 Texas-9
Control Corp 718 Central Ave S Minneapolis 14
Minn-3
Counter & Control Corp 5225 W Electric Ave
Milwaukee Wis-5
Crouse-Hinds Wolf & 7th North Sts Syracuse
1 NY-11
Dalmo Victor Co Div Textron American Inc
1414 El Camino Real San Carlos Calif-13
Daven Co Route 10 Livingston NJ-1-2-3-8
Delco Radio Div General Motors 700 E Firmin
St Kokomo Ind-13
De Mornay-Bonardi Inc 780 S Arroyo Pkwy
Pasadena 1 Calif-3
Dietz & Co Henry G 12-16 Astoria Blvd Long
Island City 2 NY-12
DuMont Labs Inc Allen B 760 Bloomfield Ave
Clifton NJ-2-10
Ebert Electronics 212-26 Jamaica Ave Queens
Village 28 NY-11
Electrical Service 1271 Mission St San Fran-
cisco 3 Calif-6
Electronic Protection Inc 452 W Chicago Ave
Chicago 10 Ill-3-9-12
Electronic Specialty Co 5121 San Fernando Rd
Los Angeles 39 Calif-5
Electron-Radar Products 4806 W Chicago Ave
Chicago 51 Ill-6
Electro-Physics Co 287-P Broadway New York
7 NY-6-7
Federal Telephone & Radio Co Div IT&T 100
Kingsland Rd Clifton NJ-3-9
General Electric Co Apparatus Sales Div 1
River Rd Schenectady 5 NY-4-5
General Instrument Corp 65 Gouverneur St
Newark 4 NJ-13
General Precision Lab 63 Bedford Rd Pleasant-
ville NY-10
Graybar Electric Co 420 Lexington Ave New
York 17 NY-1-2-3-4-5-6-11-12
Grigsby-Allison Co 407 N Salem Ave Arling-
ton Heights Ill-13
Gyro Electronics Co 325 Canal St New York 18
NY-9
Hallamore Electronics Co Div Siegler Corp
Brockhurst & Santa Ana Freeway Anaheim
Calif-10
Harmon Electronics Co 11431 Truman Rd In-
dependence Mo-9
Hill Electronic Eng'g & Mfg New Kingstown
Pa-3
Houston Fearless Div Color Corp of America
11801 W Olympic Blvd Los Angeles 64 Calif-
10
Hughey & Phillips 3300 N San Fernando Blvd
Burbank Calif-6-11
Industrial Electronic Controls 2271 E 14 St
Brooklyn 29 NY-4-6
Interelectronics Corp 2432 Grand Concourse
New York 58 NY-1
Kearfott Co 1378 Main Ave Clifton NJ-5

Kilgen Aircraft Div Kilgen Organ Co 4632 W
Florissant Ave St Louis 15 Mo-2-10-11
Lane Electronics Co 7254 Atoll Ave N Holly-
wood Calif-9
LogElectronics Inc 500 E Monroe Ave Alexandria
Va-7
Manson Labs 207 Greenwich Ave Stamford
Conn-3
Merkle-Korff Gear Co 213 N Morgan St Chi-
cago 7 Ill-9-10-11
Micro Balancing Inc 191 Herricks Rd Garden
City Park NY-11
Motoresearch Co 1600 Junction Ave Racine
Wis-5
Mutual Electronic Industries 85 Beechwood
Ave New Rochelle NY-1-2-9
Nader Mfg Co 2661 S Myrtle Ave Monrovia
Calif-5
Nester Eng'g Co PO Box 416 Waldwick NJ-4-5
Oberline Inc PO Box 921 Beverly Hills Calif-
1-2
Ohmite Mfg Co 3601 Howard St Skokie Ill-5
Par Products Corp 926 N Citrus Lane Holly-
wood 38 Calif-7
Perma-Power Co 4727 N Damen Ave Chicago
25 Ill-9
Philamon Labs Inc 90 Hopper St Westbury
LI NY-3
Philco Corp 4700 Wissahickon Ave Philadel-
phia 44 Pa-10
Phoenix Precision Instrument 3808 N 5 St
Philadelphia 40 Pa-6
Photobell Co 43 Vesey St New York 7 NY-6
Photo Crystals Inc 15 S 1 St Geneva Ill-6
Photographic Products Inc 1000 N Olive St
Anaheim Calif-7
Powers Regulator Co 3400 Oakton St Skokie
Ill-7-12
Precision Crystal Lab 2223 Warwick Ave Santa
Monica Calif-3
Pye Corp of America 270 Park Ave New York
17 NY-9-10
Raypar Inc 7810 W Addison St Chicago 34 Ill-5
Rich Electronics Inc 212 NW 8 Ave Miami 36
Fla-10-13
Rust Industrial Co 41 E 42 St New York 17
NY-9-10
Schafer Custom Eng'g 235 S 3 St Burbank
Calif-2
Simpson Electric Co 5208 W Kinzie St Chicago
44 Ill-8
Standard Coil Prods Co 2085 N Hawthorne
Melrose Park Ill-6
Standard Electronics Corp 285 Emmet St New-
ark NJ-9-10
Stavid Eng'g Co US Hwy #22 Plainfield NJ-
3-13
Taller & Cooper 75 Front St Brooklyn 1 NY-12
Ta-Mar Inc 11571 W Jefferson Blvd Culver
City Calif-9
Tarc Electronics 48 Urban Ave Westbury LI
NY-2
Taylor Instrument Companies 95 Ames St
Rochester 1 NY-8-12
Telechrome Inc 88 Merrick Rd Amityville LI
NY-10
Telecom Inc 1019 Admiral Blvd Kansas City
Mo-4
Telectron Co 4019 Prospect St Cleveland 3 Ohio
9
Telephonics Corp Park Ave Huntington LI
NY-4
Teleradio Eng'g Corp Wilkes-Barre Pa-3
Televisto Corp 1415 Golf Rd Des Plaines Ill-9
Varo Mfg Co 2201 Walnut St Garland Texas-3
Vinson Co E R 1401 Middle Harbor Rd Oak-
land 20 Calif-6
Visual Electronics Corp 500 5 Ave New York
36 NY-10
Vitro Corp of America 261 Madison Ave New
York 16 NY-7
Walkirt Co 145 W Hazel St Inglewood 3 Calif-
3
Wickes Eng'g & Construction 12 St & Ferry
Ave Camden 4 NJ-11
Wincharger Corp E 7 & Division Sts Sioux
City 2 Iowa-5
Worner Electronic Devices Rankin Ill-11

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Alarms, industrial	1
Alarms, intrusion	2
Controls, chemical	3
Controls, combustion	4
Controls, computer	5
Controls, conductivity	6
Controls, density	7
Controls, dimension	8
Controls, door	9
Controls, dynamometer	10
Controls, electronic	11
Controls, elevator	12
Controls, film thickness	13
Controls, fire	14
Controls, fluid flow	15

Controls, food processing	16
Controls, gas	17
Controls, grading & sorting	18
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Controls, heat treating	20
Controls, humidity	21
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Counting Devices	58
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Regulators, automatic current	60
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Abrams Instrument Corp Lansing Mich-66
Accurate Eng'g Co 2005 Blue Island Ave Chi-
cago 8 Ill-29
Ace Instrument Co 172 Pacific St Brooklyn 2
NY-4-17-34-36-39-52
Acme Telectronic Div Near Service 1200 W 3
St Cleveland 13 Ohio-67
Acoustica Associates 2 Shore Rd Glenwood
Landing LI NY-51
Advance Electronics Co 451 Highland Ave
Passaic NJ-63
Advance Instrument Corp 1709 F St Belmar
NJ-39
Advanced Electronics Inc 94 Silas Deane Hwy
Rocky Hill 9 Conn-1-11-33
Aero Instrument Co 11423 Vanowen St N
Hollywood Calif-66
Aerovox Corp Pacific Coast Div 2724 Peck Rd
Monrovia Calif-29-60-61
Ahrendt Instrument Co 4910 Calvert Rd Col-
lege Park Md-14-39
Air Associates Inc 511 Joyce St Orange NJ-
15-16-24-39
Aircraft & Electronic Specialties 22 S Green
St Brownsburg Ind-23
Air-Marine Motors 369 Bayview Ave Amity-
ville LI NY-34
Alden Electronic & Impulse Recording Equip-
ment Co Westboro Mass-64-68
Allegany Instrument Co Cumberland Md-19
Allied Engraving & Stamping 17 Elm St Buf-
falo 3 NY-37
Allis-Chalmers Mfg Co Milwaukee 1 Wis-29-34
American Bosch Arma Corp Arma Div Roose-
velt Field Garden City NY-5-19-39-59
American Electronics Inc 655 W Washington
Blvd Los Angeles 15 Calif-61
American Elite Inc 7 Park Ave New York 16
NY-58

- American Instrument Co 8030 Georgia Ave Silver Spring Md-21-28-46
 Amglo Corp 2037 W Division St Chicago 22 Ill-64-66-68
 Amperite Co 561 Broadway New York 12 NY-60
 Analogue Controls Inc 39 Roselle St Mineola LI NY-39
 Anatron Eng'g Corp 165 E California St Pasadena Calif-45-58
 Anderson Inc W E 2921 Brooklyn Ave Kansas City 9 Mo-6-15
 Antlab 4950 N High St Columbus 14 Ohio-34
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-13-15-19-24-57-58
 Applegate & Co C J 1816 Grove St Boulder Colo-61
 Applied Research Labs 3717 Park Pl Glendale 8 Calif-3-13-23-26-33-44
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-51
 ARF Products Inc 7627 Lake St River Forest Ill-9-11
 Arga Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-11
 Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-1-36-43-45
 Askania Regulator Co 240 E Ontario St Chicago 11 Ill-4-11-15-17-24-32-34-35-36-37-38-39-42-47-52-68
 Assembly Products Wilson Mills Rd Chesterland 21 Ohio-1-3-4-20-27-31-32-42-43-46-60-61
 Associated Valve & Eng'g 1150 W Marquette Rd Chicago 21 Ill-15-24-36-52
 Atomic Instrument Co 84 Massachusetts Ave Cambridge 39 Mass-32-58
 Autel Electronics PO Box 225 Linden NJ-8-18-23-29-58-66-68
 Automatic Switch Co 391 Lakeside Ave Orange NJ-11-12-15-16-62
 Automatic Temperature Control Co 5212 Pulaski Ave Philadelphia 44 Pa-13-34-63-64-65-66-68
 Autotron Co 128 W Main St Danville Ill-22-32-67
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-5-11-18-19-39
 Bailey Meter Co 1050 Ivanhoe Rd Cleveland Ohio-1-3-4-6-7-15-16-17-20-21-24-31-34-36-41-42-46-52
 Barber-Colman Co 1300 Rock St Rockford Ill-4-15-16-20-21-30-36-46-53
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-58
 Barton Electronics 1000 Farmington Ave Hartford 7 Conn-2-8-9-11-23-24-25-26-32-34-38-64-66
 Beck Co Harold 3640 N 2 St Philadelphia 40 Pa-4-11-15-20-24-31-34-35-39-42-46-60-61-68
 Beck's Inc 298 E 5 St St Paul 1 Minn-45
 Bell Aircraft Corp PO Box 1 Buffalo 5 NY-19-45
 Bendix Aviation Corp Red Bank Div Eatontown NJ-61
 Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-19-45
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-58
 B-I-F Industries 345 Harris Ave Providence 1 RI-15-16-24-31-34-36-45-46-55
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-11-29-33-39-66
 Bircher Corp Industrial Div 4731 Valley Blvd Los Angeles 32 Calif-1 Thru 69
 Bliss Electronic Corp Box 366 Sussex NJ-11
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-11-24-39-61
 Bracke-Seib X-Ray Co 16 Pelham Bay Park W Pelham Manor NY-57
 Brailsford & Co 670 Milton Rd Rye NY-66
 Bristol Co PO Box 1790 Waterbury Conn-1-4-6-7-11-15-16-17-20-21-24-27-28-31-32-34-35-36-39-40-41-42-43-45-46-52-53-55-64-65-66-68
 Brooke Eng'g Co 4517 Wayne Ave Philadelphia 44 Pa-4-24-36-41-52
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-23-43-51-56
 Burling Instrument Co 16 River Rd Chatham NJ-46
 Burroughs Corp Electronic Instruments Div 1209 Vine St Philadelphia 7 Pa-58
 Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-11
 Caltron Products Co 1310 S Hobart Blvd Los Angeles 6 Calif-62
 Camera Equipment Co 315 W 43 St New York 36 NY-66-68
 Campbell X-Ray Corp 110 Cummington St Boston 15 Mass-57
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-39
 CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-61
 Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wis-11-19-50-54
 Central Transformer Co 910 W Jackson Blvd Chicago 7 Ill-60-61
 Century Lighting Inc 521 W 43 St New York NY-22-33-50
 Chemical Electronic Eng'g Matawan NJ-3
 Chicago Telephone Supply Corp 1142 W Beardsley Ave Elkhart Ind-54
 Cincinnati Time Recorder Co 1733 Central Ave Cincinnati 14 Ohio-63-64-65-66-68
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-58-60-63-66
 Clark Controller Co 1146 E 152 St Cleveland 10 Ohio-29-42
 Clarostat Mfg Co Washington St Dover NH-54-61
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-8-11-23-25-39
 Cline Electric Mfg Co 3405 W 47 St Chicago Ill-11-19-37-61
 Cole Instrument Co 1000 N Olive St Anaheim Calif-11-19-32-33-58-64-66-67-68
 Coleman Instruments 318 Madison St Maywood Ill-31
 Colvin Labs 364 Glenwood Ave East Orange NJ-19-36-45
 Commercial-Radio Sound Corp 652 1 Ave New York 16 NY-50
 Computer Measurements Corp 5528 Vineland Ave N Hollywood Calif-5-11-15-32-36-43-63-66-67
 Consolidated Avionics Corp Ludlow & Canal St Stamford Conn-5-19-39-43-46-55
 Control Corp 718 Central Ave S Minneapolis 14 Minn-45
 Controls Corp of America-Soreng Div 9555 Soreng Ave Schiller Park Ill-24-62-64-65-66-68
 Cook Co Frank R 600-Mile High Center Denver 2 Colo-19
 Corbin Corp 5419 56 Pl Riverdale Md-2-11
 Cosmo Eng'g Labs Mountain Ave Hackettstown NJ-25-29
 Cramer Co R W Centerbrook Conn-63-64-65-66
 Crescent Eng'g & Research 11632 McBean St El Monte Calif-8-11-13-15-34-36-39-43-48-55
 Croname Inc 3701 Ravenswood Ave Chicago 13 Ill-9
 Crosley Div Avco Mfg Corp 2630 Glendale-Milford Rd Evendale Cincinnati 15 Ohio-14
 Crouse-Hinds Wolf & 7th North Sts Syracuse 1 NY-1-29-46-49
 Cubic Corp 2841 Canon St San Diego 6 Calif-61
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-7-55-61
 Cutler-Hammer Inc 315 N 12 St Milwaukee 1 Wis-11-29-36
 Dage Television Div Thompson Products W 10 St Michiran City Ind-50
 Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-19-39
 Daven Co Route 10 Livingston NJ-19-35-39-45-54
 Davstrom Instrument Achbald Pa-5-11-19-34-39-45-58-59
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-11-59-66
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-1-15-24-36-46-52-53
 Deitz Co S J 9 E Wesley St S Hackensack NJ-11-30-32
 Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa-11-15-24-32-46-57-60-61
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-66
 Detroit Controls Corp Norwood Controls Unit 934 Washington St Norwood Mass-11-15-24-36-46
 Devol Research Co Brookside Dr Greenwich Conn-5-8-39-45
 Diatron Co 3327 Dixie Dr Houston 21 Texas-1
 Dietz & Co Henry G 12-16 Astoria Blvd Long Island City 2 NY-36-52-53-68
 Dimco-Gray Co 207 E 6 St Dayton 2 Ohio-66
 Doelcam Div Minneapolis-Honeywell 1400 Soldiers Field Rd Boston 35 Mass-15-34-39-46-59
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-43-50
 Durant Mfg Co 1925 N Buffam St Milwaukee 1 Wis-58
 Eagle Signal Corp 202 20 St Moline Ill-49-58-63-65-67
 Ebert Electronics 212-26 Jamaica Ave Queens Village 28 NY-52
 Eclipse Pioneer Div Bendix Aviation Corp Teterboro NJ-11-15-19-39-59
 Edison Inc Thomas A Instrument Div 93 Lakeside Ave W Orange NJ-1-69
 Eisler Eng'g 750 S 13 St Newark 3 NJ-56
 Electric Eye Equip Co 1938 E Fairchild Danville Ill-13-28-32-33-37-38
 Electric Regulator Corp Pearl St Norwalk Conn-60-61
 Electrical & Physical Instrument Corp 42-19 27 St Long Island City NY-58-62-65-66
 Electrical Service 1271 Mission St San Francisco 3 Calif-11-18-22-24-25-32-40
 Electro-Devices Inc Servospeed Div 4 Godwin Ave Paterson 1 NJ-11-29-34-39-42-47-48
 Electro Instruments Inc 3794 Rosecrans St San Diego 10 Calif-66
 Electronic Control Corp 1573 E Forest Ave Detroit 7 Mich-2-6-9-11-25-32-41-46-48
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-5-11-39-49-58
 Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 57 Calif-5-11-58-63
 Electronic Machine Parts 204 Lafayette St New York 12 NY-11-23-30-32-34-37-38
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-60-61
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-9-11-40-45-49-53
 Electronic Research Associates 67 E Centre St Nutley 10 NJ-60-61
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-9-11-12-14-15-19-45-61-64-65-66-68
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-11
 Electronics Corp of America 77 Broadway Cambridge 42 Mass-4-7-9-11-18-23-24-25-31-36-38-41-46-56-64-66-67-68
 Electron-Radar Products 4806 W Chicago Ave Chicago 51 Ill-4-7-17-32-46-56-67
 Electro-Physics Co 287-P Broadway New York 7 NY-32-33
 Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-34-65
 Electro-Pulse Inc 11861 Teale St Culver City Calif-11-58-63-66
 Electro-Snap Switch & Mfg 4218 W Lake St Chicago 24 Ill-14
 Electro Sound Corp 115 Halleck St Boston 20 Mass-2
 El Mec Labs 730 Blvd Kenilworth NJ-11-60-61-64-65-66-68
 El-Tronics Inc Penn Ave Mayfield 1 Pa-1-21-58
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-19
 Engelhard Inc Charles 850 Passaic Ave E Newark NJ-4-17-20-24-46
 Engineered Magnetics Div Gulton Mfg Corp 11818 Teale St Culver City Calif-29-39-42-60-61
 Ess Instrument Co 96 S Washington Ave Bergenfield NJ-4-8-11-30-32-35-41
 Exact Weight Scale Co 944 W 5 Ave Columbus Ohio-55
 Executive Inc 415 Lexington Ave New York 17 NY-1
 Farmer Electric Products 2300 Washington St Newton Lower Falls 62 Mass-64-66
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-34-39-46-54-61
 Feedback Controls Inc 1332 N Henry St Alexandria Va-5-11-39
 Fenwal Inc Pleasant St Ashland Mass-46
 Ferrara Inc 8106 W 9 Mile Rd Oak Park 37 Mich-24-51-64-65-66-67
 Fielden Instrument Div Robertshaw Fulton Controls 2920 N 4 St Philadelphia 33 Pa-6-11-13-24-28-31-36-43-45-46-47-48-55
 Fischer & Porter 19 Warminster Rd Hatboro Pa-1-3-4-6-7-11-15-16-17-20-21-24-36-45-46-52-58-62-63-64-65-68
 Fisher-Pierce Co 170 Pearl St S Braintree 85 Mass-32
 Florman & Babb 68 W 45 St New York 36 NY-63
 Ford Instrument Co Div Sperry Rand Corp 31-10 Thomson Ave Long Island City 1 NY-59
 Foto-Vidco Labs 25 Amity St Little Falls NJ-50
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-57
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-58
 Friez Instrument Div-Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-21-36-46
 Furnas Electric Co 1000 McKee St Batavia Ill-24-29-36
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-60-61
 Gates Radio Co 123 Hampshire St Quincy Ill-61
 General Control Co 1224 Soldiers Field Rd Boston 34 Mass-64-65-66-68
 General Controls Co 801 Allen Ave Glendale 1 Calif-1-11-15-17-19-21-24-36-52-62
 General Electric Co-Apparatus Sales Div 1 River Rd Schenectady 5 NY-4-10-11-12-15-20-21-22-24-25-26-28-29-32-34-35-36-37-38-39-42-43-46-49-52-55-56-61-63-64-66-67-68
 General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-32-46
 General Precision Equip Corp 82 Gold St New York 38 NY-11
 General Precision Lab 63 Bedford Rd Pleasantville NY-50
 General Radio Co 275 Mass Ave Cambridge 39 Mass-22-42-61
 General Riveters Inc-Electro Mechanical Div 785 Hertel Ave Buffalo 7 NY-10-11-19-27-39-47-48
 General Time Corp 111 N Canal St Chicago 6 Ill-58-66-68
 Giannini & Co G M 918 E Green St Pasadena Calif-19-29-45-59
 Gilmore Industries 5713 Euclid Ave Cleveland 3 Ohio 43-47-48-55
 Globe Industries 1784 Stanley Ave Dayton 4 Ohio-11-59-66
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-19
 Gordon Enterprises 5362 N Cahuenga Blvd N Hollywood Calif-33
 Gorn Electric Co Stamford Conn-24-36
 Gorrell & Gorrell 336 Old Hook Rd Westwood NJ-58-63-64-65-66-68
 Graybar Electric Co 420 Lexington Ave New York 17 NY-22-29-32-46-49-53-54
 Greenleaf Mfg Co 7814 Maplewood Industrial Court St Louis 17 Mo-59
 Guardian Electric Mfg Co 1621 W Walnut St Chicago 12 Ill-11-14-24-29-40-62
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-2-36-45
 G-V Controls Inc 45 Hollywood Plaza E Orange NJ-46-69

Gyro Electronics Co 325 Canal St New York 13 NY-11
Haledy Electronics Co 57 William St New York 5 NY-24-32
Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-60-61
Hall-Scott Electronics Div 2950 N Ontario St Burbank Calif-11-64
Hamilton Watch Co Columbia Ave Lancaster Pa-63-64-65-66
Hammarlund Mfg Co 460 W 34 St New York 1 NY-11-15-24-34-45
Hansen Co Wm 165 Silverbrook Ave Niles Mich-66
Hanson-Gorrill-Brian Inc 85 Hazel St Glen Cove NY-5-11-29-34-39-46
Harmon Electronics Co 11431 Truman Rd Independence Mo-45
Harnischfeger Corp 4400 W National Ave Milwaukee 46 Wis-29
Harrison Labs 45 Industrial Rd Berkeley Heights NJ-60-61
Hart Mfg Co 218 Bartholomew Ave Hartford Conn-11-19
Harwald Co 1216 Chicago Ave Evanston Ill-13
Hastings Instrument Co Hampton Va-52
Haydon Co A W 232 N Elm St Waterbury 20 Conn-64-65-66-68
Hays Corp 742 E 8 St Michigan City Ind-4-11-15-16-17-20-24-29-36-45-46
Hays Mfg Co Industrial Sales Div 801 W 12 St Erie Pa-15-62
H-B Instrument Co American & Bristol Sts Philadelphia 40 Pa-46
Healy-Ruff Co 2255 University Ave St Paul 14 Minn-24-36
Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-63-65-67
Hill Electronic Eng'g & Mfg New Kingstown Pa-19-45-46
Hillyer Instrument Co 54 Lafayette St New York 13 NY-34
Holland Electronics 2133 Central Drive S East Meadow LI NY-11-58
Hoover Electronics Co 3640 Woodland Ave Baltimore 15 Md-45
Houston Fearless Div Color Corp of America 11801 W Olympic Blvd Los Angeles 64 Calif-33
Hyeon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-11-19-39-58-66
Illinois Testing Labs 420 N La Salle St Chicago 10 Ill-20-46
Industrial Control Co Wyandanch NY-5-19-34-39-48
Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-6-8-11-23-26-27-32-34-36-39-43-47-48-55
Industrial Electronic Controls 2271 E 14 St Brooklyn 29 NY-11-22-32-58
Industrial Electronic Engrs 3973 Lankershim Blvd North Hollywood Calif-1-5-11-16-18-45-55-58-63-64
Industrial Electronics Co Hanover Mass-2-32
Industrial Instruments Inc 89 Commerce Rd Cedar Grove NJ-3-6-15
Industrial Nucleonics Corp 1205 Chesapeake Ave Columbus 21 Ohio-13-26-55
Industrial Timer Corp 1407 McCarter Hwy Newark 4 NJ-63-64-66-68
Instrument Development Labs 163 Highland Ave Needham Heights 94 Mass-41
Interelectronics Corp 2432 Grand Concourse New York 58 NY-19
International Business Machines 590 Madison Ave New York 22 NY-40-66
International Projector Corp 55 La France Ave Bloomfield NJ-11
Invar Instrument Co 1749 N Eastern Ave Los Angeles 32 Calif-11-19
Iron Firearm Electronics Div 2838 SE 9 Ave Portland 2 Ore-46-59
I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 30 Pa-1-32
Janco Corp 3111 Winona Ave Burbank Calif-65
Jet Propulsion Lab Calif Institute of Tech 4800 Oak Grove Dr Pasadena 3 Calif-19
Kahn & Co 541 Windsor St Hartford 1 Conn-42
Kearfott Co 1378 Main Ave Clifton NJ-5-11-29-39-59
Kearfott Co Western Mfg Div 14844 Oxnard St Van Nuys Calif-39
Kepco Labs 131-38 Sanford Ave Flushing 55 NY-60-61
Kidde & Co Walter 1156 Main St Belleville 9 NJ-2
Kilgen Aircraft Div Kilgen Organ Co 4632 W Florissant Ave St Louis 15 Mo-19-40-49
Kirkland Co H R 8 King St Morristown NJ-1
Kocour Co 4800 S St Louis Ave Chicago 32 Ill-31
Kurman Electric Co 35-18 37 St Long Island City NY-11
Laboratory for Electronics 75 Pitts St Boston 14 Mass-58
LaMotte Chemical Products Towson 4 Baltimore Md-3-31
Larson Instrument Co 24 Orchard St Tarrytown NY-1-4-11-25-32-41-46
Lawn Electronics E Freehold Rd Freehold NJ-60-61
Leach Corp Leach Relay Div Inet-Palmer Div 5915 Avalon Blvd Los Angeles 3 Calif-60-61
Lear Inc 3171 S Bundy Dr Santa Monica Calif-11-15-17-19-34-39-59
Lee Electric & Mfg Co 2806 Clearwater St Los Angeles 39 Calif-60-61
Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-4-6-20-21-28-31-41-42-43-45-46
Lektra Labs 154 11 Ave New York 11 NY-32-64-66-67-68
Liquidometer Corp 36 St & Skillman Ave Long Island City 1 NY-24
Livingston Electronic Corp Livingston NJ-64-66
Lockheed Aircraft Corp Missile Systems Div Van Nuys Calif-14-19
LogEtronics Inc 500 E Monroe Ave Alexandria Va-33
Machine O'Matic Inc 2045 N Hoyne Ave Chicago 47 Ill-11
Machinery Electrification Inc 35 Hudson St Northboro Mass-1-11-24-26-29-32-34-35-41-42-47-48-63-66-68
Magnasync Mfg Co 5546 Satsuma Ave N Hollywood Calif-11
Magnetic Amplifiers 632 Tinton Ave New York 55 NY-29-34-35-39-42-60-61
Magnetic Research Corp 200 Center St El Segundo Calif-32-34-39-40-45-46-61
Mallory & Co Inc P R 42 So Gray St Indianapolis 6 Ind-54-64-65-66-68
Manning Maxwell & Moore 250 E Main St Stratford Conn-11-24-36-52
Manson Labs 207 Greenwich Ave Stamford Conn-29
Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-15
McKenna Labs 2503 Main St Santa Monica Calif-11
Measurement Eng'g Ltd John St Arnprior Ontario Canada-11-67
Melco Products Inc 301 5 Ave S Minneapolis 15 Minn-42
Mercoid Corp 4201 Belmont Ave Chicago 41 Ill-15-16-17-24-36-46-52
Mercury Mfg Corp 45 Brown St Buffalo 11 NY-11-36-46
MeRix Chemical Co 1021 E 55 St Chicago 15 Ill-3
Merkle-Korff Gear Co 213 N Morgan St Chicago 7 Ill-42-48
Metals & Controls Corp Spencer Thermostat Div 34 Forest St Attleboro Mass-46
Microtran Co 84-11 Rockaway Beach Blvd Rockaway Beach 93 NY-61
Miller-Harris Instrument 601 E Ogden Ave Milwaukee 2 Wis-66
MinAtron Corp Belle Mead NJ-34
Minn-Honeywell Regulator Co Industrial Div 4591 Wayne Ave Philadelphia 44 Pa-1-4-6-7-11-14-15-16-17-18-20-21-24-28-36-52-53-62
Modelectric Products Corp 1500 Bangs Ave Asbury Park NJ-9-11-18-24
Model Rectifier Corp 557 Rogers Ave Brooklyn 25 NY-42
Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-64-66
Montgomery Mfg Co 204 S Main St Owensville Ind-40-53-66-68
Motoresearch Co 1600 Junction Ave Racine Wis-29
Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-66
Multi-Products Co 21460 Coolidge Hwy Oak Park 37 Mich-9
Mutual Electronic Industries 85 Beechwood Ave New Rochelle NY-3-4-5-6-7-8-9
Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-10-42-58
National Aircraft Corp 3411 Tulare Ave Burbank Calif-19-60-62
National Fabricated Products Div Hoffman Electronics 2650 W Belden Ave Chicago 47 Ill-58
National Research Corp 160 Charlemont St Newton Highlands 6 Mass-52
Nevada Air Products Co North Valley Rd Reno Nev-11-19
Newark Controls Co 15 Ward St Bloomfield NJ-24-36
Newton Co 55 Elm St Manchester Conn-5-11-34
Niagara Electron Labs PO Box 128 Andover NY-3
NJE Corp 345 Carnegie Ave Kenilworth NJ-60-61
North American Instruments 2420 N Lake Ave Altadena Calif-11
North American Philips Co 750 S Fulton Ave Mt Vernon NY-57
Northeast Electronics Corp Municipal Airport Concord NH-58
Northeastern Eng'g Co Bedford St Manchester NH-29
NRD Instrument Co 6425 Etzel Ave St Louis 14 Mo-58-63-66
Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-2-11-14-24-25-26-32-51-58
Nuclear Research Corp Southampton Pa-7-8-15-18-23-24-26
Oerlikon Tool & Arms Corp of America PO Box 3049 Asheville N Car-11-34-66
Ohmort Corp 2236 Bogan St Cincinnati 14 Ohio-7-24-26
Ohmrite Mfg Co 3601 Howard St Skokie Ill-29-42
Okonite Co 220 Passaic Passaic NJ-57
Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-60-61
Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-51-60-61
Pacific Scientific Co 1430 Grande Vista Ave Los Angeles 23 Calif-59
Panellit Inc 7401 N Hamlin Ave Skokie Ill-1
Pantek Co Box 212 El Segundo Calif-32
Paragon Electric Co 1600 12 St Two Rivers Wis-36-46-53-66
Paraplegics Mfg Co 10068 Franklin Ave Franklin Park Ill-11
Par Products Corp 926 N Citrus Lane Hollywood 38 Calif-33
Peer Inc 1200 Milton St Benton Harbor Mich-68
Penn Controls Inc Goshen Ind-4-15-17-21-24-25-36-46-52-53
Perkin Eng'g Corp 345 Kansas St El Segundo Calif-61
Perma-Power Co 4727 N Damen Ave Chicago 25 Ill-9
Peschel Electronics Inc 13 Garden St New Rochelle NY-11
Philadelphia Scientific Glass Co 1866 Eckard Ave Abington Pa-1-2-3-21-40-46-52-60
Philbrick Researches G A 230 Congress St Boston 10 Mass-5
Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-32-39-41-53
Photobell Co 43 Vesey St New York 7 NY-1-2-9-11-13-21-22-23-24-25-26-28-32-38-41-42-58-63-65-66-67-69
Photo Crystals Inc 15 S 1 St Geneva Ill-4-11-22-23-24-32-41-46
Photovolt Corp 95 Madison Ave New York 16 NY-67
Piezo Products Co Whitney St Sherborn Mass-11-24-51
Polyphase Instrument Co 701 Haverford Rd Bryn Mawr Pa-11-34-36-43-47-48-55-56
Post Machinery Company Electronic Products Div 140 Elliott St Beverly Mass-11-32-58-63-66-67
Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-58-63-64-65-66-67-68
Powers Regulator Co 3400 Oakton St Skokie Ill-16-20-21-24-33-36-46-53
Power Supplies Inc 1007 Olive St Highland Ill-1
Pye Corp of America 270 Park Ave New York 17 NY-20-39-50
Pyrometer Instrument Co 92 Portland Ave Bergenfield NJ-46
RadioClok 2119 Starling Ave New York 62 NY-66
Ransom Research PO Box 382 San Pedro Calif-58-63-65-66-68
Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-61
Recoira Co 6100 S Archer Rd Summit Ill-1-2-9-12-25-58
Reeves Instrument Corp 215 E 91 St New York 28 NY-39-59
Regulator Eng'g & Development 11545 W Jefferson Blvd Culver City Calif-61
Relay Sales Inc Box 186 Dept 6 West Chicago Ill-69
Remington Rand Univac Div 315 4 Ave New York 10 NY-5
Research Electronics Labs Roslyn Pa-13-52
Revco Inc 1900 Lyndale Ave S Minneapolis 5 Minn-42
Reynolds Electric Co 3000 River Road River Grove Ill-49
Rheem Mfg Co 9236 E Hall Rd Downey Calif-19-45-46
Rhodes Inc M H 30 Bartholomew Ave Hartford 6 Conn-66
Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-11-22-32-35-39-45-51
Ripley Co 1 Factory St Middletown Conn-11-38-41-67
Robinette Co W C 802 Fair Oaks Ave S Pasadena Calif-1-34-39-42
Robotron Corp 21300 W 8 Mile Rd Detroit 19 Mich-11-32-56-60-61-68
Rockwell Eng'g Co 4065 N New Jersey St Indianapolis 5 Ind-32-39-42
Rollan Electric Co 8020 S Park Ave Chicago 19 Ill-47
Ronan & Kunz Marshall Mich-66
RS Electronics Corp 435 Portage Ave Palo Alto Calif-61
Rust Industrial Co 41 E 42 St New York 17 NY-65
Sanders Associates 95 Canal St Nashua NH-59
Sangamo Generators-Sub Sangamo Electric Co Springfield Ill-66
Scaico Controls Inc Market St Palmyra NJ-14-24-36-46-52-62-65-66-69
Scherr Co George 200 Lafayette St New York 12 NY-18-23-44-47
Sciaky Bros 4915 W 67 St Chicago 38 Ill-68
Seneca Falls Machine Co Fall St Seneca Falls NY-8-29-34-39-42-48
Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-19-46
Servomechanisms Inc Post & Stewart Aves Westbury NY-11-19-34-39-42-45
Servo-Tek Products Co 1086 Goffle Rd Hawthorne NJ-11-29-34-39-42-61
Sessions Clock Co 61 E Main St Forestville Conn-66
Shallcross Mfg Co Pusey & Jackson Avcs Collingdale Pa-61
Sheffield Corp 721 Springfield St Dayton 1 Ohio-26
Sherman Industrial Electronics 505 Washington Ave Belleville 9 NJ-64

- Signal Equipment Co 2706 3 Ave Seattle 1 Wash-3
 Simmonds Aeroaccessories 105 White Plains Rd Tarrytown NY-15-24
 Simplex Valve & Meter Co 7 E Orange St Lancaster Pa-15
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-11
 Sola Electric Co 4633 W 16 St Chicago 50 Ill-61
 Sorensen & Co 375 Fairfield Ave Stamford Conn-60-61
 Special Products Co PO Box 188 Rockville 1 Md-32
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-61
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-59
 Sperti Faraday Inc 1322 E Church St Adrian Mich-1
 Stackpole Carbon Co Tannery St St Marys Pa-54
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-40-63-64-65-66-69
 Standard Electronics Research Corp 2 East End Ave New York 21 NY-8-11-13-23-26-32-39-46
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-5-11-19-39-42-45-60-61
 Sterling Precision Corp Instrument Div 34-17 Lawrence St Flushing LI NY-39-59
 Stevens Mfg Co PO Box 1007 Mansfield Ohio-46-69
 Stewart Instrument Co 6507 Grand River Detroit 8 Mich-11-25-27-35-36-38-56-63-64-65-66
 Stoelting Co C H 424 N Honan Ave Chicago 24 Ill-58-63-64-66
 Strandberg Eng'g Labs 416 W Market St Greensboro N Car-28
 Streeter-Amet Co 4101 N Ravenswood Ave Chicago 13 Ill-55-58
 Struthers-Dunn Inc Pitman NJ-64-69
 Superior Electric Co 83 Laurel St Bristol Conn-61
 Taber Instrument Corp 111 Goundry St N Tonawanda NY-15-19
 Tabot Mfg Co 1336 Ballentine Blvd Norfolk 12 Va-67
 Takk Corp PO Box 346 Newark Ohio-3-11-23-26-37
 Tally & Cooper 75 Front St Brooklyn 1 NY-17-45-53
 Tarc Electronics 48 Urban Ave Westbury LI NY-33-50
 Taylor Instrument Companies 95 Ames St Rochester 1 NY-3-6-11-15-16-17-20-21-24-28-31-35-36-39-42-43-46-48-53-55
 Taylor-Winfield Corp 1052 Mahoning NW Warren Ohio-56
 Telechrome Inc 88 Merrick Rd Amityville LI NY-45-50-66-67
 Telecom Inc 1019 Admiral Blvd Kansas City 6 Mo-11-22-45-58
 Telecomputing Corp 12838 Saticoy St N Hollywood Calif-58
 Teletron Co 4019 Prospect St Cleveland 3 Ohio-9
 Teletronics Lab Inc 54 Kinkel St Westbury LI NY-60
 Televiso Corp 1415 Golf Rd Des Plaines Ill-11-19-45
 Ten Bosch Inc M 80 Wheeler Ave Pleasantville NY-19
 Tensitron Inc Pin Hill Harvard Mass-47
 Thermo Electric Co Saddle Brook NJ-46
 Thermo Electric Mfg Co 465 Huff St Dubuque Iowa-20-46
 Thompson Clock Co H C 38 Federal St Bristol Conn-63-64-66-68
 Timely Instruments & Controls Corp 1645 W 135 St Gardena Calif-22-32-61
 Time-O-Matic Inc 1106 Bahis St Danville Ill-11-42-46-49-68
 Tork Clock Co 1 Grove St Mt Vernon NY-66
 Tracerlab Inc 130 High St Boston 10 Mass-7-13-24-26-57
 Transicoil Corp Worcester Pa-39
 Triplett & Barton 831 N Lake St Burbank Calif-57
 Tuttle & Kift 1823 N Monitor Ave Chicago 39 Ill-46
 Ulanet Co George 419 Market St Newark NJ-46-69
 Union Switch & Signal Div Westinghouse Air Brake Pittsburgh 18 Pa-9-12-19-49
 United Control Corp 4540 Union Bay Pl Seattle 5 Wash-34-46
 United Electric Controls 85 School St Watertown 72 Mass-21-24-36-46-52-60
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-5-11-19
 U S Dynamics Corp 1250 Columbus Ave Boston 20 Mass-60-61
 U S Gauge Div American Machine & Metals Sellersville Pa-21-36-46-52
 U S Time Corp 500 5 Ave New York 36 NY-59
 Universal Atomics Corp 19 E 48 St New York 17 NY-1
 Universal X-Ray Products 1140 North Western Ave Chicago 22 Ill-57
 Vacuum Tube Products Co 506 S Cleveland St Oceanside Calif-64
 Vapor Heating Corp Niles Ill-4-11-15-46
 Varo Mfg Co 2201 Walnut St Garland Texas-42
 Venadine Products Co PO Box 222 Ilwathorne NJ-32-63-64-66-67-68
 Vickers Inc Electric Div Unit Sperry Rand 1815 Locust St St Louis 3 Mo-22
 Vidaire Electronics Mfg 576-80 W Merrick Rd Lynbrook NY-61
 Vinson Co E R 1401 Middle Harbor Rd Oakland 20 Calif-11-16-18-22-30-32-38-66-67
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-4-8-9-11-40
 Visual Electronics Corp 500 5 Ave New York 36 NY-50
 Vitro Corp of America 261 Madison Ave New York 16 NY-19
 Vocaline Co of America Old Saybrook Conn-63-64-65-66-68
 Waco Inc 2032 Broadway Santa Monica Calif-62
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-58-63-64-66-68
 Walsco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-62
 Walsler Automatic Timer Corp Graybar Bldg New York 17 NY-66
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-5-58
 Ward Leonard Electric Co Mt Vernon NY-29
 Warrick Co Charles F 1964 W 11 Mile Rd Berkley Mich-6-24
 Weltron Co 19500 W 8 Mile Rd Detroit 19 Mich-11-56-60-61-68
 Western Gear Corp 2800 Imperial Hwy Lynwood Calif-10-19-29-39
 Western Radiation Lab 1107 W 24 St Los Angeles 7 Calif-1
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-19
 Westinghouse Electric Corp Air Arm Div Friendship Intl Airport Baltimore 27 Md-14
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-11-24-29-32-34-36-37-38-46-53-56-66-67
 West Instrument Corp 4363 W Montrose Ave Chicago 41 Ill-20-46
 Weston Electrical Instrument Corp Sub Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-21-22-32-46
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-49
 Wiegand Co Edwin L 7713 Thomas Blvd Pittsburgh 8 Pa-46
 Wilson & Co G C 1915 8 Ave Huntington W Va-64-65-66-67-68
 Winchinger Corp E 7 & Division Sts Sioux City 2 Iowa-29
 Wirt Co 5221 Greene St Philadelphia 44 Pa-54
 Worner Electronic Devices Rankin Ill-1-2-22-23-24-32-35-41
 Yellow Springs Instrument PO Box 106 Yellow Springs Ohio-46-66
 Zenith Electric Co 152 W Walton St Chicago 10 Ill-64-65-66-68
 Z&W Machine Prod Inc Electronics Div 30240 Lakeland Blvd Wickliffe Ohio-9

22—CRYSTALS, ACCESSORIES & CORES, CRYSTALS

Crystals, barium titanate	1
Crystals, frequency control	2
Crystals, hermetically sealed	3
Crystals, quartz	4
Crystals, rochelle salt	5
Crystals, scintillation	6
Crystals, synthetic sapphire	7
Crystals, tourmaline	8
Crystals, transducer	9

CRYSTAL ACCESSORIES

Crystal blanks	10
Crystal cartridges	11
Crystal electrodes	12
Crystal filters	13
Crystal heaters	14
Crystal sockets	15
Holders	16
Probes	17

CORES

Cores, ferrite	18
Cores, toroidal	20
Ferric Oxides	21
Ferrites	19

- Aeronautical Electronics PO Box 6043 Raleigh NC-2-3-4-10
 Airpax Products Co PO Box 137 Middle River Baltimore 2 Md-20
 Airtron Inc 1101 W Elizabeth Ave Linden NJ-16
 Allen-Bradley Co 136 W Greenfield Ave Milwaukee 4 Wis-18-19-21
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-13
 Antlab 4950 N High St Columbus 14 Ohio-16
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-6
 Applied Precision Products 1431 S La Brea Ave Los Angeles 19 Calif-4-14
 A P W Co 72 W Main St Rockaway NJ-20
 Arnold Eng'g Co Marengo Ill-18-20-21
 Atlantic Research Corp 901 N Columbus St Alexandria Va-17
 Atlantic Transformer Corp 30 Hynes Ave Groton Conn-20
 Atomic Instrument Co 84 Massachusetts Ave Cambridge 39 Mass-6
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-1-4-5-7
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-13-20
 Basler Electric Co 601 Fifth St Highland Ill-20
 Bassett Inc Rex 1314 NE 17 Court Fort Lauderdale Fla-2-3-4-10
 Bitterman Electric Co Barlow & Grove Sts Canaan Conn-20
 Bliley Electric Co Union Station Bldg Erie Pa-2-3-4-9-14
 Bram Chemical Co 820 65 Ave Philadelphia 26 Pa-19-20
 Branson Instruments Inc 430 Fairfield Ave Stamford Conn-1
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-1-4-5-9-11-12
 Bulova Watch Co Dept of Gov't & Industrial Sales 62-10 Woodside Ave Woodside 77 NY-2-3-4-9-14-15
 Burnell & Co 45 Warburton St Yonkers 2 NY-13-20
 Burnett Radio Lab William W L 4814 Idaho St San Diego 16 Calif-2-4-12-14-16
 Calif Magnetic Control Corp 7245 Atoll Ave N Hollywood Calif-20
 Carad Corp 2850 Bay Rd Redwood City Calif-20
 Chase Brass & Copper Co 236 Grand St Waterbury 20 Conn-42-43-49
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-6
 Coast Coil Co 5352 W Washington Blvd Los Angeles 16 Calif-20
 Coil Winders Inc 100 New York Ave Westbury LI NY-20
 Columbian Carbon Co Mapico Color Div 380 Madison Ave New York 17 NY-19-21
 Communication Accessories Co 110 St & 71 Hwy Hickman Mills Mo-20
 Connector Corp 6025 N Keystone Ave Chicago 30 Ill-15
 Corning Glass Works Corning NY-16
 Crowley Co Henry L 1 Central Ave W Orange NJ-18-19
 Cryco Inc 1138 Mission St South Pasadena Calif-2-3-4
 C-W Mfg Co Box 2065 El Monte Calif-2-4
 Davis Electric Co Cape Girardeau Mo-20
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-20
 Delta Radio Co 115 Worth St New York 13 NY-20
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-6
 Deutschmann Corp Tobe 921 Providence Highway Norwood Mass-20
 Diamond Drill Carbon Co 244 Madison Ave New York 16 NY-4
 Diamond Microwave Corp 7 North Ave Wakefield Mass-16
 Dietz Design & Mfg Co Grandview Mo-20
 Downing Crystal Co 191 Shaffer Ave Westminster Md-2-3-4-10-13-14
 D & R Ltd 402 E Gutierrez St Santa Barbara Calif-20
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-17
 DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-2-3-4-10-20
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-9
 Eby Co Hugh H 4701 Germantown Ave Philadelphia 44 Pa-15
 Eidson Electronic Co PO Box 31 Temple Texas-2-3-4-10
 Eisler Eng'g Co 770 S 13 St Newark 3 NJ-20
 Eldico of NY Inc 72 E 2 St Mineola LI NY-13
 Electrical Industries 44 Summer Ave Newark 4 NJ-3-16
 Electronic Coils Inc PO Box 1665 Springfield 1 Mass-20
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-17
 Electronic Mechanics Inc 101 Clifton Blvd Clifton NJ-15
 Electro-Voice Inc Buchanan Mich-11
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-17
 Endevo Corp 161 E California St Pasadena Calif-1-9
 Epo Products Inc 2500 Atlantic Ave Brooklyn 7 NY-20
 Espey Mfg Co 200 W 57 St New York 19 NY-13
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-13-20
 Femco Inc Irwin Pa-20
 Ferrocube Corp of America 4230 W Bridge St Saugerties NY-18-19-21
 Freed Transformer Co Inc 1718 Weirfield St Brooklyn 27 NY-20



Fretco Inc 406 N Craig St Pittsburgh 13 Pa-6
 General Ceramic Corp Keasbey NJ-18-19
 General Crystal Co Burlington Wis-10
 General Electric Co Apparatus Div 1 River Rd
 Schenectady 5 NY-20
 General Electric Co-Semiconductor Products
 Electronics Park Syracuse 1 NY-2-3-4
 General Radio Co 275 Mass Ave Cambridge 39
 Mass-20
 General RF Fittings Inc 702 Beacon St Boston
 15 Mass-16
 Gramer-Halldorson Transformer Corp 2734 N
 Pulaski Rd Chicago 39 Ill-20
 Graybar Electric Co 420 Lexington Ave New
 York 17 NY-2-4
 Gulton Mfg Corp 212 Durham Ave Metuchen
 NJ-1-9
 Hadley Co Robert M 5112 S Hoover St Los
 Angeles 37 Calif-20
 Hall Mfg Co 3901 Wesley Terr Schiller Park
 Ill-20
 Hamilton Watch Co Columbia Ave Lancaster
 Pa-2
 Hammarlund Mfg Co 460 W 34 St New York 1
 NY-2
 Hanson-Gorrill-Brian 85 Hazel St Glen Cove
 NY-20
 Harder Co Donald C 3710 Midway Dr San Diego
 10 Calif-20
 Hathaway Instrument Co 1315 S Clarkson St
 Denver Colo-51
 Hermetite Corp 702 Beacon St Boston 15 Mass-
 3
 Hill Electronic Eng'g & Mfg New Kingstown
 Pa-2-3-4-9-10-12-13-14
 Hoffman Co P R 321 Cherry St Carlisle Pa-
 4-9-10-12
 Hopkins Eng'g Co 2082 Lincoln Ave Altadena
 Calif-20
 Houlihan Co T J 2508 W Lawrence Ave Chi-
 cago 25 Ill-20
 Howard Crystal Holders Inc 2600 Grand Ave
 Kansas City 8 Mo-14-16
 Hudson American Corp 25 W 43 St New York
 36 NY-4
 Hunt Corp 453 Lincoln St Carlisle Pa-2-3-4-9
 Hupp Electronics Div Hupp Corp 265 E Pom-
 fret St Carlisle Pa-2-3-4-9-10
 Hycor Div Int'l Resistance Co Sylmar Calif-20
 Insuline Corp of America 186 Granite St Man-
 chester NH-16
 Interelectronics Corp 2432 Grand Concourse
 New York 58 NY-19
 International Crystal Mfg 18 N Lee Ave Okla-
 homa City 2 Okla-4
 I-T-E Circuit Breaker Co 19 & Hamilton Sts
 Philadelphia 30 Pa-20
 Jackson Electrical Instrument Co 18 S Patter-
 son Blvd Dayton 2 Ohio-17
 Jayex PO Box 646 Redlands Calif-15-16
 Johnson Co E F Waseca Minn-15
 Johnson Electronics Inc 521 Elwell St Or-
 lando Fla-20
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-17
 Kaar Eng'g Corp 2995 Middlefield Rd Palo
 Alto Calif-2
 Kearfott Co 1378 Main Ave Clifton NJ-7
 Keystone Electronics Co 114 Manhattan St
 Stamford Conn-2-3-4-9-10-14
 Keystone Products Co 904 23 St Union City
 NJ-20
 Knights Co James Sandwich Ill-2-3-4-9-10-13-14
 K-V Transformer Corp 20 E Franklin St Dan-
 bury Conn-20
 Laboratory for Electronics 75 Pitts St Boston
 14 Mass-20
 Lavoie Labs Inc Matawan and Freehold Rd
 Morganville NJ-2-14
 Lenkurt Electric Co 1105 Old County Rd San
 Carlos Calif-18-20
 Leonard Electric Products 67 34 St Brooklyn
 32 NY-20
 Levinthal Electronic Products 2821 Fair Oaks
 Ave Redwood City Calif-6
 Lewis Co E B 11 Bragg St E Hartford 8
 Conn-2-3-4-9
 Lynch Carrier Systems 895 Bryant St San
 Francisco 7 Calif-20
 Mackay Inc A D 198 Broadway New York 38
 NY-6-19-21
 Magnavox Co Ft Wayne 4 Ind-20
 Magnetics Inc Box 391 Butler Pa-18
 Mark Electronics 250 Glenwood Ave Bloom-
 field NJ-20
 Mattson Electronics Corp 1487 Lincoln Ave
 Pasadena 3 Calif-20
 McCoy Electronics Co Mt Holly Springs Pa-
 2-3-4-9-10-14
 Measurement Eng'g Ltd John St Arnprior
 Ontario Canada-6
 Meridian Labs Lake Geneva Wis-10
 Meridian Metalcraft Inc 8739 S Millergrove
 Dr Whittier Calif-16
 Mico Instrument Co 80 Trowbridge St Cam-
 bridge 38 Mass-20
 Midland Mfg Co 3151 Fiberglas Rd Kansas
 City 15 Kansas-2-3-4-10-14
 Miller Labs August E 9226 Hudson Blvd North
 Bergen NJ-2-3-4-10-14-15
 Millivac Instrument Corp 444 2 St Schenectady
 NY-17
 Milwaukee Transformer Co 5231 N Hopkins St
 Milwaukee 9 Wis-20
 Monitor Products Co 815 Fremont Ave S Pasa-
 dena Calif-2-3-4-9-10-13-14
 Mosley Electronics Inc 8622 St Charles Rock
 Rd St Louis 14 Mo-15

Narda Corp 160 Herricks Rd Mineola NY-17
 National Company 61 Sherman St Malden 48
 Mass-13-15
 National Fabricated Products Div Hoffman
 Electronics 2650 W Belden Ave Chicago 47
 Ill-15
 National Moldite Co 1410 Chestnut Ave Hill-
 side 5 NJ-18
 National Radiac Inc 479 Washington St New-
 ark 2 NJ-6-17
 Nebel Lab R E 1634 E 12 St Brooklyn 29
 NY-2-4-10-16
 New London Instrument Co 82 Union St New
 London Conn-20
 Nichols Products 325 W Main St Moorestown
 NJ-17
 North Electric Mfg Co S Market St Galion
 Ohio-20
 Northern Eng'g Labs 434 Wilmot Ave Burling-
 ton Wis-2-3-4-9-14
 NRD Instrument Co 6425 Etzel Ave St Louis
 14 Mo-6
 Nuclear Research Corp Southampton Pa-6
 Ortho Filter Corp 198 Albion Ave Paterson 2
 NJ-20
 Osborne Electric Co 712 SE Hawthorne Blvd
 Portland 14 Ore-20
 Pacific Transformers 502 S Ave 17 Los Angeles
 Calif-20
 Palmer Inc M V 4002 Fruit Valley Rd Van-
 couver Wash-20
 Pan-Electronics Corp Box 404 Griffin Ga-4
 Permonite Mfg Co 4554 N Broadway Chicago
 40 Ill-15
 Philmore Mfg Co 113 University Pl New York
 3 NY-15
 Photocon Research Products 421 N Foothill
 Blvd Pasadena 8 Calif-4-17
 Photo Crystals Inc 15 S 1 St Geneva Ill-3
 Pix Mfg Co 75 Hudson St Newark 3 NJ-12-
 15-16
 Polymer Corp of America Reading Pa-18
 Polytechnic Research & Development Co 202
 Tillary St Brooklyn 1 NY-17
 Precision Crystal Lab 2223 Warwick Ave Santa
 Monica Calif-2-3-4-9-10-13-14
 Precision Inc 730 N Lyndale Ave Minneapolis
 11 Minn-20
 Precision Piezo Service 427 Mayflower St Baton
 Rouge 2 La-2-4
 Precision Radiation Instruments & Sub Radio
 Craftsmen 4223 W Jefferson Blvd Los An-
 geles 16 Calif-6
 Premier Research Labs 79 7 Ave New York
 11 NY-2-3-4-8-9-10-14-16
 Pye Corp of America 270 Park Ave New York
 17 NY-2-3-4-10-16
 Qutronic Transformer Corp 525 Broadway New
 York 12 NY-20
 Radiation Counter Labs 5122 W Grove St
 Skokie Ill-6
 Radio Corp of America Camden 2 NJ-18
 Railway Communications Inc Raytown Mo-20
 Randall Inc Douglas 6 Pawcatuck Ave West-
 erly RI-20
 Raypar Inc 7800 W Addison St Chicago 24
 Ill-20
 Raytheon Mfg Co Equip Marketing Div 100
 River St Waltham Mass-20
 Reeves-Hoffman Corp Carlisle Pa-2-3-4-10-12-16
 Research Instrument Co 233 Broadway New
 York 7 NY-20
 Rixon Electronics 2414 Reddie Dr Silver Spring
 Md-14
 Ronette Sales Corp 135 Front St New York 5
 NY-11
 Sage Labs 30 Guinan St Waltham 54 Mass-13-
 16
 Sangamo Electric Co 9 & Converse Springfield
 Ill-20
 Scientific Coil Co 5619 Broadway Chicago 40
 Ill-20
 Scientific Radio 4301 Sheridan St University
 Park Hyattsville Md-2
 Scientific Radio Products 215 S 11 St Omaha
 Nebr-2-3-4
 Sherold Crystal Co 1510 McGee St Kansas
 City Mo-2-3-4
 Shure Bros 222 Hartrey Ave Evanston Ill-11
 Solar Mfg Corp E 46 St & Seville Ave Los
 Angeles 58 Calif-1
 Southwestern Industrial Electronics Co 2831
 Post Oak Rd Houston Texas-20
 Stackpole Carbon Co Tannery St St Marys
 Pa-19-21
 Standard Coil Products Co 2085 N Hawthorne
 St Melrose Park Ill-20
 Standard Crystal Co 1714 Locust St Kansas
 City 8 Mo-2-3-4-10-13-14
 Stromberg-Carlson Co 100 Carlson Rd Roch-
 ester 3 NY-20
 Stupakoff Div Carborundum Co Latrobe Pa-1
 Sylvania Electric Products 1740 Broadway New
 York 19 NY-16
 Tedford Crystal Labs 4126 Colerain Ave Cin-
 cinnati 23 Ohio-2-3-4

Telechrome Inc 88 Merrick Rd Amityville LI
 NY-13
 Tele Coil Co 2733 Saunders St Camden 5 NJ-14
 Teleradio Eng'g Corp Wilkes-Barre Pa-2
 Televiso Corp 1415 Golf Rd Des Plaines Ill-20
 Television Labs Wauconda Ill-20
 Texas Instruments Inc 6000 Lemmon Ave
 Dallas 9 Texas-20
 Thermador Electrical Mfg Co Electronics Div
 2000 S Camfield Ave Los Angeles 22 Calif-20
 Torwico Electronics 967 Frelinghuysen Ave
 Newark 5 NJ-20
 Tracerlab Inc 130 High St Boston 10 Mass-6
 Triad Transformer Corp 4055 Redwood Ave
 Venice Calif-20
 Union Electric & Mfg Co 1057 Summit Ave
 Jersey City 7 NJ-20
 United ElectroDynamics Div United Geophysical
 Corp 1200 S Marengo Ave Pasadena Calif-9
 Universal Mfg Co 404 Hillside Ave Hillside
 NJ-20
 U S Dynamics Corp 1250 Columbus Ave Boston
 20 Mass-3
 U S Gasket Co Fluorocarbon Div 600 N 10 St
 Camden 1 NJ-15
 Valpey Crystal Corp Holliston Mass-2-3-4-8-9-
 10-13-14
 Vanguard Electronics Co 3384 Motor Ave Los
 Angeles 34 Calif-20
 Vari-L Co 432 Fairfield Ave Stamford Conn-20
 Wac Line Inc 35 S St Clair St Dayton 2 Ohio-
 17
 Western Radiation Lab 1107 W 24 St Los
 Angeles 7 Calif-6
 Wheeler Insulated Wire Co 150 E Aurora St
 Waterbury Conn-20
 Williams & Co C K Easton Pa-21
 Wilmar Mfg Co 2715 E 14 St Kansas City 27
 Mo-20
 Wright Electronics Inc 1519 McGee St Kansas
 City Mo-2-3-4-10-14
 Wright Eng'g Co 180 E California St Pasadena
 1 Calif-20

23—DETECTORS

Detectors, crystal	1
Detectors, fire	2
Detectors, flaw	3
Detectors, gas	4
Detectors, impedance	5
Detectors, leak	6
Detectors, lie	7
Detectors, magnetic	8
Detectors, metal	9
Detectors, mineral	10
Detectors, null	11
Detectors, pipe & cable	12
Detectors, radiation	13
Detectors, resistance	14
Detectors, scintillation	15
Detectors, smoke	16
Detectors, standing wave	17
Detectors, vibration	18
Detectors, voltage	19
Detectors, water leak	20

Admittance Inc 5 Marine St Farmingdale NY-1
 Advance Electronics Co 451 Highland Ave
 Passaic NJ-5
 Advanced Electronics Inc 94 Silas Deane Hwy
 Rocky Hill 9 Conn-6-18
 Aerolux Light Corp 653 11 Ave New York 36
 NY-19
 Aircom Inc 354 Main St Winthrop 52 Mass-5-17
 Allied Radio Corp 100 N Western Ave Chicago
 25 Ill-10-13
 Allis-Chalmers Mfg Co Milwaukee 1 Wisc-18
 American Electronics Inc 655 W Washington
 Blvd Los Angeles 15 Calif-6-15
 Anderson Inc W E 2921 Brooklyn Ave Kansas
 City 9 Mo-19
 Andrew Corp 363 E 75 St Chicago 19 Ill-17
 Anton Electronic Labs 1226 Flushing Ave
 Brooklyn 37 NY-13
 Applied Research Labs 3717 Park Pl Glendale
 8 Calif-9-10
 Arenberg Ultrasonic Lab 94 Green St Jamaica
 Plain 30 Mass-3
 Arnoux Corp 11924 W Washington Blvd Los
 Angeles 66 Calif-2
 Atomic Instrument Co 84 Massachusetts Ave
 Cambridge Mass-15
 Bailey Meter Co 1050 Cleveland Ohio-4-6
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati
 2 Ohio-1
 Barber-Colman Co 1300 Rock St Rockford Ill-11
 Barker & Williamson 237 Fairfield Ave Upper
 Darby Pa-11-17
 Beck Co Harold 3640 N 2 St Philadelphia 40
 Pa-14-19
 Bendix Aviation Corp Pacific Div 11600 Sher-
 man Way N Hollywood Calif-18
 Berman Labs 112-03 Rockaway Blvd Ozone
 Park 20 NY-9

Rhdworth Marine Div Nat'l-Simplex-Bludworth
92 Gold St New York 38 NY-9-12

Bogart Mfg Corp 315 Siegel St Brooklyn 6
NY-5-17

Bogue Electric Mfg Co 52 Iowa Ave Paterson
3 NJ-13-15

Borden Eng'g Co Div M J Johnson Aircraft
Eng'g Co 39 E Hanover Ave Morris Plains
NJ-9-10-11-12

Bramson Instruments Inc 430 Fairfield Ave
Stamford Conn-3

Brimmayer Labs E W 86 Fulton St New York
38 NY-9

Bristol Eng'g Corp Electronics Div Bristol
Pa-1

Brooke Eng'g Co 4517 Wayne Ave Philadelphia
11 Pa-16

Brush Electronics Co Div Clevite Corp 3405
Perkins Ave Cleveland 14 Ohio-1-17-18

Chatham Electronics Div Gera Corp 630 W Mt
Pleasant Ave Livingston NJ-13-15

Chesapeake Instrument Corp Shadyside Md-5-18

Cinema-Television Ltd Worsley Bridge Rd
Lower Sydenham London S E 26 England-
9-12-13

Clevite Transistor Products 241 Crescent St
Waltham 54 Mass-1

Cole Instrument Co 1000 N Olive St Anaheim
Calif-11

Color TV Inc 973 E San Carlos Ave San Carlos
Calif-17

Computer-Measurements Corp 5528 Vineland
Ave N Hollywood Calif-9-12

Consolidated Electrodynamics Corp 300 N
Sierra Madre Villa Pasadena Calif-6-18

Control Products Inc 306 Sussex St Harrison
NJ-2

Curtiss-Wright Corp Electronics Div 631
Central Ave Carlstadt NJ-13-15

Deltron Inc 2905 N Leithgow St Philadelphia
33 Pa-11

De Mornay-Bonardi Inc 780 S Arroyo Pkwy
Pasadena 1 Calif-17

Detectolab Inc 6544 N Sheridan Rd Chicago
Ill-13-15

Devol Research Co Brookside Dr Greenwich
Conn-8

Diatron Co 3327 Dixie Dr Houston 21 Texas-4

Dice Co J W 1 Engle St Englewood NJ-3-9

Doelam Div Minneapolis-Honeywell 1400
Soldiers Field Rd Boston 35 Mass-11

Douglas Microwave Co 11 Beechwood Ave New
Rochelle NY-1-17

DuKane Corp St Charles Ill-8

Dyna-Emoire Inc 1075 Stewart Ave Garden
City NY-8

Eclipse Pioneer Div Bendix Aviation Corp
Totterboro NJ-11

Electro Circuits Inc 401 E Green St Pasadena
Calif-3

Electro-Measurements Inc 4312 S E Stark St
Portland 15 Ore-11

Electro Medical Lab S Woodstock 7 Vt-7

Electronic Control Corp 1573 E Forest Ave
Detroit 7 Mich-16

Electronics Corp of America 77 Broadway Cam-
bridge 42 Mass-2-16

Electron-Radar Products 4806 W Chicago Ave
Chicago 51 Ill-2-16

Electro Products Labs 4501 N Ravenswood Ave
Chicago 40 Ill-9-18

EL-Tronics Inc Penn Ave Mayfield 1 Pa-13-15

Emerson Radio & Phonograph Corp 14 & Coles
Sts Jersey City 2 NJ-9

Entron Inc 4902 Lawrence St Bladensburg
Md-1

Ess Instrument Co 96 S Washington Ave Ber-
genfield NJ-16

Federal Telephone & Radio Co Div IT&T 100
Kingsland Rd Clifton NJ-11-16

Fenwal Inc Pleasant St Ashland Mass-2

Fielden Instrument Div Robertshaw Fulton
Controls 2920 N 4 St Philadelphia 33 Pa-11

Freed Transformer Co 1718 Weirfield St Brook-
lyn 27 NY-11

Gates & Co Geo W Hempstead Tpke & Lucille
Ave Franklin Square LI NY-3-10-20

General Electric Co Apparatus Sales Div 1
River Road Schenectady 5 NY-6-13-18-19

General Radio Co 275 Mass Ave Cambridge 39
Mass-1-18-19

Geotechnical Corp 3712 Haggard Dr Dallas 9
Tex-18

Goldak Co 1544 W Glenoaks Blvd Glendale 1
Calif-6-9-10-12-13-15-20

Hallamore Electronics Co Div Siegler Corp
Brookhurst & Santa Ana Freeway Anaheim
Calif-2-15-19

Hamner Electronics Co Box 531 Princeton
NJ-13

Hanson-Gorrill-Brian Inc 85 Hazel St Glen
Cove NY-19

Harworth Mfg Co 409 El Camino Real Menlo
Park Calif-9

Heiland Div Minneapolis-Honeywell 5200 E
Evans Ave Denver 22 Colo-1-6-8

Hewlett-Packard Co 275 Page Mill Rd Palo
Alto Calif-1-17

Hughes Products Div Hughes Aircraft Co Los
Angeles 45 Calif-1

Illinois Testing Labs 420 N La Salle St Chi-
cago 10 Ill-9

Industrial Electronics Inc 8060 Wheeler St
Detroit 10 Mich-11-18

Industrial Test Equip Co 55 E 11 St New York
3 NY-5-11-14-19

International Research & Development 797
Thomas Lane Columbus 16 Ohio-18

Iron Firearm Electronics Div 2838 S E 9 Ave
Portland 2 Ore-2

Johnson-Williams Inc 2625 Park Blvd Palo
Alto Calif-4-6

J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-1

Kay Electric Co 14 Maple Ave Pinebrook NJ-
5-17-18

Kidde & Co Walter 1156 Main St Belleville 9
NJ-2-16

Knopp Inc 4224 Holden St Oakland 8 Calif-19

Kruger Instruments Harold 323 W Valley Blvd
San Gabriel Calif-4

Landsverk Electrometer Co 550 W Garfield
Ave Glendale 4 Calif-13

Larson Instrument Co 24 Orchard St Tarry-
town NY-16

Lear Inc 3171 S Bundy Dr Santa Monica Calif-2

Linde Air Products Co Div Union Carbide &
Carbon 30 E 42 St New York 17 NY-6

Loril-Taber Co 40 Ontario St Canandaigua
NY-2

Magnaflex Corp 7300 W Lawrence Ave Chicago
31 Ill-3-6-8-12-18-20

MB Mfg Co Div Textron American 1060 State
St New Haven 11 Conn-18

McNeill Eng'g Co 4057 W Van Buren St Chi-
cago 24 Ill-6

Measurement Eng'g Ltd John St Arnprior On-
tario Canada-13-15

Menlo Research Lab Box 522 Menlo Park
Calif-6-9-10-13-15

Meridian Metacraft Inc 8739 S Millergrove Dr
Whittier Calif-17

Microphase Corp P O Box 1166E Greenwich
Conn-1

Microtran Co 84-11 Rockaway Beach Blvd
Rockaway Beach 93 NY-9-18

Microwave Associates 22 Cummington St Bos-
ton 15 Mass-17

Mine Safety Appliances Co 201 N Braddock
Ave Pittsburgh 8 Pa-2-4-6

Mount Sopris Instrument Corp 1320 Pearl St
Boulder Colo-11-13-15

Narla Corp 160 Herricks Rd Mincola NY-1-
5-17

National Padiac Inc 479 Washington St New-
ark 2 NJ-13-15

National Research Corp 160 Charlemont St
Newton Highlands 6 Mass-6

Nevada Air Products Co North Valley Rd
Reno Nev-7-8-9

Nilsson Electrical Lab 103 Lafayette St New
York 13 NY-9-12

North American Philips Co 750 S Fulton Ave
Mt Vernon NY-14-15

NRD Instrument Co 6425 Etzel Ave St Louis
13 Mo-13-15

N R K Mfg & Eng'g 4601 W Addison St
Chicago 41 Ill-1

Nuclear Development Lab PO Box 7034 Kansas
City 13 Mo-13

Nuclear-Electronics Corp 2632 W Cumberland
St Philadelphia 32 Pa-2-13-15

Nuclear Instrument & Chemical Corp 223 W
Erie St Chicago 10 Ill-13-15

Nuclear Measurements Corp 2460 N Arlington
Ave Indianapolis 18 Ind-13

Nuclear Research Corp Southampton Pa-1-3-
9-13-15

Nucleonic Corp of America 196 DeGraw St
Brooklyn 31 NY-13

OMCO II S 93 & Las Palomas St Kingman
Ariz-10-13

Panellit Inc 7401 N Hamlin Ave Skokie Ill-13

Perfection Mica Co Magnetic Shield Div 1322
N Elston Ave Chicago 22 Ill-8

Peschel Electronics Inc 13 Garden St New
Rochelle NY-19

Philmore Mfg Co 113 University Pl New York
3 NY-1

Phoenix Precision Instrument 3803 N 5 St
Philadelphia 40 Pa-16

Polytechnic Research & Development Co 202
Tillary St Brooklyn 1 NY-1-11-17

Photobell Co 43 Vesey St New York 7 NY-3-16

Photocon Research Products 421 N Foothill
Blvd Pasadena 8 Calif-3

Photo Crystals Inc 15 S 1 St Geneva Ill-2-13-16

Precision Associates 354 Cumberland St Brook-
lyn 38 NY-1

Radiation Counter Labs 5122 W Grove St
Skokie Ill-13-15

Radio Corp of America Tube Div 215 S 5 St
Harrison NJ-1-13-15

Ravtheon Mfg Co Receiving & Cathode Ray
Tube Operations 55 Chapel St Newton 58
Mass-1-13

Reed-Curtis Nuclear Industries Inc 307 Culver
Blvd Playa del Rey Calif-6-13-15

Rich Electronics Inc 212 NW 8 Ave Miami
36 Fla-20

Pinley Co 1 Factory St Middletown Conn-16

Rockwell Eng'g Co 4065 N New Jersey St Indi-
anapolis 5 Ind-8

Rubicon Co Ridge Ave & 35 St Philadelphia
32 Pa-11-14-19

Ryan Co S C 1316 Yale Pl Minneapolis Minn-9

Sage Labs 30 Guinan St Waltham 54 Mass-1-17

Servo Corp of America 20-20 Jericho Turn-
pike New Hyde Park LI NY-2

Sierra Electronic Corp 1050 Britton Ave San
Carlos Calif-1

Simmonds Aerocessories 105 White Plains Rd
Tarrytown NY-2

Sperry Gyroscope Co Division of Sperry Rand
Corp Great Neck NY-1-5-17

Sperry Products Shelter Rock Rd Danbury
Conn-3

Standard Electronics Research Corp 2 East
End Ave New York 21 NY-3-13

Stavid Eng'g Co US Hwy #22 Plainfield NJ-15

Stoelling Co C H 424 N Homan Ave Chicago
24 Ill-7

Sylvania Electronic Products 1740 Broadway New
York 19 NY-1-2

Taller & Cooper 75 Front St Brooklyn 1 NY-
4-16

Tarc Electronics Inc 48 Urban Ave Westbury
LI NY-10-13-15

Technicraft Labs Inc Thomaston-Waterbury
Rd Thomaston Conn-17

Tele-Smoke Corp 15 Ward St Bloomfield NJ-
2-16

Texas Instruments Inc 6000 Lemmon Ave
Dallas 9 Texas-12

Tracerlab Inc 130 High St Boston 10 Mass-
1-13-15

United Electrodynamics Div United Geophysical
Corp 1200 S Marengo Ave Pasadena Calif-18

Universal Atomics Corp 19 E 48 St New York
17 NY-9-10-12-13-15

Vacuum Tube Products Co 506 S Cleveland
St Occanside Calif-6

Victory Eng'g Corp 117 Springfield Rd Union
NJ-2-4

Vinson Co E R 1401 Middle Harbor Rd Oak-
land 20 Calif-13

Wac Line Inc 35 S St Clair St Dayton 2 Ohio-17

Waveline Inc Passaic Ave Box 470 Caldwell
NJ-17

Western Radiation Lab 1107 W 24 St Los
Angeles 7 Calif-13-15-18

Worner Electronic Devices Rankin Ill-16

24—DIALS & FRONT PANEL ACCESSORIES

Belts	1
Bezels	2
Chains	3
Crystals	4
Decalcomanias	5
Dials, complete	6
Dials, telephone	7
Drives, worm	8
Escutchcons	9
Faceplates	10
Faces	11
Knobs, metal	12
Knobs, molded	13
Knobs, wood	14
Lights, dial	15
Lights, dial assembly	16
Lights, indicator	17
Lights, jewel pilot	18
Lights, panel	19
Locks, dial	20
Locks, shaft	21
Luminous Markers	22
Nameplates	23
Pointers, dial	24
Rubbers, drive	25
Scales	26
Springs, knob	27
Tabs	28
Windows, glass	29
Windows, metallized	30

Ackerman Engravers 458 Broadway New York
13 NY-6-23-24

Acromark Co 443 Morrell St Elizabeth 4 NJ-6

Aerolite Electronics Corp 507 26 St Union City
NJ-15-16-17-18-19

Aerolux Light Corp 653 11 Ave New York 36
NY-17

Aeronautical Electric Co 5656 Northwest Hwy
Chicago 30 Ill-17-18

Aetna Supply Inc 15 N Hickory St Arlington
Heights Ill-9-23-26

Alden Products Co 123A N Main St Brockton
Mass-13-15-16-18-19

Alden Systems Co Washington St Westboro
Mass-1-17

Allied Engraving & Stamping 17 Elm St
Buffalo 3 NY-6-9-10-23-24

American Decalcomania Co 4344 W 5 Ave Chi-
cago 24 Ill-5

American Metrix Corp 15 Exchange Pl Jersey
City 2 NJ-6-20-24

American Radio Hdw Co 152 MacQuesten Pkwy
S Mt Vernon NY-13-15-17-18

Associated Projects Co 35922 Skytop Lane
Willoughby Ohio-17

Atlas E-E Corp Bedford Airport Terminal Bldg
Bedford Mass-23

Auburn Mfg Co 110 Stack St Middletown
Conn-1

Austin O Div of Decalmakers 225 Flatbush Ave Brooklyn 17 NY-5-6-23
 Bache Senon & Co 636 Greenwich St New York 14 NY-18-29
 Barwood Mfg Co L J Williams & Norman Sts Everett 49 Mass-2-27
 Birnbach Radio Co 145 Hudson St New York 13 NY-13-20-21-24
 Bodnar Industries 19 Railroad Ave New Rochelle NY-6-13-25
 Borg Corp Geo W Borg Equip Div Janesville Wis-6
 Buckbee Mears Co 4 & Rosabel Sts St Paul 1 Minn-6
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-16
 Cambridge Thermionic Corp 445 Concord Ave Cambridge 38 Mass-13-20-21
 Canadian Radium & Uranium Corp 630 5 Ave New York 20 NY-6-10-22-23-24
 Chicago Dial Co 2901 S LaSalle St Chicago 16 Ill-6
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-13
 Circon Component Co Santa Barbara Municipal Airport Goleta Calif-15-16-17-18
 City Marking Devices Corp 12 Spruce St New York 38 NY-5-13
 Cleveland Metal Specialties Co 1783 E 21 St Cleveland 14 Ohio-23
 Corning Glass Works Corning NY-30
 Cortland Industries Inc 4545 W Cortland St Chicago 39 Ill-9-23
 Croname Inc 3701 Ravenswood Ave Chicago 13 Ill-2-9-23-26
 Crouse-Hinds Wolf & 7 North Sts Syracuse 1 NY-17-18-19
 Dale Products PO Box 136 Columbus Neb-6-12-13-24
 Daniels Inc C R 75 West St New York 6 NY-1
 Davies Molding Co Harry 1428 N Wells St Chicago 10 Ill-13
 Decimeter Products Co 730 Hooker St Denver 4 Colo-5
 Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-4-6-12-13-24-27
 Dialight Corp 60 Stewart Ave Brooklyn 37 NY-15-17-18-19-20
 Dietz & Co Henry G 12-16 Astoria Blvd Long Island City 2 NY-6-23
 Dimco-Gray Co 207 E 6 St Dayton 2 Ohio-13
 Dimond Union Stamp Works 81 Washington St Boston 8 Mass-23
 Drake Mfg Co 1713 W Hubbard St Chicago 22 Ill-15-16-17-18-19
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-2
 Duralith Corp 1025 Race St Philadelphia 7 Pa-9-10-22-23-61
 Eby Co Hugh H 4701 Germantown Ave Philadelphia 44 Pa-13
 Eldama Corp 9844 Remer St El Monte Calif-15-18-19
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-2
 Elzee Me Products 775 39 St Brooklyn 32 NY-19
 Emerson Plastics Corp 564 3 Ave New York 16 NY-6-23
 Erie Resistor Corp 644 W 12 St Erie 6 Pa-13-24
 Etched Products Corp 39-01 Queens Blvd Long Island City 4 NY-2-6-23
 Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-2-6-12-24
 Exact Weight Scale Co 944 W 5 Ave Columbus Ohio-26
 Feay Co Neal 427 Olive St Santa Barbara Calif-6-12-23-26
 Federal Screw Products 3917 N Kedzie Ave Chicago 18 Ill-13-15-19
 Fish-Schurman Corp 70 Portman Rd New Rochelle NY-4
 Fuze-On Products 101 N Hickory St Arlington Heights Ill-6-9-10-23-24-26
 Garde Mfg Co 588 Eddy St Providence 3 RI-13
 Gee-Lar Mfg Co 418 S Wyman St Rockford Ill-12-13
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-1-12-13-15-18-19-24-25-27
 General Electric Co-Apparatus Sales Div 1 River Road Schenectady 5 NY-15-18
 General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-30
 General Products Corp Webb St Union Springs NY-13
 General Radio Co 275 Mass Ave Cambridge 39 Mass-6-13
 General RF Fittings Inc 702 Beacon St Boston 15 Mass-13
 Gordon Enterprises 5362 N Cahuenga Blvd N Hollywood Calif-29
 Graybar Electric Co 420 Lexington Ave New York 17 NY-7-17
 Grayhill 561 Hillgrove Ave La Grange Ill-13
 Gurley W & L E 514 Fulton St Troy NY-26
 Hall-Scott Electronics Div 2950 N Ontario St Burbank Calif-15
 Holland Div Minneapolis-Honeywell 5200 Evans Ave Denver 22 Colo-12
 Helipot Corp 916 Meridan Ave S Pasadena Calif-6
 Hetherington Inc Sharon Hill Pa-17
 Industrial Devices Inc 982 River Rd Edgewater NJ-13



Industrial Engravers Inc 4103 10 Ave Brooklyn 19 NY-6-10-23
 Insuline Corp of America 186 Granite St Manchester NH-6-12-13-24
 Jan Hdw Mfg Co 75 N 11 St Brooklyn 11 NY-2-9-12-13-20-21
 Jeffrey Mfg Co N 4 St & 1 Ave Columbus 16 Ohio-3
 Johnson Co E F Waseca Minn-6-13-15-16-17-18-19-20
 Kearfott Co 1378 Main Ave Clifton NJ-29
 Keystone Electronics 423 Broome St New York 13 NY-20-21-24
 Kirkland Co H R 8 King St Morristown NJ-15-16-17-18
 Kregel Mfg Co 227 Fulton St New York NY-5-23
 Kurz-Kasch Inc 1421 S Broadway Dayton 1 Ohio-13
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-9-16-24
 Leecraft Mfg Co 60 Greene St New York 12 NY-16-17
 Link-Belt Co Prudential Plaza Chicago 1 Ill-3
 Long Inc Thomas J 215 Stonehenge Lane Carle Pl LI NY-23
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-29
 Mansol Ceramics 140 Little St Belleville 9 NJ-4-18
 Marco Industries Co 207 S Helena St Anaheim Calif-17
 Matthews & Co J H 3966 Forbes St Pittsburgh 13 Pa-23
 Maymer Corp 1961 W 112 St Cleveland 2 Ohio-6-23-26
 Meyerord Co 5323 W Lake St Chicago 44 Ill-5-23
 Mica Insulator Co 797 Broadway Schenectady 1 NY-6-10-11-23
 Miller Dial & Nameplate Co 4400 N Temple City Blvd El Monte Calif-6-23
 Modern Wire Co 39-30 Review Ave Long Island City 1 NY-13
 Molded Insulation Co 335 E Price St Philadelphia 44 Pa-13
 Morse Co Frank W 1300 Soldiers Field Rd Boston 35 Mass-17
 Mutual Electronic Industries 85 Beechwood Ave New Rochelle NY-19
 National Company 61 Sherman St Malden 48 Mass-2-6-12-13-20-21-24
 Natural Lighting Corp 612 W Elk Ave Glendale 4 Calif-23-24
 Newcomb Spring of Conn College Hwy Southington Conn-27
 Nichols Products 325 W Main St Moorestown NJ-6-24
 Norco Mfg Co 392 Bleeker St New York 14 NY-22
 Norsid Mfg Co 33 Prospect St Yonkers NY-5
 North Shore Nameplate Inc 214-27 Northern Blvd Bayside 61 NY-23
 Olympic Plastics Co 5741 W Jefferson Blvd Los Angeles 16 Calif-13
 Oxford Electric Corp 3911 S Michigan Ave Chicago 15 Ill-19
 Pacific Transducer Corp 11836 W Pico Blvd Los Angeles 64 Calif-12
 Park Nameplate Co 61-07 32 Ave Woodside 77 NY-23
 Peerless Products Industries 812 N Pulaski Rd Chicago 51 Ill-12
 Permanent Label Corp 49 Ackerman St Bloomfield NJ-10-23
 Permonite Mfg Co 4554 N Broadway Chicago 40 Ill-15-16
 Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-29
 Photo Chemical Products 479 Walton Ave New York 51 NY-6-22-23
 PIC Design Corp 160 Atlantic Ave Lynbrook LI NY-1-6-24
 Pittsburgh Plate Glass Co 632 Fort Duquesne Blvd Pittsburgh 22 Pa-10-29
 Pix Mfg Co 75 Hudson St Newark 3 NJ-28
 Plasteck Inc PO Box 551 Poteau Okla-15
 Precision Metal Product 41 Elm St Stoneham 80 Mass-21-23
 Raytheon Mfg Co Ceramic Sales Div Foundry Ave Waltham Mass-29-30
 Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-13-21
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-13
 Reliable Spring & Wire Forms Co 3167 Fulton Rd Cleveland 9 Ohio-27
 Richardson Co 2790 Lake St Melrose Park Ill-6
 Rodale Mfg Co Emaus Pa-1
 Rogan Bros 8031 N Monticello Ave Skokie Ill-9-12-13-24
 Rohden Mfg Co 4739 W Montrose Ave Chicago 41 Ill-6-9-13
 Romar Plastics Inc 1311 E Main St St Charles Ill-13

Sage Labs 30 Guinan St Waltham 54 Mass-29-30
 Sampson Chemical & Pigment Corp 2830 W Lake St Chicago 12 Ill-6-22-24
 Sillocks-Miller Co 10 W Parker Ave Maplewood NJ-24
 Smith Inc Herman H 2326 Nostrand Ave Brooklyn 10 NY-13-18-21-24
 Stone City Machine & Tool Co PO Box 351 Bedford Ind-9
 Streeter-Amet Co 4101 N Ravenswood Ave Chicago 13 Ill-26
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-12-23
 Superior Carbon Products 9115 George Ave Cleveland 5 Ohio-12-13
 Sylvania Electric Products 1740 Broadway New York 19 NY-9-13
 Technicraft Co 1156 Commonwealth Ave Boston 34 Mass-6
 Tekni-Labels Co 232 N Glenoaks Blvd Burbank Calif-5
 Telecom Inc 1019 Admiral Blvd Kansas City 6 Mo-7
 Telephonics Corp Park Ave Huntington LI NY-7
 Telesound Inc 1505 Race St Philadelphia 2 Pa-23
 Toman & Co E 8700 W 47 St Lyons Ill-12-13-23
 Ton-Tex Corp 247 Pearl St NW Grand Rapids 2 Mich-1
 Transradio Ltd 138A Cromwell Rd London SW 7 England-6
 Tung-Sol Electric Inc 95 8 Ave Newark 4 NJ-15
 Ultra-Violet Products 5114 Walnut Grove Ave San Gabriel Calif-22
 U S Radium Corp 535 Pearl St New York 7 NY-6-13-22-23-24-26
 Vari Equip Co PO Box 46 West Cornwall Conn-10-13-23
 Vemaline Products Co PO Box 222 Hawthorne NJ-18
 Vidaire Electronics Mfg 576-80 W Merrick Rd Lynbrook NY-9
 Visulite Co 423 Broome St New York 13 NY-20
 Walco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-27
 Westline Prods Div Western Lithograph Co 600 E 2 St Los Angeles 54 Calif-5-23
 Whitso Inc 9380 Byron St Schiller Park Ill-13
 Wilson Camera Co 1395 Lawrence Rd Haverstown Pa-23
 Zenith Optical Lab 1940 Great Neck Rd Copiague NY-10-29-30

25—FILTERS

Filters, antenna	1
Filters, audio	2
Filters, bandpass	3
Filters, band rejection	4
Filters, high pass	5
Filters, IF	6
Filters, interference	7
Filters, line	8
Filters, low pass	9
Filters, microwave	10
Filters, noise suppressing	11
Filters, screen room	12
Filters, telemetering	13
Filters, vestigial sideband	14
Filters, video	15
Filters, wavetrap	16

ACF Electronics 800 N Pitt St Alexandria Va-10
 Acme Coil & Transformer Corp 1915 N Clybourn Ave Chicago 14 Ill-2
 Aero Transformer & Mfg Corp 26-02 4 St Long Island City 2 NY-2-3-4-5-9
 Admittance Inc 5 Marine St Farmingdale NY-9-10
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-1-2-3-4-5-7-8-9-11-12-13
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-3-4-5-6-7-8-9-10-11-12-16
 Air Associates Inc 511 Joyce St Orange NJ-3-4-9
 Aircorn Inc 354 Main St Winthrop 52 Mass-1-10
 Aircraft & Electronic Specialties 22 S Green St Brownsburg Ind-2-4-5-7-8-9-11
 Airdesign Inc 241 Fairfield Ave Upper Darby Pa-2-3-4-5-9-13
 Allison Labs 14185 Skyline Dr Puente Calif-2-3-5-9
 All-Tronics Inc 45 Bond St Westbury NY-7-9-11-12
 Amerac Inc Wrenham Mass-10
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-10
 American Electronics Co 1203 Bryant Ave New York 59 NY-1-3-5-7-9
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-1-3-4-5-6-8-9
 Amphenol Electronics Corp 1830 S 54 Ave Chicago 50 Ill-5

Andrew Corp 363 E 75 St Chicago 19 Ill-10
 Antlab 4950 N High St Columbus 14 Ohio-2
 Applied Research Inc 163-07 Depot Rd Flushing
 58 NY-3-4-5-9-10
 ARF Products 7627 Lake St River Forest Ill-10
 Arnold Magnetics Co 5962 Smiley Dr Culver
 City Calif-9
 Arted Co 367 Worthington St Springfield 3
 Mass-6-15-16
 Astron Corp 255 Grant Ave E Newark NJ-7-11
 Atlantic Transformer Div New London Instru-
 ment 30 Hynes Ave Groton Conn-2-3-5-9
 Atlas Sound Corp 1449 39 St Brooklyn 18 NY-2
 Audio Development Co 2833 13 Ave S Minne-
 apolis 7 Minn-2-3-4-5-9-25
 Axel Bros Electronic Div 134-20 Jamaica Ave
 Jamaica NY-2-7-8-9-11-12
 Babeck Radio Eng'g 7942 Woodley Ave Van
 Nuys Calif-2
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati
 2 Ohio-2
 Barker & Williamson 237 Fairfield Ave Upper
 Darby Pa-1-2-3-4-5-6-7-8-9-14
 Basler Electric Co 605 5 St Highland Ill-2-3-4-
 5-8-9-10
 Bassett Inc Rex 1314 N E 17 Court Fort
 Lauderdale Fla-11
 Bellaire Electronics Inc 62 White St Red Bank
 N J-5-6-7-10
 Bendix Aviation Corp Pacific Div 11600 Sher-
 man Way N Hollywood Calif-9
 Blonder-Tongue Labs 526 Worth Ave E West-
 field N J-3-4-7-8-16
 Boehme Inc H O 915 Broadway New York
 10 N Y-3-5-9
 Bomac Labs Salem Rd Beverly Mass-10
 Budd-Stanley Co 43-01 22 St Long Island City
 1 N Y-10
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-7
 Bunnell & Co 45 Warburton St Yonkers 2 N Y-
 2-3-4-5-9-13-14
 Calif Magnetic Control Corp 11922 Valerio St
 N Hollywood Calif-2-3-4-5-9-13
 Canoga Corp 5955 Sepulveda Blvd Van Nuys
 Calif-1-6-10
 Carad Corp 2850 Bay Rd Redwood City Calif-
 3-4-5-9
 Carol Electronics Corp 315 W Stephen St Mar-
 tinsburg W Va-2-3
 CELCO (Constantine Eng'g Labs) P O Box
 555 Mahwah N J-2-3-1-5-6-8-9
 Central Sales & Mfg Corp 2 Richwood Pl Den-
 ver N J-10
 Central Transformer Co 910 W Jackson Blvd
 Chicago 7 Ill-2-3-4-8-9
 CGS Labs 391 Ludlow St Stamford Conn-11
 Chicago Electronic Eng'g 3223 Armitage Ave
 Chicago 17 Ill-2-3-5
 Chicago Standard Transformer Corp 3501 Addi-
 son St Chicago 18 Ill-2-3-9
 Cinema-Television Ltd Worsley Bridge Rd
 Lower Sydenham London S E 26 England-
 3-5-9
 Clegg Labs Inc Ridgedale Ave Morristown
 N J-6
 Clum Mfg Co 611 National Ave Milwaukee 4
 Wis-1-5-7-9
 Coast Coil Co 5333 W Washington Blvd Los
 Angeles 16 Calif-2
 Coilcraft Inc Cary Ill-1-3-4-5-6-7-8-9-11-16
 Communication Accessories Co 110 St & 71
 Hwy Hickman Mills Mo-2-3-4-5-9-13-14
 Control Corp 718 Central Ave S Minneapolis
 14 Minn-13
 Corbin Corp 5419 56 Pl Riverdale Md-1-4-7-16
 Cornell-Dubilier Electric Corp 333 Hamilton
 Blvd S Plainfield N J-1-2-3-4-5-6-7-8-9-11
 Cubic Corp 2841 Canon St San Diego 6 Calif-1
 Cycle Transformer Corp 356 Glenwood Ave
 East Orange N J-2-3-4-5-8-9
 Daystrom Instrument Arebald Pa-4-6-13
 DeCoursey Eng'g Lab 11828 W Jefferson Blvd
 Culver City Calif-2-3-1-5-9
 DeRance Eng & Microwave Corp 81 Albion St
 Wakefield Mass-10
 De Murnay-Bonardi Inc 780 S Arroyo Pkwy
 Pasadena 1 Calif-10
 Deutschmann Corp Tobe 921 Providence Hwy
 Norwood Mass-1-2-3-4-5-7-8-9-10-11-12-16
 Diamond Microwave Corp 7 North Ave Wake-
 field Mass-1-3-4-10
 Dielectric Products Eng'g Raymond Mo-1-3
 Dietz Design & Mfg Co Grandview 13 Mo-2-
 3-4-5-6-7-8-9-11
 Douglas Microwave Co 11 Beechwood Ave New
 Rochelle N Y-3-10
 D & R Ltd 402 E Gutierrez St Santa Barbara
 Calif-1-2-3-4
 Dubrow Development Co 235 Penn St Burling-
 ton N J-2-3-1
 DuMont Labs Inc Allen B 760 Bloomfield Ave
 Clifton N J-14-15-16
 DX Radio Products Co 2300 W Armitage Ave
 Chicago 47 Ill-2-3-1-5-6-7-8-9
 Dynamic Electronics-NY Inc 73-39 Woodhaven
 Blvd Forest Hills N Y-10-11
 Eby Co Hugh H 4701 Germantown Ave Phila-
 delphia 44 Pa-1
 Eldico of NY Inc 72 E 2 St Mineola L I
 N Y-1-3-4-5-6-7-8-9-12-16
 Electron Products 430 N Halstead Pasadena
 Calif-7-9-11
 Electronic Specialty Co 5121 San Fernando Rd
 Los Angeles 39 Calif-1-3-4-5-9-10-13
 Electronic Transformer Co 70 Washington St
 Brooklyn 1 N Y-1-2-3-4-5-9-10-11
 Electronics Development 3713 Cahuenga Blvd
 N Hollywood Calif-14
 Entron Inc 4902 Lawrence St Bladensburg
 Md-1-3-4-7-9-16
 Epco Electronics Inc 140 Liberty St New
 York 6 N Y-5-7-16
 Epco Products 2500 Atlantic Ave Brooklyn 7
 N Y-2-3-4-5-9
 ESC Corp 534 Bergen Blvd Palisades Park
 N J-1-3-4-5-10
 Espey Mfg Co 200 W 57 St New York 19
 N Y-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16
 Essex Electronics 550 Springfield Ave Berkeley
 Heights N J-6-9
 Farrand Optical Co 4401 Bronx Blvd New York
 70 NY-7
 Federal Telephone & Radio Co Div IT&T 100
 Kingsland Rd Clifton N J-1-5-9
 Filtron Co 131-05 Fowler Ave Flushing N Y-7
 Forbes & Wagner 345 Central Ave Silver
 Creek N Y-1-3-5-6-8-9
 Forest Electric Co 7216 Circle Ave Forest
 Park Ill-1-2-7-8-11
 Foto-Video Labs 25 Amity St Little Falls
 N J-15
 F-R Machine Works 26-12 Borough Pl Wood-
 side 77 N Y-10
 Freed Transformer Co 1718 Weirfield St Brook-
 lyn 27 N Y-2-3-4-5-7-8-9-11-13-14
 Gabriel Electronics Div 135 Crescent Rd Need-
 ham Hgts 94 Mass-1-10
 General Instrument Corp 65 Gouverneur St
 Newark 4 N J-6
 General Precision Lab 63 Bedford Rd Pleasant-
 ville N Y-10
 Geotechnical Corp 3712 Haggard Dr Dallas 9
 Tex-3
 Gertsch Products 11846 Mississippi Ave Los
 Angeles 25 Calif-3
 Graybar Electric Co 420 Lexington Ave New
 York 17 N Y-2-8
 Gudeman Co 340 W Huron St Chicago 10 Ill-
 7-11-12
 Gulton Mfg Corp 212 Durham Ave Metuchen
 N J-5-9
 Hadley Co Robert M 5112 S Hoover St Los
 Angeles 37 Calif-2-3-4-5-9
 Hallett Mfg Co 1601 W Florence Ave Ingle-
 wood Calif-7-11
 Harrison Labs 45 Industrial Rd Berkeley
 Heights N J-15
 Hermetic Seal Transformer Co 555 No 5 St
 Garland Texas-3-9
 Hillburn Electronic Products 55 Nassau Ave
 Brooklyn 22 N Y-1-3-4-5-6-7-9-11-15-16
 Hill Electronic Eng'g & Mfg New Kingstown
 Pa-2-3-4-6-13
 Hogan Labs 155 Perry St New York 14 N Y-
 3-9-11
 Holland Electronics 2133 Central Drive S East
 Meadow I I N Y-15
 Houlihan Co T J 2508 W Lawrence Chicago
 25 Ill-1-7
 Hycor Div Int'l Resistance Co Sylmar Calif-
 2-3-4-5-9-13
 Industrial Development Labs 17 Pollock Ave
 Jersey City 5 N J-9
 Insuline Corp of America 186 Granite St Man-
 chester N H-7
 Interelectronics Corp 2432 Grand Concourse
 New York 58 N Y-2-11
 Interference Measurements Lab 907 E 51 St
 Brooklyn 3 N Y-7-8-9-11
 JFD Mfg Co 6101 16 Ave Brooklyn 4 N Y-1-7-9
 Johnson Co E F Waseca Minn-9
 Johnson Electronics 521 Elwell St Orlando
 Fla-6-7
 J-V-M Eng'g Co 8846 W 47 St Brookfield
 Ill-10
 Kaar Eng'g Corp 2995 Middlefield Rd Palo
 Alto Calif-9
 Kay Electric Co 14 Maple Ave Pinelook
 N J-14
 Kennedy & Co D S 155 King St Cohasset
 Mass-1
 Krohn-Hite Instrument Co 580 Mass Ave
 Cambridge 39 Mass-2-3-4-9
 Lear Inc 3171 S Bundy Dr Santa Monica
 Calif-1
 Lynch Carrier Systems Inc 695 Bryant St
 San Francisco 7 Calif-2-3-4-5-8-9-13
 Lynmar Engrs Inc 1432 N Carlisle St Phila-
 delphia 21 Pa-8
 Maryland Electronic Mfg Corp 5009 Calvert
 Rd College Park Md-1-9-10
 Measurement Eng'g Ltd John St Arnprior
 Ontario Canada-2-3
 Meleo Products Inc 301 5 Ave So Minneapolis
 15 Minn-2
 Melpar Inc Sub Westinghouse Air Brake Falls
 Church Va-10
 Meridian Metalcraft Inc 8739 S Millergrove
 Dr Whittier Calif-10
 Merit Coil & Transformer Corp 4427 N Clark
 St Chicago 40 Ill-5-7-8-16
 Micamold Electronics Mfg Corp 1087 Flushing
 Ave Brooklyn 37 N Y-5-7-8-9-11-12
 Microlab 71 Okner Pkwy Livingston N J-1-5-
 7-8-9-10-12
 Microphase Corp P O Box 1166 E Greenwich
 Conn-1-3-4-5-7-9-10-16
 Microtran Co 84-11 Rockaway Beach Blvd
 Rockaway Beach 93 N Y-2
 Microwave Associates 22 Cummington St Bos-
 ton 15 Mass-10
 Mitchell Industries P O Box 17 Mineral Wells
 Texas-11
 Mosley Electronics Inc 8622 St Charles Rock
 Rd St Louis 14 Mo-16
 Muter Co 1255 S Michigan Ave Chi 5 Ill-6
 Narda Corp 160 Herricks Rd Mineola N Y-9-10
 National Aircraft Corp 3111 Tulare Ave Bur-
 bank Calif-8
 National Capacitor Co 18 Webster St Brook-
 line 46 Mass-2-3-4-5-7-8-9-11-12
 N R K Mfg & Eng'g 4601 W Addison St
 Chicago 41 Ill-10
 Nyt Electronics Inc 2979 N Ontario St Bar-
 bank Calif-2-3-4-5-9
 Ortho Filter Corp 196 Albion Ave Paterson 2
 N J-1-2-3-4-5-6-7-8-9-11-12-13-14-15-16
 Photovolt Corp 95 Madison Ave NY 16 NY-7
 Pittsburgh Coil Co Box 700 Carnegie Pa-5-7-8
 Polarad Electronics Corp 43-20 34 St Long
 Island City 1 N Y-10
 Polyphase Instrument Co 701 Haverford Rd
 Bryn Mawr Pa-2-3-5-9-13
 Polytechnic Research & Development Co 202
 Tillary St Brooklyn 1 N Y-10
 Portchester Instrument Corp 114 Wilkins Ave
 Port Chester N Y-10
 Potter Co 1950 Sheridan Rd N Chicago Ill-
 5-7-8-9-11-12
 Premier Instrument Corp 52 W Houston St
 New York 12 N Y-10
 Prodell Inc 307 Bergen Ave Kearny N J-
 10-14
 Pulse Techniques Inc 1411 Palisade Ave W
 Englewood N J-2-3-5-9
 Radio Corp of America Camden 2 NJ-1-3-5-9-10
 Railway Communications P O Box 67 Raytown
 Mo-2-3-4-5-8-9-11-14
 Raypar Inc 7810 W Addison St Chicago 31
 Ill-5-7-9
 Regency Div Idea Inc 7900 Pendleton Pike
 Indianapolis 26 Ind-5
 R K Mfg Co P O Box 112 Marion Ill-2-3-4-5-9
 Rollins Electronics Corp Schley Ave Lewes
 Dela-2-3-4-5-9-13
 Rosen Eng'g Products Raymond 32 & Walnut
 Sts Philadelphia 19 Pa-3-9-13
 Sage Labs 30 Guinan St Waltham 54 Mass-1-10
 Sanders Associates 95 Canal St Naasua N H-10
 San Fernando Electric Mfg 1509 1 St San
 Fernando Calif-7-11
 Shielding Inc Box 217 Riverside NJ-12
 Sierra Electronic Corp 1050 Britton Ave San
 Carlos Calif-9
 Southern Electronics Corp 239 W Orange
 Grove Ave Burbank Calif-2
 Southwestern Industrial Electronics 2831 Post
 Oak Rd Houston 19 Texas-3
 Spencer-Kennedy Labs 1320 Soldiers Field Rd
 Boston 35 Mass-1-3-4-7
 Sprague Electric Co Marshali St North Adams
 Mass-7-8-11-12
 Standard Electronics Corp 285 Emmet St
 Newark N J-5-9-14
 Suporex Electronics Corp 4 Ralford Pl Yonkers
 N Y-3-5-7-8
 Tarc Electronics 48 Urban Ave Westbury L I
 N Y-3-14-15
 Technicraft Labs Inc Thomaston-Waterbury Rd
 Thomaston Conn-3-10
 Telechrome Inc 88 Merrick Rd Amityville L I
 N Y-1-4-5-9-15-16
 Telerad Mfg 1440 Broadway NY 18 NY-10
 Teleradio Eng'g Corp Wilkes Barre Pa-5-6-
 15-16
 Televiso Corp 1415 Golf Rd Des Plaines Ill-
 2-3-4-5-6-7-8-9-11-12-13-15
 Texas Instruments Inc 6000 Lemmon Ave
 Dallas 9 Texas-2-3-11
 Thordarson-Meissner Mfg Div Maguire Indus-
 tries Mt Carmel Ill-2-6-8-9
 Torwico Electronics 1080 Morris Ave Union
 N J-4-5-9
 Transformer Engrs 325 N Halstead Ave Pasa-
 dena 8 Calif-2-3-9
 Transformer Technicians 2608 N Cicero Ave
 Chicago 39 Ill-2-3-4-5-8-9
 Transonic Inc 808 16 St Bakersfield Calif-3-4-
 5-8-9-13-14-16
 Trans-Tel Corp 736 N Highland Ave Los
 Angeles 38 Calif-4-7
 Union Electric & Mfg Co 1057 Summit Ave
 Jersey City 7 N J-1-2-3-5-6-7-8-9-10-15-16
 United Electrodynamics Div United Geophysical
 Corp 1200 S Marengo Ave Pasadena Calif-13
 United Transformer Co 150 Varick St New
 York N Y-2-3-4-5-8-9-10-11-13
 University Loudspeakers Inc 80 S Kensico Ave
 White Plains N Y-5-9
 Vanguard Electronics 3384 Motor Ave Los
 Angeles 34 Calif-1-2-3-4-5-6-16
 Varo Mfg Co 2201 Walnut St Garland Texas-3
 Vidair Electronics Mfg 576-80 W Merrick Rd
 Lynbrook N Y-1-5-7-8-9-16
 Visual Electronics Corp 500 5 Ave New York
 36 N Y-14-15
 Waveline Inc Passaic Ave Box 470 Caldwell
 N J-10
 Western Coil Products 2989 Middlefield Rd
 Palo Alto Calif-6
 Wheeler Insulated Wire Co 150 E Aurora St
 Waterbury Conn-2
 Wheeler Labs Inc 122 Cutter Mill Rd Great
 Neck N Y-10
 White Instrument Labs 203 E Riverside Dr
 Austin 4 Texas-3
 Wickes Eng'g & Construction 12 St & Ferry
 Ave Camden 4 N J-15
 Wilmar Mfg Co 1110 Truman Rd Kansas City
 6 Mo-1

26—HEADPHONES

Headphones, crystal	1
Headphones, dynamic	2
Headphones, hearing aid	3
Headphones, magnetic	4



British Industries Corp 80 Shore Rd Port Washington NY-2-4
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-1-3
 Camera Equipment Co 315 W 43 St New York: 36 NY-4
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-3
 Insuline Corp of America 186 Granite St Manchester NH-4
 Knowles Electronics 9400 Belmont Ave Franklin Park Ill-3
 McGregor Electronic Industries 132 1 Ave McGregor Iowa-2-4
 Philmore Mfg Co 113 University Pl New York 3 NY-3-4
 Sears Co M J Roxbury NY-2-4
 Super Ear Products 675 Merrick Rd Lynbrook NY-2-3-4
 Superec Electronics Corp 4 Radford Pl Yonkers NY-4
 Telephonics Corp Park Ave Huntington LI NY-2-4
 Telex Inc 1633 Eustis St St Paul 1 Minn-2-3-4
 Trimm Inc 400 W Lake St Libertyville Ill-4

ACF Electronics 800 N Pitt St Alexandria Va-10-47
 Acme Electric Heating Co 1217 Washington St Boston 18 Mass-51
 Advance Instrument Corp 1709 F St Belmar N J-34-42
 Advanced Electronics Inc 94 Silas Deane Hwy Rocky Hill 9 Conn-47
 Aero Instrument Co 11423 Vanowen St N Hollywood Calif-13-43
 Aerolux Light Corp 653 11 Ave New York 36 N Y-51
 Aeroprojects Inc P O Box 555 W Chester Pa-51
 Aero Research Instrument Co 315 N Aberdeen St Chicago 7 Ill-12
 Ahrendt Instrument Co 4910 Calvert Rd College Park Md-34-51
 Airborne Instruments Lab 160 Old Country Rd Mineola N Y-4-32
 Airpax Products Co Middle River Baltimore 20 Md-13-39
 Alcar Instruments Inc 17 Industrial Ave Little Ferry N J-51
 Alco Electronics 3 Wolcott Ave Lawrence 1 Mass-33
 Allard Instrument Corp 146 E 2 St Mineola L I N Y-4-29
 Allegany Instrument Co Cumberland Md-42
 Allied Engraving & Stamping 17 Elm St Buffalo 3 N Y-20
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-32
 Allis-Chalmers Mfg Co Milwaukee 1 Wisc-29-47
 Amerac Inc Wenham Mass-13-33
 American Bosch Arma Corp Arma Liv Roosevelt Field Garden City N Y-29
 American Chronoscope Corp 316 W 1st St Mt Vernon N Y-39
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-51
 American Instrument Co 8030 Georgia Ave Silver Spring Md-10-16-23-40
 American Machine & Foundry Electronics Div 1085 Commonwealth Ave Boston Mass-51
 American Metrix Corp 15 Exchange Pl Jersey City 2 N J-33
 American Optical Co Box A Buffalo 15 N Y-51
 Analytical Measurements Inc 585 Main St Chatham N J-27
 Anderson Inc W E 2921 Brooklyn Ave Kansas City 9 Mo-12
 Antlab 4950 N High St Columbus 14 Ohio 2-29
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 N Y-19-32-51
 Applegate & Co C J 1816 Grove St Boulder Colo-51
 Applied Research Labs 3717 Park Pl Glendale 8 Calif-10-21
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-51
 A R F Products Inc 7627 Lake St River Forest Ill-51
 Arkay Co 605 1 Ave S W Rochester Minn-51
 Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-40-41-42
 Assembly Products Wilson Mills Rd Chesterland 21 Ohio-7-24-32-39-40-42
 Atlas Electric Products 114 1/2 E 6 St Erie Pa-51
 Atomic Instrument Co 84 Massachusetts Ave Cambridge 39 Mass-51
 Avien Inc 58-15 Northern Blvd Woodside L I N Y-12-19-26-42
 Avion Div ACF Industries 299 State Highway #17 Paramus N J-9-12-34-43
 Bailey Meter Co 1050 Ivanhoe Rd Cleveland Ohio-11-12-19-26-27-31-36-39-41-42
 Barber-Colman Co 1300 Rock St Rockford Ill-24-27-36-39-42
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-13-24-30-32-33
 Batson Electronics Corp J A Waterloo Nebr-31
 Beck Co Harold 3640 N 2nd St Philadelphia 40 Pa-9-19-29-34
 Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-41
 Bergen Labs 11 Godwin Ave Fairlawn N J-41
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-41-43-51
 Beva Lab 1640 Olden Ave Ext Trenton N J-51
 B-I-F Industries 345 Harris Ave Providence 1 R I-12-19-31-41-42-49
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-4-16-17
 Biophysical Instr Inc 2194 Bridge St Philadelphia Pa-51
 Birtcher Corp 4371 Valley Blvd Los Angeles 32 Calif-51
 B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-31
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 N Y-25
 Boonton Radio Corp Intervale Rd Boonton N J-10

Borden Eng'g Co Div M J Johnson Aircraft Eng'g Co 39 E Hanover Ave Morris Plains N J-14-24
 Bowen & Co Box 5818 Bethesda Md-51
 Branson Instruments Inc 430 Fairfield Ave Stamford Conn-10-21
 Bristol Co P O Box 1790 Waterbury Conn-5-7-9-11-12-16-19-23-24-27-29-30-31-34-36-38-39 40-41-42-43-45-46-48-49-50
 Brooke Eng'g Co 4517 Wayne Ave Philadelphia 44 Pa-36
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-21-37-40
 Bulova Watch Co Dept of Govt & Industrial Sales 62-10 Woodside Ave Woodside 77 N Y-44
 Burke & James 321 W Wabash Ave Chicago 4 Ill-51
 Cambridge Instrument Co 3611 Grand Central Terminal New York 17 N Y-16-23-26-27-32-51
 Camera Equipment Co 315 W 43 St New York 36 N Y-8
 Canadian Radium & Uranium Corp 630 5 Ave New York 20 NY-32
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-33
 Centralab Div Globe-Union Inc 900 E Keefe Ave Milwaukee 1 Wisc-51
 Central Research Labs Red Wing Minn-8
 Central Sales & Mfg Corp 2 Richwood Pl Denville N J-46
 Central Scientific Co 1700 Irving Park Rd Chicago 13 Ill-23
 Chesapeake Instrument Corp Shadyside Md-6-31-37-47
 Chicago Electronic Eng'g Co 3223 Armitage Ave Chicago 47 Ill-51
 Chicago Magnetic Control 1616 Damon Ave Chicago Ill-51
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-13-28
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-7-9-13-18-29-40
 Cole Instrument Co 1000 N Olive St Anaheim Calif-24-40
 Coleman Instruments 318 Madison St Maywood Ill-27
 Colvin Labs 364 Glenwood Ave East Orange N J-18-31-41
 Consolidated Avionics Corp Ludlow & Canal St Stamford Conn-4-7-9-40
 Consolidated Electro-dynamics Corp 300 N Sierra Madre Villa Pasadena Calif-46-47
 Consolidated Vacuum Corp 1775 Mt Read Blvd Rochester 3 N Y-46
 Corbin Corp 5419 56 Pl Riverdale Md-9-16-26-29-33-42-50
 Courier Products Div Model Eng'g & Mfg Boyne City Mich-42
 Crescent Eng'g & Research 11632 McBean St El Monte Calif-12-18-24-29-31-34-40-43-44-47-49
 Curtiss-Wright Corp Electronics Div 621 Central Ave Carlstadt N J-32-51
 Daven Co Route 10 Livingston N J-13
 Daystrom Instrument Archbald Pa-4-9-29-34-41-51
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-41
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-12-19-26-31-36-42
 DeJur-Amsco Corp 45-01 Northern Blvd Long Island City 1 N Y-28
 Deltron Inc 2905 N Leithgway St Philadelphia 33 Pa-24
 De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-24-30
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-32-51
 Detroit Controls Corp Norwood Controls Unit 934 Washington St Norwood Mass-12-19-42
 Dice Co J W 1 Engle St Englewood N J-10-21
 Dirago Compass & Instrument Boeing Field Box 37 Seattle 8 Wash-20
 Doelcam Div Minneapolis - Honeywell 1400 Soldiers Field Rd Boston 35 Mass-12-24-31
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-24
 Douglas Radio Labs 176 Norfolk Ave Boston 19 Mass-51
 Dubrow Development Co 235 Penn St Burlington N J-47
 DuKane Corp St Charles Ill-4-9-20
 Dyna-Empire Inc 1075 Stewart Ave Garden City N Y-20-37
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills N Y-13-33
 Eclipse-Pioneer Div Bendix Aviation Corp Teterboro N J-2-29-31-34-39-42-46-50
 Edcliff Instruments 383 N Foothill Blvd Pasadena 8 Calif-29-31-41
 Edin Co 207 Main St Worcester 8 Mass-51
 Egan Laboratory 107-56 113 St Richmond Hill 19 N Y-51
 Eldema Corp 9844 Remer St El Monte Calif-4
 Electric Eye Equip Co 1938 E Fairchild Danville Ill-10
 Electrical & Physical Instrument Corp 42-19 27 St Long Island City 1 N Y-51
 Electrofilm Corp 7116 Laurel Canyon Blvd N Hollywood Calif-51
 Electro Medical Lab S Woodstock 7 Vt-51
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-41
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-4-9-51

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Indicators, annunciators	1
Indicators, antenna position	2
Indicators, broadcast	3
Indicators, data display	4
Indicators, density	5
Indicators, detonation	6
Indicators, deviation	7
Indicators, dielectric constant	8
Indicators, electronic	9
Indicators, film thickness	10
Indicators, fluid conductivity	11
Indicators, fluid flow	12
Indicators, frequency	13
Indicators, ground detector	14
Indicators, hardness	15
Indicators, humidity	16
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Indicators, magnetic field	20
Indicators, materials thickness	21
Indicators, medical electronic	51
Indicators, modulation	22
Indicators, moisture	23
Indicators, null	24
Indicators, ocean depth	25
Indicators, oxygen	26
Indicators, PH	27
Indicators, photographic exposure	28
Indicators, positioning	29
Indicators, power level	30
Indicators, pressure	31
Indicators, radiation	32
Indicators, R-F	33
Indicators, servo	34
Indicators, shorted turn	35
Indicators, smoke & combustion	36
Indicators, sound level	37
Indicators, specific gravity	38
Indicators, speed	39
Indicators, strain	40
Indicators, telemetering	41
Indicators, temperature	42
Indicators, timing	43
Indicators, torque	44
Indicators, turbidity	45
Indicators, vacuum	46
Indicators, vibration	47
Indicators, volume	48
Indicators, weight	49
Indicators, wind speed	50
Machines, lamination stacking	52

Electronics Corp of America 77 Broadway
Cambridge 42 Mass-5-9-17-19-32-36-42-43-45
Electron-Radar Products 4806 W Chicago Ave
Chicago 51 Ill-12-36-43
Electro-Physics Co 287-P Broadway New York
7 N Y-9-17-28
Electro Products Labs 4501 N Ravenswood
Ave Chicago 40 Ill-6-7-18-29-39-44
Electro-Pulse Inc 11861 Teale St Culver City
Calif-9-13-43
Ellison Draft Gage Co 548 W Monroe St
Chicago 6 Ill-31-46
El Mec Labs 730 Blvd Kenilworth N J-24
El-Tronics Inc Penn Ave Mayfield 1 Pa-23
Engelhard Inc Charles 850 Passaic Ave E
Newark N J-42
Eng'g Research & Devel Addison Ill-51
Erwood Inc 1770 W Berteau Ave Chicago 13
Ill-37-47
Esco Mfg Co 6961 Vine St La Grange Ill-51
Ess Instrument Co 96 S Washington Ave
Bergenfield N J-6-36-38
Fafnir Bearing Co 37 Booth St New Britain
Conn-44
Fairchild Camera & Instrument Corp Industrial
Camera Div 88-06 Van Wyck Blvd Jamaica
1 L I N Y-51
Farrand Optical Co 4401 Bronx Blvd Bronx
70 N Y-51
Federal Telephone & Radio Co Div IT&T 100
Kingsland Rd Clifton N J-13-24-30
Feedback Controls Inc 1332 N Henry St
Alexandria Va-34
Fenwal Inc Pleasant St Ashland Mass-41
Ferrara Inc 8106 W 9 Mile Rd Oak Park 37
Mich-19
Fielden Instrument Div Robertshaw Fulton
Controls 2920 N 4 St Philadelphia 33 Pa-9-
10-11-18-19-23-24-31-32-33-40-41-42-44-47-49
Fischer & Porter 19 Warminster Rd Hatboro
Pa-4-5-9-11-12-16-19-31-38-41-42-46
Fisher Oscar Co 1000 N Division St Peekskill
N Y-51
Florman & Babb 68 W 45 St New York 36
N Y-28
Ford Instrument Co Div Sperry Rand Corp
31-10 Thomson Ave Long Island City 1
N Y-42
Franklin Electronics Inc E 4 St Bridgeport
Pa-4-9-40
F-R Machine Works 26-12 Borough Pl Wood-
side 77 N Y-51
Friez Instrument Div-Bendix Aviation Corp
1400 Taylor Ave Baltimore 4 Md-16-23-31-
42-50
Gates & Co G W Hempstead Tpke & Lucille
Ave Franklin Square L I N Y-51
Gates Radio Co 123 Hampshire St Quincy Ill-48
General Communication Co 681 Beacon St
Boston 15 Mass-30-38
General Controls Co 801 Allen Ave Glendale
1 Calif-31-42-46
General Electric Co - Apparatus Sales Div 1
River Road Schenectady 5 N Y-10-13-17-21-
26-27-28-29-30-38-39-40-41-42-43-45-46-47-48-49
General Mills Inc Mechanical Div 2600 Far
Hills Bldg Dayton 9 Ohio-9-10-16-32-42
General Precision Lab 63 Bedford Rd Pleasant-
ville N Y-51
General Radio Co 275 Mass Ave Cambridge 39
Mass-13-22-24-37-39-47
General Riveters Inc-Electro Mechanical Div
785 Hertel Ave Buffalo 7 N Y-44
Geotechnical Corp 3712 Haggard Dr Dallas 9
Texas-47
Giannini & Co G M 918 E Green St Pasadena
Calif-4-29
Gibbs Mfr & Research 420 Main St Janesville
Wis-43
Gilbert & Barker Cold Spring Ave W Spring-
field Mass-14
Gilmore Industries 5713 Euclid Ave Cleveland
3 Ohio-9-12-31-40-44-49
Glens Falls Lab Upper Glen St Glens Falls
N Y-9
Godfrey Mfg Co 2642 S Michigan Ave Chicago
16 Ill-1
Gordon Enterprises 5362 N Cahuenga Blvd N
Hollywood Calif-28
Gorn Electric Co Stamford Conn-12-19-31
Gorrell & Gorrell Haworth N J-51
Grason-Stadler Co Electronics Park W Con-
cord Mass-51
Graybar Electric Co 420 Lexington Ave New
York 17 N Y-22-37-40-48
Greenleaf Mfg Co 7814 Maplewood Industrial
Court St Louis 17 Mo-34-40
Gulton Mfg Corp 212 Durham Ave Metuchen
N J-51
Gurley W & L E 514 Fulton St Troy N Y-50
Haledy Electronics Co 57 William St New York
5 N Y-19
Hallamore Electronics Div Siegler Corp Ana-
heim Calif-51
Hall Sonic Eng'g Co 2402 2 St Peru Ill-51
Hamilton Watch Co Columbia Ave Lancaster
Pa-43
Hamlin Inc 1316 Sherman Ave Evanston Ill-51
Hanovia Chem & Mfg Co 100 Chestnut St
Newark 5 N J-51
Hastings Instrument Co Newcomb Ave off Ivy
Home Rd Hampton Va-46-50
Haydon Co A W 232 N Elm St Waterbury
20 Conn-43
Haydu Bros of N J Sub Burroughs Corp P O
Box 1226 Plainfield N J-4-9

Hays Corp 742 E 8 St Michigan City Ind-12-19-
26-31-41-42
Hays Mfg Co Industrial Sales Div 801 W 12
St Erie Pa-12
H-B Instrument Co American & Bristol Sts
Philadelphia 40 Pa-16-38-42
Heiland Div Minneapolis-Honeywell 5200 E
Evans Ave Denver 22 Colo-18-28-31-39-40-
42-44-47
Hewlett-Packard Co 275 Puge Mill Rd Palo
Alto Calif-24-33
Hickok Electrical Instrument Co 10514 Dupon
Ave Cleveland 8 Ohio-13-24-33-38-39-51
Hill Electronic Eng'g & Mfg New Kingstown
Pa-13
Holland Electronics 2133 Central Drive S East
Meadow L I N Y-51
Hyeon Electronics Inc 321 S Arroyo Pkwy
Pasadena Calif-13
Illinois Testing Labs 420 N La Salle St
Chicago 10 Ill-16-23-42-50
Impact-O-Graph Corp 1900 Euclid Ave Cleve-
land 15 Ohio-18-47
Industrial Development Labs 17 Pollock Ave
Jersey City 5 N J-9-12-42-51
Industrial Electronic Engrs 3973 Lankershim
Blvd North Hollywood Calif-49
Industrial Electronics Inc 8060 Wheeler St
Detroit 10 Mich-4-10-18-21-23-24-29-31-34-40-
44-47-49
Industrial Instruments Inc 89 Commerce Rd
Cedar Grove N J-11
Industrial Test Equip Co 55 E 11 St New
York 3 N Y-7-9-24-34
International Projector Corp 55 La France
Ave Bloomfield N J-1
International Research Development 797
Thomas Lane Columbus 16 Ohio-47
J-B-T Instruments Inc 441 Chapel St New
Haven 12 Conn-13-42
Johnson Co E F Wasecamin-2
Johnson-Williams Inc 2625 Park Blvd Palo
Alto Calif-26-46
Jordan Electronic Mfr Co 3025 Mission Rd
Alhambra Calif-51
Kahn & Co 541 Windsor St Hartford 1 Conn-47
Kartron Inc P O Box 472 Huntington Beach
Calif-35
Kay Electric Co 14 Maple Ave Pinebrook N J-
9-13-33-37-39-47
Kearfott Co 1378 Main Ave Clifton N J-4-50
Kemlite Labs 1819 W Grand Ave Chicago 22
Ill-51
Keystone Watch Case Div Riverside Metal Co
Div H K Porter Co Riverside N J-29
Kine-Lab 3250 Kenilworth Ave Berwyn Ill-51
Kirkland Co H R 8 King St Morristown N J-1
Kocour Co 4800 S St Louis Ave Chicago 32
Ill-27
Lamaco Inc 9230 W Grand Ave Franklin Park
Ill-52
LaMotte Chemical Products Towson 4 Balti-
more Md-27
Lampkin Labs Inc Technical Div Bradenton
Fla-22
Landsverk Electrometer Co 550 W Garfield
Ave Glendale 4 Calif-32-51
Larson Instrument Co 24 Orchard St Tarry-
town N Y-9-42
Lavoie Labs Inc Matawan and Freehold Rd
Morganville N J-2-9-51
Lear Inc 3171 S Bundy Dr Santa Monica
Calif-4-7-34-36
Leeds & Northrup 4970 Stenton Ave Philadel-
phia 44 Pa-17-24-27-42
Lektra Labs 154 11 Ave New York 11 N Y-51
Levinthal Electronic Products 2821 Fair Oaks
Ave Redwood City Calif-51
Libroscope Inc Burbank Div 133 E Santa
Anita Ave Burbank Calif-10
Liquidometer Corp 36 St & Skillman Ave
Long Island City 1 N Y-5-19-26-39-42-48
Machinery Electrification Inc 35 Hudson St
Northboro Mass-19-39-45
Magnaflex Corp 7300 W Lawrence Ave Chicago
31 Ill-10-20-21-40
Magnecessories Box 6960 Washington 20 D C-20
Marconi Instruments 44 New St New York 4
N Y-51
Marion Electrical Instrument Co Grenier Field
Manchester N H-1-24
Master Appliance Mfr Co 4 & Ontario Sts
Racine Wis-51
Maxson Instruments 47-37 Austell Pl Long
Island City 1 N Y-12
McNeill Eng'g Co 4057 W Van Buren St
Chicago 24 Ill-36
Measurement Eng'g Ltd John St Arncliffe On-
tario Canada-32-51
Medcraft Electronic Corp Box 464 Babylon
NY-51
Menlo Research Lab Box 522 Menlo Park
Calif-32-51
Mercury Mfg Corp 45 Brown St Buffalo 11
NY-51
Metronics Inc U S Route 130 Burlington NJ-51
Microtron Co 48-11 Rockaway Beach Rockaway
Beach 93 NY-51
Miller Electro-Research Labs 5529 S 5 St Mil-
waukee 7 Wis-42
MinAtron Corp Belle Mead NJ-51
Mine Safety Appliances Co 201 N Braddock
Ave Pittsburgh 8 Pa-26-36-37
Moeller Instrument Co 132 St & 89 Ave Rich-
mond Hill 18 NY-16-23-42
Mount Sopris Instrument Corp 1320 Pearl St
Boulder Colo-24-32

Murray Plastics Co 26 Cottage St Poughkeepsie
NY-31-51
National Research Corp 160 Charlemont St
Newton Highlands 6 Mass-46
New Hampshire Ball Bearings Peterborough
NH-51
New London Instrument Co 82 Union St New
London Conn-51
Norco Mfg Co 392 Bleecker St New York 14
NY-51
Norden-Ketay Corp Boston Electronics Div
Snow & Union Sts Boston 35 Mass-51
North American Instruments 2420 N Lake Ave
Altadena Calif-13-18-25-29-31-50
North American Phillips Co 750 S Fulton Ave
Mt Vernon NY-51
Northeast Electronics Corp Municipal Airport
Concord NH-37
Northeastern Dev Engineers 21 High St Paw-
tucket RI-51
NRD Instrument Co 6425 Etzel Ave St Louis
14 Mo-32-51
Nuclear Development Lab PO Box 7034 Kansas
City 13 Mo-32-51
Nuclear-Electronics Corp 2632 W Cumberland
St Philadelphia 32 Pa-25-32-51
Nuclear Instrument & Chemical Corp 223 W
Erie St Chicago 10 Ill-32-51
Nuclear Measurements Corp 2460 N Arlington
Ave Indianapolis 18 Ind-32
Nuclear Research Corp Southampton Pa-5-12-
18-19-21-32-38-49-51
Nucleonic Corp of America 196 DeGraw St
Brooklyn 31 NY-32
Oerlikon Tool & Arms Corp of America PO
Box 3049 Asheville NC-9
Offner Electronics Inc 5320 N Kedzie Ave Chi-
cago 25 Ill-51
Ohmart Corp 2236 Bogen St Cincinnati 14
Ohio-5-17-32-38-51
OMCO US Hwy 93 & Las Palomas Kingman
Ariz-51
Oregon Electronic Mfr 2232 E Burnside St
Portland 15 Ore-51
Pace Eng'g Co 6914 Beck Ave N Hollywood
Calif-47
Panellit Inc 7401 N Hamlin Ave Skokie Ill-
1-19-29
Panoramic Radio Products 10 S 2 Ave Mt
Vernon NY-13-22-41
Pereny Equip Co 893 Chambers Rd Columbus
12 Ohio-51
Perfection Mica Co Magnetic Shield Div 1322
N Elston Ave Chicago 22 Ill-20
Peschel Electronics Inc 13 Garden St New
Rochelle NY-9
Phaostroon Co 151 Pasadena Ave S Pasadena
Calif-9-24-30-32-42-48
Phen-O-Tron Inc 455 Main St New Rochelle
NY-51
Phoenix Precision Instrument 3803 N 5 St
Philadelphia 40 Pa-5-17-36-40-45-51
Photobell Co 43 Vesey St New York 7 NY-9-
10-16-17-19-21-23-36-39
Photocon Research Products 421 N Foothill
Blvd Pasadena 8 Calif-31-37
Photo Crystals Inc 15 S 1 St Geneva Ill-9-11-
12-16-17-32-36
Photovolt Corp 95 Madison Ave New York 16
NY-51
PIC Design Corp 160 Atlantic Ave Lynbrook
LI NY-39
Polyphase Instrument Co 701 Haverford Rd
Bryn Mawr Pa-40-44
Polytechnic Research & Development Co 202
Tillary St Brooklyn 1 NY-24
Potter Instrument Co 115 Cutter Mill Rd Great
Neck NY-13
Powers Regulator Co 3400 Oakton St Skokie
Ill-42
Precision Associates 354 Cumberland St Brook-
lyn 38 NY-33
Precision Radiation Instruments & Sub Radio
Craftsmen 4223 W Jefferson Blvd Los An-
geles 16 Calif-51
Probescope Co 44-05 30 Ave Long Island City
3 NY-13-22-33-47
Process & Instruments 15 Stone Ave Brooklyn
33 NY-51
Pyrometer Instrument Co 92 Portland Ave
Bergenfield NJ-42
Radar Engineers 403 E 45 St Seattle 5 Wash-14
Radiation Inc PO Box 37 Melbourne Fla-24-34
Radiation Instrument Develop Labs 5737 S
Halstead St Chicago 21 Ill-51
Radio Receptor Co 251 W 19 St New York 11
NY-4
Ransom Research PO Box 382 San Pedro Calif-
13-43
Rau Fastener Co 142 5 Ave New York 11 NY-
51
Rawson Electrical Instrument Co 117 Potter
St Cambridge 42 Mass-20
Reed-Curtis Nuclear Industries Inc 307 Culver
Blvd Playa del Rey Calif-32
Research Electronics Labs Roslyn Pa-46
Rheem Mfr Co 9236 E Hall Rd Downey
Calif-42
Richardson Labs Kenneth 254 Vincent Ave
Lynbrook NY-51
Richmond Inc 922 S Myrtle Ave Monrovia
Calif-44
Rosen Eng'g Products Raymond 32 & Walnut
Sts Philadelphia 19 Pa-41
Rubicon Co Ridge Ave & 35 St Philadelphia
32 Pa-24-35-42-50

Rust Industrial Co 41 E 42 St New York 17 NY-42
 Ryan Industries Div Textron American 19159 John R St Detroit 3 Mich-44
 Sage Labs 30 Guinan St Waltham 54 Mass-13
 St John X-Ray Lab Califon NJ-32
 Sanborn Co 195 Massachusetts Ave Cambridge 39 Mass-51
 Seaco Controls Inc Market St Palmyra NJ-10-42
 Scherr Co George 200 Lafayette St New York 12 NY-39
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-13-20-24
 Serdex Inc 91 Cambridge St Boston 14 Mass-16
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-34-42
 Servomechanisms Inc Post & Stewart Aves Westbury NY-34
 Servonic Instruments Inc 1145 S Fair Oaks Pasadena 2 Calif-18-25-29-31
 Servo-Tek Products Co 1086 Goffle Rd Hawthorne NJ-39
 Shallcross Mfg Co Pusey & Jackson Aves Collingdale Pa-24
 Shannon Luminous Materials Co 7356 Santa Monica Blvd Hollywood 46 Calif-51
 Sherman Industrial Electronics 505 Washington Ave Belleville 9 NJ-51
 Simmonds Accessories 105 White Plains Rd Tarrytown NY-19-24-29-48
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-42-48
 Skiatron Electronics & TV 3 E 10 St New York 3 NY-4-41
 Special Instruments Lab 312 W Vine Ave Knoxville Tenn-51
 Specialty Assembly 79 Clifton Pl Brooklyn 38 NY-51
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-6
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-1-39-43
 Standard Electronics Research Corp 2 East End Ave New York 21 NY-10-21-42-51
 Stanford Labs PO Box 252 Menlo Park Calif-51
 Stavid Eng'g Co U S Hwy #22 Plainfield NJ-2-9-29-33-41
 Sterling Precision Corp-Instrument Div 34-17 Lawrence St Flushing LI NY-34
 Stewart Instrument Co 6507 Grand River Detroit 8 Mich-9-30-43
 Sticht Co Herman H 27 Park Pl New York 7 NY-13
 Stoelting Co C H 424 N Homan Ave Chicago 24 Ill-39-43-51
 Strandberg Eng'g Labs 416 W Market St Greensboro N Car-23
 Streeter-Amet Co 4101 N Ravenswood Ave Chicago 13 Ill-49
 Sturtevant Co P A Addison Ill-44
 Taber Instrument Corp 111 Goundry St N Tonawanda NY-15-31
 Tallier & Cooper 75 Front St Brooklyn 1 NY-36
 Taylor Instrument Companies 95 Ames St Rochester 1 NY-4-11-12-16-19-23-27-31-38-39-40-42
 Teca Corp 80 Main St White Plains NY-51
 Telechrome Inc 88 Merrick Rd Amityville LI NY-22
 Telecomputing Corp 12838 Saticoy St N Hollywood Calif-9-18-29
 Televiso Corp 1415 Golf Rd Des Plaines Ill-9-41
 Tempil Corp 132 W 22 St New York 11 NY-42
 Thermo Electric Co Saddle Brook NJ-42
 Thermo Electric Mfg Co 465 Huff St Dubuque Iowa-42
 Thompson Clock Co H C 38 Federal St Bristol Conn-51
 Thwing-Albert Instrument Co Penn St & Pulaski Ave Philadelphia 44 Pa-27-31-34-40-42
 Time-O-Matic Inc 1106 Bahls St Danville Ill-39-42
 Tracerlab Inc 130 High St Boston 10 Mass-19-28-32-51
 Transicoil Corp Worcester Pa-34
 Trio Labs Inc 4025 Merrick Rd Seaford LI NY-9-24-30-37-41
 Ultra-Violet Products 5114 Walnut Grove Ave San Gabriel Calif-51
 Union Switch & Signal Div Westinghouse Air Brake Pittsburgh 18 Pa-4
 United Electric Control Co 85 School St Watertown 72 Mass-42
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-4-9
 Universal Atomics Corp 19 E 48 St New York 17 NY-32
 Universal X-Ray Products 1140 N Western Ave Chicago 22 Ill-51
 U S Gauge Div American Machine & Metals Sellersville Pa-31-42
 U S Radium Corp 535 Pearl St New York 7 NY-51
 Valpey Crystal Corp Holliston Mass-51
 Valverde Laboratories 252 Lafayette St New York 12 NY-51
 Varo Mfg Co 2201 Walnut St Garland Texas-13
 Vibro-Ceramics Corp 212 Durham Ave Metuchen NJ-51
 Vibroscope Co PO Box 97 Glenford NY-47
 Vitroreen Instrument Co 3814 Perkins Ave Cleveland 12 Ohio-51



Visual Electronics Corp 500 5 Ave New York 36 NY-21
 Vocaline Co of America Old Saybrook Conn-43
 Wac Line Inc 35 S St Clair St Dayton 2 Ohio-39-47
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-13
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-13-29
 Waters Mfg Boston Post Rd Wayland Mass-44
 Welch Mfg Co W M 1515 Sedgwick St Chicago 10 Ill-51
 Wells-Gardner Co 2701 N Kildare Ave Chicago Ill-51
 Westberg Mfg Co 144 S Coombs St Napa Calif-39
 Western Radiation Lab 1107 W 24 St Los Angeles 7 Calif-51
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-13-14-30-33-39-41-42-43
 West Instrument Corp 4363 W Montrose Ave Chicago 41 Ill-42
 Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-9-13-16-19-23-30-31-39-42
 Westronics Inc 3605 McCart Ft Worth 10 Texas-13-42-44-49
 White S S Industrial Div 10 E 40 St New York 16 NY-51
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-4
 Wind Turbine Co E Market St & Penna RR West Chester Pa-2
 Yellow Springs Instrument PO Box 106 Yellow Springs Ohio-42-51
 Zenith Optical Lab 1940 Great Neck Rd Copiague NY-20
 Zernickow Co O 15 Park Row New York 38 NY-39

American Speedlight Corp 63-01 Metropolitan Ave Middle Village 79, N Y-5
 Amglo Corp 2037 W Division St Chicago 22 Ill-5
 Amplitel Inc 342 W 40 St New York 18 NY-19
 Annis Co R B 1101 N Delaware St Indianapolis 2 Ind-2
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-9-13-15
 Applied Physics Corp 362 W Colorado St Pasadena Calif-13
 Applied Research Labs 3717 Park Pl Glendale 8 Calif-1-17-23
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-7-18
 Avion Div ACF Industries 299 State Highway #17 Paramus NJ-11
 Baird Associates 33 University Rd Cambridge 38 Mass-12-17-21
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-12
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-9
 Bausch & Lomb Optical Co 628 St Paul St Rochester 2 NY-17
 Bear Mfg Co 2016 5 Ave Rock Island Ill-2
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-15
 Bill Jack Scientific Instruments Co 143 S Cedros Ave Solana Beach Calif-5
 Blonder-Tongue Labs 526 Wcrth Ave E Westfield NJ-19
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-19
 Borden Eng'g Co Div M J Johnson Aircraft Eng'g Co 39 E Hanover Ave Morris Plains NJ-9
 Bracke-Seib X-Ray Co 16 Pelham Bay Park W Pelham Manor NY-23
 Branson Instruments Inc 430 Fairfield Ave Stamford Conn-7-18-22
 Bristol Co PO Box 1790 Waterbury Conn-1
 Campbell X-Ray Corp 110 Cummington St Boston 15 Mass-23
 Cambridge Instrument Co 3611 Grand Central Terminal New York 17 NY-9
 Canadian Radium & Uranium Corp 630 5 Ave New York 20 NY-13-15
 Cavitron Oscillator Co Div Short Wave Plastic Forming Co 2921 W Alameda Ave Burbank Calif-3
 Central Sales & Mfg Corp 2 Richwood Pl Denville NJ-9
 Century Electronics & Instruments 1333 N Utah St Tulsa 10 Okla-9
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-15
 Chicago Industrial Instrument 865 N Sangamon St Chicago 22 Ill-5
 Cole Instrument Co 1000 N Olive St Anaheim Calif-5
 Commercial Radio Sound Corp 652 1 Ave New York 16 NY-19
 Consolidated Electrodynamics Corp 300 N Sierra Madre Villa Pasadena Calif-1-12-17-21
 Cook Co Frank R 600-Mile High Center Denver 2 Colo-1
 Corbin Corp 5419 56 Pl Riverdale Md-12-14
 Cox & Co 115 E 23 St New York 10 NY-10
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-15
 Dage Television Div Thompson Products W 10 St Michigan City Ind-19
 Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-12
 Damp-Chaser Inc 1440 Ridgewood Blvd Hendersonville N Car-10
 Daystrom Instrument Archbald Pa-13-15
 Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa-33
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-13-15
 Diatron Co 3327 Dixie Dr Houston 21 Texas-9
 Dice Co J W 1 Engle St Englewood NJ-7-18
 Dresser Electric Co 942 E Larned St Detroit 7 Mich-16
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-19
 Eberline Instrument Div Reynolds Electrical & Eng'g PO Box 1539 Santa Fe N Mex-13
 Eisler Eng'g 750 S 13 St Newark 3 NJ-4
 Electric Furnace Co Salem Ohio-4
 Electro Circuits Inc 401 E Green St Pasadena Calif-18
 Electrofilm Inc 7116 Laurel Canyon Blvd N Hollywood Calif-10
 Electro-Flex Heat Inc 516 Asylum St Hartford 5 Conn-10
 Electronic Ccil Co 2506 N Ontario St Burbank Calif-5
 Elgin Metalformers Corp 901 N Liberty St Elgin Ill-19
 El-Tronics Inc Penn Ave Mayfield 1 Pa-14-15
 Emerson Radio & Phonograph Corp 14 & Colts Sts Jersey City 2 NJ-14
 Entron Inc 4902 Lawrence St Bladensburg Md-19
 Epo Products 2500 Atlantic Ave Brooklyn 7 NY-5
 Farnsworth Electronics Co 3702 E Pontiac St Ft Wayne Ind-19
 Fischer-Smith Inc 164 State St W Englewood NJ-5

28—INDUSTRIAL ELECTRONIC EQUIPMENT

Analysis equipment, electro-chemical	1
Balancing equipment, dynamic ..	2
Dielectric heating equipment ...	3
Electric furnaces	4
Electronic photoflash	5
Electroplating equipment	6
Flaw locators, metal	7
Flaw locators, non metal	8
Geophysical instruments	9
Heating elements	10
Induction heating equipment	11
Infrared equipment	12
Ionization chambers	13
Meteorological equipment	14
Nuclear equipment	15
Precipitators, electrostatic ...	16
Spectrographic equipment	17
Thickness equipment, ultrasonic .	18
TV, industrial	19
Ultrasonic soldering	20
Ultra-violet equipment	21
Vibrators, ultrasonic	22

Accurate Eng'g Co 2005 Blue Island Ave Chicago 8 Ill-6
 Acme Electric Heating Co 1217 Washington St Boston 18 Mass-10
 Acoustica Associates 2 Shore Rd Glenwood Landing LI N Y-6-20-22
 Advance Instrument Corp 1709 F St Belmar N J-14
 Aerolux Light Corp 653 11 Ave New York 36 N Y-21
 Aeronautical Communications Equip 3090 S W 37 Ave Miami 33 Fla-14
 Aeroprojects Inc 310 E Rosedale West Chester Pa-20
 Airborne Instruments Lab 160 Old Country Rd Mineola N Y-15
 Air-Maze Corp 25000 Miles Rd Cleveland 28 Ohio-16
 Alcar Instruments Inc 17 Industrial Ave Little Ferry N J-18-20
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-5
 Allis-Chalmers Mfg Co Milwaukee 1 Wisc-3-11
 American Instrument Co 8030 Georgia Ave Silver Spring Md-10

Fort Instrument Co Div Sperry Rand Corp 31-10 Thomson Ave Long Island City 1 NY-15
 Foto-Video Labs 25 Amity St Little Falls NJ-19
 Franklin Electronics Inc E 4 St Bridgeport Pa-17
 Friez Instrument Div Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-14-19-23
 Gaertner Scientific Corp 1250 Wrightwood Ave Chicago 14 Ill-17
 General Electric Co Apparatus Sales Div 1 River Road Schenectady 5 NY-4-7-8-10-11
 Gurley W & L E 514 Fulton St Troy NY-14
 Gates & Co Geo W Hempstead Tpke & Lucille Ave Franklin Square LI NY-21
 General Mills Inc Mechanical Div 2600 Far Hills Bldg Dayton 9 Ohio-12
 General Precision Equip Corp 82 Gold St New York 38 NY-19
 General Precision Lab 63 Bedford Rd Pleasantville NY-19
 General Ultrasonics Co 1240 Main St Hartford 3 Conn-22
 Georator Corp Manassas Va-9
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Tex-9
 Geotronic Labs 1314 Cedar Hill Ave Dallas 8 Texas-9
 Gridler Co 224 E Broadway Louisville 1 Ky-3
 Graybar Electric Co 420 Lexington Ave New York 17 NY-3-10-11-19
 Green Henry J 1191 Bedford Ave Brooklyn 16 NY-14
 Grieve-Hendry Co 1401 W Carroll Ave Chicago 7 Ill-4
 Guild Electronics 388 Broadway New York 13 NY-3
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-19
 Hamilton Watch Co Columbia Ave Lancaster Pa-9
 Hamner Electronics Co Box 531 Princeton NJ-15
 Hansen Co Wm 165 Silverbrook Ave Niles Mich-15
 Harper Electric Furnace 47 River St Buffalo 2 NY-4
 Harwald Co Inc 1216 Chicago Ave Evanston Ill-8
 Harwood Electronics Inc 466 W Superior St Chicago 10 Ill-5
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-5-9
 Houston Technical Labs 2424 Branard Houston 6 Texas-9
 Hycor Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-15
 Illinois Condenser Co 1616 N Throop St Chicago 22 Ill-5
 Integrated Mica Corp 202 Franklin Pl Woodmere NY-10
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-9
 Invar Instrument Co 1749 N Eastern Ave Los Angeles 32 Calif-19
 Kahle Engineering Co 1307 7 St North Bergen NJ-4
 Kanthal Corp Amelia Pl Stamford Conn-10
 Kay Electric Co 14 Maple Ave Pinebrook NJ-19
 Kemlite Labs 1819 W Grand Ave Chicago 22 Ill-21
 Kepco Labs 131-38 Sanford Ave Flushing 55 NY-6
 Kocour Co 4800 S St Louis Ave Chicago 32 Ill-1
 Landsverk Electrometer Co 550 W Garfield Ave Glendale 4 Calif-13-15
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-1
 Lenel High Frequency Labs 54-18 37 Ave Woodside 77 NY-4-11
 Liston-Becker Plant Beckman Instruments Inc 649 Hope St Springdale Conn-12
 Magnaflex Corp 7300 W Lawrence Ave Chicago 31 Ill-7-18
 Mahoney Teletronic Labs 200 16 Ave Newark 3 NJ-11
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-12-17-21
 Marion Electrical Instrument Co Grenier Field Manchester NH-11
 McKenna Labs 2503 Main St Santa Monica Calif-22
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-9-13-15
 Menlo Research Lab Box 522 Menlo Park Calif-7-9-15-21
 Mo-Rix Chemical Co 1021 E 55 St Chicago 15 Ill-16
 Micamold Electronics Mfg Corp 1087 Flushing Ave Brooklyn 37 NY-5
 Micro Balancing Inc 191 Herrieks Rd Garden City Park NY-2
 Miskella Infra-Red Co E 73 & Grand Ave Cleveland 4 Ohio-10
 Model Rectifier Corp 557 Rogers Ave Brooklyn 25 NY-6
 Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-15
 National Carbon Co 30 E 42 St New York 17 NY-15
 National Research Corp 160 Charlemont St Newton Highlands 6 Mass-4-11

Nams-Clarke Inc 919 Jesup-Blair Dr Silver Spring Md-5
 Nevada Air Products Co North Valley Rd Reno Nev-12
 New Rochelle Tool Corp 320 Main St New Rochelle NY-3-11
 Noreo Mfg Co 392 Bleecker St New York 14 NY-21
 North American Philips Co 75 S Fulton Ave Mt Vernon NY-17-23
 NRD Instrument Co 6425 Etzel Ave St Louis 14 Mo-13-15
 Nuclear Development Lab PO Box 7034 Kansas City 13 Mo-13-15
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-13
 Nuclear Instrument & Chemical Corp 223 W Erie St Chicago 10 Ill-15
 Nuclear Measurements Corp 2460 N Arlington Ave Indianapolis 18 Ind-13-15
 Nuclear Research Corp Southampton Pa-7-8
 Nucleonic Corp of America 196 DeGraw St Brooklyn 31 NY-9-15
 Ohio Crankshaft Co TOCCO Div 3800 Harvard Ave Cleveland 5 Ohio-4-11
 Pereny Equipment Co 893 Chambers Rd Columbus 1 Ohio-1
 Perkin-Elmer Corp Norwalk Conn-12-21
 Philco Corp 4700 Wissabickon Ave Philadelphia 44 Pa-19
 Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-1
 Photobell Co 43 Vesey St New York 7 NY-8
 Photocore Research Products 421 N Foothill Blvd Pasadena 8 Calif-5-18
 Power Transformer Co 532 Mulberry St Newark 5 NJ-16
 Precise Measurements Co 942 Kings Hwy Brooklyn 23 NY-12
 Precision Radiation Instruments & Sub Radio Craftsmen 4223 W Jefferson Blvd Los Angeles 16 Calif-9-15
 Precision Scientific Co 3737 W Cortland St Chicago 47 Ill-4
 Pye Corp of America 270 Park Ave New York 17 NY-12-19
 Radex Corp 2076 Elston Ave Chicago 14 Ill-16
 Radiation Counter Labs 5122 W Grove St Skokie Ill-15
 Radio Frequency Co Medfield Mass-3-11
 Radionics Inc PO Box 186 Coekeysville Md-9
 Railway Communications PO Box 67 Raytown Mo-9
 Rapid Electroplating Process 1414 S Wabash Ave Chicago 5 Ill-6
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-22
 Reeve Electronics Inc 609 W Lake St Chicago 6 Ill-3-11
 Regulator Eng'g & Development 11545 W Jefferson Blvd Culver City Calif-6
 Resdel Eng'g Corp 330 S Fair Oaks Ave Pasadena 1 Calif-3
 Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-5
 Richardson Labs Kenneth 254 Vincent Ave Lynbrook NY-3
 Robotron Corp 21300 W 8 Mile Rd Detroit 19 Mich-3-11
 Rockwell Co W S 200 Eliot St Fairfield Conn-1
 St John X-Ray Lab Caliform NJ-23
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-9
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-12
 Setheo Mfg Co 70 Willoughby St Brooklyn 1 NY-6
 Shannon Luminous Materials 7356 Santa Monica Blvd Hollywood 46 Calif-21
 Sherman Industrial Electronics 505 Washington Ave Belleville 9 NJ-3-11
 Short Wave Plastic Forming Co Cavitron Electronic Oscillator Div 2921 W Alameda Ave Burbank Calif-3
 Signal Equipment Co 2706 3 Ave Seattle 1 Wash-1
 Southwest Products Alamo Downs Route 1 San Antonio Texas-13
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-9
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-14
 Spellman TV Co 3029 Webster Ave Bronx 67 NY-16
 Sperry Gyroscopic Co Division of Sperry Rand Corp Great Neck NY-2
 Sperry Products Shelter Rock Rd Dunbury Conn-18
 Sperti Paraday Inc 1322 E Church St Adrian Mich-21
 Standard Electronics Research Corp 2 East End Ave New York 21 NY-23
 Stanford Laboratories Co PO Box 252 Menlo Park Calif-23
 Star-A Electric Mfg 269 Meserole St Brooklyn 6 NY-10
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-12
 Stewart Eng'g Co PO Box 277 Sequel Calif-4
 Stroblite Co 75 W 45 St New York 36 NY-21
 Stupakoff Div Carborundum Co Latrobe Pa-12
 Tally & Cooper 75 Front St Brooklyn 1 NY-19
 Tarc Electronics 48 Urban Ave Westbury LI NY-19

Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-19
 Technic Inc 39 Snow St Providence RI-6
 Technical Instrument Co Div Brush Electronics 3732 Westheimer Rd Houston 6 Texas-9
 Telechrome Inc 88 Merrick Rd Amityville NY-17-19
 Tele Coil Co 2733 Saunders St Camden 5 NJ-19
 Texas Instruments Inc 6000 Lennion Ave Dallas 9 Texas-9
 Thermador Electrical Mfg Co Electronics Div 2000 S Camfield Ave Los Angeles 22 Calif-4
 Thermo Electric Mfg Co 465 Huff St Dubuque Iowa-4
 Thermflex Corp 311 W Maumee St Angola Ind-10
 Time-O-Matic Inc 1106 Bahls St Danville Ill-5
 Tracerlab Inc 130 High St Boston 10 Mass-23
 Trion Inc 1000 Island Ave McKees Rocks Pa-15
 Triplett & Barton 831 N Lake St Burbank Calif-23
 Tuttle & Kift 1823 N Monitor Ave Chicago 39 Ill-10
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-19
 Ultra-Violet Products 5114 Walnut Grove Ave San Gabriel Calif-21
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-1-9-12
 Universal Atomics Corp 19 E 48 St New York 17 NY-9-15
 Universal X-Ray Products 1140 North Western Ave Chicago 22 Ill-23
 Vemaline Products Co PO Box 222 Hawthorne NJ-12
 Vibro-Ceramics Corp 212 Durham Ave Metuchen NJ-18-20
 Vinson Co E R 1401 Middle Harbor Rd Oakland 20 Calif-19
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-14
 Visual Electronics Corp 500 5 Ave New York 36 NY-7-8-19
 Vulcan Electric Co 88 Holten St Danvers Mass-10
 Waage Electric Inc 720 Colfax Ave Kenilworth NJ-10
 Western Coil & Electrical Co 215 State St Racine Wisc-21
 Westinghouse Electric Corp Box 866 Pittsburgh Pa-10-11-15
 Wiegand Co Edwin L 7713 Thomas Blvd Pittsburgh 8 Pa-10-12
 Wilcox Research Co 2506 N Ontario St Burbank Calif-5

29—INSULATORS & INSULATING MATERIALS

Insulators, antenna	1
Insulators, bead	2
Insulators, bearings	3
Insulators, ceramic	4
Insulators, cord	5
Insulators, coupling	6
Insulators, fabricated	7
Insulators, feed through	8
Insulators, glass bonded mica ..	9
Insulators, H.V. power line	10
Insulators, laminated	11
Insulators, metallized bushing ..	12
Insulators, mica	13
Insulators, molded	14
Insulators, plastic	15
Insulators, rods	16
Insulators, sheets	17
Insulators, shock	32
Insulators, sleeve	18
Insulators, standoff	19
Insulators, test clip	20
Insulators, thermocouple	21
Insulators, tower	22
Insulators, tubing, asbestos	23
Insulators, tubing, ceramic	24
Insulators, tubing, glass	25
Insulators, tubing, paper	26
Insulators, tubing, plastic	27
Insulators, tubing, varnish	28
Seals, hermetic	29

INSULATING MATERIALS

Encapsulation	30
Plastic	31



Acme Wire Co 1250 Dixwell Ave New Haven
14 Conn-30-31
Admiral Corp Molded Prods Div PO Box 338
W Chicago Ill-31
Aero Research Instrument Co 315 N Aberdeen
St Chicago 7 Ill-4-21
Aerovox Corporation & Divisions 740 Belleville
Ave New Bedford Mass-3
American Lava Corp Subsidiary of Minn Min-
ing & Mfg Cherokee Blvd & Mfrs Rd Chat-
tanooga 5 Tenn-1-2-4-6-8-12-16-18-19-21-22-24
American Printed Circuits Co Box 282 Metu-
chen NJ-11-17
Anchor Metal Co 244 Boerum St Brooklyn 6
NY-29
Anchor Plastics Co 36-36 36 St Long Island
City 6 NY-15-16-18-27
Andrew Corp 363 E 75 St Chicago 19 Ill-2
Anton Electronic Labs 1226 Flushing Ave
Brooklyn 37 NY-29
Apex Coated Fabrics 12 E 22 St New York 10
NY-31
Aries Labs 270 Park Ave New York 17 NY-
16-17
Armel Electronics 840 5 Ave Brooklyn 32 NY-
14-15-19
Auburn Mfg Co 110 Stack St Middletown Conn-
7-11-16-17-23-26-27-28
Automatic & Precision Mfg 252 Hawthorne
Ave Yonkers NY-29
Buer Co N S 1 Montgomery St Hillside 5 NJ-
7-11-16-17-19-27-31
Barber-Colman Co 1300 Rock St Rockford Ill-
21
Barwood Mfg Co L J Williams & Norman Sts
Everett 49 Mass-11-15
Beck's Inc 298 E 5 St St Paul 1 Minn-11-31
Bentley-Harris Mfg Co Conshohocken 20 Pa-
25-27-28
Bird & Co R H 1 Spruce St Waltham Mass-3
Birnback Radio Co 145 Hudson St New York
13 NY-1-4-6-7-8-15-16-18-19-20-27-28
Biwax Corp 3445 Howard St Skokie Ill-14
Blazon Mfg Co 6021 Dempster St Morton Grove
Ill-31
Boonton Molding Co Boonton NJ-30-31
Brand & Co Wm Willimantic Conn-15-18-25-27-
28
Buchanan Electrical Products Dept TT Hillside
NJ-12-14-18
Calif Plastec 225 E 4 St Los Angeles Calif-31
Cambridge Thermionic Corp 445 Concord Ave
Cambridge 38 Mass-4-7-8-15-19
Celanese Corp of America 180 Madison Ave
New York 16 NY-31
Centralab Div Globe-Union 900 E Keefe Ave
Milwaukee 1 Wis-2-4-8-19-34
Cermaseal Inc Box 25 New Lebanon Center
NY-4-12-21-29
Chase & Sons 19 Highland Ave Randolph Mass-
7-11-26
Citation Products Co 233 E 146 St New York
51 NY-31
Cleveland Container Co 6201 Barberton Ave
Cleveland 2 Ohio-14-15-23-26-27-28
Clifford Mfg Co Grove St Waltham 54 Mass-29
Coaxial Connector Co 37 N 2 Ave Mt Vernon
NY-29
Collectron Corp 216 E 45 St New York 17
NY-14
Colonial Insulator Co 945 Grant St Akron 11
Ohio-4-10-19-24
Connector Corp 6025 N Keystone Ave Chicago
30 Ill-11-14-19
Continental Can Co Conolite Div 205 W 14 St
Wilmington 99 Del-31
Continental-Diamond Fibre Div Budd Co New-
ark Del-7-9-11-13-15-27
Corning Glass Works Corning NY-29
Cortland Industries 4545 W Cortland St Chi-
cago 39 Ill-31
Crane Packing Co 1801 Belle Plaine Ave Chi-
cago 13 Ill-2-14-15-16-17-31
Decatur Electronic Industries 203 Orinoco Dr
Brightwaters LI NY-30
Delco Radio Div General Motors 700 E Firmin
St Kokomo Ind-15
Demco Products PO Box 5042 Phila 11 Pa-31
Diamonite Products Div U S Ceramic Tile Co
217 4 St NE Canton 2 Ohio-4
Dielectric Materials Co 5315 N Ravenswood
Ave Chicago 40 Ill-15-18-27-28
Du-Co Ceramics Co Box 586 Butler Pa-1-2-4-
18-19-21-24
DuPont de Nemours & Co E I Film Dept Wil-
mington 98 Del-31
Durez Plastics Div Electrochemical Co 1926
Walck Rd N Tonawanda NY-30-31
Eastern Precision Resistor 675 Barbey St
Brooklyn 7 NY-31
Eby Co Hugh H 4701 Germantown Ave Phila-
delphia 44 Pa-14
Elco Corp "M" St below Erie Ave Philadelphia
24 Pa-4-13-14-15
Electrical Industries 44 Summer Ave Newark
4 NJ-8-19-29
Electronic Mechanics Inc 101 Clifton Blvd
Clifton NJ-4-7-8-9-29-31
Electronic Parts Mfg Co 508 25 St Union City
NJ-13
Electronic Plastic 130 St & 90 Ave Queens 18
NY-31
Emerson & Cuming 869 Washington St Canton
Mass-11-16-17-30-31
Emerson Plastics Corp 564 3 Ave New York 16
NY-2-7-9-11-13-15-16-17-18-27-31

Engelhard Inc Charles 850 Passaic Ave E New-
ark NJ-2-14-21-24
Erie Resistor Corp 644 W 12 St Erie 6 Pa-4-8-
13
Fish-Schurman Corp 70 Portman Rd New
Rochelle NY-4
Franklin Fibre-Lamitex Corp 411 E Front St
Wilmington 99 Del-31
Frenchtown Porcelain Co Muirhead Ave Tren-
ton NJ-4
Fretco Inc 406 N Craig St Pittsburgh 13 Pa-
1-7-14-15
Fusite Corp 6000 Fernview Ave Cincinnati 13
Ohio-8
Garde Mfg Co 588 Eddy St Providence 3 RI-
8-14-15-19-29
Gee-Lar Mfg Co 418 S Wyman St Rockford
Ill-19
General Cement Mfg Co 919 Taylor Ave Rock-
ford Ill-8-19-20-27-28-31
General Ceramic Corp Keasbey NJ-4
General Hermetic Sealing Corp 99 E Haw-
thorne Ave Valley Stream NY-29
Goodrich Co B F Sponze Prods Div Shelton
Conn-32
Graef Eng'g Co PO Box 416 Paramount Calif-31
Graybar Electric Co 420 Lexington Ave New
York 17 NY-10-22-28
Gries Reproducer Corp 125 Beechwood Ave
New Rochelle NY-15-18
Guastavino Co 660 Main St Woburn Mass-2-4-
8-31
Gustin-Bacon Mfg Co 210 W 10 St Kansas City
5 Mo-1
Halogen Insulator & Seal Corp 10121 Franklin
Ave Franklin Park Ill-3-14-15-16-17-27
Heldor Manufacturing Corp 238 Lewis St Pater-
son NJ-29
Hermaseal Co 1101 Lafayette St Elkhart Ind-
29
Hermetic Seal Products 29 S 6 St Newark NJ-29
Hermetite Corp 702 Beacon St Boston 15 Mass-
29
Huse Liberty Mica Co 171 Camden St Boston
18 Mass-13-25-27-28
iE Mfg 325 N Hoyne Ave Chicago 12 Ill-1-7
Industrial Devices 982 River Rd Edgewater
NJ-29
Industrial Engravers Inc 4103 10 Ave Brook-
lyn 19 NY-7-15
Industrial Hdw Mfg Co 109 Prince St New
York 12 NY-7
Insl-x Sales Ardmore Pa-28-31
Insulation Mfrs Corp 565 W Washington Blvd
Chicago 6 Ill-7-9-11-13-14-15-16-17-18-23-25-
26-27-28-31
Integrated Mica Corp 202 Franklin Pl Wood-
mere NY-12
Irvington Div Minn Mining & Mfg 6 Arkyle
Terrace Irvington 11 NJ-11-15-17-18-27-28-31
Isolanite Mfg Corp Stirling NJ-1-2-4-5-7-8-12-
14-16-19-21-24
Janco Corp 3111 Winona Ave Burbank Calif-1
Jan Hdw Mfg Co 75 N 11 St Brooklyn 11 NY-6
JFD Mfg Co 6101 16 Ave Bklyn 4 NY-1-19-20
Johnson Co E F Waseco Minn-1-4-6-8-19
Kearfott Co 1378 Main Ave Clifton NJ-29
Kendall Co Polyken Sales Div 222 W Adams
St Chicago 6 Ill-16-17
Keystone Electronics 423 Broome St New York
13 NY-7-11-15-16-19-26
La Magna Mfg Co 51 Clinton Pl E Rutherford
NJ-1-7-11-15-16-17
Lapp Insulator Co Radio Specialties Div Gil-
bert St Le Roy NY-1-4-8-10-16-19-22-24
Lerco Electronics Inc 501 S Varney St Bur-
bank Calif-8-14-19
Long Inc Thomas J 215 Stonehinge Lane Carle
Pl LI NY-15-17-18-26-27
Louthan Mfg Co E Liverpool Ohio-4
Luria-Courand Inc Havre De Grace Md-11
Maryland Lava Co Box 205 Belair Md-4-7-15-24
Measurement Eng'g Ltd John St Arnprior On-
tario Canada-1
Mesa Plastics Co 11751 Mississippi Ave Los
Angeles 25 Calif-15-30-31
Mica Corp 4031 Elenda St Culver City-31
Mica Fabricating Co 53 Central Ave Rochelle
Park NJ-31
Mitchell-Rand Insulation 51 Murray St New
York 7 NY-31
Mitronics Inc 232 13 Ave Newark NJ-12-29
Modern Wire Co 39-30 Review Ave Long Island
City 1 NY-9-25
Molded Insulation Co 335 E Price St Philadel-
phia 44 Pa-14-15
Molding Corp of America 40 Church St Paw-
tucket RI-31
Mosley Electronics Inc 8622 St Charles Rock
Rd St Louis 14 Mo-1-8-15
Mueller Electric Co 1583 E 31 St Cleveland 14
Ohio-20
Mycalex Corp of America 125 Clifton Blvd
Clifton NJ-4-9-13-14-16-17

National Ceramic Co 500 Southard St Trenton
2 NJ-4-8-19-31
National Company 61 Sherman St Malden 48
Mass-4-6-8-19
National Research Corp 160 Charlemont St
Newton Highlands 6 Mass-29
National Vulcanized Fibre Co PO Box 311 Wil-
mington 99 Del-7-11-15-16-17-27-31
Natvar Corp 211 Randolph Ave Woodbridge NJ-
15-31
New England Mica Co 66 Woerd Ave Waltham
Mass-9-11-13-17
New Jersey Wood Finishing Amboy Ave Wood-
bridge NJ-27
New Products Co 1069 E 54 St Indianapolis
Ind-31
Nichols Products 325 W Main St Moorestown
NJ-3-7-11-15-16-27
Okonite Co 220 Passaic St Passaic NJ-14
Oppenheimer Corp 578 Exchange St Buffalo 10
NY-31
Pan-Ormond Corp Box 1605 Ormond Beach
Fla-31
Pearson Industries 4624 N Sheridan Rd Chi-
cago 40 Ill-31
Peerless Products Industries 812 N Pulaski Rd
Chicago 51 Ill-7-8-15-19
Penn Fibre & Specialty Co 2030 E Westmore-
land St Philadelphia 34 Pa-11-15-16-17-26-27-
31
Perfection Mica Co Magnetic Shield Div 1322
N Elston Ave Chicago 22 Ill-13
Permonite Mfg Co 4554 N Broadway Chicago
40 Ill-31
Philadelphia Scientific Glass Co 1866 Eckard
Ave Abington Pa-29
Plasticraft Products Co 1 Station Pl W Nyack
NY-31
Plastoid Corp 42-61 24 St Long Island City 1
NY-19
Plastronics PO Box 96 Winter Hill 45 Mass-31
Polymer Corp of Pa Reading Pa-3-7-15-16-17-
18-27-31
Porelain Products Inc 420 W Sandusky St
Finlay Ohio-4-19-24-31
Precision Metal Products 41 Elm St Stoneham
80 Mass-7-11-16-19-23
Precision Paper Tube Co 2035 W Charleston
St Chicago 47 Ill-14-23-25-26
Precision Plastic Products 225 N Racine St
Chicago 7 Ill-31
Premax Products Div Chisholm Ryder Co High-
land & College Aves Niagara Falls NY-1-19
Pyrometer Instrument Co 92 Portland Ave
Bergenfield NJ-21
Radio Merchandise Sales 2016 Bronxdale Ave
New York 62 NY-1-19
Raytheon Mfg Co Ceramic Sales Div Foundry
Ave Waltham Mass-4-8-10-12-16-17-18-19-24-
29
Raytheon Mfg Co Microwave & Power Tube
Operations Foundry Ave Waltham Mass-4
Red Seal Electric 6321 Detroit Ave Cleveland 2
Ohio-7-11-14-15
Reliance Mica Co 341 39 St Brooklyn 32 NY-13
Research Instrument Co 233 Broadway New
York 7 NY-29
Resinite Corp 20351 W Charleston St Chicago
Ill-7-26-27
Resistoflex Corp Belleville 9 NJ-31
Retron Co 717 N Lake Ave Pasadena 6 Calif-31
Rex Corp W Acton Mass-31
Richardson Co 2790 Lake St Melrose Park Ill-
1-3-7-11-14-15-16-17-18-26-27-31
Rogers Corp Rogers Conn-7-11-26-31
Romar Plastics Inc 1311 E Main St St Charles
Ill-31
Sangamo Electric Co 9 & Converse Sts Spring-
field Ill-31
Saxonburg Ceramics Saxonburg Pa-2-4-24
Saxton Products Inc 1661 Boone Ave Bronx 60
NY-1-19
Seal Ltd 1010 Mission St S Pasadena Calif-29
Sealectro Corp 186 Union Ave New Rochelle
NY-7-8-15-19
Shamban Eng'g Co 11617 W Jefferson Blvd
Culver City Calif-8-15-16-17-18-19-27
Silicone Insulation Inc 564 3 Ave New York 16
NY-7-11-13-14-15-17-18-23-27
Silicone Seals Inc 3125 Milwaukee Ave Chicago
18 Ill-8-29
Silcocks-Miller Co 10 W Parker Ave Maple-
wood NJ-31
Skottie Electronics 204 Bridge St Peckville
Pa-4-19
Spaulding Fibre Co 310 Wheeler St Tona-
wanda NY-11-15-27-31
Spruce Pine Mica Co Spruce Pine N Car-13
Star Porcelain Co Muirhead Ave Trenton 9
NJ-2-4
Stevens Products 86 Main St E Orange NJ-7-
11-25
Steward Mfg Co D M PO Box 510 Chattanooga
Tenn-4-30-31
Stone City Machine & Tool Co PO Box 351 Bed-
ford Ind-1-7-11-14-17-18-26
Stonized Products Co 900 Franklin St NE
Washington 17 DC-26
Stratoseal Mfg Co 3039 W Fullerton Ave Chi-
cago 47 Ill-29
Stupakoff Div Carborundum Co Latrobe Pa-2-
4-8-12-19-21-24-29
Suffolk Products Corp Woodbine & Scudder
Aves Northport LI NY-7-11
Sun Chemical Corp Electro-Tech Prod Div 113
E Centre St Nutley NJ-9-11-17-31

Superior Carbon Products 9115 George Ave Cleveland 5 Ohio-14
 Superior Steatite & Ceramic Corp 83-91 W Forest Ave Englewood NJ-2-4-12-14-16-18-24
 Suprenant Mfg Co 172 Sterling St Clinton Mass-27
 Sylvia Electric Products 1740 Broadway New York 19 NY-11-13-14-15
 Synthane Corp Montgomery Ave Oaks Pa-7-11-15-16-17-27
 Taylor Fibre Co Norristown Pa-3-7-11-15-16-17-18-23-26-27-31
 Technicraft Co 1156 Commonwealth Ave Boston 34 Mass-30-31
 Thermo Electric Co Inc Saddle Brook NJ-21
 Thompson Fibre Glass Co H I 1733 Cordova St Los Angeles 7 Calif-21-25
 Torwico Electronics 1090 Morris Ave Union NJ-29
 Travaco Labs 233 Condor St E Boston 28 Mass-30-31
 Triad Transformer Corp 4055 Redwood Ave Venice Calif-29
 Tri-Dex Electronics PO Box 1207 Lindsay Calif-7-15-17
 Trimount Plastic Co 71 Dudley St Arlington 71 Mass-11-15-17-30-31
 United Mineral & Chemical Corp 16 Hudson St New York 13 NY-1-4-8-10-12-13-19
 Universal Clay Products Co 1528 1 St Sandusky Ohio-4
 U S Gasket Co Fluorocarbon Div 600 N 10 St Camden 1 NJ-6-7-8-12-14-15-16-17-18-19-27-29-31
 Vacuumet Inc 1009 W Weed St Chicago 22 Ill-31
 Varflex Corp 512 W Court St Rome NY-15-18-25-27-28-31
 Visulite Co 423 Broome St New York 13 NY-20
 Vitrosale Corp 709 E 106 St Indianapolis 20 Ind-8-19-25-29
 Walter Lee Chemical Corp 564 3 Ave New York 16 NY-2-7-14-15-16-17-27-31
 Western Coil & Electrical Co 215 State St Racine Wis-8-19
 Western Int'l Co 45 Vesey St New York 7 NY-20-21
 West Instrument Corp 4363 W Montrose Ave Chicago 41 Ill-21
 Wheaton Co T C Wheaton Ave Millville NJ-4-8-12-19-24-25
 Whitso Inc 9330 Byron St Schiller Park Ill-14-15-19
 Wind Turbine Co E Market St & Penna RR West Chester Pa-4-7-8-19-22
 Wolfe Co Inc Franklin C 3644 Eastham Dr Culver City Calif-29
 Zell Products Corp 280 Main St Norwalk Conn-29

30—MEASUREMENT & TEST EQUIPMENT—BRIDGES

Bridges, capacitance	1
Bridges, conductivity	2
Bridges, impedance	3
Bridges, inductance	4
Bridges, resistance	5
Bridges, R-F	6
Bridges, self balancing	7
Bridges, standing wave	8
Bridges, synchro	9
Bridges, temperature	10
Bridges, thermistor	11
Bridges, wheatstone	12

Aerovox Corp & Divisions 740 Belleville Ave New Bedford Mass-1-4
 Aireom Inc 354 Main St Winthrop 52 Mass-11
 Alford Mfg Co 299 Atlantic Ave Boston 10 Mass-6
 Allegany Instrument Co Cumberland Md-12
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-1-2-3-4-5-12
 Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-10
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-3-4-6-8
 Bellaire Electronics Inc 62 White St Red Bank NJ-11
 Boonton Electronics Corp Morris Plains NJ-1
 Boonton Radio Corp Intervale Rd Boonton NJ-1-3-4-5-6
 Borden Eng'g Co Div M J Johnson Aircraft 39 E Hanover Ave Morris Plains NJ-5-12
 Bristol Co PO Box 1790 Waterbury Conn-5-7-10-12
 Rudelman Radio Corp 375 Fairfield Ave Stamford Conn-6
 Cambridge Instrument Co 3611 Grand Central Terminal New York 17 NY-1-5-12
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-1-4-5

Clegg Labs Inc Ridgedale Ave Morristown NJ-3-4-5
 Clough-Brengle Co 6014 Broadway Chicago 40 Ill-1-4-5
 Cole Instrument Co 1000 N Olive St Anaheim Calif-1-2-3-4-5-12
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-8
 Communication Measurements Lab 350 Leland Ave Plainfield NJ-5
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-1-5
 Daystrom Instrument Archbald Pa-1
 Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa-1
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-5
 Edison Inc Thomas A Instrument Div 93 Lakeside Ave W Orange NJ-10
 Electro-Measurements Inc 4312 S E Stark St Portland 15 Ore-1-2-3-4-5-12
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-1-5
 Englehard Inc Charles 850 Passaic Ave E Newark NJ-2-5-10-12
 Equipment Crafters Inc River Edge NJ-8
 Fairchild Electrotechnics Div 118 E 16 St Costa Mesa Calif-7
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-3-4-12
 Feedback Controls Inc 1332 N Henry St Alexandria Va-7
 Fielden Instrument Div Robertshaw Fulton Controls 2920 N 4 St Philadelphia 33 Pa-1-2-5-6-7-12
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-1-3-4
 Friez Instrument Div Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-10-11-12
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-3-8
 General Communication Co 681 Beacon St Boston 15 Mass-1
 General Electric Co—Apparatus Sales Div 1 River Road Schenectady 5 NY-10
 General Radio Co 275 Mass Ave Cambridge 39 Mass-1-2-3-4-5-6-12
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-5
 Gray Instrument Co 200 E Church Lane Philadelphia 44 Pa-5-10-12
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-1
 Heath Co 305 Territorial Rd Benton Harbor Mich-3
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-3-11
 Hyeon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-7
 Industrial Development Labs 17 Pollock Ave Jersey City 5 NJ-1-3-5-7-10-11
 Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-1-2-3-4-5
 Industrial Instruments Inc 89 Commerce Rd Cedar Grove NJ-1-2-3-4-5-12
 Industrial Test Equip Co 55 E 11 St New York 3 NY-1-3-4-5-9-12
 Industrial Transformer Corp Gouldsboro Pa-4
 Johnson Co E F Waseco Minn-8
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-8
 Kay Electric Co 14 Maple Ave Pinebrook NJ-1-2-3-4-5-6
 Kullian Corp Electronics Div 1200 N Broad St Philadelphia 21 Pa-5
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-1-2-3-4-5-7-10-12
 Marconi Instruments Ltd 44 New St New York 1 NY-1-3-4-5-6-8
 Metronix Inc PO Box 549 New London Conn-1
 Microwave Associates 22 Cummington St Boston 15 Mass-8
 Midwestern Instruments PO Box 7186 Tulsa Okla-7
 Narda Corp 160 Herricks Rd Mineola NY-8-11
 Network Mfg Corp 213 W 5 St Bayonne NJ-1
 Phoastron Co 151 Pasadena Ave S Pasadena Calif-1-5-12
 Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-5-7
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-7-11
 Precision Associates 354 Cumberland St Brooklyn 38 NY-11
 Radex Corp 2076 Elston Ave Chicago 14 Ill-3
 Radio City Products Co Centre & Glendale Sts Easton Pa-5
 Raypar Inc 7810 W Addison St Chicago 34 Ill-8
 Rubicon Co Ridge Ave & 35 St Philadelphia 32 Pa-5-9-10-12
 Shallcross Mfg Co Pusey & Jackson Aves Colingdale Pa-1-2-3-4-5-7-12
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-3-5
 Simmonds Aerocosmetics 105 White Plains Rd Tarrytown NY-1
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-1-3-4-5
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-8-11
 Sticht Co Herman H 27 Park Pl New York 7 NY-5-12

Tech Labs Inc Bergen & Edsall Blvd Palisades Park NJ-1-2-3-4-5-7-10-12
 Thermo Electric Co Inc Saddle Brook NJ-10
 Thwing-Albert Instrument Co Penn St & Pulaski Ave Philadelphia 44 Pa-12
 Victory Eng'g Corp 117 Springfield Rd Union NJ-10-11
 Waters Mfg Boston Post Rd Wayland Mass-3-4
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-11
 Welch Mfg Co W M 1515 Sedgwick St Chicago 10 Ill-12
 Weston Labs Old Littleton Rd Harvard Mass-1-11
 White Electron Devices Inc Roger 4 Ave Huskell NJ-3
 Yellow Springs Instrument PO Box 106 Yellow Springs Ohio-10-11

31—MEASUREMENT & TEST EQUIPMENT—COUNTERS

Counters, electromagnetic	1
Counters, electronic	2
Counters, events-per-unit time	3
Counters, frequency	4
Counters, geiger	5
Counters, impulse	6
Counters, mechanical	7
Counters, photoelectric	8
Counters, preset	9
Counters, radiation	10
Counters, revolution	11
Counters, scintillation	12
Counters, time-measuring	13

Abrams Instrument Corp Lansing Mich-1-6-13
 Advance Electronics Co 451 Highland Ave Passaic NJ-2-4-6-9-13
 Alco Mfg Co 4011 Cuming St Omaha 31 Nebr-10
 Alden Electronic & Impulse Recording Equip Co Westboro Mass-5
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-5-10
 Amerac Inc Wenham Mass-11
 American Chronoscope Corp 316 W 1 St Mount Vernon NY-13
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-5-12
 Anatron Eng'g Corp 165 E California St Pasadena Calif-7-9-11-13
 Anton Electronics Labs 1226 Flushing Ave Brooklyn 37 NY-2-5-10-12
 Atomic Instrument Co 84 Massachusetts Ave Cambridge 39 Mass-5-6-7-8-9-10-12
 Automatic Temperature Control Co 5212 Pulaski Ave Philadelphia 44 Pa-13
 Barton Electronics 1000 Farmington Ave Hartford 7 Conn-8
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-7
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-1-2-3-4-5-6-8-9-10-11-12-13
 B-I-F Industries 345 Harris Ave Providence 1 RI-3
 Boesch Mfg Co 45 River St Danbury Conn-2-6
 Borg Corp Geo W Borg Equip Div Janesville Wis-7
 Burroughs Corp Electronic Instruments Div 1209 Vine St Philadelphia 7 Pa-2-9
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-5-10-12
 Cincinnati Time Recorder Co 1733 Central Ave Cincinnati 14 Ohio-13
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-2-3-4-5-6-8-10-11-13
 Cole Instrument Co 1000 N Olive St Anaheim Calif-2-8
 Computer-Measurements Corp 5528 Vineland Ave N Hollywood Calif-2-3-4-6-8-9-11-13
 Counter & Control Corp 5225 W Electric Ave Milwaukee Wis-2
 Cramer Co R W Centerbrook Conn-13
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-3-5-9-10-12
 Daystrom Instrument Archbald Pa-2-9-10-13
 Deitz Co S J 9 E Wesley St S Hackensack NJ-2
 DeJure-Amsco Corp 45-01 Northern Blvd Long Island City 1 NY-13
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-5-10-12
 Detectron Corp Computer-Measurement Div 5528 Vineland N Hollywood Calif-2-3-4-5-6-10-11-13
 Dimco-Gray Co 207 E 6 St Dayton 2 Ohio-13
 Dittmore-Freimuth Corp 2517 E Norwich St Milwaukee 7 Wis-11
 Douglas Radio Lab 176 Norfolk Ave Boston 19 Mass-10-12
 Dubrow Development Co 235 Penn St Burlington NJ-4
 Durant Mfg Co 1925 N Buffam St Milwaukee 1 Wis-1-2-7-8-9-11

Eberline Instrument Div Reynolds Electrical & Eng'g PO Box 1539 Santa Fe N Mex-5
Egan Lab 107-56 113 St Richmond Hill 19 NY-5-10-12
Electrical & Physical Instrument Corp 42-19 27 St Long Island City NY-2-6-10-12-13
Electrical Service 1271 Mission St San Francisco 3 Calif-1-2-8
Electro Instruments Inc 3794 Rosecrans St San Diego 10 Calif-2-3-4
Electronic Control Corp 1573 E Forest Ave Detroit 7 Mich-8
Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-2-9-13
Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 57 Calif-2-3
Electronic Instrument Co 84 Withers St Brooklyn 11 NY-5
Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-13
Electronics Corp of America 77 Broadway Cambridge 42 Mass-8
Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-13
Electro-Pulse Inc 11861 Teale St Culver City Calif-2-3-4-9-13
El-Tronics Inc Penn Ave Mayfield 1 Pa-5-10-12
Ess Instrument Co 96 S Washington Ave Bergenfield NJ-8-18
Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-2-8
Ferrara Inc 8106 W 9 Mile Rd Oak Park 37 Mich-2
Fische & Porter 19 Warminster Rd Hatboro Pa-6
Foto-Video Labs 25 Amity St Little Falls NJ-2-4
Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-2-3-9-11
General Electric Co Apparatus Sales Div 1 River Road Schenectady 5 NY-2-8-13
General Time Corp 111 N Canal St Chicago 6 Ill-13
Goldak Co 1544 W Glenoaks Blvd Glendale 1 Calif-5-10-12
Gorrell & Gorrell 336 Old Hook Rd Westwood NJ-3-4-6-7-9-13
Grason Stadler Co Electronics Park W Concord Mass-2
Haledy Electronics Co 57 William St New York 5 NY-2-8
Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-1-5-12
Haller Raymond and Brown 124 N Atherton St State College Pa-13
Hamilton Watch Co Columbia Ave Lancaster Pa-13
Hamner Electronics Co Box 531 Princeton NJ-2-6-12
Hansen Co Wm 165 Silverbrook Ave Niles Mich-2-5-10-12
Haydon Co A W 232 N Elm St Waterbury 20 Conn-13
Haydon Mfg Co 245 E Elm St Torrington Conn-3-13
Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-2-3-4-6-8-10-13
Hill Electronic Eng'g & Mfg New Kingstown Pa-2-4
Hupp Instrumentation Co 2119 Sepulveda Blvd Los Angeles 25 Calif-4-11-13
Hycan Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-8-10
Industrial Electronic Controls 2271 E 14 St Brooklyn 29 NY-2-9
Industrial Electronic Engrs 3973 Lankershim Blvd N Hollywood Calif-1-2
Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-8
Industrial Timer Corp 1407 McCarter Hwy Newark 4 NJ-13
J-B-T Instruments Inc 441 Chapel St New Haven 12 Conn-13
Kay Electric Co 14 Maple Ave Pinebrook NJ-13
Kearfott Co 1378 Main Ave Clifton NJ-7
Kine-Lab 3250 Kenilworth Ave Berwyn Ill-5
Laboratory for Electronics 75 Pitts St Boston 14 Mass-4-11-13
La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-7-8
Larson Instrument Co 24 Orchard St Tarrytown NY-8
Lavoie Labs Inc Matawan and Freehold Rd Morganville NJ-2-4
Link Aviation Inc Binghamton NY-2
Machinery Electrofication Inc 35 Hudson St Northboro Mass-2-8-9
Measurement Eng'g Ltd John St Arnprior Ontario Canada-2-3-5-8-10-12
Menlo Research Lab Box 522 Menlo Park Calif-5-10-12
Montgomery Mfg Co 204 S Main St Owensville Ind-13
Moran Instrument Corp 170 E Orange Grove Ave Pasadena 3 Calif-10-12
Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-10-12
Mountain Systems Inc 864 Franklin Ave Thornwood NY-1
Mueller Lab Electro-Mechanical Products 1052 N Allen Ave Pasadena Calif-1
Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-3-9-13
Nat'l Fabricated Prods Div Hoffman Electronics 2650 W Belden Ave Chicago 47 Ill-3-8-10



National Radiac Inc 479 Washington St Newark 2 NJ-12
Nemeth Inc 2223 S Carmelina Ave Los Angeles 64 Calif-1-9
Newton Co 55 Elm St Manchester Conn-2
Norrman Labs Ernst Williams Bay Wis-13
North American Philips Co 75 S Fulton Ave Mt Vernon NY-5-12
Northeastern Eng'g Co Bedford St Manchester NH-4
NRD Instrument Co 6425 Etzel Ave St Louis 14 Mo-2-5-9-10-12
Nuclear Development Lab PO Box 7034 Kansas City 13 Mo-5-10
Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-2-4-5-6-8-10-12
Nuclear Instrument & Chemical Corp 223 W Erie St Chicago 10 Ill-5-10-12
Nuclear Measurements Corp 2460 N Arlington Ave Indianapolis 18 Ind-2-5-10-12
Nuclear Research Corp Southampton Pa-10-12
Nucleonic Corp of America 196 DeGraw St Brooklyn 31 NY-5-10
Oerlikon Tool & Arms Corp of America PO Box 3049 Asheville N Car-2-6
OMCO U S 93 & Las Palomas St Kingman Ariz-5-10
Opticon Research 1374 Massachusetts Ave Cambridge 38 Mass-8
Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-13
Pantek Co Box 212 El Segundo Calif-8-9
Philmore Mfg Co 113 University Pl New York 3 NY-5
Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-8
Photobell Co 43 Vesey St New York 7 NY-8
Photocon Research Products 421 N Foothill Blvd Pasadena 8 Calif-1-7-11
Post Machinery Company Electronic Products Div 140 Elliott St Beverly Mass-2-3-8-9-11-13
Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-2-3-4-6-8-9-10-11-13
Precision Radiation Instruments & Sub Radio Craftsmen 4223 W Jefferson Blvd Los Angeles 16 Calif-5-10-12
Precision Scientific Co 3737 W Cortland St Chicago 47 Ill-13
Radio Corp of America Camden 2 NJ-2
Ransom Research PO Box 382 San Pedro Calif-2-3-4-6-9-10-11-13
Reed-Curtis Nuclear Industries Inc 307 Culver Blvd Playa del Rey Calif-2-3-5-6-8-9-10-12
Remington Rand Univac Div 315 4 Ave New York 10 NY-7
Ripley Co 1 Factory St Middletown Conn-2-8
Roberts Mfg Co 412 E Chambers St Cleburne Texas-5
Rockwell Eng'g Co 4065 N New Jersey St Indianapolis 5 Ind-8
Rutherford Electronics Co 3707 S Robertson Blvd Culver City Calif-13
Sangamo Electric Co Box 7 Marion Ill-13
Scherr Co George 200 Lafayette St New York 12 NY-11
Simplex Time Recorder Co Gardner Mass-13
Special Products Co PO Box 188 Rockville 1 Md-8
Spellman TV Co 3029 Webster Ave Bronx 67 NY-2-8-9
Standard Electric Time Co 89 Logan St Springfield 2 Mass-1-2-4-6-13
Standard Electronics Research Corp 2 East End Ave New York 21 NY-2
Stelma Inc 190 Henry St Stamford Conn-13
Stewart Instrument Co 6507 Grand River Detroit 8 Mich-2-3-4-13
Stoelting Co C H 424 N Homan Ave Chicago 24 Ill-2-3-13
Streeter-Amet Co 4101 N Ravenswood Ave Chicago 13 Ill-1-6-11-13
Taller & Cooper 75 Front St Brooklyn 1 NY-1-2-3-7
Telecomputing Corp 12838 Statocoy St N Hollywood Calif-2
Ten Bosch Inc M 80 Wheeler Ave Pleasantville NY-8
Thompson Clock Co H C 38 Federal St Bristol Conn-13
Tracerlab Inc 130 High St Boston 10 Mass-9-10-12-13
U M & F Mfg Corp 10929 Vanoven St N Hollywood Calif-5-10-12
Universal Atomics Corp 19 E 48 St New York 17 NY-5-10-12
Veeder Root Inc Hartford 2 Conn-7-11
Vinson Co E R 1401 Middle Harbor Rd Oakland 20 Calif-5-8-9
Vocaline Co of America Old Saybrook Conn-13
Walkirt Co 145 W Hazel St Inglewood 3 Calif-2-3-4-9-11-13
Wang Labs Inc 37 Hurley St Cambridge 41 Mass-13

Weltronic Co 19500 W 8 Mile Rd Detroit 19 Mich-2
Western Radiation Lab 1107 W 24 St Los Angeles 7 Calif-5-10-12
Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-8-13
Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-13
Yellow Springs Instrument PO Box 106 Yellow Springs Ohio-13

32—MEASUREMENT & TEST EQUIPMENT—DECADE BOXES

Decade boxes, capacitance 1
Decade boxes, inductance 2
Decade boxes, resistance 3

Allied Radio Corp 100 N Western Ave Chicago 25 Ill-1-3
Burnell & Co 45 Warburton St Yonkers 2 N Y-2
Clarostat Mfg Co Washington St Dover N H-3
Coast Coil Co 5333 W Washington Blvd Los Angeles 16 Calif-2
Cole Instrument Co 1000 N Olive St Anaheim Calif-1-2-3
Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield N J-1-3
Daven Co Route 10 Livingston N J-3
Dubrow Development Co 235 Penn St Burlington N J-3
Electro-Measurements Inc 4312 S E Stark St Portland 15 Ore-1-3
Electronic Instrument Co 84 Withers St Brooklyn 11 N Y-3
Electronic Measurements Co Lewis St & Maple Ave Eatontown N J-3
Endevco Corp 161 E California St Pasadena Calif-1-2-3
Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton N J-1-3
Fidelity Amplifier Co 703 W Willow St Chicago 14 Ill-3
Freed Transformer Co 1718 Weirfield St Brooklyn 27 N Y-1-2
General Radio Co 275 Mass Ave Cambridge 39 Mass-1-2-3
Gray Instrument Co 200 E Church Lane Philadelphia 44 Pa-3
Heath Co 305 Territorial Rd Benton Harbor Mich-1-3
Hycor Div Int'l Resistance Co Sylmar Calif-2
Industrial Instruments Inc 89 Commerce Rd Cedar Grove N J-1-3
Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-1-2-3
Marma Electronic Co 703 Willow St Chicago 14 Ill-3
Ohmite Mfg Co 3601 Howard St Skokie Ill-3
Phaestron Co 151 Pasadena Ave S Pasadena Calif-3
Precise Development Corp Oceanside L I N Y-1-3
Precision Associates 354 Cumberland St Brooklyn 38 N Y-1-2-3
Rochester Electronics Co Penfield N Y-3
Rubicon Co Ridge Ave & 35 St Philadelphia 32 Pa-3
Shasta Div Beckman Instruments Inc P O Box 296 Station A Richmond Calif-2
Simmonds Aerocessories 105 White Plains Rd Tarrytown N Y-1
Telex Inc 1633 Eustis St St Paul 1 Minn-3

33—MEASUREMENT & TEST EQUIPMENT—GENERATORS

Generators, A-F signal 1
Generators, color TV bar 2
Generators, color TV dot 3
Generators, color TV signal 4
Generators, F-M signal 5
Generators, harmonic 6
Generators, microwave signal 7
Generators, noise 8
Generators, pulse 9
Generators, R-F signal 10
Generators, single-sideband 11
Generators, square wave 12
Generators, sweep 13
Generators, sync 14
Generators, television, composite signal 15
Generators, timing marker 16
Generators, UHF 17
Generators, ultrasonic 18

Generators, VHF	19
Generators, video signal	20
Generators, waveform	21
Multipliers, frequency	22

Acme Electronics Div Nea Service 1200 W 3 St Cleveland 13 Ohio-22
 Acoustica Associates 2 Shore Rd Glenwood Landing 1 N Y-18
 Aeroprojects Inc 310 E Rosedale West Chester Pa-18
 Aircorn Inc 354 Main St Winthrop 52 Mass-7
 Aircraft Radio Corp Booton N J-7-10-19
 Alcar Instruments Inc 17 Industrial Ave Little Ferry N J-17-18
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-1-10
 Allis-Chalmers Mfg Co Milwaukee 1 Wis-14
 Amerac Inc Wenham Mass-7-10-19
 American Electronics Labs 641 Arch St Philadelphia 6 Pa-9-12
 American Metrix Corp 15 Exchange Pl Jersey City 2 N J-1-2-3-4-5-6-8-9-10-12-13-14-16-17-19-20
 Andersen Labs Inc 39 Talcott Rd Hartford Conn-18
 Antlab 4940 N High St Columbus 14 Ohio-12
 Applied Research Inc 163-07 Depot Flushing 58 N Y-13
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-18
 ARF Products Inc 7627 Lab St River Forest Ill-5-9-10-13
 Babcock Radio Eng'g 7942 Woodley Ave Van Nuys Calif-10-17
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-8-9-10-11-12-18-22
 Basler Electric Co 605 5 St Highland Ill-18
 Bellaire Electronics Inc 62 White St Red Bank NJ-10
 Berkley Div Beckman Instruments 2200 Wright Ave Richmond Calif-9
 B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-5-9-10-13
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 N Y-18
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 N J-6-14-18
 Boonton Radio Corp Intervale Rd Boonton N J-5-10-13-15-19
 Branson Instruments Inc 430 Fairfield Ave Stamford Conn-18
 Bristol Eng'g Corp Electronics Div Bristol Pa-9-16
 Brubaker Mfg Co 9151 Exposition Dr Los Angeles 34 Calif-9
 Bruno-NY Industries 460 W 34 St New York 1 NY-1-4-5-7-9-10-11-12-13-14-15-17-19-20-21
 Burroughs Corp Electronic Instruments Div 1209 Vine St Philadelphia 7 Pa-9
 Byron Jackson Co Electronic Div 2010 Lincoln Dr Pasadena 3 Calif-5-7-10-17-19
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-8-13
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-1
 Cavitron Oscillator Co Div Short Wave Plastic Forming Co 2921 W Alameda Ave Burbank Calif-18
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-11
 Chesapeake Instrument Corp Shadyside Md-18
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-1-9-12-13-14
 Clegg Labs Inc Ridgedale Ave Morristown N J-7-9-10-11-19
 Clough-Brengle Co 6014 Broadway Chicago 40 Ill-1-10-13-17
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-7
 Communication Measurements Lab 350 Leland Ave Plainfield N J-18
 Computer Control Co 92 Broad St Balston Park 57 Mass-16
 Coscor (Canada) Ltd 301 Windsor St Halifax NS Canada-18
 Crosby Labs Box 233 Robbins Lane Hicksville N Y-10-11
 Dage Television Div Thompson Products W 10 St Michigan City Ind-14
 Dalmator Co 1375 Clay St Santa Clara Calif-9-16
 Dalmo Vietor Co Div Tectron American Inc 1414 El Camino Real San Carlos Calif-14
 Daystrom Instrument Archbald Pa-21-22
 De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-8-22
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-9
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-1-12-21
 D & R Ltd 402 E Gutierrez St Santa Barbara Calif-11-18
 Dubrow Development Co 235 Penn St Burlington N J-1
 DuKane Corp St Charles Ill-1

DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton N J-1-9-13-14-15-17-19-21
 Dyna-Empire Inc 1075 Stewart Ave Garden City N Y-8
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills N Y-8
 Eldico of NY Inc 72 E 2 St Mineola LI NY-11
 Electrical & Physical Instrument Corp 42-19 27 St Long Island City NY-9
 Elec.co Circuits Inc 401 E Green St Pasadena Calif-18
 Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 6 Calif-16
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-1-10-12-13-15-19
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-1
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-16
 Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-16
 Electro-Pulse Inc 11861 Teale St Culver City Calif-9-21
 El Mec Labs 730 Blvd Kenilworth NJ-22
 El-Tronics Inc Penn Ave Mayfield 1 Pa-12
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-7-8-9-17-19
 Erco Radio Labs 637 Stewart Ave Garden City NY-11
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-5-7-10-18-22
 Fisher Radio Corp 21-21 44 Drive Long Island NY-1-10-12-17-19-20
 Foto-Video Labs 25 Amity St Little Falls NJ-2-3-4-9-12-13-14-15-16-20-21
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-7-9
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-18
 General Communication Co 681 Beacon St Boston Mass-7-10-20
 General Electric Co Apparatus Sales Div 1 River Road Schenectady 5 NY-18
 General Precision Lab 63 Bedford Rd Pleasantville NY-2-3-4-14-15
 General Radio Co 275 Mass Ave Cambridge 39 Mass-1-8-9-10-12-17-18-19
 General Ultrasonics Co 1240 Main St Hartford 3 Conn-18
 Gibbs Mfg & Research 420 Main St Jamesville Wis-14-15
 Grason Stadler Co Electronics Park W Concord Mass-8
 Guild Electronics 388 Broadway New York 13 NY-17
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-1-7-9-10-20
 Hall Sonic Eng'g Co 2402 2 St Peru Ill-18
 Hamner Electronics Co Box 531 Princeton NJ-9
 Heath Co 305 Territorial Rd Benton Harbor Mich-1-3-10-12-13-15
 Hewlett-Packard Co 275 Page Hill Rd Palo Alto Calif-1-7-9-10-12-17-18-19
 Hickok Electrical Instrument Co 10514 Dupon Ave Cleveland 8 Ohio-1-2-3-4-5-8-10-12-13-15-19-20-21
 Hill Electronic Eng'g & Mfg New Kingstown Pa-1-9-10-12-16
 Hoover Electronics Co 3640 Woodland Ave Baltimore 15 Md-5
 Hycor Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-2-3-4-5-9-13
 Ideal Electric & Mfg Mansfield Ohio-21
 Industrial Test Equip Co 55 E 11 St New York 3 NY-1
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-12-18
 Invar Instrument Co 1749 N Eastern Ave Los Angeles 82 Calif-15-19
 Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-1-2-3-4-10-13-15
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-7-10-22
 Kaiser Metal Products Bristol Pa-9
 Kay Electric Co 14 Maple Ave Pinebrook NJ-1-2-3-4-5-7-8-9-10-11-13-14-15-16-17-18-19-20-22
 Krohn-Hite Instrument Co 580 Mass Ave Cambridge 39 Mass-6-12-18-21
 Laboratory for Electronics 75 Pitts St Boston 14 Mass-7
 Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-7
 Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-6-7-9-10-17
 Loral Electronics Corp 794 E 140 St New York 54 NY-9-10
 Magnetic Research Corp 200 Center St El Segundo Calif-9-22
 Manson Labs 207 Greenwich Ave Stamford Conn-9-17-19
 Manufacturers Eng'g & Equip Hatboro Pa-13
 Marconi Instruments Ltd 44 New St New York 4 NY-5-7-8-9-10-12-17-19
 Massa Labs 5 Fottler Rd Hingham Mass-18
 Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-17
 McKenna Labs 2503 Main St Santa Monica Calif-18

Measurement Eng'g Ltd John St Arnprior Ontario Canada-8-12
 Measurements Corp Boonton NJ-1-5-9-10-12-15-17-18-19
 Meridian Metalcraft Inc 8739 S Millergrove Dr Whittier Calif-7
 Metronix Inc P O Box 549 New London Conn-1-6-16
 Metropolitan Electronics & Instruments Co 106 5 Ave New York 11 NY-1-2-5-6-10-15
 Microlab 71 Okner Pkwy Livingston NJ-6
 Microwave Associates 22 Cummington St Boston 15 Mass-7
 Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-12
 Narda Corp 160 Herricks Rd Mineola NY-22
 New London Instrument Co 82 Union St New London Conn-5-7-8-9-10-12-19
 New Rochelle Tool Corp 320 Main St New Rochelle NY-18
 Northeast Electronics Corp Municipal Airport Concord NH-1-10
 Northeastern Eng'g Co Bedford St Manchester NH-10
 Northeast Scientific Corp 617 Concord Ave Cambridge 38 Mass-7
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-1-9-12-18
 Ohio Crankshaft Co TOCCO Div 3800 Harvard Ave Cleveland 5 Ohio-18
 Oster Mfg Co John 1 Main St Racine Wis-6
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-22
 Pacific Transducer Corp 11836 W Pico Blvd Los Angeles 64 Calif-13
 Panoramic Radio Products 10 S 2 Ave Mt Vernon NY-13
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-2-3
 Philco Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-2-3-4-10-19
 Photographic Products 1000 N Olive St Anaheim Calif-9
 Piezo Products Co Whitney St Sherborn Mass-18
 PM Industries 280 Fairfield Ave Stamford Conn-9-10-12-21
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-2-3-4-7-9-10-15
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-5-7-8-22
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-9-12-16
 Power Supplies Inc 1007 Olive St Highland Ill-18
 Precise Development Corp Oceanside LI NY-1-9-10-12
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-1-2-3-5-10-12-13-15
 Precision Associates 354 Cumberland St Brooklyn 38 NY-1-5-6-7-9-10-12-15-22
 Proboscope Co 44-05 30 Ave Long Island City 3 NY-8-13
 Pulse Techniques Inc 1411 Palisade Ave W Englewood NJ-1
 Radar Engineers 403 E 45 St Seattle 5 Wash-9-12
 Radiation Counter Labs 5122 W Grove St Skokie Ill-9
 Radio City Products Co Centre & Glendale Sta Easton Pa-2-3-10-12-13-16-17-19
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-1-2-3-4-5-10-13-20
 Radio Receptor Co 251 W 19 St New York 11 NY-1-10
 Railway Communications PO Box 67 Raytown Mo-11
 Ranson Research PO Box 382 San Pedro Calif-16
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-18
 Reeve Electronics Inc 609 W Lake St Chicago 6 Ill-18
 Research Electronics Labs Roslyn Pa-3-9
 Rese Eng'g Inc 731 Arch St Philadelphia Pa-9-12
 Riverbank Labs Eng'g Dept PO Box 65 Geneva Ill-1
 Rixon Electronics 2414 Reddie Dr Silver Spring Md-8-12-22
 RS Electronics Corp 435 Portage Ave Palo Alto Calif-8
 Rutherford Electronics Co 3707 S Robertson Blvd Culver City Calif-9-12-16-21
 Scott Inc Hermon Hosmer 385 Putnam Ave Cambridge 39 Mass-8
 Scott Radio Labs Liberty & Penna St Plymouth Ind-1
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-12-21
 Servo-Tek Products Co 1086 Goffle Rd Hawthorne NJ-1
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-1-10
 Short Wave Plastic Forming Co Cavitron Electronic Oscillator Div 2921 W Alameda Ave Burbank Calif-18
 Signal Equip Co 2706 3 Ave Seattle 1 Wash-13
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-2-3-4-5-10-13-15-17-20
 Small Motors Inc 2076 Elston Ave Chicago 14 Ill-14

Sonex Inc 245 Sansom St Upper Darby Pa-12
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-1
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-1-10-12
 Spellman TV Co 3029 Webster Ave Bronx 67 NY-18
 Spencer-Kennedy Labs 1320 Soldiers Field Rd Boston 35 Mass-9-12
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-5-7
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-7-10-13-20
 Stoddart Aircraft Radio Co 6644 Santa Monica Blvd Hollywood 38 Calif-8-9
 Sylvania Electric Products 1740 Broadway New York 19 NY-3-13-16
 Syntonic Instruments Inc 100 Industrial Rd Addison Ill-13
 Tarc Electronics Inc 48 Urban Ave Westbury LI NY-2-3-4-9-12-13-14-15-16-20-21
 Tecca Corp 80 Main St White Plains NY-9
 Technitrol Eng'g Co 2751 N 4 St Philadelphia 33 Pa-9
 Tektronix Inc PO Box 831 Portland 7 Ore-9-10-12-16-21
 Telechrome Inc 88 Merrick Rd Amityville LI NY-2-3-4-5-8-9-10-12-13-14-15-16-19-20-21
 Telephonics Corp Park Ave Huntington LI NY-18
 Telrad Mfg 1440 Broadway New York 18 NY-7
 Teletronics Lab Inc 54 Kinkel St Westbury LI NY-1-9-16
 Televiso Corp 1415 Golf Rd Des Plaines Ill-1-10-18
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-2-3-4-10-13-14-15-17-19-20
 Telonic Industries 73 N 2 Ave Beech Grove Ind-2-3-4-6-7-10-13-17-19-20
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-2-3-4-5-10-15-17
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-14
 Vertron Inc 1611 Trapello Rd Waltham Mass-1-7
 Vibro-Ceramics Corp 212 Durham Ave Metuchen NJ-18
 Visual Electronics Corp 500 5 Ave New York 36 NY-2-3-4-7-13-14-15-17-18-19-20
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-1-10
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-9-12-21
 Waveforms Inc 333 6 Ave New York 14 NY-1-18
 Waveline Inc Passaic Ave Box 470 Caldwell NJ-7-8
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-1-7-9-10
 Westinghouse Electric Corp—Electronics Div 2519 Wilkens Ave Baltimore 3 Md-18
 Weston Labs Old Littleton Rd Harvard Mass-7-8-9-10
 Wheeler Labs Inc 122 Cutter Mill Rd Great Neck NY-7-13
 White Electron Devices Inc Roker 4 Ave Haskell NJ-7-8-13
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-2-3-4-15-20
 Winston Electronics Inc 4312 Main St Philadelphia 27 Pa-2-3



Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-3-8
 Commercial-Radio Sound Corp 652 1 Ave New York 16 N Y-2
 Conrac Inc 19217 E Foothill Blvd Glendora Calif-8-9-10
 Dage Television Div Thompson Products W 10 St Michigan City Ind-9
 DuKane Corp St Charles Ill-2
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton N J-8-9-10-12
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills N Y-3
 Electrend Products Corp State & Water Sts St Joseph Mich-2-4
 Foto-Video Labs 23 Amity St Little Falls N J-12
 Gates Radio Co 123 Hampshire St Quincy Ill-3-4
 General Communication Co 681 Beacon St Boston Mass-3
 General Radio Co 275 Mass Ave Cambridge 39 Mass-3-4
 General Precision Lab 63 Bedford Rd Pleasantville N Y-8-9
 Graybar Electric Co 420 Lexington Ave New York 17 N Y-2-3-4-9-10
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-2
 Harrison Labs 45 Industrial Rd Berkeley Heights N J-9-11-12
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-3
 Hupp Instrumentation Co 2119 Sepulveda Blvd Los Angeles 25 Calif-3
 Industrial Test Equip Co 55 E 11 St New York 3 N Y-5
 International Projector Corp 55 La France Ave Bloomfield N J-2
 Kay Electric Co 14 Maple Ave Pinebrook N J-2
 Knights Co James Sandwich Ill-3-4
 Lampkin Labs Inc Technical Div Bradenton Fla-4
 Monitor Products Co 815 Fremont Ave S Pasadena Calif-3-4
 Motorola Communications & Electronics 4501 W Augusta Blvd Chicago 51 Ill-3
 Nems-Clarke Inc 919 Jesup-Blair Dr Silver Spring Md-1-5
 Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-2
 New London Instrument Co 82 Union St New London Conn-3-4
 Polarad Electronics Corp 43-20 34 St Long Island City 1 N Y-8-9-12
 Proboscope Co 44-05 30 Ave Long Island City 3 N Y-2-3-4-5-12
 Radio Corp of America Camden 2 N J-3-4
 Rich Electronics Inc 212 NW 3 Ave Miami 36 Fla-4
 Rust Industrial Co 41 E 42 St N Y 17 N Y-1
 Seismograph Service Corp P O Box 1590 Tulsa 1 Okla-5
 Setchell-Carlson New Brighton St Paul 12 Minn-9
 Sierra Electronic Corp 1050 Brittan Ave San Carlos Calif-6
 Stelma Inc 190 Henry St Stamford Conn-7-12
 Tarc Electronics Inc 48 Urban Ave Westbury LI N Y-8-9-10-12
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-8-9
 Tektronix Inc P O Box 831 Portland 7 Ore-12
 Telechrome Inc 88 Merrick Rd Amityville LI N Y-3-4-5-8-9-10
 Tel-Instrument Electronica 728 Garden St Carlstadt N J-8
 Transvision Inc 460 North Ave New Rochelle N Y-10
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-9-10
 Varo Mfg Co 2201 Walnut St Garland Texas-3
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-2
 Visual Electronics Corp 500 5 Ave New York 36 N Y-8-9-10-12
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-3
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-3
 Westronics Inc 3605 McCart Ft Worth 10 Texas-11
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 N J-8-9

Oscillators, grid dip	3
Oscillators, microwave	4
Oscillators, pulse	5
Oscillators, R-F	6
Oscillators, tuning fork	7
Oscillators, ultra low frequency	8
Oscillators, ultrasonic	9
Oscillators, video pattern	10
Oscillators, video range	11

Acme Telectronic Div Nea Service 1200 W 3 St Cleveland 13 Ohio-1-7
 Acoustica Associates 2 Shore Rd Glenwood Landing LI N Y-6-9
 Airborne Instruments Lab 160 Old Country Rd Mineola N Y-6
 Aircom Inc 354 Main St Winthrop 52 Mass-4-5-6
 Aladdin Radio Industries 703 Murfreesboro Rd Nashville 2 Tenn-5-6
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-1-6
 Alto Scientific Co 855 Commercial St Palo Alto Calif-3
 Amerac Inc Wenham Mass-4-6
 American Electronics Co 1203 Bryant Ave New York 59 N Y-1-2
 American Metrix Corp 15 Exchange Pl Jersey City 2 N J-1-5-6-7-8-10-11
 Applied Research Inc 163-07 Depot Rd Flushing 58 N Y-16
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-5
 ARF Products 7627 Lake St River Forest Ill-4
 Artted Co 367 Worthington St Springfield 3 Mass-6
 Audio-Tone Oscillator Co 12 Edgewood Ave Trumbull Conn-1
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-3-5-6-8-9
 Bell & Gossett 8200 N Austin Ave Morton Grove Ill-1-7
 Biddle Co James G 1316 Arch St Philadelphia 7 Pa-1-7
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 N Y-9
 Bogart Mfg Corp 315 Siegel St Brooklyn 6 N Y-4-6
 Bogen Co David 29 9 Ave New York 14 N Y-1
 Bomac Labs Salem Rd Beverly Mass-4
 Boonton Radio Corp Intervale Rd Boonton N J-6
 Branson Instruments Inc 430 Fairfield Ave Stamford Conn-9
 Brush Electronics Co Div Clevelite Corp 3405 Perkins Ave Cleveland 14 Ohio-9
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-1
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-1
 Cavitron Oscillator Co Div Short Wave Plastic Forming Co 2921 W Alameda Ave Burbank Calif-3-4-6-9
 CGS Labs 391 Ludlow St Stamford Conn-4
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-1-8
 Clough-Brengle Co 6014 Broadway Chicago 40 Ill-1-6
 Cole Instrument Co 1000 N Olive St Anaheim Calif-1
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-4
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-1
 Datran Eng'g Corp 3613 Aviation Blvd Manhattan Beach Calif-2
 Daystrom Instrument Archbald Pa-7
 Deagan Inc J C 1770 W Berceau Ave Chicago 13 Ill-7
 Diamond Microwave Corp 7 North Ave Wakefield Mass-4-6
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-1-8
 Dubrow Development Co 235 Penn St Burlington N J-1
 DuKane Corp St Charles Ill-1
 DuMont Labs Inc Allen B-760 Bloomfield Ave Clifton N J-1-5-8-9
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills N Y-6
 Eldico of NY Inc 72 E 2 St Mineola LI N Y-3-6
 Electrend Products Corp State & Water Sts St Joseph Mich-6
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-5
 Electronic Industries Inc 7649 San Fernando Rd Burbank Calif-1
 Electronic Instrument Co 84 Withers St Brooklyn 11 N Y-1-6-11
 Electronic Measurements Co Lewis St & Maple Ave Eatontown N J-1
 Electro-Pulse Inc 11861 Teale St Culver City Calif-5
 Entron Inc 4902 Lawrence St Bladensburg Md-6
 Erdeo Eng'g Corp Addison Ill-6
 Essex Electronics 550 Springfield Ave Berkeley Heights N J-5-6
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton N J-1
 Fisher Radio Corp 21-21 44 Drive Long Island City NY-1-6-11

34—MEASUREMENT & TEST EQUIPMENT—MONITORS

Monitors, antennas phase	1
Monitors, audio	2
Monitors, frequency	3
Monitors, modulation	4
Monitors, phase angle	5
Monitors, power	6
Monitors, service	7
Monitors, video color	8
Monitors, video line	9
Monitors, video off-the-air	10
Monitors, VOR	11
Monitors, waveform	12

Airborne Instruments Lab 160 Old Country Rd Mineola N Y-6
 Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-2
 Andrew Corp 363 E 75 St Chicago 19 Ill-5
 ARF Products 7627 Lake St River Forest Ill-4
 Arga Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-3
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-3
 Biddle Co James G 1316 Arch St Philadelphia 7 Pa-3
 Camera Mart 1845 Broadway N Y 23 N Y-2

35—MEASUREMENT & TEST EQUIPMENT—OSCILLATORS

Oscillators, audio	1
Oscillators, code	2

Foto-Video Labs 25 Amity St Little Falls N J-5-10
 Franklin Electronics Inc E 1 St Bridgeport Pa-1
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-4-5
 Gates Radio Co 123 Hampshire St Quincy Ill-6
 General Communication Co 681 Beacon St Boston 15 Mass-4
 General Radio Co 275 Mass Ave Cambridge 39 Mass-1-5-6-7-9
 General Ultrasonics Co 1240 Main St Hartford 3 Conn-9
 Greene Co L Charlton 314 Washington St Newton 58 Mass-6
 Hallierafters Co 4401 5 Ave Chicago 24 Ill-4-5-6
 Hall Sonic Eng'g Co 2402 2 St Peru Ill-9
 Heath Co 305 Territorial Rd Benton Harbor Mich-1-3
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-1-4-6-8-9-11
 Hickok Electrical Instrument Co 10514 Dupont Ave Cleveland 8 Ohio-1-10
 Hill Electronic Eng'g & Mfg New Kingstown Pa-1-5-6-8-9
 Industrial Test Equip Co 55 E 11 St New York 3 NY-1-7
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-1-9
 International Crystal Mfg 18 N Lee Ave Oklahoma City 2 Okla-6
 International Research Assoc 2221 Warwick Ave Santa Monica Calif-1
 Invar Instrument Co 1749 N Eastern Ave Los Angeles 32 Calif-1
 Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-1-6
 J-V-M Eng'g Co 8816 W 47 St Brookfield Ill-4-5
 Kay Electric Co 14 Maple Ave Pinebrook NJ-1-4-5-6-9-11
 Knights Co James Sandwich Ill-6
 Laboratory for Electronics 75 Pitts St Boston 14 Mass-4
 Lane Electronics Co 7254 Atoll Ave N Hollywood Calif-6
 L. & O Research & Development 134 N Wayne Ave Wayne Pa-1
 Marconi Instruments Ltd 44 New St New York 4 NY-4-6
 Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-9
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-1
 Measurements Corp Boonton NJ-3
 Metronix Inc PO Box 549 New London Conn-1-3-6
 Metropolitan Electronics & Instruments Co 106 5 Ave New York 11 NY-6
 New London Instrument Co 2 Union St New London Conn-6
 New Rochelle Tool Corp 320 Main St New Rochelle NY-6-9
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-1-6-9
 Ohio Crankshaft Co—TOCCO Div 3800 Harvard Ave Cleveland 5 Ohio-6
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-5-6-7-8-9
 Philamon Labs Inc 90 Hopper St Westbury LI NY-7
 Plectron Corp Overton Nebr-1-7
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-4
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-4-6
 Precise Development Corp Oceanside LI NY-1-2-3-11
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-1-6
 Precision Associates 354 Cumberland St Brooklyn 38 NY-1-4-6-7
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-3
 Pulse Techniques Inc 1411 Palisade Ave W Enclewood NJ-1
 Radex Corp 2076 Elston Ave Chicago 14 Ill-1
 Radio City Products Co Centre & Glendale Sts Easton Pa-6
 Radio Corp of America Camden 2 NJ-8-9
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-2
 Riverbank Labs Eng'g Dept PO Box 65 Geneva Ill-7-8
 Rutherford Electronics Co 3707 S Robertson Blvd Culver City Calif-5
 Scott Radio Labs Liberty & Penna St Plymouth Ind-1
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-1-6-9
 Short Wave Plastic Forming Co Cavitron Electronic Oscillator Div 2921 W Alameda Ave Burbank Calif-3-6-9
 Sonex Inc 245 Sansom St Upper Darby Pa-1
 Southwestern Industrial Electronics 2531 Post Oak Rd Houston 19 Texas-1-8-9
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-4
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-4-6
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-10
 Technical Material Corp PO Box 142 Mamaronck NY-6
 Telechrome Inc 88 Merrick Rd Amityville LI NY-10-11
 Teletronics Lab Inc 54 Kinkel St Westbury LI NY-1

Times Facsimile Corp 540 W 58 St New York 19 NY-7
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-6
 Varo Mfg Co 2201 Walnut St Garland Texas-1-7
 Vectron Inc 1611 Trapello Rd Waltham Mass-1-4
 Video Electronic Corp 902 E Michigan St Indianapolis 2 Ind-2
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-1
 Vokar Corp Dexter Mich-6
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-1-6
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-1-5
 Waveforms Inc 333 6 Ave New York 14 NY-1-9
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-1-4-6
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-6
 Weston Labs Old Littleton Rd Harvard Mass-1-3-1
 Wheeler Labs Inc 122 Cutter Mill Rd Great Neck NY-1
 White Electron Devices Inc Roger J Ave Hackell NJ-4
 World Radio Labs 3415 W Broadway Council Bluffs Iowa-2

Midwestern Instruments PO Box 7186 Tulsa Okla-3-5-7
 Miller Instruments Inc Wm 325 N Halstead Ave Pasadena 8 Calif-3-4-7
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-1
 Offner Electronics 5320 N Kedzie Ave Chicago 25 Ill-2-3-7
 Philco Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-1-5
 Photon Instrument Co 6516 Detroit Ave Cleveland 2 Ohio-2-3-4-5-7
 Precise Development Corp Oceanside LI NY-1
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-1
 Proboscope Co 44-05 30 Ave Long Island City 3 NY-1-3-5
 Radio City Products Co Centre & Glendale Sts Easton Pa-1-5
 Railway Communications PO Box 67 Raytown Mo-3
 Reeves Instrument Corp 215 E 91 St New York 28 NY-3-7
 Sanborn Co 195 Massachusetts Ave Cambridge 39 Mass-2-3
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-7
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-1-3-7
 Sylvania Electric Products 1740 Broadway New York 19 NY-1
 Tecca Corp 80 Main St White Plains NY-1
 Technical Instrument Co Div Brush Electronics 3732 Westheimer Rd Houston 6 Texas-7
 Tektronix Inc PO Box 831 Portland 7 Ore-1-3-5
 Texas Instruments Inc 6000 Lenmon Ave Dallas 9 Texas-2-3-7
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-1
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-3-4-5-7
 Visual Electronics Corp 500 5 Ave New York 36 NY-3
 Waterman Products Co 2445 Emerald St Philadelphia 25 Pa-1-4-5

36—MEASUREMENT & TEST EQUIPMENT—OSCILLOGRAPHS

Oscillographs, cathode-ray	1
Oscillographs, direct writing	2
Oscillographs, multi-channel	3
Oscillographs, multi-element	4
Oscillographs, portable	5
Oscillographs, projection	6
Oscillographs, recording	7

Allegheny Instrument Co Cumberland Md-1-2-3
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-1
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-3
 American Metric Corp 15 Exchange Pl Jersey City 2 NJ-1-2-3-7
 Beam Instruments Corp 350 5 Ave New York 1 NY-1-3-4-5
 Berndt-Bach Inc 6926 Romanine St Hollywood 38 Calif-7
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-2-3-4-5-7
 Cascade Research Corp 53 Victory Lane Los Gatos Calif-1
 Central Research Labs Red Wing Minn-1-2-3-7
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-2-3-4-5-7
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-1-2-3-7
 Cole Instrument Co 1000 N Olive St Anaheim Calif-4
 Consolidated Electrodynamics Corp 300 N Sierra Madre Villa Pasadena Calif-2-3-4-5-7
 Crosby Labs Box 233 Robbins Lane Hicksville NY-1
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-1-3-4-5
 Eberline Instrument Div Reynolds Electrical & Eng'g PO Box 1539 Santa Fe N Mex-1
 Edin Co 207 Main St Worcester 8 Mass-2-3-7
 Electro-Medical Lab S Woodstock 7 Vt-2
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-1-5
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-1
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-1-3-4-5
 EL-Tronics Inc Penn Ave Mayfield 1 Pa-1
 Feiler Eng'g & Mfg 8026 N Monticello Ave Skokie Ill-1-5
 General Electric Co Apparatus Sales Div 1 River Road Schenectady 5 NY-1-2-3-4-5-7
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Tex-3
 Graybar Electric Co 420 Lexington Ave New York 17 NY-5
 Hamilton Watch Co Columbia Ave Lancaster Pa-1-2-3-4-5
 Heath Co 305 Territorial Rd Benton Harbor Mich-1
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-2-3-4-5-7
 Hickok Electrical Instrument Co 10514 Dupont Ave Cleveland 8 Ohio-1
 Houston Technical Labs 2424 Branard Houston 6 Texas-3-7
 Hyeon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-1-5
 Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-1
 Lavoie Labs Inc Matawan and Freehold Rd Morganville NJ-1-5
 Levintal Electronic Products 2821 Fair Oaks Ave Redwood City Calif-3

37—MEASUREMENT & TEST EQUIPMENT—SPECIAL PURPOSE

Attenuators, A-F	1
Attenuators, logarithmic	2
Attenuators, R-F	3
Barreters	4
Bolometers	5
Cabinets, temperature test	6
Calibrators	7
Cameras, oscilloscope recording	8
Chronographs	9
Combustion test equipment	10
Comparators	11
Color equipment	12
Converters, frequency	13
Delay lines	14
Direction finders	15
Engraving panel	51
Filters	16
Frequency measuring equipment	17
Integrators	18
Instrument parts	19
Inverters	20
Lenses	21
Lights, neon test	22
Locators, open-short	23
Microwave test equipment	24
Multivibrators	25
Optical equipment	26
Pressure measuring equipment	27
Probes	28
Pulse equipment	29
Radar test sets	30
Recorders, frequency response	31
Regulators	32
R-F interference equip	33
Screen rooms	34
Slotted lines	35
Soundproof rooms	36
Specialties, capacitor	37
Specialties, inductance	38
Specialties, resistance	39
Spectrographic equipment	40
Spring testing equipment	41
Stroboscopes & accessories	42

Synchrosopes	43
Thermocouples	44
Tracers, signal	45
Transducers	46
Tuning forks	47
TV test charts	48
Vibration measuring equipment ..	49
VSWR measuring equipment	50



Acc Eng'g & Machine Co 3644 N Lawrence St Philadelphia 40 Pa-34
 ACF Electronics 800 N Pitt St Alexandria Va-49
 Acme Scientific Co 1450 W Randolph St Chicago 7 Ill-26
 Acme Teletronic Div Nea Service 1200 W 3 St Cleveland 13 Ohio-12-13-20-25
 Acoustica Associates 2 Shore Rd Glenwood Landing LI NY-46
 Admiral Corp 3800 Cortland St Chicago 47 Ill-14-30
 Advance Electronics Co 451 Highland Ave Passaic NJ-14-17
 Advanced Electronics Inc 94 Silas Deane Hwy Rocky Hill 9 Conn-49
 Aero Instrument Co 11423 Vanowen St N Hollywood Calif-17
 Aerolite Electronics Corp 507 26 St Union City NJ-19-28
 Aerolux Light Corp 653 11 Ave New York 36 NY-32-42
 Aeronautical Electronics PO Box 6043 Raleigh NC-15
 Aero Research Instrument Co 315 N Aberdeen St Chicago 7 Ill-27-44
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-1-3
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-14-16-29-32
 Air Associates Inc 511 Joyce St Orange NJ-18-29
 Aircorn Inc 354 Main St Winthrop 52 Mass-17-24-35-50
 Aircraft Armaments Inc Cockeysville Md-7-30
 Aircraft & Electronic Specialties 22 S Green St Brownsburg Ind-16
 Aircraft Marine Products 2100 Paxton St Harrisburg Pa-29
 Airdesign Inc 241 Fairfield Ave Upper Darby Pa-14
 Airpax Products Co Middle River Baltimore 20 Md-17-20
 Airtron Inc 1101 W Elizabeth Ave Linden NJ-24-44-50
 Alden Electronic & Impulse Recording Equipment Co Westboro Mass-31
 Alfred Electronics 897 Commercial St Palo Alto Calif-24
 Alford Mfg Co 299 Atlantic Ave Boston 10 Mass-35-50
 Allegany Instrument Co Cumberland Md-8-27-46
 Allen-Bradley Co 136 W Greenfield Ave Milwaukee 4 Wisc-16
 Allis-Chalmers Mfg Co Milwaukee 1 Wisc-13-49
 All-Tronics Inc 45 Bond St Westbury NY-14
 Amerac Inc Wenham Mass-3-17-24
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-30-33
 American Electronics Co 1203 Bryant Ave New York 59 NY-16
 American Instrument Co 8030 Georgia Ave Silver Spring Md-6-8-44
 American Machine & Foundry Electronics Div 1085 Commonwealth Ave Boston 15 Mass-11
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-1-2-3-16-25-28-29-31
 American Optical Co Instrument Div Box A Buffalo 15 NY-26
 American TV & Radio Co 300 E 4 St St Paul 1 Minn-20
 American Time Products 580 5 Ave New York 35 NY-47
 Amplitel Inc 342 W 40 St New York 18 NY-3
 Anchor Specialty Mfg 300 N Industrial Ave Teterboro NJ-28
 Andersen Labs Inc 39 Talcott Rd W Hartford Conn-3-14
 Andrew Corp 363 E 75 St Chicago 19 Ill-50
 Antlab 4950 N High St Columbus 14 Ohio-2
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-11
 Applied Electronics Co 1246 Folsom St San Francisco 3 Calif-15
 Applied Precision Products 1431 S La Brea Ave Los Angeles 19 Calif-8
 Applied Research Inc 163-07 Depot Rd Flushing 58 NY-3
 Applied Research Labs 3717 Park Pl Glendale 8 Calif-11-26-40
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-2-14-29
 ARF Products 7627 Lake St River Forest Ill-3-15-17-24-29
 Arza Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-18-20

Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-44-46
 Askania Regulator Co 240 E Ontario St Chicago 11 Ill-18-32-46
 Assembly Products Wilson Mills Rd Chesterland 21 Ohio-44
 Astron Corp 255 Grant Ave E Newark NJ-16
 Atlantic Research Corp 901 N Columbus St Alexandria Va-27-46
 Audio Instrument Co 133 W 14 St New York 11 NY-2
 Audio-Tone Oscillator Co 12 Edgewood Ave Trumbull Conn-31
 Automatic Temperature Control Co 5212 Pulaski Ave Philadelphia 44 Pa-46
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-30
 Axel Bros Electronic Div 134-20 Jamaica Ave Jamaica NY-14
 Bache Semon & Co 636 Greenwich St New York 14 NY-21
 Baird Associates 33 University Rd Cambridge 38 Mass-5-26-40
 Ballantine Labs Boonton NJ-7-20
 Barber-Colman Co 1300 Rock St Rockford Ill-44
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-13-15-16-17-29-33-38-50
 Bassett Inc Rex 1314 N E 17 Court Fort Lauderdale Fla-17
 Bausch & Lomb Optical Co 628 St Paul St Rochester 2 NY-21-26-40
 Beam Instruments Corp 350 5 Ave New York 1 NY-8-44
 Beck's Inc 298 E 5 St St Paul 1 Minn-19
 Beckman & Whitley 985 San Carlos Ave San Carlos Calif-27
 Bellaire Electronics Inc 62 White St Red Bank NJ-24
 Bell Sound Systems 555 Marion Rd Columbus Ohio-19
 Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-46
 Bendix Aviation Corp Red Bank Div Eatontown NJ-20-32
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-9-29
 Biddle Co James G 1316 Arch St Philadelphia 7 Pa-17
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-13-20-26
 B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-3-27-29-35-50
 Biley Electric Co Union Station Bldg Erie Pa-14
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-3-13
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-15-46
 Bogart Mfg Co 315 Siegel St Brooklyn 6 NY-17-24-35
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-7-32
 Romac Labs Salem Rd Beverly Mass-24
 Boonton Radio Corp Intervale Rd Boonton NJ-11-13-50
 Borden Eng'g Co Div M J Johnson Aircraft Eng'g Co 39 E Hanover Ave Morris Plains NJ-11-23
 Borg Corp Geo W Borg Equip Div Janesville Wisc-17
 Bowser Technical Refrigeration Div Bowser Inc Terryville Conn-6
 Brew & Co Richard D 90 Airport Rd Concord NH-14
 Bristol Co PO Box 1790 Waterbury Conn-10-13-18-20-27-32-44-46
 Buckbee Mears Co 4th & Rosabel Sts St Paul 1 Minn-21
 Budd-Stanley Co 43-01 22 St Long Island City 1 NY-3
 Bulova Watch Co Dept of Govt & Indust'l Sales 62-10 Woodside Ave Woodside 77 LI NY-42
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-47
 Burke & James 321 S Wabash Ave Chicago Ill-21
 Burnell & Co 45 Warburton St Yonkers 2 NY-14-16
 Burnett Radio Lab William W L 4814 Idaho St San Diego 16 Calif-17
 Burroughs Corp Electronic Instruments Div 1209 Vine St Philadelphia 7 Pa-29
 Cable Electric Products 234 Daboll St Providence 7 RI-32
 Calidyne Co 120 Gross St Winchester Mass-49
 Camera Equipment Co 315 W 43 St New York 36 NY-12-48
 Camera Mart 1845 Broadway New York 23 NY-26

Canadian Radium & Uranium Corp 630 5 Ave New York 20 NY-19
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-3-30
 Carad Corp 2850 Bay Rd Redwood City Calif-14
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-16
 Carrier Case Co 1 West 34 St New York 1 NY-19
 Cascade Research Corp 53 Victory Lane Los Gatos Calif-24
 Cavitron Oscillator Co Div Short Wave Plastic Forming Co 2921 W Alameda Ave Burbank Calif-46
 CELCO (Constantine Eng'g Labs) PO Box 555 Mahwah NJ-14
 Central Transformer Co 910 W Jackson Blvd Chicago 7 Ill-16-32
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-17-49
 Chesapeake Instrument Corp Shadyside Md-27-46-49
 Chromatic TV Labs 1501 Broadway New York 36 NY-46
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-1
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 Enkland-1-3-8-9-17-32-45
 Clarostat Mfg Co Washington St Dover NH-1-2
 Clegg Labs Inc Ridgedale Ave Morristown NJ-29
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-46
 Cline Electric Mfg Co 3405 W 47 St Chicago Ill-32
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-28
 Coilcraft Inc Gary Ill-14
 Cole Instrument Co 1000 N Olive St Anaheim Calif-8-44-46
 Coleman Instruments 318 Madison St Maywood Ill-12
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-24
 Colortone Electronics 200 Frank Rd Hicksville NY-7-17
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-24-50
 Columbia Technical Corp 5 E 57 St New York 22 NY-14
 Colvin Labs 364 Glenwood Ave East Orange NJ-27-46
 Commercial Optical Mfg 118 Bridge St Huntington 2 W Va-21-26
 Communication Measurements Lab 350 Leland Ave Plainfield NJ-42
 Computer Control Co 92 Broad St Babson Park 57 Mass-30
 Computer-Measurements Corp 5528 Vineland Ave N Hollywood Calif-17
 Conn Ltd C G 1101 E Beardsley Ave Elkhart Ind-17
 Consolidated Avionics Corp Ludlow & Canal St Stamford Conn-27
 Consolidated Electrodynamics Corp 300 N Sierra Madra Villa Pasadena Calif-27-40-46-49
 Control Components Co 1 Holden St Brookline 46 Mass-46-49
 Corbin Corp 5419 56 Pl Riverdale Md-7-11-15-30-33
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-16-20-37
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-8-24-29-30
 Crescent Eng'g & Research 11632 McBean St El Monte Calif-27-46-49
 Crown Eng'g Sta B Box 6127 Albuquerque N Mex-24
 Cubic Corp 2841 Canon St San Diego 6 Calif-15-24-30-50
 Custom Components Inc PO Box 248 Caldwell NJ-3
 Datran Eng'g Corp 3613 Aviation Blvd Manhattan Beach Calif-46
 Daven Co Route 10 Livingston NJ-1-2-3
 Daystrom Instrument Archbald Pa-11-15-25-30
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-20
 Deagan Inc J C 1770 W Berteau Ave Chicago 13 Ill-47
 Dearborn Electronic Labs 231 S LaSalle St Chicago 4 Ill-37
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-27
 Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-24
 De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-24-35
 Detroit Controls Corp 1650 Broadway Redwood City Calif-44
 Developmental Electronics Corp 4213 S Broadway Los Angeles 37 Calif-14
 Diamond Microwave Corp 7 North Ave Wakefield Mass-3-17-24-35-46
 Diamonite Products Div U S Ceramic Tile Co 217 4 St N E Canton 2 Ohio-46
 Dietz Design & Mfg Co Grandview 13 Mo-38
 Dilectron Div Gledeman Co 2669 S Myrtle Ave Monrovia Calif-14
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-46

- Douglas Microwave Co 11 Beechwood Ave New Rochelle NY-24-30-50
- Dubrow Development Co 235 Penn St Burlington NJ-17-19
- Deutschmann Corp Tobe 921 Providence Hwy Norwood Mass-16
- Diec Co J W 1 Engle St Englewood NJ-11-11
- D & R Ltd 402 E Gutierrez St Santa Barbara Calif-16-17
- DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-8-28-43
- Dyna-Empire Inc 1075 Stewart Ave Garden City NY-17-14-46
- Dynamic Electronics-NY Inc 73-39 Wadhaven Blvd Forest Hills NY-3-14-16-17-33
- Edin Co 207 Main St Worcester 8 Mass-31
- Edison Inc Thomas A Instrument Div 93 Lakeside Ave W Orange NJ-50
- Edmund Scientific Corp 101 E Gloucester Pk Barrington 3 NJ-21
- Elo Corp 13-10 111 St College Point 56 NY-16
- Elicor Inc 1501 W Congress St Chicago 7 Ill-13-20-32
- Eldico of NY Inc 72 E 2 St Mincola LI NY-16-50
- Electric Regulator Corp Pearl St Norwalk Conn-32
- Electrical & Physical Instrument Corp 42-19 27 St Long Island City NY-3-9
- Electro Circuits Inc 401 E Green St Pasadena Calif-7
- Electro-Mechanical Research 64 Main St Ridgefield Conn-7
- Electro-Medical Lab S Woodstock 7 Vt-8-9
- Electro-Pulse Inc 11861 Teale St Culver City Calif-3
- Electronic Brazing Co 140 Glenridge Ave Montclair NJ-42
- Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-16-25-29-30-33
- Electronics Corp of America 77 Broadway Cambridge 42 Mass-10
- Electronic Industries Inc 7619 San Fernando Rd Burbank Calif-1
- Electronic Instrument Co 84 Withers St Brooklyn 11 NY-28-15
- Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-7-13-20-32-12
- Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-17
- Electronic Research Associates 67 E Centre St Nutley 10 NJ-20
- Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-3-16-32
- Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-8
- Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-27
- Electro-Pulse Inc 11861 Teale St Culver City Calif-7-11-17-29
- Electro-Voice Inc Buchanan Mich-46
- El Mec Labs 730 Blvd Kenilworth NJ-32
- El-Rad Mfg Co 2800 W Cullom Ave Chicago 18 Ill-14
- El-Tronics Inc Penn Ave Mayfield 1 Pa-9
- Emerson & Cuming 869 Washington St Canton Mass-3
- Emerson Radio & Phonograph Corp 11 Coles Sts Jersey City 2 NJ-30
- Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-3-24-33
- Endeavor Corp 161 E California St Pasadena Calif-19-27-46-49
- Engelhard Inc Charles 850 Passaic Ave E Newark NJ-5-17-44
- Engineering Associates 434 Patterson Rd Dayton 9 Ohio-17-24
- Engineering Developments PO Box 149 Newport RI-26
- Entron Inc 4902 Lawrence St Bladensburg Md-3-13
- Equipment Crafters Inc River Edge NJ-13-50
- Erie Resistor Corp 644 W 12 St Erie 6 Pa-14-18-46
- Erwood Inc 1770 W Berteau Ave Chicago 13 Ill-49
- ESC Corp 531 Bergen Blvd Palisades Park NJ-14-16
- Essey Mfg Co 200 W 57 St New York 19 NY-16-17-30-50
- Essex Electronics 550 Springfield Ave Berkeley Heights NJ
- Fairchild Camera & Instrument Corp Industrial Camera Div 88-06 Van Wyck Blvd Jamaica 1 NY-5
- Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-11-14-15-21-32
- Feedback Controls Inc 1332 N Henry St Alexandria Va-18
- Feller Eng'g & Mfg 8026 N Monticello Ave Skokie Ill-45
- Field Electrical Instrument 8 N Manheim Blvd New Paltz NY-64
- Fischer & Porter 19 Warminster Rd Hatboro Pa-11-19-27-46
- Fisher Radio Corp 21-21 44 Drive Long Island City NY-1-3
- Fish-Schurman Corp 70 Portman Rd New Rochelle NY-21-26
- Flight Research Inc PO Box 1-F Byrd Airport Richmond 1 Va-8
- Forbes & Wagner 345 Central Ave Silver Creek NY-14
- Ford Instrument Co Div Sperry Rand Corp 31-10 Thomson Ave Long Island City 1 NY-18
- Forest Electric Co 7216 Circle Ave Forest Park Ill-16
- Foto-Video Labs 25 Amity St Little Falls NJ-48
- Franklin Electronics Inc E 4 St Bridgeport Pa-7-40
- Free Transformer Co 1718 Weirfield St Brooklyn 27 NY-16
- Frequency Standards Corp PO Box 66 Eatontown NJ-17
- Friez Instrument Div Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-19-27
- F-R Machine Works 26-12 Borough Pl Woodside 77 NY-5-17-24-29-30-50
- Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-25
- Gabriel Electronics Div 135 Crescent Rd Needham Hgts 94 Mass-16
- Gaertner Scientific Corp 1250 Wrightwood Ave Chicago 14 Ill-9-11-21-26-40-49
- General Cement Mfg Co 919 Taylor Ave Rockford Ill-32
- General Communication Co 681 Beacon St Boston Mass-17-24-30
- General Electric Co Apparatus Sales Div 1 River Road Schenectady 5 NY-17-19-20-14-36
- General Instrument Corp 65 Gouverneur St Newark 4 NJ-14
- General Mills Inc Mechanical Div 2600 Fair Hills Bldg Dayton 9 Ohio-30
- General Precision Equip Corp 82 Gold St New York 38 NY-26-30
- General Precision Lab 63 Bedford Rd Pleasantville NY-12-48
- General Radio Co 275 Mass Ave Cambridge 39 Mass-1-5-8-11-17-25-29-35-42-47-49-50
- General RF Fittings Inc 702 Beacon St Boston 15 Mass-3
- General Riveters Inc Electro Mechanical Div 785 Hertel Ave Buffalo 7 NY-12
- General Ultrasonics Co 1240 Main St Hartford 3 Conn-46
- Genisco Inc 2233 Federal Ave Los Angeles 64 Calif-46
- Georator Corp Manassas Va-13-20
- Geotechnical Corp 3712 Haggard Dr Dallas 9 Tex-8-49
- Geotronic Labs 1314 Cedar Hill Ave Dallas 8 Texas-11
- Gertsch Products 11846 Mississippi Ave Los Angeles 25 Calif-17
- Giannini & Co G M 918 E Green St Pasadena Calif-46
- Gilmore Industries 5713 Euclid Ave Cleveland 3 Ohio-7-27
- G & M Equipment Co 7315 Varna Ave N Hollywood Calif-15
- Golden Co 1054 36 St Brooklyn 19 NY-19
- Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-24-30
- Gordon Enterprises 5362 N Cahuenga Blvd N Hollywood Calif-8-21-26
- Gorn Electric Co Stamford Conn-46
- Gotham TV Corp 123 W 64 St New York NY-15
- Graphic Recorders Inc 62 Walter St Bridgeport 5 Conn-31
- Graphite Metallizing Corp 1002 Nepperhan Ave Yonkers NY-19
- Gray Pantograph Engraving 200 Washington St Hoboken NJ-51
- Great Lakes Electric Mfg 17 S Desplaines St Chicago 6 Ill-13
- Gudeman Co 340 W Huron St Chicago 10 Ill-16
- Gulton Mfg Corp 212 Durham Ave Metuchen NJ-19-19
- Gurley W & L E 514 Fulton St Troy NY-26
- Hadley Co Robert M 5112 S Hoover St Los Angeles 37 Calif-16
- Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-11-13
- Hallett Mfg Co 1601 W Florence Ave Inglewood Calif-16-33
- Hamilton Watch Co Columbia Ave Lancaster Pa-9-46
- Hammarlund Mfg Co 460 W 34 St New York 1 NY-7
- Harnett Electric Corp Lincoln & Hallett Ave Riverhead LI NY-14
- Hays Corp 742 E 8 St Michigan City Ind-10-27
- H-B Instrument Co American & Bristol Sts Philadelphia 40 Pa-32
- Heath Co 305 Territorial Rd Benton Harbor Mich-7-45
- Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-18-19
- Helipot Corp 916 Meridian Ave S Pasadena Calif-14
- Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-1-4-24-35-50
- Hickok Electrical Instrument Co 10514 Dupont Ave Cleveland 8 Ohio-7-12-17
- Hillborn Electronics Products 55 Nassau Ave Brooklyn 22 NY-16
- Hill Electronic Eng'g & Mfg New Kingstown Pa-16-17-47
- Hillyer Instrument Co 54 Lafayette St New York 13 NY-30
- Holland Electronics 2133 Central Drive S East Meadow LI NY-3-18
- Hupp Instrument Co 2119 Sepulveda Blvd Los Angeles 25 Calif-17
- Hycor Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-5-11-24-28-30-35-43
- Hycor Div Int'l Resistance Co Sylmar Calif-1
- Illinois Testing Labs 420 N La Salle St Chicago 10 Ill-14
- Industrial Acoustics Co 341 Jackson Ave New York 51 NY-36
- Industrial Development Labs 17 Pollock Ave Jersey City 5 NJ-39-49
- Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-11-21
- Industrial Test Equip Co 55 E 11 St New York 3 NY-11-12
- Instron Eng'g Corp 440 Hancock St Quincy 71 Mass-18
- Instrument Development Labs 163 Highland Ave Needham Heights 94 Mass-12
- Instrument Labs 315 W Walton Pl Chicago 10 Ill-19
- Instrument Wire Co 175 Eastern Pkwy Newark NJ-19
- Interlectronics Corp 2432 Grand Concourse New York 58 NY-20-39
- Interference Measurements Lab 907 E 51 St Brooklyn 3 NY-33
- International Research Development 797 Thomas Lane Columbus 16 Ohio-17-49
- International Telemeter Corp 2000 Stoner Ave Los Angeles 25 Calif-3
- Iron Fireman Electronics Div 2838 S E 9 Ave Portland 2 Ore-32
- Jacobs Instrument Co 4718 Bethesda Ave Bethesda 14 Md-14
- Jack & Heintz 17600 Broadway Cleveland 1 Ohio-20
- Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-28
- Jarvis Electronics Corp 6058 W Fullerton Ave Chicago 39 Ill-15
- Javex PO Box 646 Redland Calif-28
- J-B-T Instruments Inc 441 Chapel St New Haven 12 Conn-17
- Jefferson Inc Ray 40 E Merrick Rd Freeport NY-15
- Jennings Radio Mfg Corp 970 McLaughlin Ave San Jose 8 Calif-28
- Johnson Co E F Waseca Minn-50
- Johnson Electronics 521 Elwell St Orlando Fla-38
- Jones Electronics Co M C 185 N Main St Bristol Conn-50
- J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-2-3-30
- Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-15
- Kahn & Co 541 Windsor St Hartford 1 Conn-6
- Kay Electric Co 14 Maple Ave Pinebrook NJ-1-3-12-13-17-24-29-31-49
- Kearfott Co 1378 Main Ave Clifton NJ-18-19-20-24
- Kearfott Co Western Mfg Div 14844 Oxnard St Van Nuys Calif-24
- Kemlite Labs 1819 W Grand Ave Chicago 22 Ill-32-42
- Kenyon Instrument Co 1345 New York Ave Huntington Station NY-8
- Keppo Labs 131-38 Sanford Ave Flushing 55 NY-32
- Keystone Carbon Co 1935 State St St Marys Pa-46
- Keystone Electronics 423 Broome St New York 13 NY-28-32
- Keystone Watch Case Div Riverside Metal Co Div H K Porter Co Riverside NJ-19
- Kine-Lab 3250 Kenilworth Ave Berwyn Ill-19-28
- Knights Co James Sandwich Ill-46
- Laboratory for Electronics 75 Pitts St Boston 14 Mass-14-17-30
- Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-24
- Lampkin Labs Inc Technical Div Bradenton Fla-17
- Lapp Insulator Co Radio Specialties Div Gilbert St Le Roy NY-37
- Lavoie Labs Inc Matawan and Freehold Rd Morganville NJ-7-8-17-24-29-30
- Lawn Electronics E Freehold Rd Freehold NJ-13-20-32
- Leach Corp Leach Relay Div Inet-Palmer Div 5915 Avalon Blvd Los Angeles 3 Calif-13-32
- Lear Inc 3171 S Bundy Dr Santa Monica Calif-15-29-34
- Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-12-44
- Leland Electric Co Div American Mach & Fdry 1501 Webster St Dayton 1 Ohio-13-20
- Lenox Instrument Co 2010 Chancellor St Philadelphia 3 Pa-26
- Leru Labs 827 Black Oak Ridge Rd Paterson 2 NJ-30
- Levinthal Electronic Products 2821 Fair Oaks Ave Redwood City Calif-29
- Lewis Eng'g Co Naugatuck Conn-44

Librascope Inc 808 Western Ave Glendale 1 Calif-12-26
 Lieco Inc 147 Ocean Ave Lynbrook NY-5-24
 Lindgren & Assoc Erik A 4515 N Ravenswood Chicago 40 Ill-34
 Loral Electronics Corp 794 E 140 St New York 54 NY-17
 I. & O Research & Development 134 N Wayne Ave Wayne Pa-31
 Lynch Carrier Systems Inc 695 Bryant St San Francisco 7 Calif-20
 Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-15
 Macleod & Hanopol 10 Roland St Charlestown 29 Mass-4
 Magnetic Amplifiers 632 Tinton Ave New York 55 NY-32
 Magnetic Research Corp 200 Center St El Segundo Calif-29-32
 Mahoney Teletronic Labs 209 16 Ave Newark 3 NJ-16
 Malkin-Illion Co 400 Coit St Irvington 11 NJ-19
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-21-26-40
 Manning Maxwell & Moore 250 E Main St Stratford Conn-27
 Manson Labs 207 Greenwich Ave Stamford Conn-24
 Marconi Instruments Ltd 44 Mew St New York 4 NY-7-24-30
 Mark Products Co 6412 W Lincoln Ave Morton Grove Ill-24
 Maryland Electronic Mfg Corp 5009 Calvert Rd College Park Md-16
 Massa Labs 5 Fottler Rd Hingham Mass-16-49
 May Eng'g Co 6055 Lankershim Blvd N Hollywood Calif-14
 MB Mfg Co Div Textron American 1060 State St New Haven 11 Conn-49
 McMillan Industrial Corp Brownville Ave Ipswich Mass-3
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-7-9-25-44
 Measurements Corp Boonton NJ-3-4-7-17
 Menlo Research Lab Box 522 Menlo Park Calif-11
 Mercury Electronic Co Box 450A Red Bank NJ-32-42
 Meridian Metalcraft Inc 8739 S Millergrove Dr Whittier Calif-24-30-35
 Metronix Inc PO Box 549 New London Conn-7-17
 Meyer & Co Hugo 39 W 60 St New York 23 NY-21-26
 Micron Instrument Co 80 Trowbridge St Cambridge 38 Mass-24
 Microlab 71 Okner Pkwy Livingston NJ-3-16-24
 Microphase Corp PO Box 1166E Greenwich Conn-3-16-24-33
 Microtran Corp 84-11 Rockaway Beach Blvd Rockaway Beach NY-32
 Microwave Associates 22 Cummington St Boston 15 Mass-17-24
 Miller Instruments Inc Wm 325 N Halstead Ave Pasadena 8 Calif-46-49
 Milwaukee Gas Specialty Co 730 N Jackson St Milwaukee 1 Wis-44
 Moeller Instrument Co 132 St & 89 Ave Richmond Hill 18 NY-44
 Motordyne Inc 2661 S Myrtle Ave Monrovia Calif-20
 Munsell Color Co 10 E Franklin St Baltimore 2 Md-48
 Murphy & Miller 1318 S Michigan Ave Chicago 5 Ill-6
 Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-20-32
 Narda Corp 160 Herricks Rd Mineola NY-4-5-17-24-30-35-50
 New York Mfg & General Supply 10-38 Jackson Ave Long Island City 1 NY-21
 Nichols Products 325 W Main St Moorestown NJ-24-28-30-35-50
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-32
 National Capacitor Co 18 Webster St Brookline 46 Mass-16
 Nilsen Mfg Co 21 N Church St Addison Ill-46
 Norman Labs Ernst Williams Bay Wis-17-20
 North American Instruments 2420 N Lake Ave Altadena Calif-27-46
 New London Instrument Co 82 Union St New London Conn-1-3-17
 NJE Corp 345 Carnegie Ave Kenilworth NJ-29
 North American Philips Co 75 S Fulton Ave Mt Vernon NY-40
 Northeast Electronics Corp Municipal Airport Concord NH-7-42
 Offner Electronics 5320 N Kedzie Ave Chicago 28 Ill-31-49
 Ohmite Mfg Co 3601 Howard St Skokie Ill-1
 Omega Labs Inc Haverhill St Rowley Mass-24-50
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-16-32
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-25-30-32
 Pace Eng'g Co 6914 Beck Ave N Hollywood Calif-8-46-49
 Pacific Transducer Corp 11836 W Pico Blvd Los Angeles 64 Calif-26



Pancro Mirrors Inc 2958 Los Feliz Blvd Los Angeles 39 Calif-12
 Panoramic Radio Products 10 S 2 Ave Mt Vernon NY-7-49
 Par Products Corp 926 N Citrus Lane Hollywood 38 Calif-19-21-26
 PCA Electronics Inc 2180 Colorado Ave Santa Monica Calif-14-29
 Penn-East Eng'g Corp Box 240 Kutztown Pa-16
 Perkin-Elmer Corp Norwalk Conn-21-26
 Perkin Eng'g Corp 345 Kansas St El Segundo Calif-32
 Philadelphia Scientific Glass Co 1866 Eckard Ave Abington Pa-32
 Philamon Labs Inc 90 Hopper St Westbury LI NY-13-17-47
 Philbrick Researches G A 230 Congress St Boston 10 Mass-14
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-12-24
 Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-5
 Photocore Research Products 421 N Foothill Blvd Pasadena 8 Calif-27
 Photo Crystals Inc 15 S 1 St Geneva Ill-1-3-24-30
 Photovolt Corp 95 Madison Ave New York 16 NY-26
 PIC Design Corp 160 Atlantic Ave Lynbrook LI NY-19
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-17-24-30
 Polarizing Instrument Co Irvington-on-Hudson NY-26
 Polyphase Instrument Co 701 Haverford Rd Bryn Mawr Pa-14
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-5-7-17-24-30-35-50
 Ponder & Best Telelens Div 814 N Cole Ave Hollywood 38 Calif-26
 Potter Co 1950 Sheridan Rd N Chicago Ill-16
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-17-29
 Precise Development Corp Oceanside LI NY-12-28
 Precise Measurements Co 942 Kings Hwy Brooklyn 23 NY-28
 Precision Associates 354 Cumberland St Brooklyn 38 NY-3-7-24-45
 Precision Photomechanical Corp 170 S Van Brunt St Englewood NJ-51
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-24-35-50
 Proboscope Co 44-05 30 Ave Long Island City 3 NY-17
 Process & Instruments 15 Stone Ave Brooklyn 33 NY-26
 Pyrometer Instrument Co 92 Portland Ave Bergenfield NJ-44
 Q L C Corp 409 Main St Greenport LI NY-14
 Quare Associates PO Box 95 Canton Mass-20
 Radar Engineers 403 E 45 St Seattle 5 Wash-29
 Radex Corp 2076 Elston Ave Chicago 14 Ill-16
 Radiation Counter Labs 5122 W Grove St Skokie Ill-29
 Radiation Inc PO Box 37 Melbourne Fla-46
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-28
 Radio Frequency Labs Powerville Rd Boonton NJ-17
 Radio Receptor Co 251 W 19 St New York 11 NY-15-29
 Rangertone Inc 78 Winthrop St Newark 4 NJ-20
 Ransom Research PO Box 382 San Pedro Calif-17
 Ratigan Electronics 3614 Maple Ave Los Angeles 11 Calif-14
 Rawson Electrical Instrument Co 117 Potter St Cambridge 42 Mass-7
 Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-14-16
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-15-24
 Redmond Co Monroe St Owosso Mich-20
 Reeder & Co C M 173 Victor Ave Detroit Mich-44
 Reeves Instrument Corp 215 E 91 St New York 28 NY-18-30
 Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-13
 Rese Eng'g Inc 781 Arch St Philadelphia Pa-29
 Revere Co Wallingford Conn-28-44
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-11
 Richards Co Arklay S 37 Winchester St Newton Highlands 61 Mass-44
 Riverbank Labs Eng'g Dept PO Box 65 Geneva Ill-17-47
 Rixon Electronics 2414 Reddie Dr Silver Spring Md-29

Robbins & Myers 1345 Lagonda Ave Springfield Ohio-13
 Rollins Electronics Corp Schley Ave Lewes Dela-16-38
 Rutherford Electronics Co 3707 S Robertson Blvd Culver City Calif-7-29
 Sage Labs 30 Guinan St Waltham 54 Mass-8-17-24-35
 Sanders Associates 95 Canal St Nashua NH-11
 Sangamo Generators Sub Sangamo Electric Co Springfield Ill-20
 Scherr Co George 200 Lafayette St New York 12 NY-11
 Scott Radio Labs Liberty & Penna St Plymouth Ind-17
 Seco Mfg Co 5015 Penn Ave S Minneapolis 19 Minn-45
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-8
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-7-11-17-44
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-5-13-15
 Servomechanisms Inc Post & Stewart Aves Westbury NY-46
 Shallcross Mfg Co Pusey & Jackson Aves Collingdale Pa-14
 Shallite Inc 10 Mill St Paterson NJ-14
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-17
 Shielding Inc Dept TT Box 217 Riverside NJ-34
 Sierra Electronic Corp 1050 Britton Ave San Carlos Calif-44
 Signal Equipment Co 2706 3 Ave Seattle 1 Wash-46
 Smith-Meeker Eng'g Co 157 Chambers St New York 7 NY-30
 Sonar Radio Corp 3050 W 21 St Brooklyn 24 NY-15
 Sorensen & Co 375 Fairfield Ave Stamford Conn-13-20-32
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-8-21-32
 Sound Apparatus Co Stirling NJ-31
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-16-18
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-30
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-4-7-17-24-30-50
 Standard Cabinet Co 54 Washington Ave Carlstadt NJ-6
 Standard Condenser Corp 3749 N Clark St Chicago 13 Ill-37
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-17
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-3-9-12-24-29-30-33-43-46
 Stewart-Warner Electronics 1300 N Kostner Ave Chicago 51 Ill-15
 Stoddart Aircraft Radio Co 6644 Santa Monica Blvd Hollywood 38 Calif-3-33
 Stoelting Co C H 424 N Homan Ave Chicago 24 Ill-9
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-28
 Superex Electronics Corp 4 Radford Pl Yonkers NY-16
 Sylvania Electric Products 1730 Broadway New York 19 NY-7-48
 Taller & Cooper 75 Front St Brooklyn 1 NY-8
 Tarc Electronics Inc 48 Urban Ave Westbury LI NY-12-17
 Taylor Instrument Companies 95 Ames St Rochester 1 NY-46
 Tech Labs Inc Bergen & Edsall Blvd Palisades Park NJ-1-3
 Technical Instrument Co Div Brush Electronics 3732 Westheimer Rd Houston 6 Texas-49
 Technical Material Corp PO Box 142 Mamaroneck NY-13
 Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-3-7-24-35-46
 Technitrol Eng'g Co 2751 N 4 St Philadelphia 33 Pa-14
 Telechrome Inc 88 Merrick Rd Amityville LI NY-8-12-14-16-40-48
 Telerad Mfg 1440 Broadway New York 16 NY-17
 Teletronics Lab Inc 54 Kinkel St Westbury LI NY-7-29
 Televiso Corp 1415 Golf Rd Des Plaines Ill-15-30-33-49
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-12-14
 Telkor Inc N Murray Ridge Rd Elyria Ohio-13-20
 Tel-Rad Electronics Corp 73-20 Trotting Course Lane Glendale 27 NY-14
 Ten Bosch Inc M 80 Wheeler Ave Pleasantville NY-49
 Tenney Eng'g Inc 1090 Springfield Rd Union NJ-6
 Terado Co 1069 Raymond Ave Dept 3 St Paul 14 Minn-20
 Thermo Electric Co Inc Saddle Brook NJ-44
 Thwing-Albert Instrument Co Penn St & Pulaski Ave Philadelphia 44 Pa-5-44
 Timely Instruments & Controls Corp 1645 W 135 St Gardena Calif-32

Times Facsimile Corp 540 W 58 St NY NY-47
 Torwico Electronics 1090 Morris Ave Union NJ-16
 Tracerlab Inc 130 High St Boston 10 Mass-31
 Transformer Technicians 2608 N Cicero Ave Chicago 39 Ill-16
 Transonic Inc 808 16 St Bakersfield Calif-14-29
 Trans-sonics Inc PO Box 328 Lexington Mass-27-46
 Tri-Dex Electronics PO Box 1207 Lindsay Calif-38
 Trion Inc 1000 Island Ave McKees Rocks Pa-16
 TV Specialty Co 350 W 31 St NY 1 NY-26
 Ultradyne Eng'g Labs PO Box 8007 Albuquerque N Mex-27-46
 Underwood Corp Electronic Computer Div 35-10 36 Ave Long Island City 6 NY-14
 United Electric Controls 85 School St Watertown 72 Mass-32
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-27
 United States Dynamics Corp 1250 Columbus Ave Boston 20 Mass-32
 Universal Atomics Corp 19 E 48 St NY NY-29
 University Loudspeakers Inc 80 S Kensico Ave White Plains NY-46
 Vacuum Tube Products Co 506 S Cleveland St Oceanside Calif-44
 Valpey Crystal Corp Holliston Mass-46
 Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-14-38
 Varo Mfg Co 2201 Walnut St Garland Texas-17-32
 Vectron Inc 1611 Trapello Rd Waltham Mass-24-35
 Vibration Research Labs 97 Lake Ave Tuckahoe NY-20
 Vibroscope Co PO Box 97 Glenford NY-49
 Viduire Electronics Mfg 576-80 W Merrick Rd Lynbrook NY-3-16-33
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-13
 Visual Electronics Corp 500 5 Ave New York 36 NY-12-24-48
 Voron & Co George 835 N 19 St Phila Pa-45
 Wac Line Inc 35 S St Clair St Dayton 2 Ohio-17-24-30-32-35-50
 Walkirk Co 145 W Hazel St Inglewood 3 Calif-17-25
 Walsco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-44
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-7-17-18-29
 Waveline Inc Passaic Ave Box 470 Caldwell NJ-24-28-30-50
 Wenthers Industries 66 E Gloucester Pike Basking Ridge NJ-27
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-3-27-29
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-44
 Weston Electrical Instrument Corp Subsidiary Davstrom Inc 614 Frelinghuysen Ave Newark 5 NJ-44
 Weston Labs Old Littleton Rd Harvard Mass-24
 Wheeler Labs Inc 122 Cutter Mill Rd Great Neck NY-24
 White Electron Devices Inc Roger 4 Ave Haskell NJ-24
 Wilcox Research Co 2506 N Ontario St Burbank Calif-42
 Wincharger Corp E 7 & Division Sts Sioux City 2 Iowa-20
 Winkler Labs 5225 N 20 St Phoenix Ariz-49
 Workman TV Inc 309 Queen Anne Rd Teaneck NJ-39
 Winston Electronics Inc 4312 Main St Philadelphia 27 Pa-7
 World Radio Labs 3415 W Broadway Council Bluffs Iowa-13
 Zenith Optical Lab 1940 Great Neck Rd Copiague NY-21-26
 Zero Mfg Co Zero Bldg Burbank 9 Calif-19
 Zoomar Inc 55 Sea Cliff Ave Glen Cove NY-21-26

American Time Products 580 5 Ave NY NY-2
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-3
 Bell & Gossett 8200 N Austin Ave Morton Grove Ill-2
 B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-2
 Boonton Radio Corp Intervale Rd Boonton NJ-8
 Borg Corp Equip Div Janesville Wis-2
 Bristol Co PO Box 1790 Waterbury Conn-5-6
 Continental Communications 452 W Chicago Ave Chicago 10 Ill-2
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-8
 Dubrow Development Co 235 Penn St Burlington NJ-8
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-2
 El Mee Labs 730 Blvd Kenilworth NJ-2
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-2
 Frequency Standards Corp PO Box 66 Eatontown NJ-2
 General Radio Co 275 Mass Ave Cambridge 39 Mass-1-2-3-5-7
 Gray Instrument Co 200 E Church Lane Philadelphia 44 Pa-5
 H-B Instrument Co American & Bristol Sts Philadelphia 40 Pa-6
 Hill Electronic Eng'g & Mfg New Kingstown Pa-2
 Hupp Instrumentation 2119 Sepulveda Blvd Los Angeles 25 Calif-2
 Kay Electric Co 14 Maple Ave Pinebrook NJ-2
 Kepco Labs 131-38 Sanford Ave Flushing 55 NY-8
 Knights Co James Sandwich Ill-2
 Levoite Labs Inc Matawan and Freehold Rd Morganville NJ-2
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-1-5-6
 Macleod & Hanopol 10 Roland St Charlestown 29 Mass-5
 Marconi Instruments Ltd 44 New St NY NY-2
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-2
 Microwave Associates 22 Cummington St Boston 15 Mass-2
 Narda Corp 160 Herricks Rd Mincola NY-2
 New London Instrument Co 82 Union St New London Conn-2
 Norman Labs Ernst Williams Bay Wis-3-7
 Phoastron Co 151 Pasadena Ave S Pasadena Calif-5-7
 Philamon Labs Inc 90 Hopper St Westbury LI NY-2
 Polytechnic Research & Development 202 Tilary St Brooklyn 1 NY-2
 Precision Associates 354 Cumberland St Brooklyn 38 NY-2
 Precision Crystal Lab 2223 Warwick Ave Santa Monica Calif-2
 Quare Associates PO Box 95 Canton Mass-8
 Radiation Inc PO Box 37 Melbourne Fla-8
 Radio Frequency Labs Powerville Rd Boonton NJ-8
 Riverbank Labs Eng'g Dept PO Box 65 Geneva Ill-2
 Rubicon Co Ridge Ave & 35 St Phila 32 Pa-5
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-5-8
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-2
 Simmons Aerocessories 105 White Plains Rd Tarrytown NY-1
 Standard Condenser Corp 3749 N Clark St Chicago 13 Ill-1
 Stewart Instrument Co 6507 Grand River Detroit 8 Mich-7
 Teletronic Lab Inc 54 Kinkel St Westbury LI NY-2
 Thermo Electric Co Saddle Brook NJ-6
 Vectron Inc 1611 Trapello Rd Waltham Mass-2

Amplifier Corp of America 398 Broadway New York 13 NY-12
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-1 thru 12
 Audio Instrument Co 133 W 14 St New York 11 NY-3-5
 Aurex Corp 1117 N Franklin St Chicago 10 Ill-1
 Ballantine Labs Boonton NJ-1-2-8
 Barber-Colman Co 1300 Rock St Rockford Ill-10
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-2-3-4-5-7
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-4-9-10
 Boonton Electronics Corp Morris Plains NJ-3
 Bristol Co PO Box 1790 Waterbury Conn-10
 Burlington Instruments Burlington Iowa-2-11
 Cinema Eng'g Co Div Aerovox 1100 Chestnut St Burbank Calif-1
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-4
 Clough-Brengle Co 6014 Broadway Chicago 40 Ill-2
 Cubic Corp 2841 Canon St San Diego 6 Calif-9
 Daven Co Route 10 Livingston NJ-1-2-3-4-7-8
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-10
 DeJur-Amsco Corp 45-01 Northern Blvd Long Island City 1 NY-2-11
 Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa-9
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-3-12
 D & R Ltd 402 E Gutierrez St Santa Barbara Calif-12
 Dubrow Development Co 235 Penn St Burlington NJ-9
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-8
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-7-11
 Electronic Industries Inc 7649 San Fernando Rd Burbank Calif-2-4-7-8
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-1-2
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-1-4
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-3-5
 Englehard Inc Charles 850 Passaic Ave E Newark NJ-10
 Esterline-Angus Co PO Box 596 Indianapolis 6 Ind-10
 Fischer & Porter 19 Warminster Rd Hatboro Pa-10
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-3
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-12
 Gar Electrical Instrument Corp 92-15 172 St Jamaica 33 NY-2
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-10
 General Radio Co 275 Mass Ave Cambridge 39 Mass-1-2-3-4-6-7-8-11
 Grason Stadler Co Electronics Park W Concord Mass-1
 Graybar Electric Co 420 Lexington Ave New York 17 NY-2-7-8-11
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-1-3-4-9
 Heath Co 305 Territorial Rd Benton Harbor Mich-1-2-3-4
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-10
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-1-2-3-4-8
 Hickok Electrical Instrument Co 10514 Dupont Ave Cleveland 8 Ohio-1-2-7
 Hupp Instrumentation 2119 Sepulveda Blvd Los Angeles 25 Calif-4
 Hyeon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-11
 Industrial Test Equip Co 55 E 11 St New York 3 NY-1-9
 International Instruments Inc PO Box 2954 New Haven 15 Conn-2
 Knights Co James Sandwich Ill-6
 Loral Electronics Corp 794 E 140 St New York 54 NY-4
 Marconi Instruments Ltd 44 New St New York 4 NY-8
 Marion Electrical Instrument Co Grenier Field Manchester NH-2-11
 Measurements Corp Boonton NJ-5-6
 Metronix Inc PO Box 549 New London Conn-3-4
 Millivac Instrument Corp 444 2 St Schenectady NY-1-7-10
 Mine Safety Appliances Co 201 N Braddock Ave Pittsburgh 8 Pa-11
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-4
 Oberline Inc PO Box 921 Beverly Hills Calif-1
 Panoramic Radio Products 10 S 2 Ave Mt Vernon NY-4
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-2-8
 Precision Associates 354 Cumberland St Brooklyn 38 NY-1
 Qualitone Co 4318 Upton S Minneapolis 10 Minn-1
 Q V S Inc 20 N 15 St East Orange NJ-8
 Radio City Products Co Centre & Glendale Sts Easton Pa-8
 Radio Frequency Labs Powerville Rd Boonton NJ-3
 Rawson Electrical Instrument Co 117 Potter St Cambridge 42 Mass-1-8

38—MEASUREMENT & TEST EQUIPMENT—STANDARDS

Standards, capacitance	1
Standards, frequency	2
Standards, inductance	3
Standards, phase	4
Standards, resistance	5
Standards, temperature	6
Standards, time	7
Standards, voltage	8

Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-1-5
 Aircorn Inc 354 Main St Winthrop 52 Mass-2
 Allegany Instrument Co Cumberland Md-7

39—METERS, AUDIO

Meters, audio	1
Meters, decibel	2
Meters, distortion	3
Meters, frequency	4
Meters, intermodulation	5
Meters, modulation	6
Meters, noise	7
Meters, output	8
Meters, phase angle	9
Meters, recording	10
Meters, sound level	11
Meters, wow & flutter	12

Advance Electronics Co 451 Highland Ave Passaic NJ-1-4-8-9
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-1-2-11
 Airpax Products Co Middle River Baltimore 20 Md-4
 Allison Labs 14185 Skyline Dr Puente Calif-1
 American Metric Corp 15 Exchange Pl Jersey City 2 NJ-1-2-7-8

Sensitive Research Instrument Corp 310 Main St New Rochelle NY-1-4
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-2-7-8-11
 Scott Inc Hermon Hosmer 385 Putnam Ave Cambridge 39 Mass-11
 Stelma Inc 190 Henry St Stamford Conn-3
 Tech Labs Inc Bergen & Edsall Blvd Palisades Park NJ-8
 Telechome Inc 88 Merrick Rd Amityville LI NY-5-6
 Trio Labs Inc 4025 Merrick Rd Seaford LI NY-1-2-8-11
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-2-11
 Varo Mfg Co 2201 Walnut St Garland Texas-1-4
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-4-11
 Waveforms Inc 333 6 Ave New York 14 NY-1-7-8
 Welch Mfg Co W M 1515 Sedgwick St Chicago 10 Ill-2-7
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-1-2
 Weston Labs Old Littleton Rd Harvard Mass-4



Bergen Labs 11 Godwin Ave Fairlawn NJ-19-22-29-30-33
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-8-24
 Berndt-Bach Inc 6926 Romaine St Hollywood Calif-9
 Biddle Co James G 1316 Arch St Philadelphia 7 Pa-8-13-22
 Bird Electronic Corp 1800 E 38 St Cleveland 14 Ohio-31
 Bogart Mfg Co 315 Siegel St Brooklyn 6 NY-10
 Boonton Radio Corp Intervale Rd Boonton NJ-10-26
 Booth Co Arthur E 265 S Alexandria Ave Los Angeles 4 Calif-1
 Borden Eng'g Co Div M J Johnson Aircraft Eng'g Co 39 E Hanover Ave Morris Plains NJ-9-14-22
 Bristol Co PO Box 1790 Waterbury Conn-1-2-3-4-5-6-9-11-12-14-16-17-18-22-25-28-30-31
 Burlington Instruments Burlington Iowa-2-11-14-17-18-29
 Burton-Rogers Sales Co Div Hoyt Electrical Instruments 42 Carleton St Cambridge 42 Mass-2-5-9-14-17-18-30
 Cambridge Instrument Co 3611 Grand Central Terminal New York 17 NY-7-9
 Canadian Radium & Uranium Corp 630 5 Ave New York 20 NY-1
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-9
 Chase Electronics Lab 2631 Woodlyn Rd Pasadena 8 Calif-1
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-33
 Chesapeake Instrument Corp Shadyside Md-10
 Chicago Industrial Instrument 865 N Sangamon St Chicago 22 Ill-2-13-14-16-17-18-19-20-22-29-30
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-8
 Clough-Brengle Co 6014 Broadway Chicago 40 Ill-26-29
 Cole Instrument Co 1000 N Olive St Anaheim Calif-2-3-4-5-9-11-12-13-14-17-22-30-31
 Communication Measurements Lab 350 Leland Ave Plainfield NJ-29
 Crown Eng'g Sta B Box 6127 Albuquerque NM-30
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-6-14
 Daven Co Route 10 Livingston NJ-8-23-29
 Davenport Mfg Co 1713 N Ashland Ave Chicago 22 Ill-11-13
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-1
 DeJur-Amsco Corp 45-01 Northern Blvd Long Island City 1 NY-2-5-11-14-17-18-19-30
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-16
 Dice Co J W 1 Engle St Englewood NJ-13-22
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-30
 Dubrow Development Co 235 Penn St Burlington NJ-1-8-29
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-18-29
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-7
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-21
 Eastern Specialty Co 3617 N 8 St Philadelphia 40 Pa-24
 Electric Design & Mfg Co Jefferson St Burlington Iowa-2-5-14-17-18-30
 Electro-Impulse Labs 62 White St Red Bank NJ-12-23-29
 Electro Instruments Inc 3794 Rosecrans St San Diego 10 Calif-22-33
 Electro-Mechanical Research 64 Main St Ridgefield Conn-1
 Electronic Industries Inc 7649 San Fernando Rd Burbank Calif-18-30
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-19-29
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-2-17-19-29-30
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-21
 Endevo Corp 161 E California St Pasadena Calif-1
 Engelhard Inc Charles 850 Passaic Ave E Newark NJ-1-2-9-30
 Epsylon Sound Accessories The Barons St Margarets Twickenham Middlesex England-18
 Esterline-Angus Co PO Box 596 Indianapolis 6 Ind-2-8-11-12-17-18-24-25-30-31
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-8
 Feedback Controls Inc 1332 N Henry St Alexandria Va-33
 Feiler Eng'g & Mfg 8026 N Monticello Ave Skokie Ill-19-22-29-30

Fielden Instrument Div Robertshaw Fulton Controls 2920 N 4 St Philadelphia 33 Pa-3-14-30
 Fischer & Porter 19 Warminster Rd Hatboro Pa-1
 Fluke Mfg Co John 1111 W Nickerson St Seattle 99 Wash-23-25-29-30-31
 Franklin Electronics Inc E 4 St Bridgeport Pa-33
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-13-26-29
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-26-30-33
 Gar Electrical Instrument Corp 92-15 172 St Jamaica 33 NY-2-5-14-17-18
 General Electric Co-Apparatus Sales Div 1 River Rd Schenectady 5 NY-2-5-7-8-9-11-12-14-17-18-22-23-25-30-31-32
 General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-13
 General Radio Co 275 Mass Ave Cambridge 39 Mass-3-6-13-29
 Genisco Inc 2233 Federal Ave Los Angeles 61 Calif-1
 Gertsch Products 11848 Mississippi Ave Los Angeles 25 Calif-29
 Gilmore Industries 5713 Euclid Ave Cleveland 3 Ohio-28
 G-M Labs Inc 4300 N Knox Ave Chicago 41 Ill-9
 Gray Instrument Co 200 E Church Lane Philadelphia 44 Pa-22
 Graybar Electric Co 420 Lexington Ave New York 17 NY-2-5-8-9-17-18-22-29-30-31-32
 Greibach Instruments Corp 212 Durham Ave Metuchen NJ-2-9-11-13-14-17-18-22-30
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-24
 Heath Co 305 Territorial Rd Benton Harbor Mich-3-15-18-19-22-29-31
 Helland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-9
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-2-8-11-13-17-18-19-20-22-23-29
 Hewson Co 443 Broad St Newark 2 NJ-14-16
 Hickok Electrical Instrument Co 10514 Dupon Ave Cleveland 8 Ohio-2-5-14-17-22-25-29-30-31
 Hupp Instrumentation 2119 Sepulveda Blvd Los Angeles 25 Calif-8
 Hycon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-19-29-33
 Ideal Industries 5127 Park Ave Sycamore Ill-30
 Industrial Devices Inc 982 River Rd Edgewater NJ-30
 Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-28
 Industrial Engravers Inc 4103 10 Ave Brooklyn 19 NY-1
 Industrial Instruments Inc 89 Commerce Rd Cedar Grove NJ-3-4-13-22
 Industrial Test Equip Co 55 E 11 St New York 3 NY-3-4-10-24-25-26-29-31
 Instron Eng'g Corp 440 Hancock St Quincy 71 Mass-28
 Instrument Labs 315 W Walton Pl Chicago 10 Ill-1-2-12
 International Instruments Inc PO Box 2954 New Haven 15 Conn-2-5-14-17-18-30
 Irwin Labs 1238 S Gerhart Ave Los Angeles 22 Calif-7
 Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-29-30
 J-B-T Instruments Inc 441 Chapel St New Haven 12 Conn-8
 Jennings Radio Mfg Corp 970 McLaughlin Ave San Jose 8 Calif-11
 Kay Electric Co 14 Maple Ave Pinebrook NJ-18
 Keithley Instruments 3868 Carnegie Ave Cleveland 15 Ohio-6-11-13-14-16-17-18-29
 Kuljian Corp-Electronics Div 1200 N Broad St Philadelphia 21 Pa-13-22
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-5-9
 Leitch Eng'g Corp 326 Lincoln St Manchester NH-29
 Link Aviation Inc Binghamton NY-24
 Loral Electronics Corp 794 E 140 St New York 54 NY-8
 Macleod & Hanopol 10 Roland St Charlestown 29 Mass-3-13
 Magnaflex Corp 7300 W Lawrence Ave Chicago 31 Ill-4
 Magnetic Amplifiers 632 Tinton Ave New York 55 NY-24
 Manning Maxwell & Moore 250 E Main St Stratford Conn-1
 Marconi Instruments Ltd 44 New St New York 4 NY-10-26
 Marion Electrical Instrument Co Grenier Field Manchester NH-2-5-7-11-14-17-18-30
 Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-24
 Measurements Corp Boonton NJ-1-21-29
 Mepco Inc 37 Abbett Ave Morristown NJ-20
 Meters Inc 5353 N Keystone Ave Indianapolis 20 Ind-2-5-9-11-14-17-18-22-30
 Metronix Inc PO Box 549 New London Conn-3-26-29
 Metropolitan Electronics & Instruments Co 106 5 Ave New York 11 NY-2-19
 Metrotype Corp 104 E St Michigan City Ind-32
 Midwestern Instruments PO Box 7186 Tulsa Okla-9
 Millivac Instrument Corp 444 2 St Schenectady NY-2-14-16-17-18-19-29

40—METERS, ELECTRICAL MEASUREMENT

Instrument calibration	1
Meters, ammeter	2
Meters, capacitance	3
Meters, conductance	4
Meters, d'arsonval	5
Meters, electrometer	6
Meters, flux	7
Meters, frequency	8
Meters, galvanometer	9
Meters, impedance	10
Meters, kilovolt	11
Meters, kilowatt	12
Meters, megohm	13
Meters, microampere	14
Meters, microfarad	15
Meters, micromicroampere	16
Meters, milliamperere	17
Meters, millivolt	18
Meters, multimeter	19
Meters, multiplier	20
Meters, noise	21
Meters, ohm	22
Meters, output	23
Meters, phase	24
Meters, power factor	25
Meters, Q	26
Meters, snap around	27
Meters, tension	28
Meters, vacuum tube volt	29
Meters, volt	30
Meters, watt	31
Meters, watt-hour	32
Voltmeters, digital	33

ACF Electronics 800 N Pitt St Alexandria Va-1
 Acromark Co 443 Morrell St Elizabeth 4 NJ-1
 Advance Electronics Co 451 Highland Ave Passaic NJ-17-24
 Aero Instrument Co 11423 Vanowen St N Hollywood Calif-8
 Allegany Instrument Co Cumberland Md-22
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-3-19-22-29
 Alto Scientific Co 855 Commercial St Palo Alto Calif-18-22-30
 American Chronoscope Corp 316 W 1 St Mount Vernon NY-22-29
 American Elite Inc 7 Park Ave New York 16 NY-28
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-2-3-4-5-10-13-14-15-16-17-18-19-21-22-23-25-26-30-31
 Anderson Inc W E 2921 Brooklyn Ave Kansas City 9 Mo-22-30
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-1 thru 33
 Applied Physics Corp 362 W Colorado St Pasadena Calif-16
 ARF Products 7627 Lake St River Forest Ill-24
 Arga Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-2-8-30
 Assembly Products Wilson Mills Rd Chesterland 21 Ohio-2-5-9-11-14-17-18-30-33
 Associated Research Inc 3758 W Belmont Ave Chicago 18 Ill-13-22-30
 Ballantine Labs Boonton NJ-3-18-19-29-30
 Barber-Colman Co 1300 Rock St Rockford Ill-18
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-8-10-31
 Bellaire Electronics Inc 62 White St Red Bank NJ-31

Moseley Co F L 409 N Fair Oaks Ave Pasadena 3 Calif-33
 Narda Corp 160 Herricks Rd Mineola NY-10
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-33
 New London Instrument Co 82 Union St New London Conn-19-22-29-30
 New York Mfg & General Supply 10-38 Jackson Ave Long Island City 1 NY-2-22
 Non-Linear Systems Del Mar Airport Del Mar Calif-22-33
 Norden-Ketay Corp Boston Electronics Div Snow & Union Sts Boston 35 Mass-2-14-16-30
 North American Instruments 2420 N Lake Ave Altadena Calif-8
 Northeast Electronics Corp Municipal Airport Concord NH-23
 Northeastern Eng'g Co Bedford St Manchester NH-19
 Oerlikon Tool & Arms Corp of America PO Box 3049 Asheville N Car-30
 OMCO U S 93 & Las Palomas St Kingman Ariz-16
 Peschel Electronics Inc 13 Garden St New Rochelle NY-11
 Phaontron Co 151 Pasadena Ave S Pasadena Calif-2-5-9-11-12-13-14-16-17-18-19-22-23-29-30
 Philco Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-22
 Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-1
 Physics Research Labs 507 Hempstead Turnpike W Hempstead NY-2
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-10
 Precise Measurements Co 942 Kings Hwy Brooklyn 23 NY-11-13-30
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-1-2-5-14-17-18-19-22-29-30
 Precision Electronics Inc 9101 King St Franklin Park Ill-29
 Precision Resistor Co 109 U S Hwy 22 Hillside NJ-19
 Pyramid Instrument Corp 630 Merrick Rd Lynbrook NY-2-30
 Q V S Inc 20 N 15 St East Orange NJ-2-5-9-18-30
 Radio City Products Co Centre & Glendale Sts Easton Pa-19-22-29
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-29
 Radio Frequency Labs Powerville Rd Boonton NJ-10
 Radio Instrument Labs 12-05 Sumner Pl Fair Lawn NJ-3-26
 Radion Corp 1130 W Wisconsin Ave Chicago 14 Ill-2-30-31
 Ransom Research PO Box 382 San Pedro Calif-1-8
 Rawson Electrical Instrument Co 117 Potter St Cambridge 42 Mass-2-5-6-7-9-11-14-17-18-19-23-30-31
 Research Electronics Labs Roslyn Pa-29
 Roller-Smith Corp 1825 W Market St Bethlehem Pa-1-2-5-11-12-14-17-18-25-30-31-32
 Rubicon Co Ridge Ave & 35 St Philadelphia 32 Pa-1-9
 Rutherford Electronics Co 3707 S Robertson Blvd Culver City Calif-1
 Sage Labs 30 Guinan St Waltham 54 Mass-26
 Sangamo Generators-Sub Sangamo Electric Co Springfield Ill-30-32
 Sciaky Bros 4915 W 67 St Chicago 38 Ill-2
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-1-2-4-5-7-8-9-11-12-17-18-19-20-25-30-31
 Shallcross Mfg Co Pusey & Jackson Aves Colingdale Pa-3-4-9-10-22-30
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-8-10-18-22-29-30
 Shepard Labs 480 Morris Ave Summit NJ-30
 Shurite Meters 61 Hamilton St New Haven 8 Conn-2-17-30
 Sierra Electronic Corp 1050 Brittan Ave San Carlos Calif-29-30-31
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-2-5-8-9-11-14-16-17-18-19-21-22-23-29-30-31
 Southwest Products Alamo Downs Rte 4 San Antonio Texas-1
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-13-22-29
 Special Instruments Laboratory Inc 312 W Vine Ave Knoxville Tenn-16
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-22
 Spellman TV Co 3029 Webster Ave Bronx 67 NY-11
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-10-31
 Sticht Co Herman H 27 Park Pl New York 7 NY-13-22
 Stoddard Aircraft Radio Co 6644 Santa Monica Blvd Hollywood 38 Calif-21
 Supreme Instruments Greenwood Miss-2-5-9-11-16-17-19-22-23-29-30
 Sun Electric Corp Harlem & Avondale Aves Chicago 31 Ill-2-5-11-13-14-17-22-30
 Sylvania Electric Products 1740 Broadway New York 19 NY-29
 Tech Labs Inc Bergen & Edsall Blvd Palisades Park NJ-20
 Telechrome Inc 88 Merrick Rd Amityville LI NY-24

Telecomputing Corp 12838 Saticoy St N Hollywood Calif-33
 Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-17
 Trio Labs Inc 4025 Merrick Rd Seaford LI NY-2-11-14-16-17-18-23-24-25-29
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-2-5-11-12-13-14-17-18-19-22-23-29-30-31
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-1
 Varo Mfg Co 2201 Walnut St Garland Texas-8
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-22
 Wac Line Inc 35 S St Clair St Dayton 2 Ohio-2-5-14-17-18-30
 Waveforms Inc 333 6 Ave New York 11 NY-18-20-23-29-30
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-1
 Welch Mfg Co W M 1515 Sedgwick St Chicago 10 Ill-2-3-5-11-12-17-18-19-22-31
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-2-5-8-11-12-14-17-18-19-20-22-23-25-30-31-32
 Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-2-22-33
 Weston Labs Old Littleton Rd Harvard Mass-3-7-13-22-31

41—METERS—RF

Meters, ammeters, RF 1
Meters, attenuation 2
Meters, decibel 3
Meters, distortion 4
Meters, field strength 5
Meters, FM deviation 6
Meters, frequency 7
Meters, grid dip 8
Meters, microwave 9
Meters, noise 10
Meters, output 11
Meters, phase 12
Meters, R-F power 13
Meters, standing wave ratio 14
Meters, wave 15

Airborne Instruments Lab 160 Old Country Rd Mineola NY-10-13
 Aircrom Inc 354 Main St Winthrop 52 Mass-7-9-13-14
 Aircraft Armaments Cockeysville Md-7
 Airton Inc 1101 W Elizabeth Ave Linden NJ-14
 Alto Scientific Co 855 Commercial St Palo Alto Calif-8
 Amerac Inc Wenham Mass-3-7-9-11-13
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-1-2-3-10
 Andrew Corp 363 E 75 St Chicago 19 Ill-12
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-1 thru 15
 A R F Products Inc 7627 Lake St River Forest Ill-6
 Assembly Products Wilson Mills Rd Chesterland 21 Ohio-1
 Audio Instrument Co 133 W 14 St New York 11 NY-4
 Baird Associates 33 University Rd Cambridge 38 Mass-1
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-8-10-11-13-14
 Bellaire Electronics Inc 62 White St Red Bank NJ-5
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-7
 Bird Electronic Corp 1800 E 38 St Cleveland 14 Ohio-11-13
 B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-6-14
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-5
 Bogart Mfg Co 315 Siegel St Brooklyn 6 NY-9
 Boonton Electronics Corp Morris Plains NJ-4-8
 Bristol Co PO Box 1790 Waterbury Conn-1
 Budelman Radio Corp 375 Fairfield Ave Stamford Conn-6-11
 Burlington Instruments Burlington Iowa-1
 Burnett Radio Lab William W L 4810 Idaho St San Diego 16 Calif-7
 Burton-Rogers Co 42 Carleton St Cambridge 42 Mass-1
 Cavitron Oscillator Co Div Short Wave Plastic Forming Co 2921 W Alameda Ave Burbank Calif-8
 Clough-Bringle Co 6014 Broadway Chicago 40 Ill-3
 Cole Instrument Co 1000 N Olive St Anaheim Calif-1
 Colortone Electronics 200 Frank Rd Hicksville NY-7

Color TV Inc 973 E San Carlos Ave San Carlos Calif-9-14
 Crown Eng'g Sta B Box 6127 Albuquerque N Mex-10
 Cubic Corp 2841 Canon St San Diego 6 Calif-12-13-14
 Daven Co Route 10 Livingston NJ-2-3-4-7
 Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-9
 DeJur-Amsco Corp 45-01 Northern Blvd Long Island City 1 NY-1
 De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-7-9-13-14-15
 Diamond Microwave Corp 7 North Ave Wakefield Mass-7-9-15
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-4-15
 Douglas Microwave Co 11 Beechwood Ave New Rochelle NY-9-14-15
 Dynamic Electronics-N Y Inc 73-39 Woodhaven Blvd Forest Hills NY-5-7-8-10
 Eldico of N Y Inc 72 E 2 St Mineola LI NY-8-13
 Electric Design & Mfg Co Jefferson St Burlington Iowa-1
 Electronic Industries Inc 7649 San Fernando Rd Burbank Calif-2
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-3-4-5-10
 Engelhard Inc Charles 850 Passaic Ave E Newark NJ-1
 Espey Mfg Co 200 W 57 St New York 19 NY-10
 Esterline-Angus Co PO Box 596 Indianapolis 6 Ind-1
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-5-6-9-15
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-4
 Gar Electrical Instrument Corp 92-15 172 St Jamaica 33 NY-1
 General Communication Co 681 Beacon St Boston 15 Mass-15
 General Electric Co—Apparatus Sales Div 1 River Rd Schenectady 5 NY-1
 General Radio Co 275 Mass Ave Cambridge 39 Mass-4-6-7
 Gertsch Products 11848 Mississippi Ave Los Angeles 35 Calif-7-9
 Graybar Electric Co 420 Lexington Ave New York 17 NY-1
 Greibach Instruments Corp 212 Durham Ave Metuchen NJ-1
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-4-12
 Heath Co 305 Territorial Rd Benton Harbor Mich-4-8
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-3-4-7-11-14
 Hickok Electrical Instrument Co 10514 Dupon Ave Cleveland 8 Ohio-1-5
 Instrument Labs 315 W Walton Pl Chicago 10 Ill-1
 International Instruments Inc PO Box 2954 New Haven 15 Conn-1
 Jones Electronics Co M C 185 N Main St Bristol Conn-13
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-9-15
 Kay Electric Co 14 Maple Ave Pinebrook NJ-3-7
 Knights Co James Sandwich Ill-6
 Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-15
 Lampkin Labs Inc Technical Div Bradenton Fla-7
 Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-7-9-15
 Link Radio Corp 110 Jericho Turnpike New Hyde Park LI NY 7
 Loral Electronics Corp 794 E 140 St New York 54 NY-7
 Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-5
 Marconi Instruments Ltd 44 New St New York 4 NY-6-7-11
 Marion Electrical Instrument Co Grenier Field Manchester NH-1
 Measurements Corp Boonton NJ-5-8-10-11
 Meridian Metalcraft Inc 8739 S Millergrove Dr Whittier Calif-7-9
 Meters Inc 5353 N Keystone Ave Indianapolis 20 Ind-1
 Metronix Inc PO Box 519 New London Conn-4-8
 Metropolitan Electronics & Instruments Co 106 5 Ave New York 11 NY-1
 Mico Instrument Co 80 Trowbridge St Cambridge 38 Mass-15
 Microwave Associates 22 Cummington St Boston 15 Mass-7-9-13-14
 Millivac Instrument Corp 444 2 St Schenectady N Y-10-30
 Morrow Radio Mfg Co 2794 Market St Salem Ore-5
 Narda Corp 160 Herricks Rd Mineola NY-7-9-13-14-15
 Nems-Clarke Inc 919 Jesup-Blair Dr Silver Spring Md-5

New London Instrument Co 82 Union St New London Conn-6
 New York Mfg & General Supply 10-38 Jackson Ave Long Island City 1 NY-1
 Panoramic Radio Products 10 S 2 Ave Mt Vernon NY-7
 Phaostron Co 151 Pasadena Ave S Pasadena Calif-1-10-11
 Philco Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-5
 Physics Research Labs 507 Hempstead Turnpike W Hempstead NY-1
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-9
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-7-9-10-13-14
 Precision Associates 354 Cumberland St Brooklyn 38 NY-2-7-15
 Pyramid Instrument Corp 630 Merrick Rd Lynbrook NY-1
 Radiation Inc PO Drawer 37 Melbourne Fla-13
 Radio Frequency Labs Powerville Rd Boonton NJ-4-7
 Radion Corp 1130 W Wisconsin Ave Chicago 14 Ill-5
 Railway Communications PO Box 67 Raytown Mo-6
 Rawson Electrical Instrument Co 117 Potter St Cambridge 42 Mass-1
 Sage Labs 39 Guinan St Waltham 54 Mass-7-12-13-14
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-14
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-1-5
 Shurite Meters 61 Hamilton St New Haven 8 Conn-1
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-1-3-5-7-11
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-7-9-14-15
 Stelma Inc 190 Henry St Stamford Conn-4
 Stoddart Aircraft Radio Co 6644 Santa Monica Blvd Hollywood 38 Calif-5-10
 Technical Material Corp PO Box 142 Mamaroneck NY-7
 Telerad Mfg 1440 Broadway New York 18 NY-7
 Televiso Corp 1415 Golf Rd Des Plaines Ill-7
 Thompson Products Inc Electronics Div 2196 Clarkwood Rd Cleveland 3 Ohio-15
 Transvision Inc 460 North Ave New Rochelle NY-5
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-1-3
 Wac Line Inc 35 S St Clair St Dayton 2 Ohio-1-9-13-15
 Waveline Inc Passaic Ave—Box 470 Caldwell NJ-7-9-14-15
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-9
 Welch Mfg Co W M 1515 Sedgwick St Chicago 10 Ill-1
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-1
 Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-1
 Weston Labs Old Littleton Rd Harvard Mass-5-7-8-9-10-11-14
 Wheeler Labs Inc 122 Cutter Mill Rd Great Neck NY-9-15
 Winston Electronics Inc 4312 Main St Philadelphia 27 Pa-5



Meters, nuclear radiation	24
Meters, null	25
Meters, pH	26
Meters, photoelectric	27
Meters, pyrometer	28
Meters, rate	29
Meters, ratio	30
Meters, spectral	31
Meters, tachometer	32
Meters, tension	33
Meters, thermocouple	34
Meters, thermometer	35
Meters, time	36
Meters, ultra violet	37
Meters, vibrating reed	38
Meters, vibration	39
Meters, viscosity	40
Meters, volume	41
Meters, x-ray intensity	42
Meter shunts	43

Advance Electronics Co 451 Highland Ave Passaic NJ-13
 Advanced Electronics Inc 94 Silas Deane Hwy Rocky Hill 9 Conn-39
 Aero Instrument Co 11423 Vanowen St N Hollywood Calif-12-36
 Airpax Products Co Middle River Baltimore 20 Md-32
 American Chronoscope Corp 316 W 1 St Mount Vernon NY-36
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-29
 American Elite Inc 7 Park Ave New York 16 NY-33
 American Instrument Co 8030 Georgia Ave Silver Spring Md-23
 American Matrix Corp 15 Exchange Pl Jersey City 2 NJ-5-9-43
 Amplifier Corp of America 398 Broadway New York 13 NY-18
 Analytical Measurements Inc 585 Main St Chatham NJ-26
 Anderson Inc W E 2921 Brooklyn Ave Kansas City 9 Mo-41
 Anemostat Corp of America PO Box 2128 Hartford 1 Conn-17
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-1 thru 43
 Applied Research Labs 3717 Park Pl Glendale 8 Calif-31
 Arga Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-30
 Assembly Products Wilson Mills Rd Chesterland 21 Ohio-6-24-25-28-29-34-43
 Bailey Meter Co 1050 Ivanhoe Rd Cleveland Ohio-17-26-28-30-34-35
 Baird Associates 33 University Rd Cambridge 38 Mass-16
 Ballantine Labs Boonton NJ-13
 Barber-Colman Co 1300 Rock St Rockford Ill-25-28-34-35
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-25
 Bausch & Lomb Optical Co 628 St Paul St Rochester 2 NY-1
 Beckman Instruments 2500 Fullerton Rd Fullerton Calif-16-21-26-31-37
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-14-24-29-32-36-40
 Biddle Co James G 1316 Arch St Philadelphia 7 Pa-32-38
 B-I-F Industries 345 Harris Ave Providence 1 RI-17
 Bone Eng'g Corp 701 W Broadway Glendale 4 Calif-17
 Borden Eng'g Co Div M J Johnson Aircraft Fng'g Co 39 E Hanover Ave Morris Plains NJ-5-25
 Bristol Co PO Box 1790 Waterbury Conn-6-8-9-12-13-14-17-22-23-26-28-29-30-31-32-34-35-36-40-41-42
 Broadway Coil Co 5638 Broadway Chicago 40 Ill-1
 Burlington Instruments Burlington Iowa-12-33
 Burton-Rogers Co 42 Carleton St Cambridge 42 Mass-13-43
 Cambridge Instrument Co 3611 Grand Central Terminal New York 17 NY-10-23-24-26-28
 Chatham Electronics Div Gera Corp 630 N Mt Pleasant Ave Livingston NJ-10-24
 Chesapeake Instrument Corp Shadyside Md-4-39
 Chicago Industrial Instrument 865 N Sangamon St Chicago 22 Ill-23-28
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-13

Cole Instrument Co 1000 N Olive St Anaheim Calif-4-5-11-12-15-43
 Coleman Instrments 318 Madison St Maywood Ill-1-16-26
 Computer-Measurements Corp 5528 Vineland Ave N Hollywood Calif-14
 Consolidated Electroynamics Corp 300 N Sierra Madre Villa Pasadena Calif-39
 Cramer Co R W Centerbrook Conn-36
 Crescent Eng'g & Research 11632 McBean St El Monte Calif-4-7-11-13-17-39
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-24-29
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-9
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-35
 DeJur-Amsco Corp 45-01 Northern Blvd Long Island City 1 NY-12-15-19-22-36-41
 Delmhorst Instrument Co 607 Cedar St Boonton NJ-23
 Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa-25
 Detroit Controls Corp Norwood Controls Unit 934 Washington St Norwood Mass-17
 Dice Co J W 1 Engle St Englewood NJ-13
 Doelcam Div Minneapolis-Honeywell 1400 Soldiers Field Rd Boston 35 Mass-17-25-40
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-18-25
 Douglas Radio Labs 176 Norfolk Ave Boston 19 Mass-6
 D & R Ltd 402 E Gutierrez St Santa Barbara Calif-18
 Dubrow Development Co 235 Penn St Burlington NJ-14-39-43
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-2
 Dynamic Electronics-N Y Inc 73-39 Woodhaven Blvd Forest Hills NY-31
 Eastern Precision Resistor Co 675 Barbey St Brooklyn 7 NY-39
 Edcliff Instruments 383 N Foothill Blvd Pasadena 8 Calif-30
 Electric Eye Equip Co 1938 E Fairchild Danville Ill-1
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-13-32
 Electronics Corp of America 77 Broadway Cambridge 42 Mass-1-8-19-27
 Electro-Physics Co 287-P Broadway New York 7 NY-27
 Electro-Pulse Inc 11861 Teale St Culver City Calif-6-12-14-30-36
 Ellison Draft Gage Co 548 W Monroe St Chicago 6 Ill-1
 Engelhard Inc Charles 850 Passaic Ave E Newark NJ-28-34-35-37
 Erdco Eng'g Corp Addison Ill-32
 Erwood Inc 1770 W Berteau Ave Chicago 13 Ill-39
 Ess Instrument Co 96 S Washington Ave Bergenfield NJ-27
 Esterline-Angus Co PO Box 596 Indianapolis 6 Ind-11-14-32
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-13
 Ferranti Electric Inc 30 Rockefeller Plaza New York 20 NY-40
 Fielden Instrument Div Robertshaw Fulton Controls 2920 N 4 St Philadelphia 33 Pa-23-25-26-34-35-39-40
 Fischer & Porter 19 Warminster Rd Hatboro Pa-8-17-29-30-35-40
 Fish-Schurman Corp 70 Portman Rd New Rochelle NY-1
 Fluke Mfg Co John 1111 W Nickerson St Seattle 99 Wash-25
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-25
 Friez Instrument Div-Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-35
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-18
 General Electric Co-Apparatus Sales Div 1 River Rd Schenectady 5 NY-10-12-15-19-22-23-26-27-34-36-39-40-43
 General Radio Co 275 Mass Ave Cambridge 39 Mass-19-22-25-39
 General Riveters Inc—Electro Mechanical Div 785 Hertel Ave Buffalo 7 NY-11
 Gertsch Products 11848 Mississippi Ave Los Angeles 25 Calif-9
 Gibbs Mfg & Research 420 Main St Janesville Wis-12
 Gilmore Industries 5713 Euclid Ave Cleveland 3 Ohio-33
 Graybar Electric Co 420 Lexington Ave New York 17 NY-34
 Greenleaf Mfg Co 7814 Maplewood Industrial Court St Louis 17 Mo-4
 Greibach Instruments Corp 212 Durham Ave Metuchen NJ-34
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-4
 Hamilton Watch Co Columbia Ave Lancaster Pa-12
 Hanovia Chemical & Mfg Co 100 Chestnut St Newark 5 NJ-37
 Hansen Co Wm 165 Silverbrook Ave Niles Mich-24
 Hastings Instrument Co Newcomb Ave off Ivy Home Rd Hampton Va-17
 Haydon Co A W 232 N Elm St Waterbury 20 Conn-12-36

42—METER, SPECIAL PURPOSE

Colorimeter	1
Gaussmeter	2
Machmeters	3
Meters, acceleration	4
Meters, cable testing	5
Meters, counting rate	6
Meters, deflection	7
Meters, density	8
Meters, deviation	9
Meters, dosimeter	10
Meters, dynamometer	11
Meters, elapsed time	12
Meters, electronic micrometer	13
Meters, events-per-unit time	14
Meters, exposure for film	15
Meters, flame photometer	16
Meters, flow	17
Meters, flutter	18
Meters, foot candle	19
Meters, goniometer	20
Meters, infrared	21
Meters, light	22
Meters, moisture	23

Haydon Mfg Co 245 E Elm St Torrington Conn-12-36
 Hyns Corp 742 E 8 St Michigan City Ind-17
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-6-43
 Hewson Co 443 Broad St Newark 2 N.J-13
 Hupp Instrumentation Co 2119 Sepulveda Blvd Los Angeles 25 Calif-14-36
 Hycan Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-21-24-30
 Ideal Industries 5127 Park Ave Sycamore Ill-32
 Illinois Testing Labs 420 N La Salle St Chicago 10 Ill-28-35
 Impmet-O-Graph Corp 1900 Euclid Ave Cleveland 15 Ohio-R-39
 Industrial Development Labs 17 Pollock Ave Jersey City 5 NJ-17
 Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-13-23-25-33-39
 Industrial Instruments Inc 89 Commerce Rd Cedar Grove NJ-5-23
 Industrial Test Equip Co 55 E 11 St New York 3 NY-9-25
 Industrial Timer Corp 1407 McCarter Hwy Newark 4 NJ-12-36
 Instron Eng'g Corp 440 Hancock St Quincy 7 Mass-33
 Instrument Development Labs 163 Highland Ave Needham Heights 94 Mass-1
 Instrument Labs 315 W Walton Pl Chicago 10 Ill-5
 International Research Development 797 Thomas Lane Columbus 16 Ohio-39
 Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-5
 Janco Corp 3111 Winona Ave Burbank Calif-43
 J-B-T Instruments Inc 441 Chapel St New Haven 12 Conn-12-28
 Kollsman Instrument Corp 80-08 45 Ave Elmhurst NY-3-32
 Lampkin Labs Inc Technical Div Bradenton Fla-9
 Landsverk Electrometer Co 550 W Garfield Ave Glendale 4 Calif-10-42
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-25-26-28-34
 Lewis Eng'g Co Naugatuck Conn-34-35
 Librascope Inc Burbank Div 133 E Santa Anita Ave Burbank Calif-13
 Link Aviation Inc Binghamton NY-30
 Liston-Becker Plant, Behman Instruments Inc 649 Hope St Springdale Conn-21
 Manufacturers Eng'g & Equip Hatboro Pa-1
 Mareoni Instruments Ltd 44 New St New York 4 NY-9
 Marion Electrical Instrument Co Grenier Field Manchester NH-2-9-12-15-22-25-28
 Maxson Instruments 47-37 Austell Place Long Island City 1 NY-17
 MB Mfg Co Div Tectron American 1060 State St New Haven 11 Conn-39
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-6-24-29
 Meters Inc 5353 N Keystone Ave Indianapolis 20 Ind-28-41
 Metron Instrument Co 432 Lincoln St Denver 3 Colo-32
 Meyer & Co Hugo 39 W 60 St New York 23 NY-1
 Milgo Electronic Corp 7601 NW 37 Ave Miami 47 Fla-25
 Miller Electro-Research Labs 5529 S 5 St Milwaukee 7 Wis-35
 MinAtron Corp Belle Mead 9 NJ-4
 Moeller Instrument Co 132 St & 89 Ave Richmond Hill 18 NY-34-35
 Moisture Register Co 1510 W Chestnut St Alhambra Calif-23
 Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-6-25-29
 National Radiac Inc 479 Washington St Newark 2 NJ-6
 NRD Instrument Co 6425 Etzel Ave St Louis 14 Mo-10-24
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-24
 Nuclear Instrument & Chemical Corp 223 W Erie St Chicago 10 Ill-6-24-42
 Nuclear Measurements Corp 2460 N Arlington Ave Indianapolis 18 Ind-6-24
 Nuclear Research Corp Southampton Pa-8-24-42
 Nucleonic Corp of America 196 DeGraw St Brooklyn 31 NY-6-10-24
 Oberline Inc PO Box 921 Beverly Hills Calif-23
 OMCO U S 93 & Las Palomas St Kingman Ariz-13-25
 Pace Eng'g Co 6914 Beek Ave N Hollywood Calif-4
 Pacific Scientific Co 1430 Grande Vista Ave Los Angeles 23 Calif-4
 Petwin Instruments Div Patent Button Co 41 Brown St Waterbury 20 Conn-16
 Perfection Mica Co Magnetic Shield Div 1322 N Elston Ave Chicago 22 Ill-2
 Perkin-Elmer Corp Norwalk Conn-16
 Pesehel Electronics Inc 13 Garden St New Rochelle NY-5
 Phuostron Co 151 Pasadena Ave S Pasadena Calif-25-33-43
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-1
 Phoenix Precision Instrument 3803 N 5 St Philadelphia 44 Pa-27
 Photocon Research Products 421 N Foothill Blvd Pasadena 8 Calif-22
 Photo Crystals Inc 15 S 1 St Geneva Ill-16

Photo Research 837 N Cahuenga Blvd Hollywood 38 Calif-8-22
 Photovolt Corp 95 Madison Ave New York 16 NY-26
 Physics Research Labs 507 Hempstead Turnpike W Hempstead NY-23
 Pickering & Co 309 Woods Ave Oceanside NY-4
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-25
 Powers Regulator Co 3400 Oakton St Skokie Ill-35
 Precision Radiation Instruments & Sub Radio Craftsman 4223 W Jefferson Blvd Los Angeles 16 Calif-24
 Precision Scientific Co 3737 W Cortland St Chicago 47 Ill-23-26-40
 Process & Instruments 15 Stone Ave Brooklyn 33 NY-16
 Pyrometer Instrument Co 92 Portland Ave Bergenfield NJ-28-34
 Radar Engineers 403 E 45 St Seattle 5 Wash-5
 Ransom Research P O Box 382 San Pedro Calif-6-12-14-36
 Rawson Electrical Instrument Co 117 Potter St Cambridge 42 Mass-2-11-34
 Reed-Curtis Nuclear Industries Inc 307 Culber Blvd Playa del Rey Calif-10-24-29-42
 Rhodes Inc M H 30 Bartholomew Ave Hartford 6 Conn-36
 Rubicon Co Ridge Ave & 35 St Philadelphia 32 Pa-1
 Sangamo Generators-Sub Sangamo Electric Co Springfield Ill-36
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-2-11-25-30-34-43
 Servo-Tek Products Co 1036 Goffle Rd Hawthorne NJ-32
 Shallcross Mfg Co Pusey & Jackson Aves Collingdale Pa-5
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-11-13-25-34-35-41-43
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-17-18-22
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-17
 Special Instruments Laboratory Inc 312 W Vine Ave Knoxville Tenn-24
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-10
 Standard Electronics Research Corp 2 East End Ave New York 21 NY-13
 Stavid Eng'g Co US Hwy 22 Plainfield NJ-3-4-14
 Stewart Instrument Co 6507 Grand River Detroit 8 Mich-6-14-29-36
 Sticht Co Herman H 27 Park Pl New York 7 NY-32-36-38
 Stoelting Co C H 424 N Homan Ave Chicago 24 Ill-12
 Strandberg Eng'g Labs 416 W Market St Greensboro N Car-23
 Tech Labs Inc Bergen & Edsall Blvd Palisades Park NJ-23
 Telechrome Inc 88 Merrick Rd Amityville LI NY-9
 Televiso Corp 1415 Golf Rd Des Plaines Ill-39
 Ten Bosch Inc M 80 Wheeler Ave Pleasantville NY-3
 Tensitron Inc Pin Hill Harvard Mass-33
 Thermo Electric Co Saddle Brook NJ-28-34
 Thermo Electric Mfg Co 465 Huff St Dubuque Iowa-34
 Thwing-Albert Instrument Co Penn St & Pulaski Ave Philadelphia 44 Pa-26-28-34
 Tracerlab Inc 130 High St Boston 10 Mass-6-10-14-24
 Trio Labs Inc 4025 Merrick Rd Seaford LI NY-25
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-43
 Vibroscope Co P O Box 97 Glenford NY-38-39
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-41
 Vocaline Co of America Old Saybrook Conn-12
 Wac Line Inc 35 S St Clair St Dayton 2 Ohio-32
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-12-14
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-13-29-32
 Waveforms Inc 333 6 Ave New York 14 NY-43
 Welch Mfg Co W M 1515 Sedgwick St Chicago 10 Ill-8-9-20-22-26-27-28-34
 Westberg Mfg Co 144 S Coombs St Napa Calif-23
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-7-11-12-32-34-35-43
 West Instrument Corp 4363 W Montrose Ave Chicago 41 Ill-34-35
 Weston Electrical Instrument Corp Sub Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-1
 Zoomar Inc 55 Sea Cliff Ave Glen Cove NY-3-19-22

Microphones, differential	7
Microphones, dynamic	8
Microphones, hearing aid	9
Microphones, lapel	10
Microphones, lip	11
Microphones, magnetic	12
Microphones, pressure	13
Microphones, throat	14
Microphones, velocity	15
Microphones, wireless	16
Sound powered phones	17
Stethophones	18

Advance Instrument Corp 1709 F St Belmar NJ-18
 Advance Relay Co Div Elgin National Watch 2435 N Naomi St Burbank Calif-17
 American Elite Inc 7 Park Ave New York 16 NY-4
 American Microphone Co Div Elgin National Watch 370 S Fair Oaks Ave Pasadena Calif-9-10-11-12-13-15
 American Radio Hdw Co 152 MacQuisten Pkwy S Mt Vernon NY-1
 Amperite Co 561 Broadway New York 12 NY-8
 Atlantic Research Corp 901 N Columbus St Alexandria Va-8-13-15
 Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-4-8-10-13-15
 Astatic Corp PO Box 120 Conneaut Ohio-2-3-5-6-8-10
 Audio Instrument Co 133 W 14 St NY 11 NY-4
 Boken Co David 29 9 Ave New York 14 NY-1
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-6-9-10
 Budelman Radio Corp 375 Fairfield Ave Stamford Conn-16
 Cambridge Instrument Co 3611 Grand Central Terminal New York 17 NY-18
 Camerun Equipment Co 315 W 43 St New York 36 NY-7-8-10-12-16
 Capps & Co 20 Addison Pl Valley Stream LI NY-4-6-8
 Chesapeake Instrument Corp Shadyside Md-3-13
 Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-8-16-17
 Continental Electronics 302 Oakland St Brooklyn 22 NY-1
 DuKane Corp St Charles Ill-1
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-3-6-9-12-13
 Electro-Medical Lab S Woodstock 7 Vt-18
 Electro-Voice Inc Buchanan Mich-1-2-3-5-6-7-8-10-11-13-14-16
 Graybar Electric Co 480 Lexington Ave New York 17 NY-1-2-4-8-10-13-17
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-3
 Holland Electronics 2133 Central Drive S East Meadow LI NY-18
 International Research Assoc 2221 Warwick Ave Santa Monica Calif-13
 Knowles Electronics 9400 Belmont Ave Franklin Park Ill-9-12
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-2
 Massa Labs 5 Fottler Rd Hingham Mass-13
 Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-6-10
 Morrow Radio Mfg Co 2794 Market St Salem Ore-2
 North American Philips Co 760 S Fulton Ave Mt Vernon NY-4-6-8
 Philmore Mfg Co 113 University Pl New York 3 NY-2
 Photocon Research Products 421 N Foothill Blvd Pasadena 8 Calif-4-13
 Radio Corp of America Camden 2 NJ-12-15
 Ronette Sales Corp 135 Front St NY 5 NY-6-10
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-5-12
 Sears Co M J Roxbury NY-1-2-5-7-8-11-12-17
 Shure Bros 222 Hartrey Ave Evanston Ill-1-2-3-6-8-9-10-12-13-15-16
 Simpson Mfg Co Mark 32-28 49 St Long Island City 3 NY-5
 SoundScriber Corp 146 Munson St New Haven 9 Conn-6-8-10
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-1
 Stephens Mfg Corp 8538 Warner Dr Culver City Calif-4-8-10-16
 Super Ear Products 675 Merrick Rd Lynbrook NY-9
 Telecom Inc 1019 Admiral Blvd Kansas City 6 Mo-1
 Telephonics Corp Park Ave Huntington LI NY-1-2-5-7-8-9-11-12
 Telex Inc 1633 Eustis St St Paul 1 Minn-8
 Tibbets Industries Inc Colcord Ave Camden 3 Me-6-9
 Transelectric Mfg Co Hopewell Rd Oxford Pa-1-2
 Turner Co 909 17 St NE Cedar Rapids Iowa-2-3-6-8-10-12
 University Loudspeakers Inc 80 S Kensico Ave White Plains NY-2
 U S Electronic Research & Devel 1605 W Lafayette St Detroit 16 Mich-16

43—MICROPHONES

Handsets, telephone	1
Microphones, carbon	2
Microphones, ceramic	3
Microphones, condenser	4
Microphones, contact	5
Microphones, crystal	6

44—MICROPHONE ACCESSORIES

Microphone booms	1
Microphone connectors	2
Microphone covers	3
Microphone desk mounts	4
Microphone springs	5
Microphone stands	6
Microphone transformers	7



Aero Products Co 369 Shurs Lane Phila 28 Pa-7
 Aero Transformer & Mfg Corp 26-02 4 St Long Island City 2 NY-7
 Arco Transformer & Electric Corp 1602 S Hanna St Fort Wayne 5 Ind-7
 Advance Instrument Corp 1709 F St Belmar NJ-1
 Airdesign Inc 241 Fairfield Ave Upper Darby Pa-7
 Airpax Products Co Middle River Balti 20 Md-7
 Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-4-6-7
 Amphenol Electronics Corp 1830 S 54 Ave Chicago 50 Ill-2
 Art Specialty Co 3245 W Lake St Chicago 24 Ill-1-6
 Astatic Corp PO Box 120 Conneaut Ohio-6
 Atlantic Transformer Div New London Instrument 30 Hynes Ave Groton Conn-7
 Atlas Coil Inc 205 Main St Ansonia Conn-7
 Atlas Sound Corp 1449 39 St Bklyn NY-1-4-6
 Basler Electric Co 605 5 St Highland Ill-7
 Baughman Co E J 1914 N Cogswell Rd El Monte Calif-1
 Berkshire Transformer Corp 15 South Ave New Milford Conn-7
 Better Coil & Transformer Corp 202 W Union St Goodland Ind-7
 Birnbach Radio Co 145 Hudson St NY 13 NY-2
 Caledonia Electronics & Transformer Caledonia NY-7
 Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-7
 Camera Equipment Co 315 W 43 St New York 36 NY-4
 Camera Mart 1845 Broadway New York 23 NY-1
 Central Transformer Co 910 W Jackson Blvd Chicago 7 Ill-7
 Centran Inc PO Box 168 Greensburg Ind-7
 Chicago Standard Transformer Corp 3501 Addison St Chicago 18 Ill-7
 Coil Company of America 207 Washington St Northvale NJ-7
 Coil Eng'g & Mfg 200 Main St Roanoke Ind-7
 Crest Transformer Corp 1834 W North Ave Chicago 22 Ill-7
 Cycle Transformer Corp 356 Glenwood Ave East Orange NJ-7
 Dietz Design & Mfg Co Grandview 13 Mo-7
 Eastern Mike-Stand Co 56 Christopher Ave Brooklyn 12 NY-6
 Edke Electronics Eng'g 202 Grand St Brooklyn 11 NY-7
 Electronic Transformer Co 70 Washington St Brooklyn 1 NY-7
 Electro-Voice Inc Buchanan Mich-4-6-7
 Epo Products 2500 Atlantic Ave Brooklyn 7 NY-7
 Espey Mfg Co 200 W 57 St New York 19 NY-7
 Flexo Int'l Corp 3245 W Lake St Chicago 24 Ill-1-6
 Florman & Babb 68 W 45 St New York 36 NY-1
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-7
 Grand Transformers Inc Beechtree & Marion Grand Haven Mich-7
 Graybar Electric Co 480 Lexington Ave New York 17 NY-1-2-4-6-7
 Hadley Co Robert M 5112 S Hoover St Los Angeles 37 Calif-7
 Harnett Electric Corp Lincoln & Hallett Ave Riverhead LI NY-7
 Hermetic Seal Transformer Co 555 N 5 St Garland Texas-7
 Highland Eng'g Co 90 Magnolia St Westbury LI NY-7
 Illinois Transformer Co 412 S Green St Chicago 7 Ill-7
 Industrial Transformer Corp Gouldsboro Pa-7
 Insuline Corp of America 186 Granite St Manchester NH-2
 Islip Transformer & Metal Co Beech St Islip LI NY-7
 Kenyon Transformer Co 840 Barry St New York 59 NY-7
 K V Transformer Corp 20 E Franklin St Danbury Conn-7
 Melco Products Inc 3015 Avenue So Minneapolis 15 Minn-7
 Merit Coil & Transformer Corp 4427 N Clark St Chicago 40 Ill-7
 Microtran Corp 84-11 Rockaway Beach Blvd Rockaway Beach NY-7
 Mole-Richardson Co 937 N Sycamore Ave Hollywood 38 Calif-1

New York Transformer Co 3 Ave Alpha NJ-7
 NYT Electronics Inc 2979 N Ontario St Burbank Calif-7
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-7
 Partridge Transformers Ltd Tolworth Surrey England-7
 Qutronic Transformer Corp 525 Broadway New York 12 NY-7
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-7
 Raypar Inc 7810 W Addison St Chicago 34 Ill-7
 R K Mfg Co PO Box 112 Marion Ill-7
 Rollins Electronics Corp Schley Ave Lewes Dela-7
 Sears Co M J Roxbury NY-1-3-4
 Shure Bros 222 Hartrey Ave Evanston Ill-4-6
 Signal Transformer Co 2518 Coney Island Ave Brooklyn 28 NY-7
 Skysweeper Inc 51 Bridge St McHenry Ill-7
 SNC Mfg Co PO Box 277 Oshkosh Wis-7
 Snyder Mfg Co 22 & Ontario Sts Philadelphia 40 Pa-4-6
 SOS Cinema Supply Corp 602 W 52 St New York 19 NY-1-2
 Sterling Transformer Corp 297 N 7 St Bklyn NY-7
 Studio TV Products Sales 11 W 42 St New York 36 NY-1
 Telephonics Corp Park Huntington LI NY-1-3
 Teleradio Eng'g Corp Wilkes-Barre Pa-2
 Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-7
 Transformer Technicians 2608 N Cicero Ave Chicago 39 Ill-7
 Transonic Inc 808 16 St Bakersfield Calif-7
 Tresco Inc 3824 Terrace St Phila 28 Pa-7
 Triad Transformer Corp 4055 Redwood Ave Venice Calif-7
 Turner Co 909 17 St N E Cedar Rapids Iowa-6
 United Transformer Co 150 Varick St New York NY-7
 Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-7

45—MICROWAVE COMPONENTS

Assemblies	1
Attenuators	2
Bends	3
Cavities	4
Converters	5
Couplers	6
Crystal mounts	6
Discriminators	8
Duplexers	9
Filters	10
Flanges	11
Horns	12
Hybrid junctions	13
Isolators	14
Joints, fixed	15
Joints, rotating	16
Microwave antennas	17
Mixers	18
Parabolas	19
Phasers	20
Probes	21
Shutters	22
Sliding loads	23
Slotted lines	24
Switches	25
Terminations	26
Tuners	27
Waveguides, flexible	28
Waveguides, rigid	29
Waveguide stands	30
Waveguide switches	31

ACF Electronics 800 N Pitt St Alexandria Va-1-2-10-26-29
 Admittance Inc 5 Marine St Farmingdale NY-2-6-7-10-27
 Air Associates Inc 511 Joyce St Orange NJ-6
 Aircom Inc 354 Main St Winthrop 52 Mass-4-9-10-21-24-27

Aircraft Armaments Cockeysville Md-1-2-6-9-22
 Airtron Inc 1101 W Elizabeth Ave Linden NJ-1-2-3-6-9-11-14-16-18-25-28-29-31
 Allied Research and Eng'r Div 6916 Santa Monica Blvd Hollywood 38 Calif-3-13-17-29
 Amerac Inc Wenham Mass-1-2-5-10-17
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-10
 Andrew Corp 363 E 75 St Chicago 19 Ill-9-10-17-19-20-29
 Antlab 4950 N High St Columbus 14 Ohio-7-12
 Applied Research Inc 163-07 Depot Rd Flushing 58 NY-10
 ARF Products 7627 Lake St River Forest Ill-10-17-27
 Atlas Sound Corp 1449 39 St Brooklyn 18 NY-12
 Automatic Switch Co 391 Lakeside Ave Orange NJ-25
 Baird Associates 33 University Rd Cambridge 38 Mass-18
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-8-20
 Bart Mfg Corp 227 Main St Belleville NJ-3-4-12-17-29
 Basler Electric Co 605 5 St Highland Ill-10
 Bellaire Electronics Inc 62 White St Red Bank NJ-10
 Bird Electronic Corp 1800 E 38 St Cleveland 14 Ohio-10
 Bogart Mfg Corp 315 Siegel St Brooklyn 6 NY-1-2-4-6-7-9-11-12-13-16-17-18-21-22-24-25-26-27-29-31
 Bomac Labs Salem Rd Beverly Mass-2-4-8-9-10-13-22-25-31
 Brach Mfg 200 Central Ave Newark NJ-19
 Bradley Labs 168 Columbus Ave New Haven 11 Conn-18
 Budd-Stanley Co 43-01 22 St Long Island City 1 NY-1-2-6-7-9-10-13-17-18-22-26-27-29-31
 Bulova Watch Co-Dept of Govt & Indust'l Sales 62-10 Woodside Ave Woodside 77 LI NY-7
 Camera Equipment Co 315 W 43 St New York 36 NY-18
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-1-2-4-5-6-9-10-14-16-17-18-26
 Cascade Research Corp 53 Victory Lane Los Gatos Calif-2-31
 Cavitron Oscillator Co Div Short Wave Plastic Forming Co 2921 W Alameda Ave Burbank Calif-4
 Central Sales & Mfg Corp 2 Richwood Pl Den-ville NJ-3-4-9-10-29-31
 Chemalloy Electronics Corp Gillespie Airport Santee Calif-29
 Chu Associates 634 Waverly St Framingham Mass-17
 Clevite Transistor Products 241 Crescent St Waltham 54 Mass-18
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-1-13-17
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-17
 Communication Accessories Co 110 St & 71 Hwy Hickman Mills Mo-8
 Connector Corp of America 3223 Burton Ave Burbank Calif-11
 Co-Operative Industries 100 Oakdale Rd Chester NJ-28-29
 Corbin Corp 5419 56 Pl Riverdale Md-17
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-17
 Craig Systems Inc 90 Holten St Danvers Mass-19
 Creative Eng'g Corp 10816 Burbank Blvd N Hollywood Calif-19
 Crouse-Hinds Wolf & 7th North Sts Syracuse 1, NY-12
 Cubic Corp 2841 Canon St San Diego 6 Calif-1-2-9-26
 Custom Components Inc PO Box 248 Caldwell NJ-2-26
 Dalmo Victor Co Div Tectron American Inc 1414 El Camino Real San Carlos Calif-17-27-29-31
 Daven Co Route 10 Livingston NJ-18
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-8
 Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-1-2-6-9-10-17-26-27-29-30-31
 De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-2-6-10-12-13-16-18-21-24-27-29-30-31
 Diamond Microwave Corp 7 North Ave Wakefield Mass-1-2-5-6-9-10-12-13-15-16-17-18-19-21-23-24-26-27-29
 Dielectric Products Eng'g Raymond Me-4
 Dilks Co PO Box 139 Seymour Conn-12
 Dorne & Margolin 30 Sylvester St Westbury NY-17
 Dourlas Microwave Co 11 Beechwood Ave New Rochelle NY-1-2-4-6-9-10-11-12-13-18-21-24-25-26-27-29-30-31
 Downing Crystal Co 191 Shaffer Ave Westminster Md-1-17
 DuKane Corp St Charles Ill-12
 Dunn Eng'g Associates 186 Massachusetts Ave Cambridge 39 Mass-27
 Dynamic Electronics-NY 73-39 Woodhaven Blvd Forest Hills NY-1-2-10
 Electrend Products Corp State & Water Sts St Joseph Mich-18

Electro-Mechanical Research 64 Main St Ridgefield Conn-8
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-1-2-5-9-16-17-27
 Electron-Radar Products 4806 W Chicago Ave Chicago 51 Ill-2-17
 Electro-Voice Inc Buchanan Mich-12
 Emerson & Cuming 869 Washington St Canton Mass-17
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-4
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-1-2-18
 Engineering Associates 434 Patterson Rd Dayton 9 Ohio-27
 Entron Inc 4902 Lawrence St Bladensburg Md-13
 ESC Corp 534 Bergen Blvd Palisades Park NJ-10
 Espy Mfg Co 200 W 57 St New York 19 NY-1-2-1-10
 Essex Electronics 550 Springfield Ave Berkeley Heights NJ-8
 Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-11
 Federal Mfg & Eng'g 1055 Stewart Ave Garden City NY-29
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-2-9-17-26
 Fisher Radio Corp 21-21 44 Dr Long Island City NY-2
 Florman & Itabb 68 W 45 St New York 36 NY-11
 Forbes & Wagner 345 Central Ave Silver Creek NY-8
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-1-2-6-7-9-10-11-13-17-21-25-26-30-31
 Gabriel Electronics Div 135 Crescent Rd Needham Hgts 94 Mass-10
 Gates Radio Co 123 Hampshire St Quincy Ill-18
 General Communication Co 681 Beacon St Boston 15 Mass-2-25
 General Magnetics Inc 135 Bloomfield Ave Bloomfield NJ-18
 General Precision Lab 63 Bedford Rd Pleasantville NY-1-4-6-10
 General RF Fittings Inc 702 Beacon St Boston 15 Mass-1-6-7-21-29
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-17
 Graphite Metallizing Corp 1002 Nepperhan Ave Yonkers NY-16
 Graybar Electric Co 480 Lexington Ave New York 17 NY-12-17-18
 Hawley Products 333 N 6 St St Charles Ill-12
 Hermetic Seal Products 29 S 6 St Newark NJ-7
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-2-6-13-23-24-26-30-31
 Hill Electronic Eng'g & Mfg New Kingstown Pa-8
 Holland Electronics 2133 Central Drive S East Meadow LI NY-2-26
 Houston Fearless Div Color Corp of America 11801 W Olympic Blvd Los Angeles 64 Calif-17
 Hycon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-1-2-3-4-7-9-17-18-27-28-29
 Icyor Div Int'l Resistance Co Sylmar Calif-8-18
 Industrial Products Box 148 Danbury Conn-13-25-29
 Industrial Test Equip Co 55 E 11 St New York 3 NY-8-20
 Javex PO Box 646 Redlands Calif-7-14
 Jones Electronics Co M C 185 N Main St Bristol Conn-6
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-1-2-3-4-5-6-7-9-10-12-15-16-17-18-21-26-27-29-30-31
 Kay Electric Co 14 Maple Ave Pinebrook NJ-29
 Kearfott Co 1378 Main Ave Clifton NJ-14-29
 Kearfott Co Western Mfg Div 14844 Oxnard St Van Nuys Calif-26
 Kennedy & Co D S 155 King St Cohasset Mass-9-17-19-31
 Kent Co F C 64 Howard St Irvington NJ-3-17-29
 Kinney Co Joseph Locust St Carnegie Pa-29
 Klipsch & Associates PO Box 64 Hope Ark-12
 Knights Co James Sandwich Ill-7
 Korfund Co 48-15 32 Pl Long Island City 1 NY-14
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-7
 Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-2-17
 Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-4-21
 Lieco Inc 147 Ocean Ave Lynbrook NY-1-2-4-6-9-11-13-16-18-21-25-26-29-31
 Lord Mfg Co 1635 W 12 St Erie 6 Pa-14
 Luhrs & Co C H 297 Hudson St Hackensack NJ-6-20
 Magnetic Research Corp 200 Center St El Segundo Calif-8
 Makepeace Co D E Div Union Plate & Wire Attleboro Mass-9-29
 Mark Products Co 6412 W Lincoln Ave Morton Grove Ill-17-26

Maryland Electronic Mfg Corp 5009 Culvert Rd College Park Md-10-17
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-8
 Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-4-8
 McMillan Industrial Corp Brownville Ave Ipswich Mass-2-26
 Meridian Metalcraft Inc 8739 S Millergrove Dr Whittier Calif-1-2-6-9-10-12-17-18-21-22-21-25-26-29-30-31
 Metal Fabricators Corp 73 Pond St Waltham Mass-29
 Microlab 71 Okner Pkwy Livingston NJ-2-7-10-26
 Microphase Corp PO Box 1166E Greenwich Conn-1-2-3-6-10-18-25-26-27-31
 Microwave Associates 22 Cummington St Boston 15 Mass-1-2-4-5-6-10-17-26
 Mohawk Electronic Research Labs Box 126-A RD #4 Amsterdam NY-5
 Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-8-18
 Narda Corp 160 Herricks Rd Mineola NY-1-2-4-6-9-10-13-17-18-21-22-24-26-27-29-30-31
 National Fabricated Products Div Hoffman Electronics 2650 W Belden Ave Chicago 47 Ill-7
 Nebel Lab R E 1634 E 12 St Brooklyn 29 NY-7
 Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-18
 Nichols Products 325 W Main St Moorestown NJ-1-11-17-21-24-29-31
 N R K Mfg & Eng'g 4601 W Addison St Chicago 41 Ill-1-2-6-7-10-11-12-16-17-25-26-27-29-31
 Omega Labs Inc Haverhill St Rowley Mass-1-2-3-4-6-13-18-21-21-25-26-27-30-31
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-8
 Partrick & Wilkins 51 N 7 St Phila 6 Pa-12
 Pentron Corp 777 S Tripp Ave Chi Ill-18
 Photo Crystals Inc 15 S 1 St Geneva Ill-2
 PM Industries 280 Fairfield Ave Stamford Conn-17
 Polarad Electronics Corp 43-20 31 St Long Island City 1 NY-1-4-10-17
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-2-4-5-6-10-24-26-27-30
 Portchester Instrument Corp 114 Wilkins Ave Port Chester NY-1 thru 31
 Precision Associates 354 Cumberland St Brooklyn 38 NY-1
 Precision Scientific Co 3737 W Cortland St Chicago 47 Ill-18
 Premier Instrument Corp 52 W Houston St New York 12 NY-1-2-6-9-10-13-17-18-25-29-31
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-21-24
 Prodelin Inc 307 Bergen Ave Kearny NJ-9-10-12-13-17-21-29
 Pye Corp of America 270 Park Ave NY 17 NY-1
 Quare Associates PO Box 95 Canton Mass-20
 Radio Corp of America Camden 2 NJ-10-28-29
 Radio Frequency Labs Powerville Rd Boonton NJ-18
 Radio Receptor Co 251 W 19 St NY 11 NY-9
 Railway Communications PO Box 67 Raytown Mo-13
 Raytheon Mfg Co Ceramic Sales Div Foundry Ave Waltham Mass-14
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-17
 Reeves Instrument Corp 215 E 91 St New York 28 NY-16
 Rhein Sound Systems PO Box 112 Marion Ill-18
 Robinson Aviation Teterboro NJ-14
 Rollins Electronics Corp Schley Ave Lewes Dela-13
 RS Electronics Corp 435 Portage Ave Palo Alto Calif-6
 Sage Labs 30 Guinan St Waltham 54 Mass-1-2-3-4-6-7-9-10-13-15-16-17-18-21-22-24-25-26-27-31
 Sanders Associates 95 Canal St Nashua NH-2-4-5-6-10-17
 Seico Controls Inc Market St Palmyra NJ-12
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-18
 Sieler Design Products 10160 San Pablo Ave El Cerrito Calif-12
 Sierra Electronic Corp 1050 Britton Ave San Carlos Calif-4-6
 Simpson Mfg Co Mark 32-28 49 St Long Island City 3 NY-18
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-11
 Special Products Co PO Box 188 Rockville 1 Md-18
 Specialty Automatic Machine Corp 88 Gerrish Ave Chelsea 50 Mass-3-29
 Sperry Gyroscope Co Div of Sperry Rand Corp Great Neck NY-2-6-7-12-13-21-25-26-27-30-31
 Sperti Faraday Inc 1322 E Church St Adrian Mich-12
 Standard Metals Corp 262 Broad St N Attleboro Mass-29
 Stanford Labs PO Box 252 Menlo Park Calif-1
 Stavid Eng'g US Hwy #22 Plainfield NJ-1-5-17-27-31

Stephens Mfg Corp 8538 Warner Dr Culver City Calif-12
 Sterling Precision Corp-Instrument Div 34-17 Lawrence St Flushing LI NY-1-17
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-1-12-16
 Sylvania Electric Products 1740 Broadway New York 19 NY-4-7-28
 Tare Electronics Inc 48 Urban Ave Westbury LI NY-18
 Technical Appliance Corp 1 Taco Ave Sherburne NY-17
 Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-1-2-3-4-6-9-10-11-12-17-18-20-22-24-25-26-27-28-29-31
 Telechrome Inc 88 Merrick Rd Amityville LI NY-8
 Telerad Mfg 1440 Broadway New York 18 NY-1-2-3-4-6-7-9-10-11-12-13-15-16-17-18-20-22-23-25-26-27-28-29-31
 Telewave Labs Inc 43-20 34 St LI City 1 NY-2
 Thompson Products Inc Electronics Div 2196 Clarkwood Rd Cleveland 3 Ohio-25-31
 Tower Construction 2700 Hawkeye Dr Sioux City Iowa-17-19
 Union Electric & Mfg Co 1057 Summit Ave Jersey City 7 NJ-1-2-8-10-12-27
 United Transformer Co 150 Varick St New York NY-10
 Universal Mfg Co 410 Hillside Ave Hillside NJ-29
 University Loudspeakers Inc 80 S Kensico Ave White Plains NY-12
 Vanguard Electronics Co 3384 Motor Ave Los Angeles 34 Calif-8
 Vectron Inc 1711 Trapelo Rd Waltham 54 Mass-21-24
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-18
 Visual Electronics Corp 500 5 Ave New York 36 NY-1-17-26
 Wac Line Inc 35 S St Clair St Dayton 2 Ohio-6-7-21-23-24-26
 Waveline Inc Passaic Ave Box 470 Caldwell NJ-1-2-5-6-9-10-17-18-22-23-24-26-27-29-30-31
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-2-26-27
 Western Int'l Co 45 Vesey St NY 7 NY-6
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-1-19-27
 Wheeler Labs Inc 122 Cutter Mill Rd Great Neck NY-1-2-3-5-6-9-10-13-16-17-26-27
 Wheelock Signals Inc Long Branch NJ-12
 White Electron Devices Inc Roger 4 Ave Haskell NJ-2-9-25-31
 Wiegand Mfg Co 120 E Hawthorne Ave Valley Stream LI NY-8

46—MOBILE COMMUNICATIONS EQUIPMENT

Citizens radio	1
Handsets	2
Intercommunicating systems	3
Pack sets	4
Receivers, fixed	5
Receivers, mobile	6
Telephones, portable field	7
Transceivers	8
Transmitters	9
Walkie-talkies	10

Acme Teletronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-8
 Admiral Corp 3800 Cortland St Chicago 47 Ill-8-10
 Aeronautical Communications Equip 3090 SW 37 Ave Miami 33 Fla-5
 Aeronautical Electronics PO Box 6043 Raleigh NC-8-9
 Air Associates Inc 511 Joyce St Orange NJ-4
 Aircraft Radio Corp Boonton NJ-8
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-8
 American Radio Hdw Co 152 MacQuessen Pkwy S Mt Vernon NY-5
 Automatic Radio Mfg Co 122 Brookline Ave Boston 15 Mass-6
 Babcock Radio Eng'g 7942 Woodley Ave Van Nuys Calif-1
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-5-9
 Bassett Inc Rex 1314 N E 17 Court Fort Lauderdale Fla-8
 Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-6-9
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-3
 Bliss Electronic Corp Box 366 Sussex NJ-7
 Bogen Co David 29 9 Ave New York 14 NY-3
 Bunnell & Co J H 81 Prospect St Bklyn 1 NY-5
 Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-2
 Communications Co Coral Gables Fla-1-5-6-9

Continental Electronics 302 Oakland St Brooklyn 22 NY-3
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-3-8
 Craig Systems Inc 90 Holten St Danvers Mass-6-9
 Daniels Inc C R 75 West St New York 6 NY-4
 Daystrom Instrument Archbald Pa-8
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-1-3-5-6-9
 Eldico of NY Inc 72 E 2 St Mineola LI NY-5-6-9
 Electrend Products Corp State & Water Sts St Joseph Mich-9
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-1-9
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-6-8
 Equipment Crafters Inc River Edge NJ-6-9
 Ero Radio Labs 637 Stewart Ave Garden City NY-5-9
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-3-6-8
 Franklin Electronics Inc E 4 St Bridgeport Pa-6
 General Electric Co Electronics Div Communication Equip Syracuse NY-5-9
 General Insulated Wire Works 69 Gordon Ave Providence 5 RI-2
 G & M Equipment Co 7315 Varna Ave N Hollywood Calif-8
 Graybar Electric Co 480 Lexington Ave New York 17 NY-2-10
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-3
 Hallicrafters Co 4401 5 Ave Chicago 24 Ill-5-6-9-10
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-5
 Harristahl Labs 474 E 2 St Brooklyn 18 NY-9
 Hudson Associates 50 Drumm St San Francisco 11 Calif-5-9
 Industrial Radio Corp 428 N Parkside Ave Chicago 44 Ill-4-10
 Johnson Co E F Waseca Minn-9
 Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-5-6-9
 Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-9
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-8
 Link Radio Corp 110 Jericho Turnpike New Hyde Park LI NY-9
 Major Electronics 42 Meserole St Brooklyn 6 NY-1
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-5-8
 Mitchell Industries PO Box 17 Mineral Wells Texas-8
 Monitoradio Div IDEA Inc 7900 Pendleton Pike Indianapolis 26 Ind-5-6
 Morrow Radio Mfg Co 2794 Market St Salem Ore-8
 Motorola Communications & Electronics 4501 W Augusta Blvd Chicago 51 Ill-1-5-6-8-9-10
 Multi-Products Co 21470 Coolidge Hwy Oak Park 37 Mich-6-9
 National Aeronautical Corp 180 S Main St Ambler Pa-8
 National Company 61 Sherman St Malden 48 Mass-5
 National Electronics Labs 1713 Kalorama Rd NW Washington 9 DC-6-9
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-9
 Pearce-Simpson Inc 3023 Coral Way Miami 34 Fla-9
 Pratt Albert 114 W Lake View Ave Milwaukee 17 Wis-3-9
 Press Wireless Laboratories Inc 25 Prospect Pl W Newton 65 Mass-5
 Pye Corp of America 270 Park Ave New York 17 NY-4-6-9
 Radio Receptor Co 251 W 19 St New York 11 NY-4-8
 Radio Specialty Mfg Co 2023 S E 6 Ave Portland 14 Ore-10
 Rayovox Mfg Co 902 Albemarle Rd Brooklyn 18 NY-3
 Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-6
 Scott Radio Labs Liberty & Penna St Plymouth Ind-1-5
 Sears Co M J Roxbury NY-2
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-8
 Stewart-Warner Electronics 1300 N Kostner Ave Chicago 51 Ill-10
 Talk-A-Phone Co 1512 S Pulaski Rd Chicago 23 Ill-3
 Technical Material Corp PO Box 142 Mamaroneck NY-5
 Tele-Communications Inc 41 E 42 St New York NY-9
 Telephonics Corp Park Ave Huntington LI NY-2-3-7
 Televiso Corp 1415 Golf Rd Des Plaines Ill-6-8-9
 Trav-Ler Radio Corp 571 W Jackson Blvd Chicago 6 Ill-1



Union Electric & Mfg Co 1057 Summit Ave Jersey City 7 NJ-8-9
 U S Electronic Research & Devel 1605 W Lafayette St Detroit 16 Mich-10
 Varo Mfg Co 2201 Walnut St Garland Texas-5
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-4-5-6-8-9
 Westinghouse Electric Corp-Electronics Div 2519 Wilkens Ave Baltimore 3 Md-9

47—MOBILE COMMUNICATIONS ACCESSORIES

Antennas	1
Antenna bases	2
Auto alarms	3
Control equipment	4
Crystals	5
Microphones	6
Power supplies	7
Power supplies, emergency	8
Recorders, film	9
Recorders, magnetic	10
Vibration mountings	11

Acme Telectronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-9
 Aeronautical Electronics PO Box 6043 Raleigh NC-7
 Aircraft Armaments Cockeysville Md-1
 Aircraft Radio Corp Boonton NJ-1
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-7-10
 American Matrix Corp 15 Exchange Pl Jersey City 2 NJ-7
 American Microphone Co Div Elgin National Watch 370 S Fair Oaks Ave Pasadena Calif-6
 American TV & Radio Co 300 E 4 St St Paul 1 Minn-7-8
 Ampex Corp 934 Charter St Redwood City Calif-10
 Andrew Corp 363 E 75 St Chicago 19 Ill-1
 Antenna Specialists Co 12435 Euclid Ave Cleveland 6 Ohio-1
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-7-8
 Applied Precision Products 1431 S La Brea Ave Los Angeles 19 Calif-9
 Assembly Products Wilson Mills Rd Chesterland 21 Ohio-3
 Astatic Corp PO Box 120 Conneaut Ohio-6
 Audak Co 500 5 Ave New York 36 NY-10
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-4-7
 Barrett Electronics Corp 630 Dundee Rd Northbrook Ill-4
 Barry Controls Inc 700 Pleasant St Watertown 72 Mass-11
 Bassett Inc Rex 1314 NE 17 Court Fort Lauderdale Fla-1-2-5
 Bell & Gossett 8200 N Austin Ave Morton Grove Ill-4
 Berndt-Bach Inc 6926 Romaine St Hollywood 38 Calif-9-10
 Birnbach Radio Co 145 Hudson St New York 13 NY-2
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-4-7-8
 Buggie Inc H H PO Box 817 Toledo 1 Ohio-1
 Bulova Watch Co-Dept of Govt & Indust'l Sales 62-10 Woodside Ave Woodside 77 LI NY-5
 Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-7-8
 Camera Equipment Co 315 W 43 St New York 36 NY-10
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-2
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-7
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-9-10
 Channel Master Corp Ellenville NY-2
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-8
 Chromatic TV Labs 1501 Broadway New York 36 NY-9
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-2
 Condenser Products Co Div New Haven Clock & Watch 140 Hamilton St New Haven 4 Conn-7-8
 Consolidated Electrodynamics Corp 300 N Sierra Madre Villa Pasadena Calif-10
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-7-8

Craig Systems Inc 90 Holten St Danvers Mass-1
 Cryco Inc 1138 Mission St South Pasadena Calif-5
 C-W Mfg Co Box 2065 El Monte Calif-5
 Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-1
 Danbury-Nudson Inc Box 170 Danbury Conn-1
 Davis Electronics Co 4002 W Burbank Blvd Burbank Calif-1
 Devol Research Co Brookside Dr Greenwich Conn-10
 Diatron Co 3327 Dixie Dr Houston 21 Texas-3
 Dielectric Products Eng'g Raymond Me-1
 DuKane Corp St Charles Ill-7-10
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-4-7-9
 DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-5
 Eclipse-Pioneer Div Bendix Aviation Corp Teterboro NJ-2
 Edin Co 207 Main St Worcester 8 Mass-10
 Eidson Electronic Co PO Box 31 Temple Texas-5
 Eldico of NY Inc 72 E 2 St Mineola LI NY-7-8
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-7
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-4
 Electronic Research Associates 67 E Centre St Nutley 10 NJ-7
 Electro-Voice Inc Buchanan Mich-6
 El Mec Labs 730 Blvd Kenilworth NJ-3-7
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-7
 Endeveco Corp 161 E California St Pasadena Calif-11
 Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-2
 Federal Shock Mount Corp 1060 Washington Ave New York 56 NY-11
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1
 Finn & Co T R 200 Central Ave Hawthorne NJ-11
 Florman & Babb 68 W 45 St New York 36 NY-7
 Fox Products Co 4720 N 18 St Philadelphia 41 Pa-8
 Gabriel Electronics Div 135 Crescent Rd Needham Hgts 94 Mass-1
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-2
 General Controls Co 801 Allen Ave Glendale 1 Calif-4
 General Electric Co-Semiconductor Products Electronics Park Syracuse 1 NY-5
 General Precision Lab 63 Bedford Rd Pleasantville NY-9
 Georator Corp Manassas Va-7
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Tex-9
 Graybar Electric Co 480 Lexington Ave New York 17 NY-1-10
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-4
 Haller Raymond and Brown 124 N Atherton St State College Pa-2
 Hamilton Kent Mfg Co Kent Ohio-11
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-5
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-9
 Hill Electronic Eng'g & Mfg New Kingstown Pa-5
 Hunt Corp 453 Lincoln St Carlisle Pa-5
 Hupp Electronics Div Hupp Corp 265 E Pomfret St Carlisle Pa-5
 I E Mfg 325 N Hoyne Ave Chicago 12 Ill-2
 Industrial Products Box 148 Danbury, Conn-1
 Insuline Corp of America 186 Granite St Manchester NH-1
 Interlectronics Corp 2432 Grand Concourse New York 58 NY-7-8
 JaMac Products Co 8845 NE Sandy Blvd Portland 2 Ore-1
 Kay Electronic Co 14 Maple Ave Pinebrook NJ-10
 Kenwood Eng'g Co 265 Colfax Ave Kenilworth NJ-2
 Kenyon Instrument Co 1345 New York Ave Huntington Station NY-9
 Kepco Labs 131-38 Sanford Ave Flushing 55 NY-7-8
 Keystone Electronics Co 114 Manhattan St Stamford Conn-5
 Kinevox Div Electromation Co 116 S Hollywood Way Burbank Calif-10
 Knights Co James Sandwich Ill-5
 Korfund Co 48-15 32 Pl Long Island City 1 NY-11
 K-W Eng'g Works 3145-A North 48 St Milwaukee 16 Wis-1
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-11
 Lambda Electronics Corp 11-11 131 St College Point 56 NY-7
 Lavoie Labs Inc Matawan and Freehold Rd Morganville NJ-1
 Lawn Electronics E Freehold Rd Freehold NJ-7
 Leach Corp Leach Relay Div Inet-Palmer Div 5915 Avalon Blvd Los Angeles 3 Calif-7-8
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-6

Leland Electric Co-Div American Mach & Fdry
1501 Webster St Dayton 1 Ohio-8
Lel Inc 380 Oak St Copiague NY-7
Lewis Co E B 11 Bragg St E Hartford 8 Conn-5
Logistics Research 141 S Pacific Ave Redondo
Beach Calif-10
Lord Mfg Co 1635 W 12 St Erie 6 Pa-11
Magnasyn Mfg Co 5546 Satsuma Ave N Holly-
wood Calif-9-10
Magnetic Recording Industries 11 E 16 St New
York 3 NY-10
Magnetic Research Corp 200 Center St El
Segundo Calif-7-8
Malkin-Illion Co 400 Coit St Irvington 11 NJ-2
Mallory & Co Inc P R 42 S Gray St Indian-
apolis 6 Ind-7
Mar-Ko TV 441 Summit St Toledo 4 Ohio-2
Mark Products Co 6412 W Lincoln Ave Morton
Grove Ill-1
Mathis Co G E 5745 S Claremont Ave Chicago
36 Ill-2
MB Mfg Co Div Textron American 1060 State
St New Haven 11 Conn-11
McColpin-Christie Corp 3410 W 67 St Los
Angeles 43 Calif-7
McCoy Electronics Co Mt Holly Springs Pa-5
Measurement Eng'g Ltd John St Arnprior
Ontario Canada-2
Mercury Electronic Co Box 450A Red Bank
NJ-7-8
Midland Mfg Co 3151 Fiberglas Rd Kansas
City 15 Kansas-5
Miles Reproducer Co 812 Broadway New York
3 NY-9
Miller Labs August E 9226 Hudson Blvd North
Bergen NJ-5
Mobil Electronics Mfg 1111 State Rd 67E
Anderson Ind-3
Modern-Aire Mfg Corp 4436 W Roosevelt Rd
Chicago 24 Ill-2
Mohawk Electronic Research Labs Box 126-A
RD #4 Amsterdam NY-7-8
Monitor Products Co 815 Fremont Ave S Pas-
adena Calif-5
Multi-Products Co 21470 Coolidge Hwy Oak
Park 37 Mich-4-7
Nader Mfg Co 2661 S Myrtle Ave Monrovia
Calif-7
National Aeronautical Corp 180 S Main St
Ambler Pa-7
National Fabricated Products Div Hoffman
Electronics 2650 W Belden Ave Chicago 47
Ill-2
Nebel Lab R E 1634 E 12 St Brooklyn 29 NY-5
Northern Eng'g Labs 434 Wilmot Ave Burling-
ton Wis-5
Onan & Sons D W University Ave SE at 25 St
Minneapolis 14 Minn-7-8
Ortho Filter Corp 196 Albion Ave Paterson 2
NJ-7-8
Pampa Electronics Corp 7354 Frankford Ave
Philadelphia 36 Pa-9-10
Peire Wire Recorder Corp 5900 N Northwest
Hwy Chicago 31 Ill-10
Perkin Eng'g Corp 345 Kansas St El Segundo
Calif-7-8
Peschel Electronics Inc 13 Garden St New
Rochelle NY-7-8
Potter Instrument Co 115 Cutter Mill Rd Great
Neck NY-10
Power Supplies Inc 1007 Olive St Highland
Ill-3-7-8
Power Transformer Co 532 Mulberry St New-
ark 5 NJ-7-8
Pratt Albert 114 W Lake View Ave Milwaukee
17 Wis-4
Precision Crystal Lab 2223 Warwick Ave Santa
Monica Calif-5
Promax Products Div Chisholm Ryder Co High-
land & College Aves Niagara Falls NY-1-2
Pyc Corp of America 270 Park Ave New York
17 NY-1-4-5
Radio Corp of America Camden 2 NJ-9
Radiomarine Corp of America 75 Varick St
New York 13 NY-3
Raypar Inc 7810 W Addison St Chicago 34 Ill-
7-8
Regency Div Idea Inc 7900 Pendleton Pike In-
dianapolis Ind-1
Regulator Eng'g & Development 11545 W Jef-
ferson Blvd Culver City Calif-7
Remington Rand Univac 1902 W Minnehaha
Ave St Paul W4 Minn-10
Reverse Camera Co 320 E 21 St Chicago 16
Ill-10
Rollins Electronics Corp Schley Ave Lewes
Del-7
Scientific Radio 4301 Sheridan St University
Park Hyattsville Md-5
Sears Co M J Roxbury NY-6
Senn Corp New Augusta Ind-7
Shure Bros 222 Hartrey Ave Evanston Ill-6
Snyder Mfg Co 22 & Ontario Sts Philadelphia
40 Pa-1
S O S Cinema Supply Corp 602 W 52 St New
York 19 NY-9-10
SoundScriber Corp 146 Munson St New Haven
9 Conn-10
South River Metal Products 377 Turnpike South
River NJ-2
Stancil-Hoffman Corp 921 N Highland Ave
Hollywood 38 Calif-10
Stewart Instrument Co 6507 Grand River De-
troit 8 Mich-4
Suffolk Products Corp Woodbine & Scudder
Aves Northport LI NY-2

Tarc Electronics 48 Urban Westbury NY-4
Technical Appliance Corp 1 Taco Ave Sher-
burne NY-1
Technical Instrument Co Div Brush Electronics
3732 Westheimer Rd Houston 6 Texas-10
Tedford Crystal Labs 4126 Colerain Ave Cin-
cinnati 23 Ohio-5
Telechrome Inc 88 Merrick Rd Amityville LI
NY-9
Tele-Ex-Pand Corp PO Box 392 Berwick Pa-2
Telephonics Corp Park Ave Huntington LI
NY-6-11
Turner Co 909 17 St NE Cedar Rapids Iowa-6
Union Switch & Signal Div Westinghouse Air
Brake Pittsburgh 18 Pa-4
United Electrodynamics Div United Geophysical
Corp 1200 S Marengo Pasadena Calif-4-10
United Mfg Div W L Maxson Corp 41 Haig
St Hamden 14 Conn-8
Universal Electronics Co 1720 22 St Santa
Monica Calif-7
Universal Products Eng'g 4100 Taylor Ave
Racine Wis-2
Valpey Crystal Corp Holliston Mass-5
Vectron Inc 1611 Trapelo Rd Waltham 54
Mass-10
Vibration Research Labs 97 Lake Ave Tucka-
hoc NY-7-8
Victor Adding Machine Co 3900 N Rockwell St
Chicago 18 Ill-10
Video Accessory Mfg Co PO Box 223 Tulsa 1
Okla-2
Virginia Electronics Co River Rd at B & O RR
Washington 16 DC-1-4-7
Visual Electronics Corp 500 5 Ave NY 36 NY-9
Waco Inc 2032 Broadway Santa Monica Calif-7
Ward Products Corp Div Gabriel Co 1148
Euclid Ave Cleveland 15 Ohio-1
Webster Mfg Co 242 Shoreline Blvd Mill Valley
Calif-1
White & Son James L 374 Verona Ave Newark
4 NJ-1-2
Wincharger Corp E 7 & Division Sts Sioux
City 2 Iowa-7
Wind Turbine Co E Market St & Penna RR
West Chester Pa-2
Wright Electronics 1519 McGee St Kansas City
Mo-5
Yardney Electric Corp 40 Leonard St New
York 13 NY-7-8

Aerovox Corp Pacific Coast Div 2724 Peck Rd
Monrovia Calif-5-33
Ahrendt Instrument Co 4910 Calvert Rd Col-
lege Park Md-31
Air Associates Inc 511 Joyce St Orange NJ-31
Air-Marine Motors 369 Bayview Ave Amity-
ville LI NY-13-18-20-22-23-24-25
Allard Instrument Corp 146 E 2 St Mineola
LI NY-24
Alliance Mfg Co Alliance Ohio-18-22-24-27
Allied Research and Eng'g Div 6916 Santa
Monica Blvd Hollywood 38 Calif-5
Allis-Chalmers Mfg Co Milwaukee 1 Wisc-1-7-
11-14-15-18-20-21-25
American Bosch Arma Corp Arma Div Roose-
velt Field Garden City NY-20-23-25-31-36
American Electric Motors Div American Elec-
tronics 2112 N Chico Ave El Monte Calif-14
American Electronics Inc 655 W Washington
Blvd Los Angeles 15 Calif-13-14-15-17-18-21-
22-23-24-25-30-31-35-36
American Radio Hdw Co 152 MacQuesten Pkwy
S Mt Vernon NY-9
American TV & Radio Co 300 E 4 St St Paul
1 Minn-7
Amglo Corp 2037 W Division St Chicago 22 Ill-
21-26
Analogic Controls Inc 39 Roselle St Mineola
LI NY-31
Anton Electronic Labs 1226 Flushing Ave
Brooklyn 37 NY-29
Arga Div Beckman Instruments 220 Pasadena
Ave S Pasadena Calif-18-31-36
Askania Regulator Co 240 E Ontario St Chi-
cago 11 Ill-31
Audio-Tone Oscillator Co 12 Edgewood Ave
Trumbull Conn-31
Barber-Colman Co 1300 Rock St Rockford Ill-
18-21-25-27
Barker & Williamson 237 Fairfield Ave Upper
Darby Pa-17
Beck Co Harold 3640 N 2 St Phila 40 Pa-31
Becks Inc 298 E 5 St St Paul 1 Minn-5-32-33
Bendix Aviation Corp Red Bank Div Eaton-
town NJ-1-7-10-14-15-22
Bergen Labs 11 Godwin Ave Fair Lawn NJ-31
Bill Jack Scientific Instrument Co 143 S Cedros
Ave Solana Beach Calif-1-7-14-15-16-18-20-
21-22-24-25-28-30-31-32-33-34
B J Electronic Div Borg Warner Corp 492 E
Union St Pasadena 1 Calif-17
Bodine Electric Co Ohio St & Oakley Blvd
Chicago 12 Ill-18-20-21-22-23-24-25-26-27-28
Bogart Mfg Corp 315 Siegel St Bklyn 6 NY-9
Bogue Electric Mfg Co 52 Iowa Ave Paterson
3 NJ-7-10-14-15-17
Brach Mfg Co 200 Central Ave Newark NJ-31
Brailsford & Co 670 Milton Rd Rye NY-21-24
Breeze Corporations 700 Liberty Ave Union
NJ-33
Bristol Co PO Box 1790 Waterbury Conn-31
Camera Equipment Co 315 W 43 St New York
36 NY-29
Canoga Corp 5955 Sepulveda Blvd Van Nuys
Calif-31
Cardwell Electronics Productions Allen D 97
Whiting St Plainville Conn-8-9
Carter Motor Co 2644 N Maplewood Ave Chi-
cago 47 Ill-1-10
Caterpillar Tractor Co Peoria 8 Ill-11
Cavitron Oscillator Co Div Short Wave Plastic
Forming Co 2921 W Alameda Ave Burbank
Calif-17
CELCO (Constantine Eng'g Labs) PO Box 555
Mahwah NJ-18-21-22-23-24-30
Century Electric Co 1806 Pine St St Louis 3
Mo-14-15-18-21-22
Clark Controller Co 1146 E 152 St Cleveland
10 Ohio-34
Clegg Labs Inc Ridgedale Ave Morristown NJ-
14-17
Clifford Mfg Co Grove St Waltham 54 Mass-8
Clifton Precision Products Co Marple & Broad-
way Clifton Heights Pa-18-21-31-36
Cobehn Inc Passaic Ave Caldwell NJ-37
Collectron Corp 216 E 45 St New York 17 NY-
32-33
Commercial Radio-Sound Corp 652 1 Ave New
York 16 NY-1
Communication Measurements Lab 350 Leland
Ave Plainfield NJ-14-17
Computer Instruments Corp 1964 Utica Ave
Brooklyn 34 NY-5
Continental-Diamond Fibre Div Budd Co New-
ark Dela-8
Continental Electric Co 325 Ferry St Newark 5
NJ-10-14-15-18-21
Cramer Co R W Centerbrook Conn-25-26
Crosley Div Avco Mfg Corp 2630 Glendale-
Milford Rd Evendale Cincinnati 15 Ohio-31
Crouse Hinds Wolf & 7th North Sts Syracuse
1 NY-8
Crown Controls Co 40 S Washington St New
Bremen Ohio-22
Curtiss-Wright Corp Electronics Div 631 Cen-
tral Ave Carlstadt NJ-31
Cyclohm Motor Corp Div Howard Industries
209 W Jackson Blvd Chicago Ill-22
Dalmotor Co 1375 Clay St Santa Clara Calif-
10-14-15-18-20-21-22-23-24-25

48—MOTORS & GENERATORS

Alternators	1
Bearings	2
Brush holders	3
Brushes, motor	4
Cleaning solvent, contact	37
Commutators	5
Contacts, motor & generator	6
Converters, rotary	7
Couplings, flexible	8
Couplings, rigid	9
Dynamotors	10
Engines, diesel	11
Engines, gas	12
Fans	13
Generators, AC	14
Generators, DC	15
Generators, hand-crank	16
Generators, high frequency power	17
Motors, AC	18
Motors, clock	19
Motors, control	20
Motors, DC	21
Motors, fractional hp	22
Motors, hysteresis	23
Motors, miniature	24
Motors, synchronous	25
Motors, timing	26
Motors, turntable	27
Motors, universal	28
Power plants	29
Rotors	30
Servos	31
Slip ring & brush assemblies	32
Slip rings	33
Starters	34
Stators	35
Synchros	36

Ace Instrument Co 172 Pacific St Brooklyn 2
NY-20
Acoustica Associates 2 Shore Rd Glenwood
Landing LI NY-14-17
Advance Instrument Corp 1709 F St Belmar
NJ-31
Aerolite Electronics Corp 507 26 St Union City
NJ-9

Dalmo Victor Co Div Textron American Inc
1414 El Camino Real San Carlos Calif-14-15-
18-20-21-22-24-25-31

Daystrom Instrument Archbald Pa-31

Daystrom Pacific Corp 3030 Nebraska Ave
Santa Monica Calif-14-15-18-21-25-36

Devol Research Co Brookside Dr Greenwich
Conn-31

Diehl Mfg Co 1186 FINDERNE AVE Somerville
NJ-13-18-20-21-22

Doelcam Div Minneapolis-Honeywell 1400 Sol-
diers Field Rd Boston 35 Mass-25-31

Douglas Microwave Co 11 Beechwood Ave New
Rochelle NY-9

D & R Ltd 402 E Gutierrez St Santa Barbara
Calif-1-14

Eastern Air Devices 385 Central Ave Dover
NH-1-13-18-22-23-24-25-27

Eastern Industries Inc 100 Skiff St Hamden
Conn-31

Eby Co Hugh H 4701 Germantown Ave Phila-
delphia 44 Pa-32-33

Eclipse-Pioneer Div Bendix Aviation Corp
Teterboro NJ-24-31-36

Eicor Inc 1501 W Congress St Chicago 7 Ill-
1-7-10-14-15-21-22-30-35

Electric Specialty Co 211 South St Stamford
Conn-1-7-14-15-18-21-22

Electro-Craft Co 5 Milton Ave Dorchester Mass-
15-21

Electro Development Co 14701 Keswick St Van
Nuys Calif-33

Electro-Devices Inc Servospeed Div 4 Godwin
Ave Paterson 1 NJ-21-31

Electro-Mechanical Research 64 Main St Ridge-
field Conn-5

Electro Miniatures Corp 1060 Elm Ave Ridge-
field NJ-5-32-33

Electronic Chemical Corp 813 Communipaw
Ave Jersey City 4 NJ-37

Electronic Control Systems 2136 Westwood
Blvd Los Angeles 25 Calif-31

Electronic Measurements Co Lewis St & Maple
Ave Eatontown NJ-10-14

Electronic Processes Corp 2190 Folsom St San
Francisco 10 Calif-17

Electronic Specialty Co 5121 San Fernando Rd
Los Angeles 39 Calif-32

Electro Tec Corp 4 Romanelli Ave S Hacken-
sack NJ-5-32-33

Electyme Motor Products Genoa Ill-26

El Products Corp PO Box 41 Kingsbridge Sta
New York 63 NY-26

Emerson Radio & Phonograph Corp 14 & Coles
Sts Jersey City 2 NJ-10

Ernst & Affiliates W Arthur 825 Hayes Ave
Racine Wisc-14-15-16-18-21-22-23-24-25-28

Fafnir Bearing Co 37 Booth St New Britain
Conn-2

Feedback Controls Inc 1332 N Henry St Alex-
andria Va-31

Florman & Babb 68 W 45 St New York 36
NY-25

Ford Instrument Co Div Sperry Rand Corp
31-10 Thomson Ave Long Island City 1 NY-
22-31-36

General Cement Mfg Co 919 Taylor Ave Rock-
ford Ill-37

General Controls Co 801 Allen Ave Glendale 1
Calif-20-24

General Devices Inc Princeton NJ-5

General Electric Co Apparatus Sales Div 1
River Rd Schenectady 5 NY-1-7-10-18-20-21-
22-25-28-34-36

General Industries Co Olive & Taylor Sts
Elyria Ohio-18-22-24-27

General Precision Equip Corp 82 Gold St New
York 38 NY-31

General RF Fittings Inc 702 Beacon St Boston
15 Mass-9

General Riveters Inc Electro Mechanical Div
785 Hertel Ave Buffalo 7 NY-31

Georator Corp Manassas Va-14-15-17-29

Giannini & Co G M 918 E Green St Pasadena
Calif-5

Globe Industries 1784 Stanley Ave Dayton 4
Ohio-14-15-18-20-21-22-23-24-25-26

G-M Labs Inc 4300 N Knox Ave Chicago 41 Ill-
23-25-31

Gorrell & Gorrell 336 Old Hook Rd Westwood
NJ-25

Graphic Recorders Inc 62 Walter St Bridge-
port 5 Conn-31

Graphite Metallizing Corp 1002 Nepperhan Ave
Yonkers NY-2-3-4-6-32-33

Graybar Electric Co 480 Lexington Ave New
York 17 NY-18-21-22-25

Great Lakes Electric Mfg 17 S Desplaines St
Chicago 6 Ill-7-14-15-17

Greenleaf Mfg Co 7814 Maplewood Industrial
Court St Louis 17 Mo-18-21-24-31

Guild Electronics 388 Broadway NY 13 NY-17

Hallamore Electronics Co Div Siegler Corp
Brookhurst & Santa Ana Freeway Anaheim
Calif-36

Hallett Mfg Co 1601 W Florence Ave Ingle-
wood Calif-9-11-29

Hansen Mfg Co 1101 S Hart St Princeton Ind-
19-21-24-25-26



Harnischfeger Corp 4400 W National Ave Mil-
waukee 46 Wisc-1-15-18-21

Hartford Steel Ball Co Jefferson Ave W Hart-
ford 6 Conn-2

Haydon Co A W 232 N Elm St Waterbury 20
Conn-18-20-21-24-26

Haydon Mfg Co 245 E Elm St Torrington
Conn-19-21-23-24-25-26

Healy-Ruff Co 2255 University Ave St Paul 14
Minn-1

Heinz Mueller Eng'g Co 1906 N Cicero Ave
Chicago 39 Ill-14-15-18-21-22-24-27

Helwig Co 2544 N 30 St Milwaukee 10 Wis-4

Hertner Electric Co 12690 Elmwood Ave Cleve-
land 11 Ohio-7-13-14-18-20-22-23-24-25

Hewlett-Packard Co 275 Page Mill Rd Palo
Alto Calif-17

Hickok Electrical Instrument Co 10514 Dupont
Ave Cleveland 8 Ohio-15

Hobart Bros Hobart Square Troy 1 Ohio-29

Howard Industries 1760 State St Racine Wisc-
14-15-16-18-20-21-22-23-24-25-28-29

Ideal Electric & Mfg Mansfield Ohio-14-15-17-
18-21-25

I.L.G. Electric Ventilating 2880 W Crawford
Ave Chicago 41 Ill-13

Induction Motor Corp 570 Main St Westbury
NY-1-7-14-17-18-20-21-22-24-25-26-27-31-35

Instrument Corp of America PO Box 219
Blacksburg Va-33

Insulated Circuits Inc 620 Passaic Ave W Cald-
well NJ-32-33

Interelectronics Corp 2432 Grand Concourse
New York 58 NY-1-14-15

Iron Fireman Electronics Div 2838 S E 9 Ave
Portland 2 Ore-18-21-22-24-33

Jack & Heintz 17600 Broadway Cleveland 1
Ohio-1-14-15-18-21-22

Janette Electrical Mfg Co 8350 N Lehigh St
Morton Grove Ill-20

Jan Hdwe Mfg Co 75 N 11 S Brooklyn 11 NY-
2-8-9

Jeffrey Mfg Co N 4 St & 1 Ave Columbus 16
Ohio-8

JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-30

Johnson Co E F Waseca Minn-8-9

Kato Eng'g Co 1415 1 Ave N Mankato Minn-
7-14-15-17-18-21-29

Kearfott Co 1378 Main Ave Clifton NJ-14-15-
18-20-21-22-23-24-25-31-36

Kepeco Labs 131-38 Sanford Ave Flushing 55
NY-29

Keystone Carbon Co 1935 State St St Mary
Pa-2-4

Kollsman Instrument Corp 80-08 45 Ave Elm-
hurst NY-18-23-24-36

Kroger Eng'g & Development Co 3022 77 Ct
Elmwood Park 35 Ill-7-10-21-22-24

Kupfrian Mfg Corp 395 State St Binghamton
NY-8

La Magna Mfg Co 51 Clinton Pl E Rutherford
NJ-31

Laminations Co 300 Main St Stamford Conn-
30-35

Leach Corp Leach Relay Div Inet-Palmer Div
5915 Avalon Blvd Los Angeles 3 Calif-7-14-
17-29

Lear Inc 3171 S Bundy Dr Santa Monica Calif-
1-7-14-15-18-20-21-22-23-24-25-31-36

Leland Electric Co-Div American Mach & Fdry
1501 Webster St Dayton 1 Ohio-7-14-17-18-21-
22-25

Lincoln Electric Co 22801 St Clair Ave Cleve-
land 17 Ohio-14-15-18

Link-Belt Co Prudential Plaza Chicago 1 Ill-
2-8-9

Lord Mfg Co 1635 W 12 St Erie 6 Pa-8

Machinery Electrification Inc 35 Hudson St
Northboro Mass-31

Makepeace Co D E Div Union Plate & Wire
Attleboro Mass-6

Manson Labs 207 Greenwich Ave Stamford
Conn-20

Marathon Electric Mfg Corp Randolph &
Cherry Sts Wausau Wisc-5-14-15-17-18-21-
22-25

Master Appliance Mfg Co 4th & Ontario Sts
Racine Wisc-13-21-22-28

Master Electric Co 126 Davis Ave Dayton 1
Ohio-18-21-22-25

McAlister Inc J G 1117 N McCadden Pl Holly-
wood 38 Calif-29

Merkle-Korff Gear Co 213 N Morgan St Chi-
cago 7 Ill-18-19-20-21-22-24-25-26-27-28

Metropolitan Electronics & Instruments Co 106
5 Ave New York 11 NY-14

Midwestern Instruments PO Box 7186 Tulsa
Okla-31

Miniature Precision Bearings Inc Precision
Park Keene NH-2

Motordyne Inc 2661 S Myrtle Ave Monrovia
Calif-10-18-21-22-28

Motoresearch Co 1600 Junction Ave Racine
Wisc-1-15-17-18-22

Motor Generator Corp Hobart Bros Affiliate
Troy Ohio-14-15-17-29

Mycalex Corp of America 125 Clifton Blvd
Clifton NJ-5

Nader Mfg Co 2661 S Myrtle Ave Monrovia
Calif-7-10

National Carbon Co 30 E 42 St New York 17
NY-4

National Company 61 Sherman St Malden 48
Mass-8-9

National Fabricated Fabrics Div Hoffman Elec-
tronics 2650 W Belden Ave Chicago 47 Ill-11

Newcomb Spring of Conn College Hwy South-
ington Conn-33

New Hampshire Ball Bearings Peterborough
NH-2

New Rochelle Tool Corp 320 Main St New
Rochelle NY-17

Ney Co J M 71 Elm St Hartford Conn-32-33

NRK Mfg & Eng'g 4601 W Addison St Chicago
41 Ill-9

Oerlikon Tool & Arms Corp of America PO
Box 3049 Asheville N Car-31

Ohio Carbon Co 12508 Berea Rd Cleveland 11
Ohio-4

Ohio Crankshaft Co-TOCCO Div 3800 Harvard
Ave Cleveland 5 Ohio-17

Onan & Sons D W University Ave S E at 25
St Minneapolis 14 Minn-11-12-14-15-29

Oster Mfg Co John 1 Main St Racine Wisc-13-
14-15-18-21-22-24-25-31-36

Otis Elevator Co Electronic Div 35 Ryerson St
Brooklyn 5 NY-31

Par Products Corp 926 N Citrus Lane Holly-
wood 38 Calif-25-28

Peerless Electric 1501 W Market St Warren
Ohio-13-18-21

Pesco Products Div Borg-Warner 24700 N
Miles Rd Bedford Ohio-18-21-22

Photocircuits Corp Sea Cliff Ave Glen Cove
NY-5

PIC Design Corp 160 Atlantic Ave Lynbrook
LI NY-2-8-9

Pioneer Gen-E-Motor Corp 5841 W Dickens
Ave Chicago 43 Ill-10-14-15

Piqua Machine & Mfg Co 441 College St Piqua
Ohio-18-21-22

PM Industries 280 Fairfield Ave Stamford Conn-
5-14-15-18-20-21-23-24-25-26-27-32-33-35

Polymer Corp of Penna Reading Pa-2

Polyphase Instrument Co 701 Haverford Rd
Bryn Mawr Pa-32-33

Quietrol Co 395 John St Spartanburg S Car-37

Radex Corp 2076 Elston Ave Chicago 14 Ill-10-
14-15-16-18-21-22-24-25-28

Radiation Inc PO Box 37 Melbourne Fla-31

Rae Motor Corp 2009 Kewaunee St Racine
Wisc-18-20-21-22-24-28

Raytheon Mfg Co Equip Marketing Div 190
Willow St Waltham 54 Mass-31

RBM Div Essex Wire Corp 131 Godfrey St
Logansport Ind-34

Rea Co J B 1723 Cloverfield Blvd Santa Monica
Calif-21-22-23-24-25

Redmond Co Monroe St Owosso Mich-1-10-18-
21-22-24

Reeve Electronics Inc 609 W Lake St Chicago 6
Ill-17

Reeves Instrument Corp 215 E 91 St New York
28 NY-31

Renbrandt Inc 98 Kirkland St Cambridge 38
Mass-8-31

Reynolds Electric Co 3000 River Rd River
Grove Ill-2

Rhodes Inc M H 30 Bartholomew Ave Hartford
6 Conn-26

Richardson Co 2790 Lake St Melrose Park Ill-3

Robbins & Myers 1345 Lagonda Ave Spring-
field Ohio-13-14-15-18-21-22-28

Robinette Co W C 802 Fair Oaks Ave S Pasade-
na Calif-31

Rockwell Eng'g Co 4065 N New Jersey St
Indianapolis 5 Ind-31

Rosen Eng'g Products Raymond 32 & Walnut
Sts Philadelphia 19 Pa-10

Rotron Mfg Co Schoonmaker Lane Woodstock
NY-13-18-22

Roylyn Inc 1706 Standard Ave Glendale 1
Calif-8-9

Ruckelshaus Labs John G Madison NJ-30

Sangamo Electric Co Box 7 Marion Ill-10

Sangamo Generators-Sub Sangamo Electric Co
Springfield Ill-7-10-14-15-16-17-18-19-21-23-24-
25-26

Scott Radio Labs Liberty & Penna St Plymouth
Ind-5

Seager Standard Carbon Co 291 Church St New
York 18 NY-3-4-5

Servo Corp of America 20-20 Jericho Turnpike
New Hyde Park LI NY-31

Servomechanisms Inc Post & Stewart Aves
Westbury NY-18-20-22-23-24-25-26-31

Servo-Tek Products Co 1086 Goffe Rd Haw-
thorne NJ-6-15-20-21-22-24-28-31

Sessions Clock Co 61 E Main St Forestville
Conn-23-24-25-26

Shamban Eng'g Co 11617 W Jefferson Blvd
Culver City Calif-2
Simpson Electric Co 5208 W Kinzie St Chicago
44 Ill-15
SKF Industries Front & Erie Ave Philadelphia
32 Pa-2
Small Motors Inc 2076 Elston Ave Chicago 14
Ill-10-14-15-18-20-21-22-24-25-26-28
S O S Cinema Supply Corp 602 W 52 St New
York 19 NY-14-15-21
Spaulding Fibre Co 310 Wheeler St Tonawanda
NY-2
Stackpole Carbon Co Tannery St St Marys Pa-4
Stancil-Hoffman Corp 921 N Highland Ave
Hollywood 38 Calif-19-21-22-23-25
Star-Kimble Motor Div Miehle Printing Press
& Mfg Co 200 Bloomfield Ave Bloomfield NJ-
18-21-22-25
Stavid Eng'g Co U S Hwy #22 Plainfield NJ-31
Sterling Precision Corp-Instrument Div 34-17
Lawrence St Flushing LI NY-31
St Marys Carbon Co State St St Marys Pa-2-4
Superior Carbon Products 9115 George Ave
Cleveland 5 Ohio-2-4-6-32
Swiss Jewel Co 225 Lafayette Bldg Philadelphia
6 Pa-2
Taylor Fibre Co Norristown Pa-3
Technical Development Corp 4060 Ince Blvd
Culver City Calif-23-25-27
Telonic Industries 73 N 2 Ave Beech Grove
Ind-17
Time-O-Matic Inc 1106 Bahls St Danville Ill-27
Times Facsimile Corp 540 W 58 St New York
19 NY-25-26
Toledo Commutator Co 1101 S Chestnut St
Owosso Mich-5-33
Transcoil Corp Worcester Pa-20-24-31
Tricon Mfg Co 8008 Wallace St Chicago 20 Ill-
32-33
Trio Mfg Co Griggsville Ill-30
Universal Electric Co Owosso Mich-21-22-24-28
Universal Motor Co 186 Harrison St Oshkosh
Wisc-12-14-15
U S Electrical Motors 200 E Slauson Ave Los
Angeles 54 Calif-18-22
Varo Mfg Co 2201 Walnut St Garland Texas-7
Visulite Co 423 Broome St New York 18 NY-8
Vocaline Co of America Old Saybrook Conn-
18-19-23-24-25-26-27
Voron & Co George 835 N 19 St Philadelphia 80
Pa-17
Wac Line Inc 35 S St Clair St Dayton 2 Ohio-
18-20-22-24-28
Waco Inc 2032 Broadway Santa Monica Calif-
18-20-21-22-23-24-25-26-28
Western Gear Corp 2600 Imperial Hwy Lyn-
wood Calif-1-5-7-10-14-15-16-17-18-19-20-21-22-
24-25-26-27-28-29-30-31-32-33-34-35-36
Westinghouse Electric Corp Box 868 Pittsburgh
30 Pa-6-14-15-18-20-21-22-25-28-30-34-36
Wilmar Mfg Co 1110 Truman Rd Kansas City
6 Mo-8
Winchancer Corp E 7th & Division Sts Sioux
City 2 Iowa-1-7-10-14-15-21-28-29
Workman TV Inc 309 Queen Anne Rd Teaneck
NJ-37

49—NAVIGATION SYSTEMS

Aircraft landing 1
Direction finding 2
Distance measuring equipment .. 3
Loran 4
Omnirange 5
Radar 6
Radio 7
Raydist 8
Sea rescue 9
Shoran 10
Sofar 11
Sonar 12

Admiral Corp 3800 Cortland St Chicago 47 Ill-
6-7
Air Associates Inc 511 Joyce St Orange NJ-
1-5-7
Airborne Instruments Lab 160 Old Country Rd
Mineola NY-6
Aircraft Radio Corp Boonton NJ-5
American Bosch Arma Corp Arma Div Roose-
velt Field Garden City NY-1-6
American Electronic Labs 641 Arch St Phila-
delphia 6 Pa-6
ARF Products 7627 Lake St River Forest Ill-1
Bell Aircraft Corp PO Box 1 Buffalo 5 NY-1
Bendix Aviation Corp Pacific Div 11600 Sher-
man Way N Hollywood Calif-6-12
Bendix Radio Div Bendix Aviation Corp Balti-
more 4 Md-1-7
Bludworth Marine Div Nat'l-Simplex-Bludworth
92 Gold St New York 38 NY-4-6-12
Canoga Corp 5955 Sepulveda Blvd Van Nuys
Calif-6
Chesapeake Instrument Corp Shadyside Md-12

Chromatic TV Labs 1501 Broadway New York
36 NY-6
Collins Radio Co 855 35 St NE Cedar Rapids
Iowa-1
Corbin Corp 5419 56 Pl Riverdale Md-1-2-3-5-
6-7
Cossor (Canada) Ltd 301 Windsor St Halifax
NS Canada-6
Craig Systems Inc 90 Holden St Danvers Mass-1
Crosley Div Avco Mfg Corp 2630 Glendale-
Milford Rd Evendale Cincinnati 15 Ohio-6
Dalmo Victor Co Div Textron American Inc
1414 El Camino Real San Carlos Calif-12
Daystrom Instrument Archbald Pa-1-3-5-6-7
Donner Scientific Co 2829 7 St Berkeley 10
Calif-9
Eclipse-Pioneer Div Bendix Aviation Corp
Teterboro NJ-1
Edo Corp 13-10 111 St College Point 56 NY-
4-6-12
Electro-Craft Co 5 Milton Ave Dorchester Mass-
1-4-6
Electronic Control Systems 2136 Westwood Blvd
Los Angeles 25 Calif-1-7
Electro Products Labs 4501 N Ravenswood Ave
Chicago 40 Ill-3
Emerson Radio & Phonograph Corp 14 & Coles
Sts Jersey City 2 NJ-6-10
Erro Radio Labs 637 Stewart Ave Garden City
NY-1-2
Federal Telecommunication Labs 500 Washing-
ton Ave Nutley NJ-1-2-3-5-6-7
Federal Telephone & Radio Co Div IT&T 100
Kingsland Rd Clifton NJ-1-7
General Mills Inc Mechanical Div 2600 Far
Hills Bldg Dayton 9 Ohio-6
General Precision Equip Corp 82 Gold St New
York 38 NY-6
Goodyear Aircraft Corp 1210 Massillon Rd
Akron 15 Ohio-6
Haller Raymond & Brown 124 N Atherton St
State College Pa-6
Hoffman Labs Inc 3761 S Hill St Los Angeles 7
Calif-6
Jarvis Electronics Corp 6058 W Fullerton Ave
Chicago 39 Ill-2-7
J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-6
Kearfott Co 1378 Main Ave Clifton NJ-1
Laboratory for Electronics 75 Pitts St Boston
14 Mass-6
Lavoie Labs Inc Matawan and Freehold Rd
Moranville NJ-2-5-6-7
Lear Inc 3171 S Bundy Dr Santa Monica Calif-
2-5-7
Lel Inc 380 Oak St Coniague NY-7
Leru Labs 827 Black Oak Ridge Rd Paterson 2
NJ-6
Lockheed Aircraft Corp Missile Systems Div
Van Nuys Calif-6
Maryland Electronic Mfg Corp 5009 Calvert Rd
College Park Md-5-7
Measurement Eng'g Ltd John St Arnprior
Ontario Canada-7
Melpar Inc Sub Westinghouse Air Brake Falls
Church Va-6
Meyer & Co Hugo 39 W 60 St New York 23
NY-3
Mitchell Industries PO Box 17 Mineral Wells
Texas-7
Moran Instrument Corp 170 E Orange Grove
Ave Pasadena 3 Calif-6
Mutual Electronic Industries 85 Beechwood Ave
New Rochelle NY-1
National Aeronautical Corp 180 S Main St
Ambler Pa-3-7
Otis Elevator Co Electronic Div 35 Ryerson St
Brooklyn 5 NY-1-4-7
Phileo Corp 4700 Wissahickon Ave Philadelphia
44 Pa-6
Pickard & Burns 240 Highland Ave Needham
94 Mass-2-7
Pye Corp of America 270 Park Ave New York
17 NY-3
Radio Corp of America Camden 2 NJ-12
Radiomarine Corp of America 75 Varick St
New York 13 NY-6
Radio Receptor Co 251 W 19 St New York 11
NY-1-2-3-7
Resdel Eng'g Corp 330 S Fair Oaks Ave Pas-
adena 1 Calif-6
RS Electronics Corp 435 Portage Ave Palo Alto
Calif-6
Sanders Associates 95 Canal St Nashua NH-6
Sangamo Generators-Sub Sangamo Electric Co
Springfield Ill-12
Seismograph Service Corp PO Box 1590 Tulsa
1 Okla-7
Servo Corp of America 20-20 Jericho Turnpike
New Hyde Park LI NY-2
Simpson Electric Co 5208 W Kinzie St Chicago
44 Ill-1-2-5
Sperry Gyroscope Co Div Sperry Rand Corp
Great Neck NY-4-6
Stavid Eng'g Co U S Hwy #22 Plainfield NJ-1-
6-7-12
Suffolk Products Corp Woodbine & Scudder
Aves Northport LI NY-3-6
Technicraft Labs Inc Thomaston-Waterbury Rd
Thomaston Conn-6
Telesco Corp 1415 Golf Rd Des Plaines Ill-2-7
Texas Instruments Inc 6000 Lemmon Ave Dal-
las 9 Texas-6-12

Union Electric & Mfg Co 1057 Summit Ave
Jersey City 7 NJ-1-2-3-4-6-7-10
United Electro-dynamics Div United Geophysical
Corp 1200 S Marengo Ave Pasadena Calif-3
Westinghouse Electric Corp Box 868 Pitts-
burgh 30 Pa-1
Westinghouse Electric Corp Electronics Div
2519 Wilkens Ave Baltimore 3 Md-6
Wilcox Electric Co 1400 Chestnut St Kansas
City 27 Mo-1-5

50—PHOTOELECTRIC EQUIPMENT

Cells, photoelectric 1
Cells, photovoltaic 2
Colorimeters 3
Headlight dimmers 4
Light supplies 5
Mirrors 6
Photoelectric units, complete ... 7
Photometers 8
Relays 9
Scanners 10

Acme Teletronix Div Nea Service 1200 W 3
St Cleveland 13 Ohio-7-10
Adams & Westlake Co 1025 N Michigan St
Elkhart Ind-9
Advance Electronics Co 8510 North End Ave
Oak Park 37 Mich-6
Advance Relay Co Div Elgin National Watch
2435 N Naomi St Burbank Calif-9
Aerolux Light Corp 653 11 Ave New York 36
NY-5
Alden Electronic & Impulse Recording Equip-
ment Co Westboro Mass-10
Alden Systems Co Washington St Westboro
Mass-5
Allied Control Co 2 East End Ave New York
21 NY-9
American Radio Hdw Co 152 MacQuesten Pkwy
S Mt Vernon NY-4
Anton Electronic Labs 1226 Flushing Ave
Brooklyn 37 NY-2-8
Assembly Products Wilson Mills Rd Chester-
land 21 Ohio-9
Bache Semon & Co 636 Greenwich St New
York 14 NY-6
Baird Associates 33 University Rd Cambridge
38 Mass-7
Baldwin Piano Co 1801 Gilbert Ave Cincinnati
2 Ohio-1
Barton Electronics 1000 Farmington Ave Hart-
ford 7 Conn-7
Bausch & Lomb Optical Co 628 St Paul St
Rochester 2 NY-3-6
Bradley Labs 168 Columbus Ave New Haven
11 Conn-1
Bunnell & Co J H 81 Prospect St Brooklyn 1
NY-9
Camera Equipment Co 315 W 43 St New York
36 NY-5
Canadian Marconi Co 2442 Trenton Ave
Montreal 16 PQ Canada-1
Cinema-Television Ltd Worsley Bridge Rd
Lower Sydenham London SE 26 England-1
Circon Component Co Santa Barbara Municipal
Airport Goleta Calif-5
Clairex Corp 50 W 26 St New York 10 NY-1
Clare & Co C P 3101 Pratt Blvd Chicago 45
Ill-9
Clark Controller Co 1146 E 152 St Cleveland
10 Ohio-9
Cole Instrument Co 1000 N Olive St Anaheim
Calif-7
Coleman Instruments 318 Madison St Maywood
Ill-3
Commercial Optical Mfg 118 Bridge St Hunt-
ington 2 WV-6
Connector Corp 6025 N Keystone Ave Chicago
30 Ill-9
Cook Electric Co 2700 Southport Ave Chicago
14 Ill-9
Cutler-Hammer Inc 315 N 12 St Milwaukee 1
Wis-9
Dalmo Victor Co Div Textron American Inc
1414 El Camino Real San Carlos Calif-10
Deitz Co S J 9 E Wesley St S Hackensack
NJ-7-10
DuMont Labs Inc Allen B 760 Bloomfield Ave
Clifton NJ-1-10
Dynatron Corp 13111 Shaker Square Cleveland
20 Ohio-4
Edison Inc Thomas A Instrument Div 93
Lakeside Ave W Orange NJ-9
Edmund Scientific Corp 101 E Gloucester Pike
Barrington 3 NJ-6
Electrical Service 1271 Mission St San Fran-
cisco 3 Calif-1-7
Electric Eye Equip Co 1938 E Fairchild Dan-
ville Ill-3
Electro Instruments Inc 3794 Rosecrans St San
Diego 10 Calif-10
Electro-Mechanical Specialties 6819 Melrose Ave
Los Angeles 38 Calif-9
Electronic Control Corp 1573 E Forest Ave
Detroit 7 Mich-7

Electronic Specialty Co 5121 San Fernando Rd
Los Angeles 39 Calif-9
Electronics Corp of America 77 Broadway Cam-
bridge 42 Mass-1-3-7-8
Electron-Radar Products 4806 W Chicago Ave
Chicago 51 Ill-1
Electro-Physics Co 287-P Broadway New York
7 NY-7-8
Electro-Switch Controls 5755 Camilla Ave Cul-
ver City Calif-9
Ellison Draft Gage Co 548 W Monroe St Chi-
cago 6 Ill-3
Ess Instrument Co 96 S Washington Ave
Bergenfield NJ-7
Fielden Instrument Div Robertshaw Fulton
Controls 2920 N 4 St Philadelphia 33 Pa-10
Filtors Inc 30 Sagamore Hill Dr Port Washing-
ton NY-9
Fischer & Porter 19 Warminster Rd Hatboro
Pa-10
Fisher-Pierce Co 170 Pearl St S Braintree 85
Mass-7
Fish-Schurman Corp 70 Portman Rd New
Rochelle NY-3-6
Flexo Int'l Corp 3245 W Lake St Chicago 24
Ill-5
Florman & Babb 68 W 45 St New York 36 NY-5
Foto-Video Labs 25 Amity St Little Falls NJ-10
Fretco Inc 406 N Craig St Pittsburgh 13 Pa-9
Gaertner Scientific Corp 1250 Wrightwood Ave
Chicago 14 Ill-6
Gates & Co Geo W Hempstead Tpke & Lucille
Ave Franklin Square LI NY-5
General Cement Mfg Co 919 Taylor Ave Rock-
ford Ill-6
General Electric Co Apparatus Sales Div 1
River Rd Schenectady 5 NY-1-7-9
General Hermetic Sealing Corp 99 E Haw-
thorne Ave Valley Stream NY-7
Geotechnical Corp 3712 Haggard Dr Dallas 9
Tex-10
Gordon Enterprises 5362 N Cahuenga Blvd N
Hollywood Calif-6
Graybar Electric Co 420 Lexington Ave New
York 17 NY-9
Haley Electronics Co 57 William St NY 5 NY-7
Hall-Scott Electronics Div 2950 N Ontario St
Burbank Calif-5
Hall Sonic Eng'g Co 2402 2 St Peru Ill-8
Hart Mfg Co 218 Bartholomew Ave Hartford
Conn-9
Hedin Tele Technical Corp 87 Dorsa Ave
Livingston NJ-9
Heiland Div Minneapolis-Honeywell 5200 E
Evans Ave Denver 22 Colo-5
Hetherington Inc Sharon Hill Pa-9
Hi-G Inc Bradley Field Windsor Locks Conn-9
Hokan Labs 155 Perry St New York 14 NY-10
Hufco Industries 2815 W Olive Ave Burbank
Calif-9
Hughey & Phillips 3300 N San Fernando Blvd
Burbank Calif-7
Hupp Electronics Forest Park Ill-1
Industrial Development Labs 17 Pollock Ave
Jersey City 5 NJ-7
Industrial Electronic Controls 2271 E 14 St
Brooklyn 29 NY-7
Industrial Electronic Engrs 3973 Lankershim
Blvd N Hollywood Calif-10
Instrument Development Labs 163 Highland
Ave Needham Heights 94 Mass-3-7
International Rectifier Corp 1521 E Grand Ave
El Segundo Calif-1-2
Iron Fireman Electronics Div 2838 SE 9 Ave
Portland 2 Ore-9
I-T-E Circuit Breaker Co 19 & Hamilton Sts
Philadelphia 30 Pa-5-7
Joy Mfg Co St Louis Div 1201 Macklind Ave
St Louis 10 Mo-5
Kliegl Bros 321 W 50 St New York 19 NY-5
Kulka Electric Mfg Co 633 S Fulton Ave Mt
Vernon NY-5
Kurman Electric Co 35-18 37 St Long Island
City 1 NY-9
Lavoie Labs Inc Matawan-Freehold Rd Mor-
ganville NJ-10
Leach Co P Leach Relay Div Inet-Palmer Div
5915 Avalon Blvd Los Angeles 3 Calif-9
Leland Inc G H 123 Webster St Dayton 2
Ohio-9
Liquidometer Corp 36 St & Skillman Ave Long
Island City 1 NY-9
Luxor Lighting Products 350 5 Ave NY 1 NY-5
Machinery Electrification Inc 35 Hudson St
Northboro Mass-7-10
Mack Electric Devices Inc 49 Glenside Ave
Wyncote Pa-9
Magnecraft Electric Co 3352 W Grand Ave
Chicago 51 Ill-9
Magnetic Devices Inc 712 East St Frederick
Md-9
Mann Co Wm I 104 E Foothill Blvd Monrovia
Calif-6
Manufacturers Eng'g & Equip Hatboro Pa-3
Marion Electrical Instrument Co Grenier Field
Manchester NH-9
Measurement Eng'g Ltd John St Arnprior
Ontario Canada-7
Mercoid Corp 4201 Belmont Ave Chicago 41 Ill-9
Meridian Metalcraft Inc 8739 S Millergrrove Dr
Whittier Calif-10
Metrotype Corp 104 E St Michigan City Ind-10
Meyer & Co Hugo 39 W 60 St New York 23
NY-3-7-8
Mole-Richardson Co 937 N Sycamore Ave Hol-
lywood 38 Calif-5



National Fabricated Fabrics Div Hoffman Elec-
tronics 2650 W Belden Ave Chicago 47 Ill-1-
2-7
National Semiconductor Prods Div Hoffman
Electronics 930 Pitner Ave Evanston Ill-2
New York Mfg & General Supply 10-38 Jack-
son Ave Long Island City 1 NY-5
Ohmite Mfg Co 3601 Howard St Skokie Ill-9
Pacific Relays Inc 12027 Vose St N Hollywood
Calif-9
Pacific Universal Products Corp 168 Vista Ave
Pasadena 8 Calif-6
Philadelphia Scientific Glass Co 1866 Eckald
Ave Abington Pa-9
Philco Corp 4700 Wissahickon Ave Philadelphia
44 Pa-3
Phillips Control Corp 59 W Washington St
Joliet Ill-9
Phoenix Precision Instrument 3803 N 5 St
Philadelphia 40 Pa-5-7-8
Photobell Co 43 Vesey St New York 7 NY-1-
2-7-9
Photo Crystals Inc 15 S 1 St Geneva Ill-1-2-7
Photovolt Corp 95 Madison Ave NY 16 NY-8
Pittsburgh Plate Glass Co 632 Fort Duquesne
Blvd Pittsburgh 22 Pa-6
Polarad Electronics Corp 43-20 34 St Long
Island City 1 NY-10
Post Machinery Co Electronic Products Div 140
Elliott St Beverly Mass-7
Potter & Brumfield Princeton Ind-9
Precision Scientific Co 3737 W Cortland St
Chicago 47 Ill-9
Precision Technology Inc 66 South P St
Livermore Calif-7
Price Electric Corp E Church & 2 Sts Frederick
Md-9
Process & Instruments 15 Stone Ave Brooklyn
33 NY-9
Radio Corp of America Tube Div 215 S 5 St
Harrison NJ-9
Relay Sales Inc Box 186 Dept 6 West Chicago
Ill-9
RBM Div Essex Wire Corp 131 Godfrey St
Logansport Ind-9
Reeves Instrument Corp 215 E 91 St New York
28 NY-10
Ripley Co 1 Factory St Middletown Conn-7
Rockwell Eng'g Co 4065 N New Jersey St In-
dianapolis 5 Ind-10
Rollins Electronics Corp Schley Ave Lewes
Dela-4
RS Electronics Corp 435 Portage Ave Palo
Alto Calif-10
Rubicon Co Ridge Ave & 35 St Philadelphia
32 Pa-3
Sealectric Switch & Relay Corp 6025 N Key-
stone Ave Chicago 30 Ill-9
Self-Winding Clock Co Kybernetics Div 205
Willoughby Ave Brooklyn 5 NY-10
S O S Cinema Supply Corp 602 W 52 St New
York 19 NY-1-5-8
Special Products Co PO Box 188 Rockville 1
Md-7
Stavid Eng'g Co US Hwy #22 Plainfield NJ
-7-10
Strong Electric Corp 87 City Park Ave Toledo
2 Ohio-5
Struthers-Dunn Inc Pitman NJ-9
Sylvania Electric Products 1740 Broadway New
York 19 NY-4-8
Tarc Electronics Inc 48 Urban Ave Westbury
LI NY-10
Taylor Instrument Co 95 Ames St Rochester
1 NY-10
Teletchrome Inc 88 Merrick Rd Amityville LI
NY-10
Terado Co 1069 Raymond Ave Dept 3 St Paul
14 Minn-5-9
Times Facsimile Corp 540 W 58 St NY 19 NY-10
Transdyne Corp 7337 Grand Ave Maspeth NY-7
U S Relay Co 1744 Albion St Los Angeles 31
Calif-9
Vickers Electric Div Vickers Inc Unit Sperry
Rand 1815 Locust St St Louis 3 Mo-1
Vinson Co E R 1401 Middle Harbor Rd Oak-
land 20 Calif-7
Visual Electronics Corp 500 5 Ave New York
36 NY-5-10
Ward Leonard Electric Co Mt Vernon NY-9
Welch Mfg Co W M 1515 Sedgwick St Chicago
10 Ill-7-8
Westinghouse Electric Corp Box 868 Pittsburgh
30 Pa-8
Weston Electric Instrument Corp Sub Day-
strom Inc 614 Frelinghuysen Ave Newark 5
NJ-1-3
Wheelock Signals Inc Long Branch NJ-9
Worner Electronic Devices Rankin Ill-7
Zenith Electric Co 152 W Walton St Chicago
10 Ill-9
Zenith Optical Lab 1940 Great Neck Rd Copi-
ague NY-6
Zoomar Inc 55 Sea Cliff Ave Glen Cove NY-6-8

51—POWER SUPPLIES & CONVERTERS

Power supplies, AC	1
Power supplies, DC	2
Power supplies, high voltage ..	3
Power supplies, low voltage ...	4
Power supplies, miniature	5
Power supplies, mobile	6
Power supplies, regulated	7
Power supplies, special purpose	8
Power supplies, transistor	9
Power supplies, variable frequency	10
Choppers	11
Converters, AC-DC	12
Converters, DC-AC	13
Converters, frequency	14
Converters, voltage	15
Converters, waveform	16
Inverters	17
Regulators, current	18
Regulators, voltage	19
Vibrators	20

Accurate Eng'g Co 2005 Blue Island Ave Chi-
cago 8 Ill-2-4-8
ACF Electronics 800 N Pitt St Alexandria Va-
2-7
Acme Electronix Div Nea Service 1200 W 3 St
Cleveland 13 Ohio-8-14-17
Acoustica Associates 2 Shore Rd Glenwood
Landing LI NY-8
Advance Instrument Corp 1709 F St Belmar
NJ-8
Aeronautical Electronics PO Box 6043 Raleigh
NC-6
Aerovox Corporation & Division 740 Belleville
Ave New Bedford Mass-2-7
Aerovox Corp Pacific Coast Div 2724 Peck Rd
Monrovia Calif-1-2-3-4-5-7-8-10-18-19
Air Associates Inc 511 Joyce St Orange NJ-8
Aircrom Inc 354 Main St Winthrop 52 Mass-7-8
Aircraft & Electronic Specialties 22 S Green St
Brownsburg Ind-2
Aircraft-Marine Products Elizabethtown Pa-3-9
Airdesign Inc 241 Fairfield Ave Upper Darby
Pa-1-2
Airpax Products Co Middle River Baltimore 20
Md-1-2-3-4-5-8-11-12-13-17-20
Airtronix Development Corp 4902 Church Ave
Brooklyn 3 NY-4
Alco Electronics 3 Wolcott Ave Lawrence 1
Mass-2-7-8
Alfred Electronics 897 Commercial St Palo Alto
Calif-2-3-7
Allergany Instrument Co Cumberland Md-8
Allis-Chalmers Mfg Co Milwaukee 1 Wisc-12-13-
14-19
American Bosch Arma Corp Arma Div Roose-
velt Field Garden City NY-3
American Electric Motors Div American Elec-
tronics 2112 N Chico Ave El Monte Calif-19
American Electronic Labs 641 Arch St Phila-
delphia 6 Pa-2-3-4-7-8
American Electronics Inc 655 W Washington
Blvd Los Angeles 15 Calif-1-2-5-6-7-10-19
American Metrix Corp 15 Exchange Pl Jersey
City 2 NJ-2-3-4-7-8-10
American TV & Radio Co 300 E 4 St St Paul
1 Minn-2-3-4-5-6-12-13-15-17-20
Anchor Specialty Mfg 300 N Industrial Ave
Teterboro NJ-8
Anton Electronic Labs 1226 Flushing Ave
Brooklyn 37 NY-1-2-3-4-5-6-7-8-9-10
Applegate & Co C J 1816 Grove St Boulder
Colo-2-7-8-19
Arga Div Beckman Instruments 220 Pasadena
Ave S Pasadena Calif-17
Arnoux Corp 11924 W Washington Blvd Los
Angeles 66 Calif-2-4-5-7-8-19
Assembly Products Wilson Mills Rd Chesterland
21 Ohio-2-4-18-19
Associated Eng'g Corp 65 Kent St Brookline 46
Mass-2-7
Associated Specialties Co 1751 Main St Orefield
Pa-7
Atomic Instrument Co 84 Massachusetts Ave
Cambridge 39 Mass-2-3-7
Ballantine Labs Boonton NJ-13-17
Barker & Williamson 237 Fairfield Ave Upper
Darby Pa-3-4-5-7-8-10
Basler Electric Co 605 5 St Highland Ill-5-8
Beck Co Harold 3649 N 2nd St Philadelphia 40
Pa-18-19
Bendix Aviation Corp Red Bank Div Eatontown
NJ-1-2-4-7-8-10-12-13-15-17-19
Bergen Labs 11 Godwin Ave Fairlawn NJ-8
Berkshire Transformer Corp 15 South Ave New
Milford Conn-11
Beta Electric Corp 333 E 103 St New York 29
NY-1-2-3-4-7-9

- Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-2-12-13-14-17
- B J Electronic Div Borg Warner Corp 492 E Union St Pasadena 1 Calif-2
- Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-14
- Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-13
- Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-1-2-3-4-5-6-7-8-9-10-12-13-18-19
- Boonton Radio Corp Intervale Rd Boonton NJ-14
- Booth Co Arthur E 265 S Alexandria Ave Los Angeles 4 Calif-1-2-7-8
- Bracke-Sci X-Ray Co 16 Pelham Bay Park W Pelham Manor NY-3
- Bristol Co PO Box 1790 Waterbury Conn-11-12-13-14-17-20
- Bristol Eng'g Corp Electronics Div Bristol Pa-2-4-5-7-8
- Browning Labs 750 Main St Winchester Mass-8
- Burroughs Corp Electronic Instruments Div 1209 Vine St Philadelphia 7 Pa-2-7
- Cadre Industries Corp Box 150 Endicott NY-1-2-3-4
- Calif Magnetic Control Corp 11922 Valerio St North Hollywood Calif-1-2-3-4-5-6-8
- Camera Equipment Co 315 W 43 St New York 36 NY-1-5
- Carol Electronics Corp 315 W Stephen St Martinsburg W Va-1-2-4-6-7-8
- Carter Motor Co 2644 W Maplewood Ave Chicago 47 Ill-13
- Central Transformer Co 910 W Jackson Blvd Chicago 7 Ill-3-4-7-8-18-19
- Century Electric Co 1806 Pine St St Louis 3 Mo-12-13
- Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-2-8
- Chase Electronics Lab 2631 Woodlyn Rd Pasadena 8 Calif-7
- Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-2-3-4-7-13-19
- Cinema Eng'g Co Div Aerovox 1100 Chestnut St Burbank Calif-2
- Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-1-7
- Clarostat Mfg Co Washington St Dover NH-19
- Clegg Labs Inc Ridgedale Ave Morristown NJ-2-3-4-7-8-10
- Clevite Transistor Products 241 Crescent St Waltham 54 Mass-2-12
- Clive Electric Mfg Co 3405 W 47 St Chicago Ill-19
- Coil Company of America 207 Washington St Northvale NJ-2-3-4-7
- Cole Instrument Co 1000 N Olive St Anaheim Calif-11
- Collins Radio Co 855 35 St N E Cedar Rapids Iowa-1-2-3-4
- Communication Measurements Lab 350 Leland Ave Plainfield NJ-1-10
- Computer Control Co 92 Broad St Babson Park 57 Mass-8
- Condenser Products Co Div New Haven Clock & Watch 140 Hamilton St New Haven 4 Conn-1-2-3-4-5-6-7-8
- Consolidated Electrodynamics Corp 300 N Sierra Madre Villa Pasadena Calif-2-5-8
- Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-6-7-12-13-17-20
- Cosmo Eng'g Labs Mountain Ave Hackettstown NJ-2-12
- Crown Eng'g Sta B Box 6127 Albuquerque N Mex-9
- Cubic Corp 2841 Canon St San Diego 6 Calif-7
- Davenport Mfg Co 1713 N Ashland Ave Chicago 22 Ill-3
- Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-1-2-5-7-8-11-12-13-17
- Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-9
- Delttron Inc 2905 N Leithgow St Philadelphia 33 Pa-2-3-4-7-18-19
- De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-8
- Detectolab Inc 6544 N Sheridan Rd Chicago Ill-2-3-7
- Douglas Radio Lab 176 Norfolk Ave Boston 19 Mass-3-7
- Downing Crystal Co 191 Shaffer Ave Westminster Md-11
- Dressen-Barnes Corp 250 N Vinedo Ave Pasadena 8 Calif-1-2-3-4-7-8
- Dresser Electric Co 942 E Larnie St Detroit 7 Mich-2-4-7
- DuKane Corp St Charles Ill-1-2-3-4-5-6-7-8-9
- DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-3-4-6-7-8
- Dynamic Electronics NY 73-39 Woodhaven Blvd Forest Hills NY-1
- Eberline Instrument Div Reynolds Electrical & Eng'g PO Box 1539 Santa Fe N Mex-7
- Ecor Inc 1501 W Congress St Chicago 7 Ill-1-2-13-14-15-17
- Eldico of NY 72 E 2 St Mineola LI NY-1-2-3-4-5-6-7-8
- Electric Regulator Corp Pearl St Norwalk Conn-18-19
- Electrical & Physical Instrument Corp 42-19 2 St Long Island City NY-2-3-7
- Electro-Craft Co 5 Milton Ave Dorchester Mass-2
- Electro Instruments Inc 3794 Rosecrans St San Diego 10 Calif-12
- Electronic Communication Equip Co 1249 Loyola Ave Chicago 26 Ill-2
- Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 57 Calif-3-7-8
- Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-1-2-3-4-5-6-7-8-9-10-12-13-14-15-17-18-19
- Electronic Production & Development 138 Nevada St El Segundo Calif-1-2
- Electronic Rectifiers Inc 2102 Spann Ave Indianapolis 3 Ind-2
- Electronic Research Associates 67 E Centre St Nutley 10 NJ-4-5-6-7-8-9-17-18-19
- Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-2-12-13-19
- Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-1-2-3-4-8
- Electro-Physics Co 287-P Broadway New York 7 NY-19
- Electro Product Labs 4501 N Ravenswood Ave Chicago 40 Ill-2-4-8-12
- El Mec Labs 730 Blvd Kenilworth NJ-1-2-3-4-5-6-7-8-9-12-13-18-19
- Embassy Eng'g Co 673 Elton Ave New York 51 NY-3
- Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-6-7-8-12-13
- Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-18-10
- Endevco Corp 161 E California St Pasadena Calif-2-20
- Engineered Magnetics Div Gulton Mfg Corp 11818 Teale St Culver City Calif-1-2-3-4-5-7-8-9-18-19
- Entron Inc 4902 Lawrence St Bladensburg Md-2-7
- Equipment Crafters Inc River Edge NJ-1-14
- Essex Electronics 550 Springfield Ave Berkeley Heights NJ-3
- Fansteel Metallurgical Corp 2200 Sheridan Rd N Chicago Ill-2-7
- Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-2-3-4-7-8-19
- Florman & Babb 68 W 45 St New York 36 NY-1-6
- Fluke Mfg Co John 1111 W Nickerson St Seattle 99 Wash-2-3-4-7-8-10
- Forest Electric Co 7216 Circle Ave Forest Park Ill-1-2-3-4
- Foto-Video Labs 25 Amity St Little Falls NJ-2-3-4-7
- Fox Products Co 4720 N 18 St Philadelphia 41 Pa-2-7-8
- Franklin Electronics Inc E 4 St Bridgeport Pa-2-7
- Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-1-2-7
- F-R Machine Works 26-12 Borough Pl Woodside 77 NY-3-4-7-8
- Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-2-3-4-7-8-10-18-19
- Gates Radio Co 123 Hampshire St Quincy Ill-1-2-3-7-8
- General Communications Fort Atkinson Wisc-2-7-12-19
- General Devices Inc Princeton NJ-11
- General Electric Co—Apparatus Sales Div 1 River Rd Schenectady 5 NY-2-7-17-18-19
- General Magnetics Inc 135 Bloomfield Ave Blomfield NJ-7-13-18-19
- General Precision Lab 63 Bedford Rd Pleasantville NY-2-7
- General Radio Co 275 Mass Ave Cambridge 39 Mass-1-2-7-13-19
- Georator Corp Manassas Va-1-2-6-7-8-10-12-13-14-17
- Geotechnical Corp 3712 Haggard Dr Dallas 9 Texas-2
- Gertsch Products 11846 Mississippi Ave Los Angeles 25 Calif-7-8
- Great Lakes Electric Mfg 17 S Desplaines St Chicago 6 Ill-14
- Gurley W & I E 514 Fulton St Troy NY-11
- Gyro Electronics Co 325 Canal St New York 13 NY-5-8-9
- Hallamore Electronics Co Dv Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-10-14-18-19
- Hall-Scott Electronics Div 2950 N Ontario St Burbank Calif-9
- Hamner Electronics Co Box 531 Princeton NJ-2-3-4-7-8
- Hanover Developments 401 E 74 St New York 21 NY-2-4-7
- Harrison Labs 45 Industrial Rd Berkeley Heights NJ-27
- Heath Co 305 Territorial Rd Benton Harbor Mich-2-7
- Hertner Electric Co 12690 Elmwood Ave Cleveland 11 Ohio-12-13
- Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-1-3-8
- Hill Electronic Eng'g & Mfg New Kingstown Pa-4-5-8-9
- Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-2-7-8-9
- Industrial Test Equip Co 55 E 11 St New York 3 NY-8-11-12-13
- Industronics PO Box 424 Arlington Hts Ill-10
- Instrument Development Labs 163 Highland Ave Needham Heights 94 Mass-11
- Interlectronics Corp 2432 Grand Concourse New York 58 NY-1-2-3-4-5-6-7-8-9-10-12-13-17
- International Research Assoc 2221 Warwick Ave Santa Monica Calif-1-10
- Jack & Heintz 17600 Broadway Cleveland 1 Ohio-1-2-17-19
- James Vibrapowr Co 4050 N Rockwell Ave Chicago 18 Ill-11-20
- Jobbins Electronics Enterprises 771 Hamilton Ave Menlo Park Calif-2-3-4-8
- Kahn & Co 541 Windsor St Hartford 1 Conn-2
- Kato Eng'g Co 1415 1 Ave N Mankato Minn-12-13
- Kay Electric Co 14 Maple Ave Pinebrook NJ-1-2-7-8-14
- Kearfott Co 1378 Main Ave Clifton NJ-12-13-16-17
- Keithley Instruments 3868 Carnegie Ave Cleveland 15 Ohio-2-7
- Kemlite Labs 1819 W Grand Ave Chicago 22 Ill-7
- Kepeco Labs 131-38 Sanford Ave Flushing 55 NY-1-2-3-4-5-6-7-8-9-10-12-15-18-19
- Kliegl Bros 321 W 50 St New York 19 NY-19
- Krohn-Hite Instrument Co 580 Mass Ave Cambridge 39 Mass-2
- Kroker Eng'g & Development Co 3022 77 Ct Elmwood Park 35 Ill-9-13
- Kurman Electric Co 35-18 37 St Long Island City 1 NY-20
- K V Transformer Corp 20 E Franklin St Danbury Conn-2
- Lambda Electronics Corp 11-11 131 St College Point 56 NY-2-3-4-6-7-8-9
- Land-Air Inc Instrument & Electronic Div Oakland 14 Calif-2-5-8
- Lawn Electronics E Freehold Rd Freehold NJ-2-3-4-5-6-7-8-12-13-14-17-18-19
- Leach Corp Leach Relay Div Inet-Palmer Div 5915 Avalon Blvd Los Angeles 3 Calif-1-2-6-7-10-12-14-18-19
- Lear Inc 3171 S Bundy Dr Santa Monica Calif-1-2-5-7-8-9-12-13
- Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-2-7
- Leland Electric Co—Div American Mach & Fdry 1501 Webster St Dayton 1 Ohio-1-2-7-8-12-13-14-17
- Lel Inc 380 Oak St Copiague NY-6
- Levinthal Electronic Products 2821 Fair Oaks Ave Redwood City Calif-2-3-4-7
- Lincoln Electric Co 22801 St Clair Ave Cleveland 17 Ohio-2
- LM Electronic Inc 5017 Exposition Blvd Los Angeles 16 Calif-1-2
- Lynch Carrier Systems Inc 695 Bryant St San Francisco 7 Calif-17
- Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-8
- Macleod & Hanopol 10 Roland St Charlestown 29 Mass-7
- Magnatran Inc PO Box 211 Kearny NJ-1-2-3-4-7-8
- Magnetic Amplifiers 632 Tinton Ave New York 55 NY-1-2-7-18-19
- Magnetic Research Corp 200 Center St El Segundo Calif-2-3-4-5-6-7-8-9-13-15-19
- Mallory Co Inc P R 42 S Gray St Indianapolis 6 Ind-2-6-8-20
- Manson Labs 207 Greenwich Ave Stamford Conn-1-2-3-5-7-8
- Maryland Electronic Mfg Corp 5009 Calvert Rd College Park Md-1-8-10
- Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-3-4-7-8
- Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-19
- MB Mfg Co Div Textron American 1060 State St New Haven 11 Conn-20
- McColpin-Christie Corp 3410 W 67 St Los Angeles 43 Calif-2-4-6-7-8-12
- McIntosh Lab Inc 320 Water St Binghamton NY-8
- Measurement Eng'g Ltd John St Arnprior Ontario Canada-2-7
- Meico Products Inc 301 5 Ave So Minneapolis 15 Minn-1-2-7-8-12-13
- Mercury Electronic Co Box 450A Red Bank NJ-1-2-3-4-5-6-7-8-9-10-19
- Mercury Mfg Corp 45 Brown St Buffalo 11 NY-1-3-4-8
- Meyer & Co Hugo 39 W 60 St New York 23 NY-1-2
- Microtran Co 84-11 Rockaway Beach Blvd Rockaway Beach 93 NY-19
- Mid-Century Instrument Corp 611 Broadway New York 12 NY-2-7-8
- Midwestern Instruments PO Box 7186 Tulsa Okla-1-2
- Millivac Instrument Corp 444 2 St Schenectady NY-11
- Model Rectifier Corp 557 Rogers Ave Brooklyn 25 NY-2-4-8-9-12
- Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-1
- Mohawk Electronic Research Labs Box 126-A RD 4 Amsterdam NY-3-4-7-8-9
- Moloney Electric Co 5390 Bircher Blvd St Louis 20 Mo-2-3-4

Morrow Radio Mfg Co 2794 Market St Salem Ore-1
 Motordyne Inc 2661 S Myrtle Ave Monrovia Calif-17
 Motor Generator Corp Hobart Bros Affiliate Troy Ohio-10
 Moulis Specialties Co 1005 W Washington St Bloomington Ill-2-3-8
 Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-3-4-5
 Mullenbach Div Electric Machinery Mfg Co 2100 E 27 St Los Angeles 58 Calif-9
 Multi-Products Co 21470 Coolidge Hwy Oak Park 37 Mich-1-2-6
 Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-1-2-4-5-6-7-8-9-12-13-15-17
 National Aeronautical Corp 180 S Main St Ambler Pa-2-6
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-1-2-3-4-5-7-8-9-18-19
 National Radiac Inc 479 Washington St Newark 2 NJ-2-7
 Neutronic Associates 87-16 116 St Richmond Hill 18 NY-2-3-7-8
 New York Transformer Co 3 Ave Alpha NJ-1-2
 NJE Corp 345 Carnegie Ave Kenilworth NJ-1-2-3-4-5-7-8-9-10
 Non-Linear Systems Del Mar Airport Del Mar Calif-12
 Norden-Ketay Corp Boston Electronics Div Snow & Union Sts Boston 35 Mass-3
 Norrman Labs Ernst Williams Bay Wis-17
 Northeast Electronics Corp Municipal Airport Concord NH-8
 Northeast Scientific Corp 617 Concord Ave Cambridge 38 Mass-2-3-7-8
 North Hills Electric Co 203-18 35 Ave Bayside 61 NY-2-6-7-9
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-2-3-5-7-8-10
 Nuclear Research Corp Southampton Pa-2-3-7
 Nucleonic Corp of America 196 DeGraw St Brooklyn 31 NY-3
 Onan & Sons DW University Ave SE at 25 St Minneapolis 14 Minn-6
 Oregon Electronic Mfg Co 2232 E Burnside St Portland 15 Ore-2-3-4-7-8-9
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-1-2-3-4-5-6-7-8-9-10-18-19
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-1-2-3-4-5-7-8
 Owen Labs 55 Beacon Pl Pasadena Calif-4-7-8
 Paraplegics Mfg Co 10068 Franklin Ave Franklin Park Ill-1
 Perkin Eng'g Corp 345 Kansas St El Segundo Calif-2-3-4-5-6-7-8-19
 Perma-Power Co 4727 N Damen Ave Chicago 25 Ill-3
 Peschel Electronics Inc 13 Garden St New Rochelle NY-1-2-3-4-5-6-7-8-9
 Philadelphia Scientific Glass Co 1866 Eckard Ave Abington Pa-18
 Philamon Labs Inc 90 Hopper St Westbury LI NY-1-14
 Philbrick Researches G A 230 Congress St Boston 10 Mass-2-7
 Plastic Capacitors Inc 2511 W Moffat St Chicago 47 Ill-3-4-7-8-10
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-2-3-4-7
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-2-3-7-8
 Power Supplies Inc 1007 Olive St Highland Ill-1-2-3-4-5-6-7-8-12
 Power Transformer Co 532 Mulberry St Newark 5 NJ-1-2-3-4-5-6-7-8-9-10
 Precise Measurements Co 942 Kings Hwy Brooklyn 23 NY-1-2-3-4-5-7-8-13-15-20
 Precision Associates 354 Cumberland St Brooklyn 38 NY-2-8
 Pulse Techniques Inc 1411 Palisade Ave W Englewood NJ-1-4
 Quare Associates PO Box 95 Canton Mass-1-4-8-11-12-13-17
 Radiart Corp 3455 Vega Ave Cleveland 13 Ohio-12-13-15-20
 Radio Corp of America Camden 2 NJ-1-2-3
 Radionics Inc PO Box 186 Cockeysville Md-1-5-7-8
 Radio Receptor Co 251 W 19 St New York 11 NY-2-3
 Rangertone Inc 73 Winthrop St Newark 4 NJ-17
 Raypar Inc 7810 W Addison St Chicago 34 Ill-2-3-4-5-6-7-8
 Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-2-3-4-5-7-8-19
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-8-19
 Redmond Co Monroe St Owosso Mich-17
 Reeves Instrument Corp 215 E 91 St New York 28 NY-2-7-8
 Rekency Div Idea Inc 7900 Pendleton Pike Indianapolis Ind-14
 Regulator Corp Norwalk Conn-19
 Regulator Eng'g & Development 11545 W Jefferson Blvd Culver City Calif-2-4-6-7-19
 Resdel Eng'g Corp 330 S Fair Oaks Ave Pasadena 1 Calif-10
 Research Electronics Labs Roslyn Pa-3-8
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-1-2-5-7-8-9-18-19



RHO Eng'g Co 2240 Sepulveda Blvd Los Angeles 64 Calif-3-5-8
 Riverbank Labs Eng'g Dept PO Box 65 Geneva Ill-8-10
 Rixon Electronics 2414 Reedie Dr Silver Spring Md-9
 Robbins & Myers 1345 Lagonda Ave Springfield Ohio-14
 Robotron Corp 21300 W 8 Mile Rd Detroit 19 Mich-18-19
 Rosen Eng'g Products Raymond 32 & Walnut Sts Philadelphia 19 Pa-8
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-1
 Rollins Electronics Corp Schley Ave Lewes Dela-1-3-4-5-6
 RS Electronics Corp 435 Portage Ave Palo Alto Calif-2-3-4-5-7-8
 Rumble Inc 2308 Beloit Ave W Los Angeles 64 Calif-11
 Sangamo Generators-Sub Sangamo Electric Co Springfield Ill-13-15-17
 Schauer Mfg Corp 4500 Alpine Ave Cincinnati 36 Ohio-2-4-8
 Sealetric Switch & Relay Corp 6025 N Kaystone Ave Chicago 30 Ill-18
 Senn Corp New Augusta Ind-2-6-8-20
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-3-8-14
 Servomechanisms Inc Post & Stewart Aves Westbury NY-13
 Servo-Tek Products Co 1086 Goffle Rd Hawthorne NJ-2-4-5-7-8-12-19
 Shallcross Mfg Co Pusey & Jackson Aves Colingdale Pa-19
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-2-4-7
 Signal Equipment Co 2706 3 Ave Seattle 1 Wash-8-10
 Smith-Meeker Eng'g 157 Chambers St New York 7 NY-2-4
 Sola Electric Co 4633 W 16 St Chicago 60 Ill-1-2-7-8-19
 Sorensen & Co 375 Fairfield Ave Stamford Conn-1-2-3-4-7-8-9-10-14-17-18-19
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-1-2-12-13-19
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-19
 Spellman TV Co 3029 Webster Ave Bronx 67 NY-3-7-8
 Standard Electronics Corp 285 Emmet St Newark NJ-3-4-7-8-19
 Standard Electronics Research Corp 2 East End Ave New York 21 NY-7
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-1-2-3-4-5-8-9-10-18-19
 Stewart & Stevenson 4516 Harrisburg Houston Texas-1-2-3-7-10
 Strong Electric Corp 87 City Park Ave Toledo 2 Ohio-1-2-4
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-2
 Superior Electric Co 83 Laurel St Bristol Conn-1-2-4-7-19
 Tare Electronics 48 Urban Ave Westbury LI NY-2-7-8-19
 Technical Material Corp PO Box 142 Mamaroneck NY-14
 Telechrome Inc 88 Merrick Rd Amityville LI NY-3-4-7-8-10
 Telecomputing Corp 12838 Saticoy St N Hollywood Calif-15
 Teletronics Lab Inc 54 Kinkel St Westbury LI NY-2-7-9
 Televiso Corp 1415 Golf Rd Des Plaines Ill-1-3-4-5-8
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-2-7-10
 Telkor Inc N Murray Ridge Rd Elyria Ohio-14-17
 Terado Co 1069 Raymond Ave Dept 3 St Paul 14 Minn-13-17
 Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-3-4-7-8-19
 Timely Instruments & Controls Corp 1645 W 135 St Gardena Calif-2-4-7-13-19
 Tracerlab Inc 130 High St Boston 10 Mass-3-4-7-8
 Trans Electronics Co 7349 Canoga Ave Canoga Park Calif-2-7-9
 Transformer Technicians 2608 N Cicero Ave Chicago 39 Ill-1
 Trio Labs Inc 4025 Merrick Rd Seaford LI NY-2
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-2-7-8
 Union Electric & Mfg Co 1057 Summit Ave Jersey City 7 NJ-1-3-4-5-7-9
 Universal Atomics Corp 19 E 48 St New York 17 NY-2-3-4-7-8-9-10
 Universal Electronics 1720 22 St Santa Monica Calif-2-3-4-5-6-7-8-9

U S Dynamics Corp 1250 Columbus Ave Boston 20 Mass-2-3-4-5-7-8-9-18-19
 U S Recording Co 1347 S Capitol St Washington 3 DC-2
 Varo Mfg Co 2201 Walnut St Garland Texas-1-2-4-5-7-8-9-12-13-19
 Vectron Inc 1611 Trapelo Rd Waltham 54 Mass-1-10
 Vibration Research Labs 97 Lake Ave Tuckahoe NY-1-2-3-4-5-6-7-8-9-12-13-17-20
 Vickers Electric Div Vickers Inc Unit of Sperry Rand 1815 Locust St St Louis 3 Mo-2-3-7
 Victoreen Instrument Co 3814 Perkins Ave Cleveland 14 Ohio-2-7-8-18-19-20
 Vidair Electronics Mfg 576-80 W Merrick Rd Lynbrook NY-19
 Vincon Co E R 1401 Middle Harbor Rd Oakland 20 Calif-5
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-1-2-3-4-5-6-7-8-14
 Visual Electronics Corp 500 5 Ave New York 36 NY-2-4-19
 Vokar Corp Dexter Mich-20
 Voron & Co George 835 N 19 St Phila Pa-1-2
 Waco Inc 2032 Broadway Santa Monica Calif-1-2-3-4-5
 Weltronic Co 19500 W 8 Mile Rd Detroit 19 Mich-12-13-18-19
 Western Gear Corp 2600 Imperial Hwy Lynwood Calif-1-2-3-4-5-6-12-13-14-15-17
 Western Sound & Electronic Labs 805 S 5 St Milwaukee 4 Wisc-8
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-2-3-4-7-8
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-1-2-3-4-10
 Weston Labs Old Littleton Rd Harvard Mass-7
 Westronics Inc 3605 McCart Ft Worth 10 Texas-2-5
 White Electron Devices Inc Roger 4 Ave Hackensack NJ-2-8
 Wickes Eng'g & Construction 12 St & Perry Ave Camden 4 NJ-2-7
 Wincharger Corp E 7th & Division Sts Sioux City 2 Iowa-1-2-6-12-13-15-17
 World Radio Labs 3415 W Broadway Council Bluffs Iowa-14
 Wright Equipment Co 128 N Main St Milltown NJ-2-3-4-7-8
 Yardney Electric Corp 40 Leonard St New York 13 NY-3-4-5-6-8

52—PRODUCTION MACHINERY & EQUIPMENT

Abrasive cutting machines	1
Assemblers, feeders	2
Blueprint machines	3
Buffers & grinders	4
Coil winding machines	5
Compressed air production tools	6
Conveyors	7
Counting machines	8
Dehydrators	9
Demagnetizers	10
Die casting machines	11
Drill presses	12
Engraving machines	13
Environment chambers	14
Furnaces, electric	15
Hermetic sealing machines	16
Impregnating machines	17
Lathes, bench	18
Machines, electron tube mfg.	35
Machines, plastic press	36
Magnetizers	19
Marking & numbering machines.	20
Material handling equip.	21
Metal forming machines	22
Ovens, temperature controlled.	23
Printed circuit equipment	24
Printed circuit soldering equip.	25
Pumps, metering	26
Punch presses	27
Riveting machines	28
Shock testing machines	29
Soldering machines	30
Tube sockets, printed circuit.	31
Weighing machines	33
Welders	34
Wire stripping machines	32

Ackerman-Gould Co 92 Bleecker St New York 12 NY-20
 Acme Electric Heating Co 1217 Washington St Boston 18 Mass-23

Acme Telectronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-13
Acoustica Associates 2 Shore Rd Glenwood Landing LI NY-24-25
Acromark Co 443 Morrell St Elizabeth 4 NJ-20-22-27
Aerovox Corp Pacific Coast Div 2724 Peek Rd Monrovia Calif-31
Aireco Inc 2315 2 Ave Carman Schenectady NY-14
Alcar Instruments Inc 17 Industrial Ave Little Ferry NJ-25-30
Alden Systems Co Washington St Westboro Mass-7
All American Tool & Mfg 8-27 Lawndale Ave Skokie Ill-29
Alpha Metals Inc 56 Water St Jersey City NJ-25
American Instrument Co 8030 Georgia Ave Silver Spring Md-14-23
American Photocopy Equip 1920 W Peterson Ave Chicago 26 Ill-3
American Time Products 580 5 Ave New York 36 NY-10
Amplifier Corp of America 398 Broadway New York 13 NY-10
Anchor Specialty Mfg 300 N Industrial Ave Teterboro NJ-14
Andrew Corp 363 E 75 St Chicago 19 Ill-9
Annis Co R B 1101 N Delaware St Indianapolis 2 Ind-10-19
Applied Precision Products 1431 S La Brea Ave Los Angeles 19 Calif-23
Arnold Magnetics Co 5962 Smiley Dr Culver City Calif-5
Arnoux Corp 11924 W Washington Blvd Los Angeles 66 Calif-23
Artos Eng'g Co 2753 S 28 St Milwaukee 16 Wisc-32
Associated Eng'g & Mfg Corp Glen Ridge NJ-16
Audio Devices Inc 444 Madison Ave New York NY-10
Automatic Processing Corp 1335 N Wells St Chicago 10 Ill-24
Baker Bros 1014 Post St Toledo 10 Ohio-36
Barrett Co Leon J 1614 Grafton Rd Worcester 1 Mass-17
Berkeley Div Beckman Instruments Inc 2200 Wright Ave Richmond 3 Calif-36
B-I-F Industries 345 Harris Ave Providence 1 RI-26-33
Black & Decker Mfg Co Towson 4 Md-1
Boesch Mfg Co 45 River St Danbury Conn-5
Bogue Electric Mfg Co 52 Iowa Ave Paterson 8 NJ-34
Bowser Technical Refrigeration Div Bowser Inc Terryville Conn-14
Brown Equipment Co 128 N Main St Milltown NJ
Buck Eng'g Co 37-41 Marcy St Freehold NJ-35
Calidyne Co 120 Cross St Winchester Mass-29
Camera Equipment Co 315 W 43 St New York 36 NY-10
Cargo Packers Inc 3720 14 Ave Brooklyn 18 NY-21
Chicago Rivet & Machine 9600 W Jackson Blvd Bellwood Ill-28
Cincinnati Sub Zero Products 3932 Reading Rd Cincinnati 29 Ohio-14
Cinema Eng'g Co Div Aerovox 1100 Chestnut St Burbank Calif-10
Circon Component Co Santa Barbara Municipal Airport Goleta Calif-24
City Marking Devices Corp 12 Spruce St New York 38 NY-20
Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-36
Coil Company of America 207 Washington St Northvale NJ-10
Cole Instrument Co 1000 N Olive St Anaheim Calif-10
Cole Radio Works 86 Westville Ave Caldwell NJ-30
Columbus Research & Development 2511 11 St Columbus Nebr-15
Connector Corp 6025 N Keystone Ave Chicago 30 Ill-31
Conrad Inc 141 Jefferson St Holland Mich-14
Consolidated Vacuum Corp 1775 Mt Read Blvd Rochester 3 NY-35
Cratex Mfg Co 81 Natoma St San Francisco 5 Calif-1-22
Cross Co H 15 Beekman New York NY-22
Crown Industrial Products 304 Amsterdam St Woodstock Ill-5
Cryco Inc 1138 Mission St S Pasadena Calif-23
Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-9
Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-24-25
Diatron Co 3327 Dixie Dr Houston 21 Texas-19
Dielectric Products Eng'g Raymond Me-9
Diamond Union Stamp Works 81 Washington St Boston 8 Mass-20
Doall Co 254 N Laurel Ave Des Plaines Ill-1
Dollin Corp 630 S 21 St Irvington 11 NJ-11
Dubrow Development Burlington NJ-10-19
Eby Co Hugh H 4701 Germantown Ave Philadelphia 44 Pa-31
Eisler Eng'g 750 S 13 St Newark 3 NJ-5-13-15-16-18-30-34-35
Electric Furnace Co Salem Ohio-15
Electric Soldering Iron Co Deep River Conn-25
Electronic Brazing Co 140 Glenridge Ave Montclair NJ-10-19
Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-24
El Mec Labs 730 Blvd Kenilworth NJ-8-21-30
Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-25
Environmental Equip Co 369 Linden St Brooklyn 27 NY-14
Eraser Co 1068 S Clinton St Syracuse 4 NY-32
Erie Resistor Corp 644 W 12 St Erie 6 Pa-24
Erwood Inc 1770 W Berteau Ave Chicago 13 Ill-23
Federal Tool Eng'g 1384 Pompton Ave Cedar Grove NJ-22-34
Fisher Radio Corp 21-21 44 Dr Long Island City NY-19
Forster-Teichmann 1210 Clark Bldg Pittsburgh 22 Pa-35
Fretco Inc 406 N Craig St Pittsburgh 13 Pa-2
General Cement Mfg Co 919 Taylor Ave Rockford Ill-25
General Electric Co Carboloy Dept Box 237 Roosevelt Park Annex Detroit 32 Mich-10-19
General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-8-15-34
General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-16
General Research & Supply 572 S Division Ave Grand Rapids 3 Mich-24
Graphik Circuits Div Cinch Mfg Corp 221 S Arroyo Pkwy Pasadena 1 Calif-31
Green Instrument Co 385 Putnam Ave Cambridge 39 Mass-13
Grieve-Hendry Co 1401 W Carroll Ave Chicago 7 Ill-15-23
Harper Electric Furnace 47 River St Buffalo 2 NY-15
Haydu Bros of NJ Sub Burroughs Corp PO Box 1226 Plainfield NJ-31
Hermes Engravers 13 University Pl New York 3 NY-13-20
Hill Electronic Eng'g & Mfg New Kingstown Pa-23
Hillyer Instrument Co 54 Lafayette St New York 13 NY-24
Hobart Bros Hobart Square Troy 1 Ohio-34
Hoffman Co P R 321 Cherry St Carlisle Pa-20
Hudson Bay Co Div Labline Inc 3070 W Grand Ave Chicago 22 Ill-14
Hunt Corp 453 Lincoln St Carlisle Pa-23
Hupp Electronics Div Hupp Corp 265 E Pomfret St Carlisle Pa-23
Hydraulic Press Mfg Co Marion Rd Mt Gilead Ohio-22-36
Ideal Industries 5127 Park Ave Sycamore Ill-10-30
Impact-O-Graph Corp 1900 Euclid Ave Cleveland 15 Ohio-29
Industrial Electronic Engrs 3973 Lankershim Blvd North Hollywood Calif-33
Industrial Hdwe Mfg Co 109 Prince St New York 12 NY-31
International Radiant Corp 4 Manhasset Ave Port Washington NY-14
Jan Hdwe Mfg Co 75 N 11 St Brooklyn 11 NY-29
Jeffrey Mfg Co N 4 St & 1 Ave Columbus 16 Ohio-7
Joyal Products Inc 115 Edison Pl Newark 5 NJ-34
Kahle Engineering Co 1307 7 St North Bergen NJ-5-15-16-20-30-35
Kahn & Co 541 Windsor St Hartford 1 Conn-9
Kearfott Co 1378 Main Ave Clifton NJ-23
Keller Tool Div Gardner-Denver Co Grand Haven Mich-6
Keystone Electronics 114 Manhattan St Stamford Conn-23
Klein Electronics Leo 2404 S LaBrea St Los Angeles 16 Calif-10-19
Knights Co James Sandwich Ill-23
LaCesa Engineering Corp 5614 W Grand Ave Chicago 39 Ill-5
Lapp Insulator Co Radio Specialties Div Gilbert St Le Roy NY-26
Lavoie Labs Inc Matawan-Freehold Rd Morristownville NJ-23
Lemert Eng'g Co 201 E Jefferson St Plymouth Ind-6-22-28
Lepel High Frequency Labs 54-18 37 Ave Woodside 77 NY-15-35
Librascope Inc Burbank Div 133 E Santa Anita Ave Burbank Calif-10
Light Electric Corp 214 Lackawanna Ave Newark 3 NJ-10
Lincoln Electric Co 22801 St Clair Ave Cleveland 17 Ohio-34
Link-Belt Co Prudential Plaza Chicago 1 Ill-7
Luma Electric Equipment Co PO Box 132 Toledo 1 Ohio-10-30
Magnaflex Corp 7300 W Lawrence Ave Chicago 31 Ill-10-19
Malco Tool & Mfg Co 4025 W Lake St Chicago 24 Ill-24
Mallory & Co Inc P R 42 So Gray St Indianapolis 6 Ind-24
Mandex Mfg Co 2608 W 16 St Chicago 8 Ill-31
Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-34
Markem Machine Co 150 Congress St Keene NH-20
Matthews & Co Jas H 3966 Forbes St Pittsburgh 13 Pa-20
McCoy Electronics Co Mt Holly Springs Pa-23
Meico Products Inc 301 5 Ave So Minneapolis 15 Minn-10-19
MeRix Chemical Co 1021 E 55 St Chicago 15 Ill-9-10
Mico Instrument Co 80 Trowbridge St Cambridge 38 Mass-5-13
Microtran Co 84-11 Rockaway Beach Blvd Rockaway Beach 93 NY-10
Monitor Products Co 815 Fremont Ave South Pasadena Calif-23
Motor Generator Corp Hobart Bros Affiliate Troy Ohio-34
Multi-Tron Lab 4624 Washington Blvd Chicago 44 Ill-35
Murphy & Miller 1318 S Michigan Ave Chicago 5 Ill-14
Mycalex Corp of America 125 Clifton Blvd Clifton NJ-31
National Fabricated Fabrics Div Hoffman Electronics 2650 W Belden Ave Chicago 47 Ill-31
National Research Corp 160 Charlemont St Newton Highlands 6 Mass-14-15-17-35
National Vulcanized Fibre Co PO Box 311 Wilmington 99 Dela-21
Numberall Stamp & Tool Co 379 Huguenot Ave Staten Island 12 NY-20
Ohio Crankshaft Co TOCCO Div 3800 Harvard Ave Cleveland 5 Ohio-15
O'Neil-Irwin Mfg Co Lake City Minn-22
Ozallid Div General Aniline & Film Corp Anasco Rd Johnson City NY-3
Pacific Electricord Co 3217 Exposition Pl Los Angeles 18 Calif-36
Pease Co C F 2601 W Irving Park Rd Chicago 18 Ill-3
Pereny Equipment Co 893 Chambers Rd Columbus 1 Ohio-15-23
Pioneer Machine Works 6136 Adam St W New York NJ-35
Pittsburgh Electrodyer Co Div McGraw Electric Co PO Box 1766 Pittsburgh 30 Pa-9
Poinsettia Co 110 Cedar Ave Pitman 15 NJ-36
Popper & Sons 300 4 Ave New York 10 NY-20
Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-8
Precision Crystal Lab 2223 Warwick Ave Santa Monica Calif-23
Precision Scientific Co 3737 W Cortland St Chicago 47 Ill-14-15-23
Preis Engraving Machine Co H P 651 US Highway 22 Hillside 5 NJ-13-20
Printed Electronics Corp 7 North Ave Natick Mass-24
Prodelin Inc 307 Bergen Ave Kearny NJ-2-9
Radio Frequency Labs Powerville Rd Boonton NJ-10-19
Raypar Inc 7810 W Addison St Chicago 34 Ill-20
Red Point Products 1907 Riverside Dr Glendale 1 Calif-17
Reel Roller Bit Co Cleco Div PO Box 2119 Houston 1 Texas-4-6-28
Remington Rand Univac 1902 W Minnehaha Ave St Paul W4 Minn-24
Reynolds Electric Co 3000 River Road River Grove Ill-4
Richardson Labs Kenneth 254 Vincent Ave Lynbrook NY-10-19
Robinson Inc Edward E 95 Park Ave Nutley 10 NJ-26
Rockwell Co W S 200 Eliot St Fairfield Conn-23
Schauer Mfg Corp 4500 Alpine Ave Cincinnati 36 Ohio-4
Schmidt Co Geo T 1804 Belle Plaine Ave Chicago 13 Ill-20
Seiaky Bros 4915 W 67 St Chicago 38 Ill-34
Seneca Falls Machine Co Fall St Seneca Falls NY-22
Sethco Mfg Co 70 Willoughby St Brooklyn 1 NY-26
South Bend Lathe Works South Bend 22 Ind-12-18
Spaulding Fibre Co 310 Wheeler St Tonawanda NY-21
Stantat Mfg Co 47-23 37 St Long Island City 1 NY-5
Stancil Hoffman Corp 921 N Highland Ave Hollywood 38 Calif-10
Standard Cabinet Co 54 Washington Ave Carlstadt NJ-14
Stevens Mfg Co George 6022 N Rogers Ave Chicago 30 Ill-5-32
Stewart Eng'g Co PO Box 277 Soquel Calif-15-34
Stewart Instrument Co 6507 Grand River Detroit 8 Mich-8
Stokes Machine Co F J 5500 Tabor Rd Philadelphia 20 Pa-35
Sturtevant Co P A Addison Ill-29
Swift & Sons M 10 Love Lane Hartford 1 Conn-20
Taber Instrument Corp 111 Goundry St N Tonawanda NY-35
Taylor-Winfield Corp Warren Ohio-34
Technical Devices Co 2340 Centinela Ave Los Angeles 64 Calif-32
Tempo TV Sales Corp 21341 Roscoe Blvd Canoga Park Calif-2
Tenney Eng'g Inc 1090 Springfield Rd Union NJ-14
Thermo Electric Mfg Co 465 Huff St Dubuque Iowa-15
United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-14
United Shoe Machinery Corp 146 Federal St Boston Mass-7-28-30
Unitek Corp 275 N Halstead Ave Pasadena 8 Calif-34-35
Universal Mfg Co 410 Hillside Ave Hillside NJ-5
Vacuum Tube Products Co 506 S Cleveland St Oceanside Calif-34

Valpey Crystal Corp Holliston Mass-23
 Vernaline Products Co PO Box 222 Hawthorne NJ-30
 Vickers Electric Div Vickers Inc A Unit of Sperry Rand Corp 1815 Locust St St Louis 3 Mo-34
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-2-25-30
 Vulcan Electric Co 88 Holten St Danvers Mass-25
 Waage Electric Inc 720 Colfax Ave Kenilworth NJ-25
 Wabash Metal Products Box 305 Wabash Ind-36
 Waco Inc 2032 Broadway Santa Monica Calif-10
 Walker-Turner Div Kearney & Trecker 900 North Ave Plainfield NJ-12
 White S S Industrial Div 10 E 40 St New York 16 NY-1-35
 Whitney Metal Tool Co 110 Forbes St Rockford Ill-22-27-28
 Wiedemann Machine Co 4272 Wissahickon Ave Philadelphia 32 Pa-24-27
 Wire Stripper Co 1721 Eastham Ave E Cleveland 12 Ohio-32
 Wright Electronics Inc 1519 McGee St Kansas City Mo-23
 Wyzenbeek & Staff 223 N California Ave Chicago 12 Ill-4
 Zephyr Mfg Electronics Div 201 Hindry Ave Inglewood 1 Calif-30



Cole Instrument Co 1000 N Olive St Anaheim Calif-13
 Colortone Electronics 200 Frank Rd Hicksville NY-4
 Corbin Corp 5419 56 Pl Riverdale Md-3-4-8-10
 Corning Glass Works Corning NY-11
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-5-6-10-15
 Craig Systems Inc 90 Holten St Danvers Mass-1
 Creative Eng'g Corp 10816 Burbank Blvd N Hollywood Calif-3
 Crosley Div Avco Mfg Corp 2630 Glendale-Milford Rd Evendale Cincinnati 15 Ohio-10
 Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-3-11
 Daystrom Instrument Archbald Pa-3-5-10-12-15
 DeFrance Eng & Microwave Corp 81 Albion St Wakefield Mass-3
 Diamond Microwave Corp 7 North Ave Wakefield Mass-3-11
 Dorne & Margolin 30 Sylvester St Westbury NY-3
 Downing Crystal Co 191 Shaffer Ave Westminster Md-3
 DuKane Corp St Charles Ill-6
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-13-14
 Eclipse-Pioneer Div Bendix Aviation Corp Teterboro NJ-3
 Edcliff Instruments 383 N Foothill Blvd Pasadena 8 Calif-1
 Edo Corp 13-10-111 St College Point 56 NY-10
 Electro Circuits Inc 401 E Green St Pasadena Calif-4
 Electro-Craft Co 5 Milton Ave Dorchester Mass-10
 Electromec Co 5121 San Fernando Blvd Los Angeles 39 Calif-9
 Electro-Mechanical Research 64 Main St Ridgefield Conn-4
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-1
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-4
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-9
 Electron-Radar Products 4806 W Chicago Ave Chicago 51 Ill-3
 Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-7
 Electro-Pulse Inc 11861 Teale St Culver City Calif-4
 Emerson & Cuming 869 Washington St Camden Mass-11
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-2-10-12
 Engineering Associates 434 Patterson Rd Dayton 9 Ohio-12
 Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 38 Mass-3
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-3-10-15
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-15
 Fielden Instrument Div Robertshaw Fulton Controls 2920 N 4 St Philadelphia 33 Pa-7
 Flight Research Inc PO Box 1-F Byrd Airport Richmond 1 Va-13
 FKB Opticon Inc 202 E Fairview South Bend 14 Ind-3
 Franklin Electronics Inc E 4 St Bridgeport Pa-4
 Gabriel Electronics Div 135 Crescent Rd Needham Hrts 94 Mass-3
 General Mills Inc Mechanical Div 2600 Far Hills Bldg Dayton 9 Ohio-3-10-11-12
 General Precision Equip Corp 82 Gold St New York 38 NY-10
 General Precision Lab 63 Bedford Rd Pleasantville NY-13
 Gilmore Industries 5713 Euclid Ave Cleveland 3 Ohio-4
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-3-10-11-12
 Graybar Electric Co 420 Lexington Ave New York 17 NY-14
 Haller Raymond & Brown 124 N Atherton St State College Pa-5-6-10
 Hallicrafters Co 4401 5 Ave Chicago 24 Ill-3-15
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-4
 Heath Co 305 Territorial Rd Benton Harbor Mich-4
 Hickok Electrical Instrument Co 10514 Dupon Ave Cleveland 8 Ohio-4
 Hoffman Labs Inc 3761 S Hill St Los Angeles 7 Calif-10
 Hughes Research & Development Culver City Calif-3
 Hycon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-10
 Instruments for Industry Inc 150 Glen Cove Rd Mineola NY-14

I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 30 Pa-4
 Jarvis Electronics Corp 6058 W Fullerton Ave Chicago 39 Ill-6
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-3 10-11-12-15
 Kearfott Co 1378 Main Ave Clifton NJ-14
 Kennedy & Co D S 155 King St Cohasset Mass-3
 Kent Co F C 64 Howard St Irvington NJ-3
 Kenyon Instrument Co 1345 New York Ave Huntington Station NY-8-13
 Koch & Sons H Carte Madera Calif-11
 Laboratory for Electronics 75 Pitts St Boston 14 Mass-5-10-15
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-3
 Lane Electronics 7254 Atoll Ave N Hollywood Calif-2
 Lavoie Labs Inc Matawan and Freehold Rd Morganville NJ-3-4-9-10-12-15
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-1
 Leru Labs 827 Black Oak Ridge Rd Paterson 2 NJ-3-10
 Levinthal Electronic Products 2821 Fair Oaks Ave Redwood City Calif-15
 Lieco Inc 147 Ocean Ave Lynbrook NY-3
 Link Radio Corp 110 Jericho Turnpike New Hyde Park LI NY-14
 Lockheed Aircraft Corp Missile Systems Div Van Nuys Calif-10
 Loral Electronics Corp 794 E 140 St New York 54 NY-10-12
 Luria-Cournand Inc Havre De Grace Md-3-11
 Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-8
 Marconi Instruments Ltd 44 New St New York 4 NY-4
 Mark Products Co 6412 W Lincoln Ave Morton Grove Ill-3
 Maryland Electronic Mfg Corp 5009 Calvert Rd College Park Md-3
 McMillan Industrial Corp Brownville Ave Ipswich Mass-11
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-4-8
 Measurements Corp Bonton NJ-4
 Meridian Metalcraft Inc 8739 S Millergrove Dr Whittier Calif-3
 Metal Fabricators Corp 73 Pond St Waltham Mass-3
 Metronix Inc PO Box 549 New London Conn-4
 Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-14
 Moran Instrument Corp 170 E Orange Grove Ave Pasadena 3 Calif-10
 Mycalex Corp of America 125 Clifton Blvd Clifton NJ-11
 Narda Corp 160 Herricks Rd Mineola NY-3
 National Aeronautical Corp 180 S Main St Ambler Pa-12
 Nestor Eng'g Co PO Box 416 Waldwick NJ-14
 Nevada Air Products Co North Valley Rd Reno Nev-1-2
 Northeast Electronics Corp Municipal Airport Concord NH-4
 N R K Mfg & Eng'g 4601 W Addison St Chicago 41 Ill-3
 Otis Elevator Co Electronic Div 35 Rycerson St Brooklyn 5 NY-3-5-6-15
 Pace Eng'g Co 6914 Beck Ave N Hollywood Calif-13
 Panoramic Radio Products 10 S 2 Ave Mt Vernon NY-4
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-10
 Photo Crystals Inc 15 S 1 St Geneva Ill-3
 Pickard & Burns 240 Highland Ave Needham 94 Mass-3
 PM Industries 280 Fairfield Ave Stamford Conn-3
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-4
 Precision Associates 354 Cumberland St Brooklyn 38 NY-4
 Radio Corp of America Camden 2 NJ-15
 Radiomarine Corp of America 75 Varick St New York 13 NY-6-10
 Radio Receptor Co 251 W 19 St New York 11 NY-2-12
 Rawson Electrical Instrument Co 117 Potter St Cambridge 42 Mass-4
 Raytheon Mfg Co Ceramic Sales Div Foundry Ave Waltham Mass-11
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-2-12-15
 Reeves Instrument Corp 215 E 91 St New York 28 NY-3-6-12-15
 Resdel Eng'g Corp 330 S Fair Oaks Ave Pasadena 1 Calif-10
 Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-8
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-8
 RS Electronics Corp 435 Portage Ave Palo Alto Calif-10-12
 Rutherford Electronics Co 3707 S Robertson Blvd Culver City Calif-4
 Sanders Associates 95 Canal St Nashua NH-3-10-11-12
 Scientific Associates 2162 Piedmont Rd N E Atlanta 9 Ga-3
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-13

53—RADAR DEVICES

Aircraft landing control	1
Altimeters	2
Antennas	3
Calibrators	4
Indicators, moving target	5
Indicators, plan position	6
Indicators, proximity	7
Marine navigation	8
Oscillographs	9
Radar	10
Radomes ..	11
Receivers	12
Recording cameras	13
Repeaters	14
Transmitters	15

Admiral Corp 3800 Cortland St Chicago 47 Ill-10
 Air Associates Inc 511 Joyce St Orange NJ-1-10
 Aircraft Armaments Cockeysville Md-4-12
 Aircraft Radio Corp Booton NJ-12
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-3-5-10-12-15
 Alcor Electronics 180 Lafayette St New York 13 NY-14
 Airtron Inc 1101 W Elizabeth Ave Linden NJ-3
 Allegany Instrument Co Cumberland Md-13
 Amerac Inc Wenham Mass-3
 American Bosch Arma Corp Arma Div Roosevelt Field Garden City NY-10-14
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-3-10
 Andrew Corp 363 E 75 St Chicago 19 Ill-3
 Applied Precision Products 1431 S La Brea Ave Los Angeles 19 Calif-13
 Aremac Associates 50 S San Gabriel Blvd Pasadena 3 Calif-13
 ARF Products 7627 Lake St River Forest Ill-3
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-6-12-15
 Ballantine Labs Booton NJ-4
 Beckman & Whitley 985 San Carlos Calif-13
 Bell Aircraft Corp PO Box 1 Buffalo 5 NY-1-3-15
 Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-10-15
 Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-3-12-15
 Berndt-Bach Inc 6926 Romaine St Hollywood 38 Calif-13
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-3-8-10-15
 Bogart Mfg Corp 315 Siegel St Brooklyn 6 NY-3
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-4-8
 Borden Eng'g Co Div M J Johnson Aircraft Eng'g Co 39 E Hanover Ave Morris Plains NJ-1
 Brach Mfg 200 Central Ave Newark NJ-14
 Brea Instruments 6914 Beck Ave N Hollywood Calif-13
 Budd-Stanley Co 43-01 22 St Long Island City 1 NY-3
 Camera Equipment Co 315 W 43 St New York 36 NY-13
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-3-6-10-12-15
 Chromatic TV Labs 1501 Broadway New York 36 NY-10
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-3

Sensitive Research Instrument Corp 310 Main St New Rochelle NY-4
 Servonic Instruments Inc 1145 S Fair Oaks Pasadena 2 Calif-6
 Silicone Insulation Inc 564 3 Ave New York 16 NY-11
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-1
 Snyder Mfg Co 22 & Ontario Sts Philadelphia 40 Pa-3
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-13
 Specialty Eng'g & Electronics Co 79 Clifton Pl Brooklyn 38 NY-12
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-4-8-10
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-1-2-3-5-6-9-10-12-14-15
 Sterling Precision Corp Instrument Div 34-17 Lawrence St Flushing LI NY-3
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-3-6-10-11
 Technical Appliance Corp 1 Taco Ave Sherburne NY-3
 Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-3-4-10
 Telechrome Inc 88 Merrick Rd Amityville LI NY-13
 Telerad Mfg 1440 Broadway New York 18 NY-3
 Teletronics Lab Inc 54 Kinkel St Westbury LI NY-4
 Televiso Corp 1415 Golf Rd Des Plaines Ill-6-8-15
 Tempo TV Sales Corp 21341 Roscoe Blvd Canoga Park Calif-3
 Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-10
 TV Specialty Co 350 W 31 St New York 1 NY
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-13
 Union Electric & Mfg Co 1057 Summit Ave Jersey City 7 NJ-2-10-15
 Univox Corp 102 Warren St New York 7 NY-1
 Varian Associates 611 Hansen Way Palto Alto Calif-15
 Wang Labs Inc 37 Hurley St Cambridge 41 Mass-4
 Waveline Inc Passaic Ave Box 470 Caldwell NJ-3
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-3-5-6-8-10-11-12-14-15
 Weston Labs Old Littleton Rd Harvard Mass-2
 Wheeler Labs Inc 122 Cutter Mill Rd Great Neck NY-3
 Winston Electronics Inc 4312 Main St Philadelphia 27 Pa-4

Airborne Instruments Lab 160 Old Country Rd Mineola NY-12-17-25
 Aircorn Inc 354 Main St Winthrop 52 Mass-27
 Alcor Electronics 180 Lafayette St New York 13 NY-10
 AirCraft Radio Corp Boonton NJ-6-8-17-25-26
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-9
 American TV Inc 5050 N Broadway Chicago 40 Ill-24
 American TV & Radio Co 300 E 4 St St Paul 1 Minn-24
 Amplitel Inc 342 W 40 St New York 18 NY-3
 Applied Electronics Co 1246 Folsom St San Francisco 3 Calif-16
 Applied Research Inc 163-07 Depot Rd Flushing 58 NY-3
 A R F Products Inc 7627 Lake St River Forest Ill-2-6-7-14-17-24
 Astatic Corp PO Box 120 Conneaut Ohio-3
 Automatic Radio Mfg Co 122 Brookline Ave Boston 15 Mass-9
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-17
 Babcock Radio Eng'g 7942 Woodley Ave Van Nuys Calif-14
 Bassett Inc Rex 1314 N E 17 Court Fort Lauderdale Fla-6-16
 Baird Associates 33 University Rd Cambridge 38 Mass-18
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-5-6-12-13-15-23-27
 Bell Aircraft Corp PO Box 1 Buffalo 5 NY-25
 Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-6-7-8-11-14-18-20-26
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-27
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-16
 Budelman Radio Corp 375 Fairfield Ave Stamford Conn-19
 Runnell & Co J H 81 Prospect St Brooklyn 1 NY-10
 Calbest Electronics Co 4801 Exposition Blvd Los Angeles 16 Calif-24
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-17
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-23
 CGS Labs 391 Ludlow St Stamford Conn-15
 Clegg Labs Inc Ridgedale Ave Morristown NJ-5-6-11-13-14-23-25-26-27
 Collins Audio Prod Co Route 29 Mountinside NJ-13
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-5-17-23
 Communications Co Coral Gables Fla-6-7-11-13-14-18-26
 Conrac Inc 19217 E Foothill Blvd Glendora Calif-24
 Continental Communications 452 W Chicago Ave Chicago 10 Ill-27
 Continental Electronics Mfg Co 4212 S Buckner Blvd Dallas 27 Tex-17
 Corbin Corp 5419 56 Pl Riverdale Md-2
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-4-17
 Crosby Labs Box 233 Robbins Lane Hicksville NY-1-12-23
 Crosley Div Avco Mfg Corp 2630 Glendale-Milford Rd Evendale Cincinnati 15 Ohio-24
 Cubic Corp 2841 Canon St San Diego 6 Calif-25-26
 Daystrom Instrument Archbald Pa-17
 Denson Electronics Corp Box 122 Rockville Conn-13-14
 De Wald Radio Mfg Corp 35-15 37 Ave Long Island City 1 NY-3-6-24
 D & R Ltd 402 E Gutierrez St Santa Barbara Calif-23
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-11-13-14-18-20-22-24
 Dynamics Electronics-NY 73-39 Woodhaven Blvd Forest Hills NY-6-8-17-25-26
 Eberline Instrument Div Reynolds Electrical & Eng'g PO Box 1539 Santa Fe N Mex-25
 Eckstein Radio & TV 2601 E Franklin Ave Minneapolis 6 Minn-6-7
 Eldico of NY 72 E 2 St Mineola LI NY-5-6-7-11-13-15-16-18-19-23
 Electro-Craft Co 5 Milton Ave Dorchester Mass-16
 Electron Enterprises 6917 W Stanley Ave Berwyn Ill-9-13
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-19
 Electronic Creations Co 1701 Boone Ave New York 60 NY-9
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-6-7-10-13-14-15-25-26-27
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-25-26
 Electro Sound Corp 115 Halleck St Boston 20 Mass-13
 Electro-Voice Inc Buchanan Mich-1-4-5-6-23
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-2-6-9-11-13-14-17-24-25-26
 Engineering Associates 434 Patterson Rd Dayton 9 Ohio-17-26

Equipment Crafters Inc River Edge NJ-1-5-11-13-26
 Erco Radio Labs 637 Stewart Ave Garden City NY-6-7-10-12-13-15-16-23-25-26-27
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-17-25-26
 Federal Telephone & Radio Co Div IT&T 100 Kinsland Rd Clifton NJ-6-13-14-17-20-25
 General Electric Co Electronics Div Communication Equip Syracuse NY-9-11-13-14-18-26
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-17
 Gotham TV Corp 123 W 64 St New York NY-24
 Gray Radio Co 501 Forest Hill Blvd W Palm Beach Fla-16
 Graybar Electric Co 420 Lexington Ave New York 17 NY-13-24
 Guild Radio & TV Co 460 N Eucalyptus Ave Inglewood Calif-26
 Gyro Electronics Co 325 Canal St New York 13 NY-13
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-24
 Hallicrafters Co 4401 5 Ave Chicago 24 Ill-5-6-9-11-14-23-24-26-27
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-5-6-7-12-13-16-23-25-26
 Harristahl Labs 474 E 2 St Brooklyn 18 NY-1-5
 Heath Co 305 Territorial Rd Benton Harbor Mich-5
 Hogan Labs 155 Perry St New York 14 NY-2
 Hudson American Corp 25 W 43 St New York 36 NY-16
 Hudson Associates 50 Drumm St San Francisco 11 Calif-6-7-11-12-13-15-19-26
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-1
 International Crystal Mfg 18 N Lee Ave Oklahoma City 2 Okla-1-2
 International Research Assoc 2221 Warwick Ave Santa Monica Calif-9-11
 Jarvis Electronics Corp 6058 W Fullerton Ave Chicago 39 Ill-7-8-26
 Jefferson Inc Ray 40 E Merrick Rd Freeport NY-16
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-17
 Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-11-13-14-16-18-26
 Kahn Research Labs 22 Pine St Freeport NY-6-23
 Kay Electric Co 14 Maple Ave Pinebrook NJ-3
 K-F Development Co 2606 Spring St Redwood City Calif-5
 Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-17
 Land-Air Inc Instrument & Electronic Div Oakland 14 Calif-7-26
 Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-27
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-6-7-8-12-13-14-25-26
 Lel Inc 380 Oak St Copiague NY-9-11-13-16
 Link Radio Corp 110 Jericho Turnpike New Hyde Park LI NY-14-18
 Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-14-16
 Marconi Instruments Ltd 44 New St New York 4 NY-5-6-14
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-6-14-25-26-27
 Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-25
 McLaughlin Corp J L A P O Box 529 La Jolla Calif-6-10-12-23
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-13-16
 Melpar Inc Sub Westinghouse Air Brake Falls Church Va-25-26
 Meridian Metalcraft Inc 8739 S Miller Grove Dr Whittier Calif-17
 Microwave Associates 22 Cummington St Boston 15 Mass-17
 Mitchell Industries PO Box 17 Mineral Wells Texas-26
 Mohawk Electronic Research Labs Box 126-A RD4 Amsterdam NY-1-23-26
 Monitoradio Div IDEA Inc 7900 Pendleton Pike Indianapolis 26 Ind-6-11-13-14-18-26
 Morrow Radio Mfg Co 2794 Market St Salem Ore-1-5-6-13
 Motorola Communications & Electronics 4501 W Augusta Blvd Chicago 51 Ill-9-13-14-16-17-18-19-20
 MP Eng'g Co Fairfield 3 Conn-24
 Multi-Products Co 21470 Coolidge Hwy Oak Park 37 Mich-5-11
 National Aeronautical Corp 180 S Main St Ambler Pa-7-8-13-26
 National Company 61 Sherman St Malden 48 Mass-5-6-11-12-13-14-17-27
 National Electronics Labs 1713 Kalorama Rd NW Washington 9 DC-13-14-26
 Nems-Clarke Inc 919 Jessup-Blair Dr Silver Spring Md-6-14
 Nestor Eng'g Co PO Box 416 Waldwick NJ-20
 New London Instrument Co 82 Union St New London Conn-6-14
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-13-16-27

54—RECEIVERS, COMMUNICATION

Converters, amateur	1
Converters, FM	2
Converters, UHF-TV	3
Preselectors	4
Receivers, amateur	5
Receivers, AM communication	6
Receivers, aviation fixed	7
Receivers, aviation mobile	8
Receivers, battery portable	9
Receivers, carrier telegraph	10
Receivers, civil defense	11
Receivers, diversity	12
Receivers, fixed frequency	13
Receivers, FM communication	14
Receivers, frequency shift	15
Receivers, marine	16
Receivers, microwave	17
Receivers, police	18
Receivers, radio paging	19
Receivers, railroad	20
Receivers, remote pickup fixed	21
Receivers, remote pickup, mobile	22
Receivers, SSB	23
Receivers, TV	24
Receivers, UHF	25
Receivers, VHF	26
Receivers, WWV	27

Arme Electronic Div Nea Service 1200 W 3 St Cleveland 13 Ohio-2
 Admiral Corp 3800 Cortland St Chicago 47 Ill-24-25-26
 Aeronautical Communications Equip 3090 S W 37 Ave Miami 33 Fla-6-7-8-12-13
 Aeronautical Electronics PO Box 6043 Raleigh NC-6-7-8-11-13-26
 Air Associates Inc 511 Joyce St Orange NJ-17-25

Olympic Radio & TV Inc 34-01 38 Ave Long Island City 1 NY-9-24
 Pacific Mercury 8345 Havenhurst Sepulveda Calif-24
 Packard-Bell Co 12333 W Olympic Blvd Los Angeles 64 Calif-9-24
 Pearce-Simpson Inc 3023 Coral Way Miami 34 Fla-13-16
 Peer Inc 1200 Milton St Benton Harbor Mich-7-26
 Planet Service Corp 88-02-06 102 St Richmond Hill 18 NY-16
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-17
 Pratt Albert 114 W Lake View Ave Milwaukee 17 Wis-14-18-20
 Precision Associates 354 Cumberland St Brooklyn 38 NY-6
 Prescott Television Co 7352 Beverly Blvd Los Angeles 36 Calif-24
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-6-12-13-15
 Pye Corp of America 270 Park Ave New York 17 NY-6-8-9-13-14-16-17-24-26
 Radio Corp of America Camden 2 NJ-9
 Radio Eng'g Labs 36-40 37 St Long Island City 1 NY-12-14-17-25-26
 Radio Frequency Labs Powerville Rd Boonton NJ-13
 Radiomarine Corp of America 75 Varick St New York 13 NY-10-16-23
 Radio Receptor Co 251 W 19 St New York 11 NY-6-7-8-9-13-14-17-25-26
 Railway Communications PO Box 67 Raytown Mo-10-20-23
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-9-16-17
 Regency Div Idea Inc 7900 Pendleton Pike Indianapolis Ind-1-6-9-11-13-14-18-26
 Revere Camera Co 320 E 21 St Chicago 16 Ill-9
 Riviera Electronics 6060 SW 114 St Miami 43 Fla-9
 Rosen Eng'g Products Raymond 32 & Walnut Sts Philadelphia 19 Pa-14
 Sage Labs 30 Guinan St Waltham 54 Mass-17
 Sanders Associates 95 Canal St Nashua NH-17
 Sangamo Generators Sub Sangamo Electric Co Springfield Ill-1
 Scott Radio Labs Liberty & Penna St Plymouth Ind-5-6-7-8-9-11-13-14-18-19-21-22-24-25-26
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-26
 Setchell-Carlson New Brighton St Paul 12 Minn-24
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-27
 Smith-Meeker Eng'g 157 Chambers St New York 7 NY-20
 Sonar Radio Corp 3050 W 21 St Brooklyn 24 NY-5-6-16
 Specific Products 14515 Dickens St Sherman Oakes Calif-27
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-17
 Stanford Labs PO Box 252 Menlo Park Calif-17
 Stavrid Eng'g US Hwy #22 Plainfield NJ-17
 Stelma Inc 190 Henry St Stamford Conn-10-12-13
 Stoddart Aircraft Radio Co 6644 Santa Monica Blvd Hollywood 38 Calif-23
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-4
 Superex Electronics Corp 4 Radford Pl Yonkers NY-9
 Sylvania Electric Products 1740 Broadway New York 19 NY-17-24-25-26
 Tech Master Corp 75 Front St Bklyn 1 NY-24
 Technical Material Corp PO Box 142 Mamaronck NY-5-6-7-11-12-13-14-15-21
 Telechrome Inc 88 Merrick Rd Amityville LI NY-24
 Tele-Communications Inc 41 E 42 St New York NY-12-13-21-22
 Telephonics Corp Park Ave Huntington LI NY-17-25-26
 Telesound Inc 1505 Race St Philadelphia 2 Pa-1
 Televiso Corp 1415 Golf Rd Des Plaines Ill-16-23
 Times Facsimile Corp 540 W 58 St NY NY-2
 Trav-Ler Radio Corp 571 W Jackson Blvd Chicago 6 Ill-9-24-26
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-22
 Varo Mfr Co 2201 Walnut St Garland Texas-13-26
 Videon Electronic Corp 902 E Michigan St Indianapolis 2 Ind-3
 Virginia Electronics Co River Rd at B & ORR Washington 16 DC-6-13
 Visual Electronics Corp 500 5 Ave New York 36 NY-17
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-19
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-10-13-14-15-17-20-23-26
 Wilcox Electric Co 1400 Chestnut St Kansas City 27 Mo-6-7-8-26
 Zenith Radio Corp 6001 W Dickens Ave Chicago 39 Ill-9-24-25-26



55—RECEIVERS, HOME

Converters, FM	1
Converters, UHF-TV	2
Preselectors	3
Receivers, AM	4
Receivers, AM-FM	5
Receivers, automobile	6
Receivers, battery portable	7
Receivers, binaural	8
Receivers, coin operated	9
Receivers, color TV	10
Receivers, construction kits	11
Receivers, farm radio	12
Receivers, FM	13
Receivers, phono-radio comb....	14
Receivers, recorder-radio comb..	15
Receivers, short wave, fixed	16
Receivers, short wave, portable .	17
Receivers, TV	18
Receivers, TV combination	19
Receivers, transistor	20
Receivers, UHF	21
Receivers, VHF	22
Television boosters	23
Wave traps	24

Admiral Corp 3800 Cortland St Chicago 47 Ill-4-10-14-18-19-21-22
 Advance Electronics Co 8510 North End Ave Oak Park 37 Mich-24
 Aeronautical Communications Equip 3090 SW 37 Ave Miami 33 Fla-16
 Air Associates Inc 511 Joyce St Orange NJ-21
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-21
 Aircraft Radio Corp Boonton NJ-21-22
 Airtronix Development Corp 4902 Church Ave Brooklyn 3 NY-4-14
 Alliance Mfg Co Alliance Ohio-2
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-4-7-16-20
 Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-4-5
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-23
 American TV Inc 5050 N Broadway Chicago 40 Ill-18
 American TV & Radio Co 300 E 4 St St Paul 1 Minn-18
 Andrea Radio 27-01 Bridge Plaza N Long Island City 1 NY-4-5-10-18
 Ansley Mfg Co Arthur New Hope Pa-5-14
 ARF Products Inc 7627 Lake St River Forest Ill-1-5-13-14-18-20
 Arvin Industries Inc Columbus Ind-4-5
 Astatic Corp PO Box 120 Conneaut Ohio-2
 Audio-Master Corp 17 E 45 St New York 17 NY-14
 Automatic Radio Mfg Co 122 Brookline Ave Boston 15 Mass-4-5-6-7-12-13-14-20
 Baird Associates 33 University Rd Cambridge 38 Mass-20
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-16
 Bell Aircraft Corp PO Box 1 Buffalo 5 NY-21
 Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-22
 Benrus Watch Co 50 W 44 St New York NY-4-5
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-2-24
 Bogen Co David 29 9 Ave New York 14 NY-2-5
 Brainard Electronics 8586 Santa Monica Blvd Los Angeles 46 Calif-4-5
 B & R Electronics 1701 Boone Ave New York 60 NY-4-5
 Certified Radio Labs 5507 13 Ave Brooklyn 19 NY-11
 Calbest Electronics Co 4801 Exposition Blvd Los Angeles 16 Calif-4-5-18
 Capehart-Farnsworth Div IT&T 3700 E Pontiac St Ft Wayne Ind-4-5-7-10-14-15-18-19-21-22
 CBS-Columbia Inc 3400 47 Ave Long Island City 1 NY-4-5-10-18-20
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-10-18
 Clegg Labs Inc Ridgedale Ave Morristown NJ-11-16-21
 Coilecraft Inc Cary Ill-24

Collins Radio Co 855 35 St NE Cedar Rapids Iowa-16
 Color Converter Inc 116 S Chauncey St Columbia City Ind-18
 Conrac Inc 19217 E Foothill Blvd Glendora Calif-10-18
 Crosley Div Avco Mfg Corp 2630 Glendale-Milford Rd Evendale Cincinnati 15 Ohio-4-18
 Cubic Corp 2841 Canon St San Diego 6 Calif-21-22
 Daystrom Instrument Archbald Pa-20
 Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-6
 De Wald Radio Mfg Corp 35-15 37 Ave Long Island City 1 NY-4-5-13-17-18-19-20
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-6-13-18-23-24
 DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-2
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-6-21-22
 Dynavox Corp 40-05 21 St Long Island City 1 NY-14
 Eckstein Radio & TV 2601 E Franklin Ave Minneapolis 6 Minn-4-5-13
 Eldico of NY 72 E 2 St Mineola LI NY-6-8-11-16-17-24
 Electron Enterprises 6917 W Stanley Ave Berwyn Ill-4-7-9
 Electronic Creations Co 1701 Boone Ave New York 60 NY-4-7
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-16-21-22
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-21-22
 Electro-Voice Inc Buchanan Mich-5-8-13
 Elgin Electronic Corp Box 13 Bluffton Ind-2-20
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-4-5-7-10-12-13-14-16-18-19-20-21-22
 Engineering Associates 434 Patterson Rd Dayton 9 Ohio-22
 Entron Inc 4902 Lawrence St Bladensburg Md-2-23-24
 Equipment Crafters Inc River Edge NJ-16-22
 Erco Radio Labs 635 Stewart Ave Garden City NY-16-21-22
 Espey Mfg Co 200 W 57 St New York 19 NY-4-5-6
 Fada Radio & Electric Co 525 Main St Belleville 9 NJ-10-18
 Fairchild Controls Corporation Electronics Division 200 Hudson St New York NY-5
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-21-22
 Fisher Radio Corp 21-21 44 Drive Long Island City NY-4-5-13
 Fleetwood Corp 1037 Custer Dr Toledo 12 Ohio-18
 Flush Wall Radio Co 1012 Cleveland St Clearwater Fla-4
 General Electric Co Electronics Div Communication Equip Syracuse NY-7-22
 General Precision Lab 63 Bedford Rd Pleasantville NY-23
 G & M Equipment Co 7315 Varna Ave N Hollywood Calif-4-11-14
 Gosnet Co 801 S Main St Burbank Calif-4
 Gotham TV Corp 123 W 64 St New York NY-4-6-18-19
 Granco Products Inc 36-07 20 Ave Long Island City NY-5
 Graybar Electric Co 420 Lexington Ave New York 17 NY-4-5-8-13-18
 Guild Radio & TV Co 460 N Eucalyptus Ave Inglewood Calif-4
 Gyro Electronics Co 325 Canal St New York 13 NY-11-20
 Hal-Hen Co 36-14 11 St Long Island City 6 NY-4
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-18
 Hallcrafters Co 4401 5 Ave Chicago 24 Ill-4-7-16-17-18-22
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-21-22
 Harvey-Wells Electronics Southbridge Mass-6-7
 Heath Co 305 Territorial Rd Benton Harbor Mich-4-11-16
 Hinners-Galanek Radio Corp 25-14 Broadway Long Island City 6 NY-4-5-13-14-17-20
 Hoffman Electronics Corp 3761 S Hill St Los Angeles 43 Calif-4-10-18
 Hudson Associates 50 Drumm St San Francisco 11 Calif-17
 International Research Assoc 2221 Warwick Ave Santa Monica Calif-4-7-20
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-24
 Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-16-22
 Kahn Research Labs 22 Pine St Freeport NY-16
 Kay Electric Co 14 Maple Ave Pinebrook NJ-2
 Land-Air Inc Instrument & Electronic Div Oakland 14 Calif-22
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-20-21-22
 Lel Inc 380 Oak St Copiague NY-7-20
 Lion Mfg Co 2640 Belmont Ave Chicago 18 Ill-18
 Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-16
 Magnavox Co 2131 Bueter Rd Fort Wayne 4 Ind-4-5-13-14-15-18-19-21-22

Major Electronics 42 Meserole St Brooklyn 6 NY-4
 Mar-Ko TV 441 Summit St Toledo 4 Ohio-5
 Mattison TV & Radio Corp 10 W 181 St New York 53 NY-4-5-10-18
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-13-21-22
 Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-21
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-16-17
 Meck Industries John Plymouth Ind-18
 Melco Products Inc 302 5 Ave So Minneapolis 15 Minn-23
 Merit Coil & Transformer Corp 4427 N Clark St Chicago 40 Ill-24
 Miller Electronics 2840 Naomi St Burbank Calif-4
 Mitchell Industries PO Box 17 Mineral Wells Texas-22
 Mitchell Mfg Co 2525 Clybourn Ave Chicago 14 Ill-4-5-7-14-17-18-19-21-22
 Mohawk Electronic Research Labs Box 126-A Rd 4 Amsterdam NY-22
 Monitoradio Div IDEA Inc 7900 Pendleton Pike Indianapolis 26 Ind-22
 Mosley Electronics Inc 8622 St Charles Rock Rd St Louis 14 Mo-24
 Motorola Communications & Electronics 4501 W Augusta Blvd Chicago 51 Ill-6-7
 MP Eng'g Co Fairfield 3 Conn-14-18
 Multi-Products Co 21470 Coolidge Hwy Oak Park 37 Mich-17
 Muntz TV Inc 1735 W Belmont Ave Chicago 13 Ill-18
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-20
 National Company 61 Sherman St Malden 48 Mass-5-8-16
 National Electronics Labs 1713 Kalorama Rd NW Washington 9 DC-22
 Nevada Air Products Co North Valley Rd Reno Nev-20
 Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-4-5
 North American Philips Co 750 S Fulton Ave Mt Vernon NY-5-6-14
 Olympic Radio & TV Inc 34-01 38 Ave Long Island City 1 NY-4-5-7-10-14-18-19-20
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-4-9
 Pacific Mercury 8345 Havenhurst Sebulveda Calif-10-18
 Packard-Bell Co 12333 W Olympic Blvd Los Angeles 64 Calif-4-5-7-10-14-18-19
 Peer Inc 1200 Milton St Benton Harbor Mich-22
 Philco Corp Tioxa & C Sts Philadelphia 24 Pa-4-5-10-18-20
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-23
 Precision Radiation Instruments & Sub Radio Craftsmen 4223 W Jefferson Blvd Los Angeles 16 Calif-5-13
 Prescott Television Co 7352 Beverly Blvd Los Angeles 36 Calif-18-19
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-16
 Pye Corp of America 270 Park Ave New York 17 NY-4-6-7-16-17-18-22
 Radiart Corp 3455 Vega Ave Cleveland 13 Ohio-23
 RadiOclok 2119 Starling Ave New York 62 NY-4
 Radio Corp of America Camden 2 NJ-4-5-7-10-18-20
 Radio Eng'g Labs 36-40 37 St Long Island City 1 NY-21-22
 Radio Receptor Co 251 W 19 St New York 11 NY-7-21-22
 Raytheon Mfg Co 5921 W Dickens Ave Chicago 39 Ill-4-10-18-20
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-7
 Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-2-6-7-20-22-23
 Reverse Camera Co 320 E 21 St Chicago 16 Ill-4-7-15
 Riviera Electronics 6060 SW 114 St Miami 43 Fla-7-17
 Roberts Mfg Co 412 E Chambers St Cleburne Texas-4
 Roland Radio Corp 716 S Columbus Ave Mt Vernon NY-4
 Ryan Co S C 1316 Yale Pl Minneapolis Minn-4
 Scott Inc Hermon Hosmer 385 Putnam Ave Cambridge 39 Mass-5-8
 Scott Radio Labs Liberty & Penna St Plymouth Ind-4-6-6-7-8-12-13-14-15-16-17-18-19-21-22
 Sentinel Radio Corp 2100 Dempster St Evanston Ill-4-5-10-18-20
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-22
 Setchell-Carlson New Brighton St Paul 12 Minn-4-18-19
 Sonora Radio & TV 2023 W Carroll Ave Chicago 12 Ill-3-4-18
 Spencer-Kennedy Labs 1320 Soldiers Field Rd Boston 35 Mass-23
 Stanwyck Winding Co 137 Walsh Ave Newburgh NY-24
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-20
 Stratford TV 2555 W 21 St Chicago 8 Ill-18
 Superex Electronics Corp 4 Radford Pl Yonkers NY-7-11
 Sutton Electronic Co 424 W Short St Lexington Ky-2

Sylvania Electric Products 1740 Broadway New York 19 NY-2-4-5-6-7-10-14-18-19-21-22
 Symphony Radio & TV Corp 925 S Western Ave Los Angeles 6 Calif-4-18
 Tech Master Corp 76 Front St Brooklyn 1 NY-4-18
 Technical Material Corp PO Box 142 Mamaroneck NY-16
 Techniques Inc 178 Central Ave Hackensack NJ-20
 Telechrome Inc 88 Merrick Rd Amityville LI NY-10-18
 Tele-Communications Inc 41 E 42 St New York NY-16
 Telephonics Corp Park Ave Huntington LI NY-21-22
 Televiso Corp 1415 Golf Rd Des Plaines Ill-20
 Telex Inc 1633 Eustis St St Paul 1 Minn-20
 Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-4-5-13
 Trad TV Corp 1001 1 Ave Asbury Park NJ-18
 Transdyne Corp 7337 Grand Ave Maspeth NY-20
 Trans-Tel Corp 736 N Highland Ave Los Angeles 38 Calif-4-5
 Transvision Inc 460 North Ave New Rochelle NY-9-11-19
 Trav-Ler Radio Corp 571 W Jackson Blvd Chicago 6 Ill-4-7-19
 Trutone Electronics Inc 812 N Highland Ave Hollywood 38 Calif-13-14
 Union Electric & Mfg Co 1057 Summit Ave Jersey City 7 NJ-24
 Varo Mfg Co 2201 Walnut St Garland Texas-22
 Visual Electronics Corp 500 5 Ave New York 36 NY-23
 Wells-Gardner Co 2701 N Kildare Ave Chicago Ill-4-5-6-7-9-10-13-14-16-18-19-21-22
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-22
 Westinghouse Electric Co Metuchen NJ-4-5-10-18
 Wilcox Electric Co 1400 Chestnut St Kansas City 27 Mo-22
 Zenith Radio Corp 6001 W Dickens Ave Chicago 39 Ill-4-5-13-14-18-19-20-21

Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-12
 Cubic Corp 2841 Canon St San Diego 6 Calif-2
 Denson Electronics Corp Box 122 Rockville Conn-3
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-3-8
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-12
 Eldico of NY Inc 72 E 2 St Mineola LI NY-1-2-3-10
 Electron Enterprises 6917 W Stanley Ave Berwyn Ill-3
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-8
 Electronic Protection Inc 452 W Chicago Ave Chicago 10 Ill-3-8
 Electro Sound Corp 115 Halleck St Boston 20 Mass-3
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-1-3-4-5
 Equipment Crafters Inc River Edge NJ-3
 Erco Radio Labs 637 Stewart Ave Garden City NY-3
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-1-2-4
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-2-3-6-26
 General Electric Co Electronics Div Communication Equip Syracuse NY-3-8
 General Mills Inc Mechanical Div 2600 Far Hills Blvd Dayton 9 Ohio-5
 G M Equipment Co 7315 Varne Ave N Hollywood Calif-10
 Gotham TV Corp 123 W 64 St New York NY-1
 Graybar Electric Co 420 Lexington Ave New York 17 NY-3
 Gyro Electronics Co 325 Canal St New York 13 NY-3-7
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-3-7
 Hogan Labs 155 Perry St New York 14 NY-11
 Hudson Associates 50 Drumm St San Francisco 11 Calif-8
 Jarvis Electronics Corp 6058 W Fullerton Ave Chicago 39 Ill-1-9
 Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-1-3-10
 Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-9
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-1-2-3-4-9
 Lel Inc 380 Oak St Copiague NY-3
 Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-1
 Magnavox Co 2131 Bueter Rd Fort Wayne 4 Ind-1
 Manning Maxwell & Moore 250 E Main St Stratford Conn-11
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-8
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-3
 Meyer & Co Hugo 39 W 60 St New York 23 NY-5
 Mitchell Industries PO Box 17 Mineral Wells Texas-9
 Monitoradio Div IDEA Inc 7900 Pendleton Pike Indianapolis 26 Ind-3
 Morrow Radio Mfg Co 2794 Market St Salem Ore-3
 Motorola Communications & Electronics 4501 W Augusta Blvd Chicago 51 Ill-3-8
 Multi-Products Co 21470 Coolidge Hwy Oak Park 37 Mich-7
 National Aeronautical Corp 180 S Main St Amher Pa-2-9
 National Company 61 Sherman St Malden 48 Mass-3-10-11
 National Electronics Labs 1713 Kalorama Rd NW Washington 9 DC-3
 Nevada Air Products Co North Valley Rd Reno Nev-5
 New London Instrument Co 82 Union St New London Conn-12
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-3
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-10
 Panoramic Radio Products 10 S 2 Ave Mt Vernon NY-12
 Pearce-Simpson Inc 3023 Coral Way Miami 34 Fla-3
 Perma-Power Co 4727 N Damen Ave Chicago 25 Ill-8
 Philmore Mfg Co 113 University Pl New York 3 NY-7
 Plectron Corp Overton Nebr-10
 Probescope Co 44-05 30 Ave Long Island City 3 NY-12
 Pye Corp of America 270 Park Ave New York 17 NY-2-3
 RadiOclok 2119 Starling Ave New York 62 NY-10
 Radio Frequency Labs Powerville Rd Boonton NJ-3
 Radiomarine Corp of America 75 Varick New York 13 NY-1-6
 Radio Receptor Co 251 W 19 St New York 11 NY-1-2-3-9-12
 Railway Communications PO Box 67 Raytown Mo-8

56—RECEIVERS—NAVIGATION & SPECIAL PURPOSE

Navigation

Receivers, direction finding	1
Receivers, distance measuring	2
Receivers, fixed frequency	3
Receivers, glide slope	4
Receivers, infra-red	5
Receivers, loran	6
Receivers, remote control	7
Receivers, selective signalling	8
Receivers, VHF omnirange	9
Special Purpose	
Receivers, automatic alarm	10
Receivers, facsimile	11
Receivers, panoramic	12

Admiral Corp 3800 Cortland St Chicago 47 Ill-6
 Aeronautical Communications Equip 3090 S W 37 Ave Miami 33 Fla-3
 Aeronautical Electronics PO Box 6043 Raleigh NC-1-9
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-9-12
 Aircraft Radio Corp Boonton NJ-1-9
 Alden Electronic & Impulse Recording Equipment Co Westboro Mass-11
 Alden Systems Co Washington St Westboro Mass-11
 ARF Products 7627 Lake St River Forest Ill-1-7
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-2
 Baird Associates 33 University Rd Cambridge 38 Mass-5
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1
 Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-7
 Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-1-2-9
 Blutworth Marine Div Nat'l-Simplex-Blutworth 92 Gold St New York 38 NY-1-6
 Bristol Co PO Box 1790 Waterbury Conn-7-8
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-11
 CGS Labs 391 Ludlow St Stamford Conn-12
 Clegg Labs Inc Ridgedale Ave Morristown NJ-3
 Collins Audio Prod Co Route 29 Mountainside NJ-3
 Communications Co Coral Gables Fla-7
 Conrac Inc 19217 E Foothill Blvd Glendora Calif-7
 Continental Electronics Mfg Co 4212 S Buckner Blvd Dallas 27 Tex-7

Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-1
 Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-3-8
 Scott Radio Labs Liberty & Penna St Plymouth Ind-7-9
 Seismograph Service Corp PO Box 1590
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-1-5
 Sonar Radio Corp 3050 W 21 St Brooklyn 24 NY-1
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-6
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-8
 Stavid Eng'g Co US Hwy #22 Plainfield NJ-1-2-5
 Stelma Inc 190 Henry St Stamford Conn-3
 Technical Material Corp PO Box 142 Mamaronck NY-7-8
 Tele-Communications Inc 41 E 42 St New York NY-3
 Telephonics Corp Park Ave Huntington LI NY-9
 Televiso Corp 1415 Golf Rd Des Plaines Ill-1-4
 Times Facsimile Corp 540 W 58 St New York 19 NY-11
 Varo Mfg Co 2201 Walnut St Garland Texas-3-7
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-3
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-3-8
 Wilcox Electric Co 1400 Chestnut St Kansas City 27 Mo-9



Cincinnati Time Recorder Co 1733 Central Ave Cincinnati 14 Ohio-2-11-13-15
 Columbia Records Div Columbia Broadcasting System 799 7 Ave New York NY-7
 Consolidated Electroynamics Corp 300 N Sierra Madre Villa Pasadena Calif-7
 Cook Electric Co 2700 Southport Ave Chicago 14 Ill-7
 Crescent Industries Inc 5900 W Touhy Ave Chicago 31 Ill-7-11
 Dalmo Victory Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-11
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-7-9-12-15-16
 Daystrom Electric Corp 837 Main St Poughkeepsie NY-7
 DuKane Corp St Charles Ill-7
 Dynavox Corp 40-05 21 St LI City 1 NY-7
 Electrosonic Specialties 7230 Clinton Rd Upper Darby 14 Pa-7
 Electro Sound Corp 115 Halleck St Boston 20 Mass-7
 Emerson Radio & Phono Co 14 & Coles Sts Jersey City NJ-7
 Epsylon Sound Accessories The Barons St Margarets Twickenham Middlesex England-7
 Esterline-Angus Co PO Box 596 Indianapolis 6 Ind-11
 Federal Mfg & Eng'g 1055 Stewart Ave Garden City NY-7
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-16
 Fenton Co 15 Moore St New York 4 NY-7
 Ferroxcube Corp of America 4290 E Bridge St Saugerties NY-5
 Fischer-Smith Inc 164 State St W Englewood NJ-7
 Franklin Electronics Inc E 4 St Bridgeport Pa-12
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-4-11
 Gotham Audio Development 2 W 46 St New York 36 NY-4-7
 Gray Mfg Co 16 Arbor St Hartford 1 Conn-3
 Gray Research & Development 658 Hilliard St Manchester Conn-4-7
 Graybar Electric Co 420 Lexington Ave New York 17 NY-7-12-16
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-7
 Gurley W & L E 514 Fulton St Troy NY-5
 Hartley Products 521 E 162 St NY 51 NY-7
 Houston Technical Labs 2424 Branard Houston 6 Texas-5
 International Scientific Industries 2374 E Hwy 24 Colorado Springs Colo-7
 Interstate Photo Supply 17 W 17 St NY NY-8
 ISI Corp 3101 E 42 St Minneapolis Minn-7
 James Instrument Labs 9110 S 52 Court Oak Lawn Ill-7
 Kay Electric Co 14 Maple Ave Pinebrook NJ-5-12
 Kinevox Div Electromation Co 116 S Hollywood Way Burbank Calif-6
 Larson Instrument Co 24 Orchard St Tarrytown NY-11
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-12
 Logistics Research 141 S Pacific Ave Redondo Beach Calif-7
 Magnasync Mfg Co 5546 Satsuma Ave N Hollywood Calif-6-7-11-12
 Magnecord Inc 1101 S Kilbourn Ave Chi Ill-7
 Magnetic Recording Industries 11 E 16 St New York 3 NY-2-3-4-5-7-15
 Maryland Electronic Mfg Corp 5009 Calvert Rd College Park Md-5
 Michigan Electronics 854 N Rockwell St Chicago 22 Ill-7-8
 Miles Reproducer Co 812 Broadway New York 3 NY-3-9-11-12-16
 Minn Mining & Mfg Co 900 Fauquier Ave St Paul 6 Minn-5-6-7
 Mitchell Mfg Co 2525 Clybourn Ave Chi Ill-7
 Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-2-3-7-8-9-11-15-16
 National Company 61 Sherman St Malden 48 Mass-7
 Oerlikon Tool & Arms Corp of America PO Box 3049 Asheville N Car-3
 Offner Electronics 5320 N Kedzie Ave Chicago 25 Ill-11
 Pampa Electronics Corp 7354 Frankford Ave Philadelphia 36 Pa-2-6-7-15
 Peirce Wire Recorder Corp 5900 N Northwest Hwy Chicago 31 Ill-3-5-6-8-9-11-16
 Pentron Corp 777 S Tripp Ave Chicago 24 Ill-7
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-7-15
 Precision Associates 354 Cumberland St Brooklyn 38 NY-7
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-7
 Presto Recording Corp PO Box 500 Paramus NJ-4-7-11-12-13

Radio Corp of America Camden 2 NJ-7
 Rangertone Inc 73 Winthrop St Newark 4 NJ-7-14
 Rek-O-Kut Co 38-01 Queens Blvd LIC 1 NY-4
 Remington Rand Univac Div 315 4 Ave New York 10 NY-5-7
 Revere Camera Co 320 E 21 St Chicago 16 Ill-7-11-12-13
 Robinson Recording Labs 35 S 9 St Philadelphia 7 Pa-4
 Ronette Acoustical 135 Front St NY NY-7
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-15
 Scully Machine Co 62 Walter St Bridgeport 8 Conn-4
 Simpson Mfg Co Mark 32-38 49 St Long Island City 3 NY-5-7-8
 Smith Associates Rawdon 1319 19 St NW Washington 6 DC-7
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-5-6-7-12-13
 SoundScriber Corp 146 Munson St New Haven 9 Conn-3-4-7-11
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-7
 Speak-O-Phone Recording & Equip 23 W 60 St New York 23 NY-7
 Stancil Hoffman Corp 921 N Highland Ave Hollywood 38 Calif-2-3-6-7-9-11-14-15
 Tape Recorders Inc 1501 W Congress St Chicago 7 Ill-7
 Tarc Electronics 48 Urban Ave Westbury LI NY-16
 Telectro Industries Corp 35-16 37 St Long Island City NY-7-8
 Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-5
 United Electroynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-6-7-11
 United Research Labs 1650 Broadway New York 19 NY-11
 U S Recording Co 1347 S Capitol St Washington 3 DC-7-11-12
 Van Eps Labs R 2 Plainfield NJ-4
 Vectron Inc 1611 Trapelo Rd Waltham 54 Mass-7
 Victor Adding Machine Co 3900 N Rockwell St Chicago 18 Ill-7
 Viking of Minn 3520 E 43 St Minneapolis 6 Minn-7
 V-M Corp 280 Park St Benton Harbor Mich-7-11
 Warren Corp 21 Hanse Ave Freeport NY-7
 Webster-Chicago Corp 5626 Bloomingdale Ave Chicago 39 Ill-7
 Webster Electric Co 1902 Clark St Racine Wis-7-8
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-11
 Wilcox-Gay Corp 604 W Seminary St Charlotte Mich-7

57—RECORDERS, AUDIO

Duplicators, magnetic tape	1
Recorders, binaural tape	2
Recorders, dictation	3
Recorders, disc	4
Recorders, magnetic disc	5
Recorders, magnetic film stripe	6
Recorders, magnetic tape	7
Recorders, magnetic wire	8
Recorders, miniature tape/wire	9
Recorders, photographic film sound track	10
Recorders, portable	11
Recorders, sound	12
Recorders, studio	13
Recorders, synchronized film-tape	14
Recorders, tape loop	15
Recorders, telephone	16

Affton Industries 8300 Flex O Lite Dr St Louis 23 Mo-4-7
 Alden Electronic & Impulse Recording Equipment Co Westboro Mass-11
 Allied Recording Products 32-32 Greenpoint Ave Long Island City 1 NY-4-12-13
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-2-6-7-14
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-10-11
 American Scientific Devel 336 S Main St Ft Atkinson Wis-7
 Ampex Corp 934 Charter St Redwood City Calif-1-2-7-11-12-13-14-15
 Amplifier Corp of America 398 Broadway New York 13 NY-7-15
 Ampro Corp 2835 N Western Ave Chicago 18 Ill-7
 ANelex Corp 150 Causeway St Boston 14 Mass-7
 Audio Devices Inc 444 Madison Ave New York NY-5
 Audio-Master Corp 17 E 45 St New York 17 NY-7
 Aurex Corp 1117 N Franklin St Chicago 10 Ill-8
 Bell & Howell 7100 McCormick Rd Chicago 45 Ill-7
 Bell Sound Systems 555 Marion Rd Columbus Ohio-4-7-11-12
 Bergen Labs 11 Goodwin Ave Fairlawn NJ-7-15
 Berlant Instruments 4917 W Jefferson Blvd Los Angeles 16 Calif-2-7-10-11-12-13
 Berndt-Bach Inc 6926 Romaine St Hollywood 38 Calif-6-10-12-14
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-11
 Bogen Co David 29 9 Ave New York 14 NY-7
 Bristol Co PO Box 1790 Waterbury Conn-11
 Broadcast Equipment Specialties PO Box 149 Beacon NY-7-9
 Camera Equipment Co 315 W 43 St New York 36 NY-6-7-10-13-14
 Capehart-Farnsworth Div IT&T 3700 E Pontiac St Ft Wayne Ind-7
 Central Sales & Mfg Corp 2 Richwood Pl Den-ville NJ-3-4-11
 Century Electronics & Instruments 1833 N Utica St Tulsa 10 Okla-7
 Chromatic TV Labs 1501 Broadway NY NY-10

58—RECORDERS—SPECIAL PURPOSE

Memory drums	1
Recorders, antenna pattern	2
Recorders, code	3
Recorders, data	4
Recorders, facsimile	5
Recorders, film	6
Recorders, film thickness	7
Recorders, fluid flow	8
Recorders, frequency	9
Recorders, graphic	10
Recorders, machine assemblies	11
Recorders, meteorological	12
Recorders, oscillograph	13
Recorders, polar	14
Recorders, portable	15
Recorders, power level	16
Recorders, self-balancing	17
Recorders, strain	18
Recorders, telemetering	19
Recorders, teletype	20
Recorders, temperature	21
Recorders, timing	22
Recorders, torque	23
Recorders, transient	24
Recorders, vacuum	25
Recorders, vibration	26
Recorders, video tape	27
Recorders, weight	28
Recorders, X-Y	29

Acme Telectronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-5-6
 Acton Labs Acton Mass-13
 Advanced Electronics Inc 94 Silas Deane Hwy Rocky Hill 9 Conn-26

Aero Instrument Co 11423 Vanowen St N Hollywood Calif-22
 Aifton Industries 8300 Flex O Lite Dr St Louis 23 Mo-27
 Airborne Instruments Lab 160 Old Country Rd Mineola NY-2-9-10-14-29
 Alden Electronic & Impulse Recording Equipment Co Westboro Mass-4-5-10-15-22-29
 Alden Systems Co Washington St Westboro Mass-5
 Allegany Instrument Co Cumberland Md-4-13-18-21-22-23
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-3-4-19
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-4-10-13-19-25
 Ampex Corp 934 Charter St Redwood City Calif-4-15-19
 Antlab 4950 N High St Columbus 14 Ohio-2
 Applied Precision Products 1431 S La Brea Ave Los Angeles 19 Calif-6
 Applied Research Labs 3717 Park Pl Glendale 8 Calif-7
 Arkey Co 605 1 Ave S W Rochester Minn-3
 Auduk Co 500 5 Ave New York 36 NY-18
 Audio Instrument Co 133 W 14 St New York 11 NY-16
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-1
 Bailey Motor Co 1050 Ivanhoe Rd Cleveland Ohio-8-19-21-25
 Barber-Colman Co 1300 Rock St Rockford Ill-21
 Beckman & Whitley 985 San Carlos Ave San Carlos Calif-12
 Bell Sound Systems 555 Marion Rd Columbus Ohio-15
 Bendix Aviation Corp Bendix Computer Div 5630 Arbor Vitae St Los Angeles 45 Calif-1
 Bergen Labs 11 Godwin Ave Fairlawn NJ-1-24
 Berkeley Div Beckman Instruments 2200 Wright Ave Richmond Calif-4-9-22
 Berndt-Bach Inc 6926 Romaine St Hollywood 38 Calif-6
 B-I-F Industries 345 Harris Ave Providence 1 RI-8-19-21-28
 Bludworth Marine Div Nat'l-Simplex-Bludworth 92 Gold St New York 38 NY-10-15
 Boehme Inc H O 915 Broadway New York 10 NY-3-20
 Bristol Co PO Box 1790 Waterbury Conn-8-10-12-15-16-18-19-21-22-25-28-29
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-1-15
 Central Sales & Mfg Corp 2 Richwood Pl Den-ville NJ-15
 Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-4-6-9-13-18-19-26
 CGS Labs 391 Ludlow St Stamford Conn-20
 Chromatic TV Labs 1501 Broadway New York 36 NY-6
 Cincinnati Time Recorder Co 1733 Central Ave Cincinnati 14 Ohio-4-12-15-19-20-22
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-9-13-19
 Cole Instrument Co 1000 N Olive St Anaheim Calif-4
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-2
 Consolidated Electrodynamics Corp 300 N Sierra Madre Villa Pasadena Calif-4-10-13-18-19-26
 Crescent Industries Inc 5900 W Touhy Ave Chicago 31 Ill-15
 Crosby Enterprises Inc Bing 9028 Sunset Blvd Los Angeles 46 Calif-27
 Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-10-15-29
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-4-19-26
 Daystrom Instrument Archbald Pa-1-4-19-29
 Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-21
 Devol Research Co Brookside Dr Greenwich Conn-1
 Dimond Union Stamp Works 81 Washington St Boston 8 Mass-22
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-6
 Edin Co 207 Main St Worcester 8 Mass-4-13
 ElectroData Corp 460 Sierra Madre Villa Pasadena Calif-1
 Electro Instruments Inc 3794 Rosecrans St San Diego 10 Calif-29
 Electronic Associates Long Branch NJ-10-29
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-3-4
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-13
 Electronics Corp of America 77 Broadway Cambridge 42 Mass-21
 Engelhard Inc Charles 850 Passaic Ave E Newark NJ-21
 Esterline-Angus Co PO Box 596 Indianapolis 6 Ind-9-10-15-22-25
 Ferranti Electric Inc 30 Rockefeller Plaza New York 20 NY-1
 Fielden Instrument Div Robertshaw Fulton Controls 2920 N 4 St Philadelphia 33 Pa-19-21-23-28



Fischer & Porter 19 Warminster Rd Hatboro Pa-4-8-10-19-21
 Franklin Electronics Inc E 4 St Bridgeport Pa-4-13-16-18-26-28
 Friez Instrument Div Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-12-21
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-8-9-10-13-15-16-18-19-21-22-23-25-28
 General Mills Inc Mechanical Div 2600 Far Hills Bldg Dayton 9 Ohio-4-10-19-21
 General Precision Lab 63 Bedford Rd Pleasantville NY-6-27
 General Radio Co 275 Mass Ave Cambridge 39 Mass-13
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Texas-4-6-10-24-26
 Giannini & Co G M 918 E Green St Pasadena Calif-4
 Gilmore Industries 5713 Euclid Ave Cleveland 3 Ohio-4-10-18-23-28
 Gorrell & Gorrell 336 Old Hook Rd Westwood NJ-1-4-10-22
 Graphic Recorders Inc 62 Walter St Bridgeport 5 Conn-10
 Graybar Electric Co 420 Lexington Ave New York 17 NY-19
 Green Henry J 1191 Bedford Ave Brooklyn 16 NY-12-21
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-19-21
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-1
 Hastings Instrument Co Newcomb Ave off Ivy Home Rd Hampton Va-25
 Hays Corp 742 E 8 St Michigan City Ind-8-19-21
 Heath Co 305 Territorial Rd Benton Harbor Mich-13
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-4-6-13-18-26
 Hozan Labs 155 Perry St New York 14 NY-5-10-19-22
 Impact-O-Graph Corp 1900 Euclid Ave Cleveland 15 Ohio-26
 Impact Register Co PO Box 445 Champaign Ill-4
 Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-7-18-23
 Industrial Electronic Eners 3973 Lankershim Blvd N Hollywood Calif-4-17-28
 Industrial Nucleonics Corp 1205 Chesapeake Ave Columbus 21 Ohio-7-28
 International Business Machines 590 Madison Ave New York 22 NY-22
 International Research Development 797 Thomas Lane Columbus 16 Ohio-26
 Kay Electric Co 14 Maple Ave Pinebrook NJ-3-10-16-26
 Kenyon Instrument Co 1345 New York Ave Huntington Station NY-6-24
 Laboratory for Electronics 75 Pitts St Boston 14 Mass-9
 Larson Instrument Co 24 Orchard St Tarrytown NY-15
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-2-4-8-12-14-16-17-18-19-21-28-29
 Librascope Inc 808 Western Ave Glendale 1 Calif-1
 Logistics Research 141 S Pacific Ave Redondo Beach Calif-4-29
 L & O Research & Development 134 N Wayne Ave Wayne Pa-4-5-10-16
 Magnaflex Corp 7300 W Lawrence Ave Chicago 31 Ill-18
 Magnasyn Mfg Co 5546 Satsuma Ave N Hollywood Calif-6-15-19
 Maene-Pulse Corp 11 Godwin Ave Fairlawn NJ-24
 Manning Maxwell & Moore 250 E Main St Stratford Conn-8-17
 Marchant Calculators Inc 1475 Powell St Oakland Calif-1
 Massa Labs 5 Fottler Rd Hingham Mass-10
 Measurement Eng'g Ltd John St Arncliffe Ontario Canada-24
 Metrotype Corp 104 E St Michigan City Ind-19
 Mid-Century Instrumentic Corp 611 Broadway New York 12 NY-17
 Midwestern Instruments PO Box 7186 Tulsa Okla-13
 Miles Reproducer Co 812 Broadway New York 3 NY-6-15
 Miller Instruments Inc Wm 325 N Halstead Ave Pasadena 8 Calif-13-18-26
 Moeller Instrument Co 132 St & 89 Ave Richmond Hill 18 NY-21
 Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-15

Monroe Calculating Machine Co Electronics Div Morris Plains NJ-1
 Moseley Co F L 409 N Fair Oaks Ave Pasadena 3 Calif-10-17
 Mountain Systems Inc 864 Franklin Ave Thru-wood NY-1
 National Research Corp 160 Charlemont St Newton Highlands 6 Mass-25
 NRD Instrument Co 6425 Etzel Av St Louis 14 Mo-4-10
 Offner Electronics 5320 N Kedzie Ave Chicago 25 Ill-10-13-18-19-23-24-26
 Pampa Electronics Corp 7354 Frankford Ave Philadelphia 36 Pa-6
 Peirec Wire Recorder Corp 5900 N Northwest Hwy Chicago 31 Ill-15
 Phoenix Precision Instrument 3803 N 5 St Philadelphia 40 Pa-18-29
 Photron Instrument Co 6516 Detroit Ave Cleveland 2 Ohio-13-18-28
 PM Industries 280 Fairfield Ave Stamford Conn-1
 Polaroid Electronics Corp 43-20 34 St Long Island City 1 NY-1
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-4-9-19-22
 Radiation Inc PO Box 37 Melbourne Fla-4-10-19-29
 Remington Rand Univac 1902 W Minnehaha Ave St Paul W4 Minn-1
 Revere Camera Co 320 E 21 St Chicago 16 Ill-15
 Rosen Eng'g Products Raymond 32 & Walnut Sts Philadelphia 19 Pa-19
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-11
 Sanborn Co 195 Massachusetts Ave Cambridge 39 Mass-13
 Scientific Associates 2162 Piedmont Rd N E Atlanta 9 Ga-2-14-29
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-29
 Serdex Inc 91 Cambridge St Boston 14 Mass-12
 Simplex Time Recorder Co S Lincoln St Gardner Mass-22
 Skiatron Electronics & TV 3 E 10 St New York 3 NY-4-5-10
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-6-7-9
 Sound Apparatus Co Stirling NJ-2-9-10-14-16
 SoundScriber Corp 116 Munson St New Haven 9 Conn-15
 Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-8
 Special Instruments Laboratory Inc 312 W Vine Ave Knoxville Tenn-4
 Starvel Hoffman Corp 921 N Highland Ave Hollywood 38 Calif-15-19
 Stavid Eng'g Co U S Hwy #22 Plainfield NJ-19-27-29
 Stewart Instrument Co 6507 Grand River Detroit 8 Mich-16-22
 Stoeltig Co C H 421 N Homan Ave Chicago 24 Ill-1-10-22
 Streeter-Amot Co 4101 N Ravenswood Ave Chicago 13 Ill-4-22-28
 Taylor Instrument Companies 95 Ames St Rochester 1 NY-4-8-10-12-17-21-28
 Technical Instrument Co Div Brush Electronics 3732 Westheimer Rd Houston 6 Texas-13
 Telechrome Inc 88 Merriek Rd Amityville LI NY-6
 Telecomputing Corp 12838 Saticoy St N Hollywood Calif-4
 Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-10-13
 Thermo Electric Co Saddle Brook NJ-21
 Thwing-Albert Instrument Co Penn St & Pulaski Ave Philadelphia 44 Pa-17-18-21-29
 Times Faesimile Corp 540 W 58 St New York 19 NY-5-22
 Tracerlab Inc 130 High St Boston 10 Mass-7
 Underwood Corp Electronic Computer Div 35-10 36 Ave Long Island City 6 NY-1
 United Electrodynamics Div United Geophysical Corp 1200 S Marengo Ave Pasadena Calif-13-15-19
 United Research Labs 1650 Broadway New York 19 NY-15
 U S Gauge Div American Machine & Metals Sellersville Pa-21-25
 U S Recording Co 1347 S Capitol St Washington 3 DC-15
 Veetron Inc 1611 Trapelo Rd Waltham 51 Mass-3
 Victor Adding Machine Co 3900 N Rockwell St Chicago 18 Ill-4
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-12
 Visual Electronics Corp 500 5 Ave New York 36 NY-6
 V-M Corp 280 Park St Benton Harbor Mich-15
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-9-10-15-19
 West Instrument Corp 4363 W Montrose Ave Chicago 41 Ill-21
 Westronics Inc 3605 McCart Ft Worth 10 Texas-9-10-17-21-23

59—RECORDING ACCESSORIES

Discs, blank	1
Drivers	2
Equalizers	3
Footage counters	4
Heads, cutting	5
Heads, recording	6
Needles, cutting	7
Record molding compounds.....	8
Record preforms	9
Recording paper	10
Recording pen accessories	11
Reels	12
Screw feeds	13
Stylus, rotary	14
Tape magazines, continuous.....	15
Tape, magnetic	16
Tape splicers	17
Tape, splicing	18
Tape threaders	19
Turntables	20
Wire, magnetic	21



Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-1-20
 Fidelitone Inc 6415 Ravenswood Ave Chicago 26 Ill-16
 Flahan Co 7517 Pelham Dr Cleveland 29 Ohio-19
 Florman & Babb 68 W 45 St New York 36 NY-4-12
 Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-4
 Garrard Sales Corp Sub British Industries Corp 80 Shore Rd Port Washington NY-20
 Gates Radio Co 123 Hampshire St Quincy Ill-20
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-2-16
 Genisco Inc 2233 Federal Ave Los Angeles 64 Calif-20
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Tex-10
 Gorrell & Gorrell 336 Old Hook Rd Westwood NJ-10-11
 Graybar Electric Co 420 Lexington Ave New York 17 NY-3-7-16-20
 Heath Co 305 Territorial Rd Benton Harbor Mich-20
 Hogan Labs 155 Perry St New York 14 NY-10
 Hycor Div Int'l Resistance Co Sylmar Calif-3
 Insulation Mfrs Corp 565 W Washington Blvd Chicago 6 Ill-18
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-3
 Irvington Div Minn Mining & Mfg 6 Arkyle Terrace Irvington 11 NJ-18
 Jensen Industries Inc 7333 W Harrison St Forest Park Ill-7
 Kay Electric Co 14 Maple Ave Pinebrook NJ-6-10
 Kendall Co Polyken Sales Div 222 W Adams St Chicago 6 Ill-18
 Librascope Inc 808 Western Ave Glendale 1 Calif-6
 Librascope Inc Burbank Div 133 E Santa Anita Ave Burbank Calif-6
 Lipps Co Edwin A 5485 W Washington Blvd Los Angeles 16 Calif-6
 Magnasyn Mfg Co 5546 Satsuma Ave N Hollywood Calif-6
 Marneccessories Box 6960 Washington 20 DC-17
 Merkle-Korff Gear Co 213 N Morgan St Chicago 7 Ill-2-20
 Miller Mfg Co M A 4 & Church Sts Libertyville Ill-7
 Minn Mining & Mfg Co 900 Fauquier Ave St Paul 6 Minn-16-18
 Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-15
 Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-12
 National Hollywood 1475 El Mirador Dr Pasadena 3 Calif-1-12-17
 New Jersey Wood Finishing Amboy Ave Woodbridge NJ-18
 Norton Assoc PO Box 96 Garden City NY-6
 Okonite Co 220 Passaic St NJ-18
 Olympic Instrument Labs Cove Wash-12
 OR Radio Industries 120 Marvyn Rd Opelika Ala-12-16
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-3
 Pacific Transducer Corp 11836 W Pico Blvd Los Angeles 64 Calif-3
 Pampa Electronics Corp 7354 Frankford Ave Philadelphia 36 Pa-3-6
 Par Products Corp 926 N Citrus Lane Hollywood 38 Calif-4
 Peirce Wire Recorder Corp 5900 N Northwest Hwy Chicago 31 Ill-6-21
 Penn Fibre & Specialty Co 2030 E Westmoreland St Philadelphia 34 Pa-1
 Pentron Corp 777 S Tripp Ave Chicago 24 Ill-6
 Permo Inc 6415 Ravenswood Ave Chicago 26 Ill-7-16-21
 Pix Mfg Co 75 Hudson St Newark 3 NJ-1
 Post Machinery Co Electronic Products Div 140 Elliott St Beverly Mass-4
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-2-4-6
 Presto Recording Corp PO Box 500 Paramus NJ-1-5-6-7-20
 Prestoseal Mfg Co 37-27 33 St Long Island City 1 NY-17
 Pulse Techniques Inc 1411 Palisade Ave W Englewood NJ-3
 QRK Electronic Products 445 N Circle Dr Fresno 4 Calif-20
 Rankertone Inc 73 Winthrop St Newark 4 NJ-6
 Reeves Soundcraft Corp 10 E 52 St New York 22 NY-1-15-16-18
 Reiter Co F 3340 Bonnie Hill Dr Hollywood 28 Calif-17
 Rek-O-Kut Co 38-01 Queens Blvd Long Island City 1 NY-20
 Remington Rand Univac Div 315 4 Ave New York 10 NY-16

Richardson Co 2790 Lake St Melrose Park Ill-1
 Robins Industries Corp 214-26 41 Ave Bayside 61 NY-17-18
 Robinson Recording Labs 35 S 9 St Philadelphia 7 Pa-20
 Shure Bros 222 Hartrey Ave Evanston Ill-6
 Smith Associates Rawdon 1319 19 St NW Washington 6 DC-15-16
 Sonex Inc 245 Sansom St Upper Darby Pa-3
 Sonic Recording Products 58 Mill Rd Freeport NY-1
 SOS Cinema Supply Corp 602 W 52 St New York 19 NY-4-6-12
 Stancil Hoffman Corp 921 N Highland Ave Hollywood 38 Calif-6
 Standard Record Mfg Co 1475 El Mirador Dr Pasadena 3 Calif-1-12-17
 Stone City Machine & Tool Co PO Box 351 Bedford Ind-1
 Tarc Electronics Inc 48 Urban Ave Westbury LI NY-1
 Tayloreel Corp 3 Rutter St Rochester 6 NY-12
 Times Facsimile Corp 540 W 58 St New York 19 NY-10
 Tricon Mfg Co 8008 Wallace St Chicago 20 Ill-1
 Underwood Corp Electronic Computer Div 35-10 36 Ave Long Island City 6 NY-6
 U S Recording Co 1347 S Capitol St Washington 3 DC-16
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-10

60—RECTIFIERS

Battery eliminators	1
Inverters	2
Rectifier power units	3
Rectifiers, copper oxide	4
Rectifiers, electronic tube	5
Rectifiers, germanium	6
Rectifiers, hand-cranked	7
Rectifiers, mercury arc	8
Rectifiers, metal oxide	9
Rectifiers, metal sulphide	10
Rectifiers, selenium	11
Rectifiers, silicon	12
Rectifiers, titanium	13

Accurate Eng'g Co 2005 Blue Island Ave Chicago 8 Ill-3-5-8-11
 Acme Teletronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-2
 Aerolux Light Corp 653 11 Ave New York 36 NY-5
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-3
 Airpax Products Co Middle River Baltimore 20 Md-2
 Allis-Chalmers Mfg Co Milwaukee 1 Wisc-8
 American TV & Radio Co 300 E 4 St St Paul 1 Minn-1-2
 Arga Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-2
 Ballatine Labs Boonton NJ-2
 Barry Electronics 512 Broadway New York 12 NY-11
 Bendix Aviation Corp Red Bank Div Eatontown NJ-2
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-2
 Bludworth Marine Div Nat'l-Simplex Bludworth 92 Gold St New York 38 NY-3-11
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 8 NJ-3-6-11-12
 Booth Co Arthur E 265 S Alexandria Ave Los Angeles 4 Calif-3
 Bradley Labs 168 Columbus Ave New Haven 11 Conn-4-11
 Bristol Co PO Box 1790 Waterbury Conn-2
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-4-5-8-11
 Clevite Transistor Products 241-7 Crescent St Waltham Mass-6
 Conant Labs 6500 "O" St Lincoln Nebr-4-11
 Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-2
 Cosmo Eng'g Labs Mountain Ave Hackettstown NJ-3
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-2
 Dresser Electric Co 942 E Larned St Detroit 7 Mich-3
 Eicor Inc 1501 W Congress St Chicago 7 Ill-2
 Eitel-McCullough Inc 798 San Mateo Ave San Bruno Calif-5
 Electronic Devices Inc 429 12 St Brooklyn 15 NY-11
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-1
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-2-3
 Electronic Rectifiers Inc 2102 Spann Ave Indianapolis 3 Ind-3-10

Electronic Research Associates 67 E Centre St
Nutley 10 NJ-2
Electro Products Labs 4501 N Ravenswood Ave
Chicago 40 Ill-1
Emerson Radio & Phonograph Corp 14 & Coles
Sts Jersey City 2 NJ-5
Espy Mfg Co 200 W 57 St New York 19 NY-3
Fansteel Metallurgical Corp 2200 Sheridan Rd
N Chicago Ill-11
Federal Telephone & Radio Co Div IT&T 100
Kingsland Rd Clifton NJ-3-6-11-12
General Electric Co Apparatus Sales Div 1
River Rd Schenectady 5 NY-2-3-4-5-6-8-9-11
General Electric Co Semiconductor Products
Electronics Park Syracuse 1 NY-3-6-12
General Instrument Corp 65 Gouverneur St
Newark 4 NJ-12
Georator Corp Manassas Va-2
Germanium Products Corp 26 Cornelison Ave
Jersey City 4 NJ-12
Graybar Electric Co 420 Lexington Ave New
York 17 NY-1-4-6-11-12
Gyro Electronics Co 325 Canal St New York 13
NY-1
Harrison Labs 45 Industrial Rd Berkeley
Height NJ-3
Haydu Bros of NJ Sub Burroughs Corp PO
Box 1226 Plainfield NJ-5
Heath Co 305 Territorial Rd Benton Harbor
Mich-1
Highland Eng'g Co 90 Magnolia St Westbury
LI NY-3-4-5-8-9-11
Hughes Aircraft Co Florence & Teale Sts Culver
City Calif-12
Interelectronics Corp 2432 Grand Concourse
New York 58 NY-2
International Rectifier Corp 1521 E Grand Ave
El Segundo Calif-6-11-12
International Resistance Co 401 N Broad St
Philadelphia 8 Pa-11
Jack & Heintz 17600 Broadway Cleveland 1
Ohio-2
Kearfott Co 1378 Main Ave Clifton NJ-2
Kemlite Labs 1819 W Grand Ave Chicago 22
Ill-5
Kemtron Electron Products 14 Prince Pl New-
buryport Mass-6-12
Kenco Labs 131-38 Sanford Ave Flushing 55
NY-1-3
King Electric Equip 9123 Inman Ave Cleveland
5 Ohio-10
Knopp Inc 4224 Holden St Oakland 8 Calif-3-10
Lambda Electronics Corp 11-11 131 St College
Point 56 NY-3
Lawn Electronics E Freehold Rd Freehold NJ-2
Leach Corp Leach Relay Div Inet-Palmer Div
5915 Avalon Blvd Los Angeles 3 Calif-3
Lee Electric & Mfg Co 2806 Clearwater St Los
Angeles 39 Calif-3
Leland Electric Co Div American Mach & Fdry
1501 Webster St Dayton 1 Ohio-2
Lynch Carrier Systems Inc 695 Bryant St San
Francisco 7 Calif-2
Magnatran Inc PO Box 211 Kearny NJ-3-5
Magnetic Research Corp 200 Center St El
Segundo Calif-3
Mallory & Co Inc P R 42 So Gray St Indian-
apolis 6 Ind-10-11
McColpin-Christie Corp 3410 W 67 St Los
Angeles 43 Calif-3
Mercury Electronic Co Box 450A Red Bank
NJ-3-5
Microwave Associates 22 Cummington St Bos-
ton 15 Mass-6-12
Model Rectifier Corp 557 Rogers Ave Brooklyn
25 NY-1-3
Moloney Electric Co 5390 Bircher Blvd St Louis
20 Mo-3-4-5-6-9-10-11
Motordyne Inc 2661 S Myrtle Ave Monrovia
Calif-2
Motoresearch Co 1600 Junction Ave Racine
Wis-3
Nader Mfg Co 2661 S Myrtle Ave Monrovia
Calif-2
National Aircraft Corp 3411 Tulare Ave Bur-
bank Calif-3-5-6-12
National Semiconductor Prods Div Hoffman
Electronics 930 Pitner Ave Evanston Ill-12
NJE Corp 345 Carnegie Ave Kenilworth NJ-1-3
Norrman Labs Ernst Williams Bay Wis-2
Otis Elevator Co Electronic Div 35 Ryerson St
Brooklyn 5 NY-3-5-11
Pacific Semiconductors Inc 10451 W Jefferson
Blvd Culver City Calif-6-12
Perkin Eng'g Corp 345 Kansas St El Segundo
Calif-1-3-6-11
Perma-Power Co 4727 N Damen Ave Chicago 25
Ill-1
Peschel Electronics Inc 13 Garden St New
Rochelle NY-1-3
Power Supplies Inc 1007 Olive St Highland Ill-
1-3
Power Transformer Co 532 Mulberry St New-
ark 5 NJ-3-4-5-6-7-8-9-10-11-12-13
Pyramid Electric Co 1445 Hudson Blvd North
Bergen NJ-11
Quare Associates PO Box 95 Canton Mass-2
Radiart Corp 3455 Vega Ave Cleveland 13
Ohio-1
Radio Corp of America Tube Div 215 S 5 St
Harrison NJ-5-11

Radio Receptor Co 251 W 19 St New York 11
NY-11
Raytheon Mfg Co Receiving & Cathode Ray
Tube Operations 55 Chapel St Newton 58
Mass-5-6-12
Raytheon Mfg Co Component Products Dept
100 River St Waltham 54 Mass-1
Rectifier Engineering Co 1803 E 7 St Los An-
geles 21 Calif-3
Redmond Co Monroe St Owosso Mich-2
Regulator Eng'g & Development 11545 W Jef-
ferson Blvd Culver City Calif-3-6-11
Sangamo Generators Sub Sangamo Electric Co
Springfield Ill-2
Schaer Mfg Corp 4500 Alpine Ave Cincinnati
36 Ohio-1-3-4-9
Sorensen & Co 375 Fairfield Ave Stamford
Conn-1-2
S O S Cinema Supply Corp 602 W 52 St New
York 19 NY-5-12
Stavid Eng'g Co US Hwy #22 Plainfield NJ-5
Strong Electric Corp 87 City Park Ave Toledo
2 Ohio-3
Superior Rectifier Mfg Co Hammond Ind-11
Sylvania Electric Products 1740 Broadway New
York 19 NY-5-6
Syntron Co Homer City Pa-11
Tarzian Inc Sarkes 415 N College Ave Bloom-
ington Ind-9-11-12-13
Telcor Inc N Murray Ridge Rd Flynria Ohio-2
Terado Co 1069 Raymond Ave Dept 3 St Paul
14 Minn-2
Texas Instruments Inc 6000 Lemmon Ave
Dallas 9 Texas-12
Transitron Electronic Corp 407 Main St Mel-
rose 76 Mass-12
Union Switch & Signal Div Westinghouse Air
Brake Pittsburgh 18 Pa-4-11
US Dynamics Corp 1250 Columbus Ave Boston
20 Mass-3-6-12
Vacuum Tube Products Co 506 S Cleveland St
Oceanside Calif-5
Vibration Research Labs 97 Lake Ave Tucka-
hoe NY-2
Vickers Electric Div Vickers Inc Unit Sperry
Rand 1815 Locust St St Louis 3 Mo-11
Virginia Electronics Co River Rd at B&O RR
Washington 16 DC-3
Visual Electronics Corp 500 5 Ave New York
36 NY-3
Weltrich Co 19500 W 8 Mile Rd Detroit 19
Mich-5
Westinghouse Electric Corp Box 868 Pittsburgh
30 Pa-3-4-6-8-10-11-12
Wincharger Corp E 7 & Division Sts Sioux
City 2 Iowa-2
Workman TV Inc 309 Queen Anne Rd Teaneck
NJ-5

Relays, vacuum contact 36
Relays, vibrating reed type 37
Relays, video switching 38
Solenoids 39

Adams & Westlake Co 1025 N Michigan St Elk-
hart Ind-9-14-22-32
Advance Relay Co Div Elgin National Watch
2435 N Naomi St Burbank Calif-3-4-6-7-8-9-
10-11-12-13-14-17-18-19-20-21-22-27-28-29-32-35
Advanced Electronics Inc 94 Silas Deane Hwy
Rocky Hill 9 Conn-7
ARF Products 7627 Lake St River Forest Ill-
8-33-37
AGA Div Elastic Stop Nut Corp 1027 Newark
Ave Elizabeth 3 NJ-32
Allard Instrument Corp 146 E 2 St Mineola LI
NY-13
Allen-Bradley Co 136 W Greenfield Ave Mil-
waukee 4 Wis-17-22
Allied Control Co 2 East End Ave New York
21 NY-3-6-9-10-11-12-13-17-18-20-21-22-23-24-
27-28-31-32-35-38
Allied Radio Corp 100 N Western Ave Chicago
25 Ill-19
American Instrument Co 8030 Georgia Ave
Silver Spring Md-7-19-29-32
Amperite Co 561 Broadway New York 12 NY-
6-32
Anderson Inc 2921 Brooklyn Ave Kansas City
9 Mo-7-19
A P W Co 72 W Main St Rockaway NJ-39
Artisan Electronics Corp 171 Ridgedale Ave
Morristown NJ-10-39
Assembly Products Wilson Mills Rd Chester-
land 21 Ohio-4-6-9-13-15-17-18-19-21-35
Automatic Electric Co 1033 W Van Buren St
Chicago 7 Ill-1-4-9-12-13-14-21-24-25-26-28
Automatic Metal Products Corp 315 Berry St
Brooklyn 11 NY-3
Automatic Switch Co 391 Lakeside Ave Orange
NJ-6-7-13-17-18-22-32-35-39
Autotron Co 128 W Main St Danville Ill-19
Babcock Radio Eng'g 7942 Woodley Ave Van
Nuys Calif-9-27
Barber-Colman Co 1300 Rock St Rockford Ill-
6-21-29
Barker & Williamson 237 Fairfield Ave Upper
Darby Pa-39
Barton Electronics 1000 Farmington Ave Hart-
ford 7 Conn-7-19
Beck Co Harold 3649 N 2nd St Philadelphia 40
Pa-7-11-31
Bell & Gossett 8200 N Austin Ave Morton
Grove Ill-8-33-37
Bendix Aviation Corp Red Bank Div Eaton-
town NJ-18
Bergen Labs 11 Godwin Ave Fairlawn NJ-7-26
Biddle Co James G 1316 Arch St Philadelphia 7
Pa-1-8-37
Bittermann Electric Co Barlow St Canaan
Conn-39
Blonder-Tongue Labs 526 Worth Ave E West-
field NJ-29-32
Branson Corp Boonton NJ-9-18-20-21-27-29-
31-32
Bristol Co PO Box 1790 Waterbury Conn-9-27
Caltron Products Co 1310 S Hobart Blvd Los
Angeles 6 Calif-30-32-39
Carruthers & Fernandez 1501 Colorado Ave
Santa Monica Calif-39
Chatham Electronics Div Gera Corp 630 W Mt
Pleasant Ave Livingston NJ-36
Clare & Co C P 3101 Pratt Blvd Chicago 45 Ill-
9-11-12-13-14-20-21-22-24-26-27-28-32-36-38
Clark Controller Co 1146 E 152 St Cleveland 10
Ohio-13-17-22-32
Coil Company of America 207 Washington St
Northvale NJ-39
Coilcraft Inc Cary Ill-39
Cole Instrument Co I000 N Olive St Anaheim
Calif-1-7-19-24-26
Comar Electric Co 3349 Addison St Chicago 18
Ill-5-9-13-28-32
Commercial Radio-Sound Corp 652 1 Ave New
York 16 NY-1
Connector Corp 6025 N Keystone Ave Chicago
30 Ill-9-17-18-20-22-25-26-28-35
Continental Electronics 302 Oakland St Brook-
lyn 22 NY-3-10
Control Corp 718 Central Ave S Minneapolis
14 Minn-8-28
Controls Corp of America Sorenk Div 9555
Soreng Ave Schiller Park Ill-39
Cook Electric Co 2700 Southport Ave Chicago
14 Ill-6-7-9-10-11-13-17-22-24-25-26-27-28-29-
31-32
Couch Co S H 3 Arlington St Quincy 71 Mass-
7-9-20-27
Cunningham Son & Co Jas 33 Litefield St
Rochester 8 NY-5-38-39
Curtiss-Wright Corp Electronics Div 631 Cen-
tral Ave Carlstadt NJ-29-32
Cutler-Hammer Inc 315 N 12 St Milwaukee 1
Wis-17
Cycle Transformer Corp 356 Glenwood Ave
East Orange NJ-39
Dalmotor Co 1375 Clay St Santa Clara Calif-39
Danbury-Knudsen Inc Box 170 Danbury Conn-3
Davis Electric Co Cape Girardeau Mo-3-27-28-39
Deitz Co S J 9 E Wesley St S Hackensack NJ-
19-32

61—RELAYS

Relays, audio operated 1
Relays, capacitance 2
Relays, coaxial 3
Relays, contact 4
Relays, crossbar 5
Relays, differential 6
Relays, electronic 7
Relays, frequency selective 8
Relays, hermetically sealed 9
Relays, high voltage 10
Relays, impulse 11
Relays, keying 12
Relays, latching 13
Relays, mercury 14
Relays, meter 15
Relays, overfrequency 16
Relays, overload 17
Relays, overvoltage 18
Relays, photoelectric 19
Relays, plate circuit 20
Relays, polarized 21
Relays, power 22
Relays, R-F 23
Relays, rotary 24
Relays, sequence 25
Relays, stepping 26
Relays, subminiature 27
Relays, telephone 28
Relays, thermal 29
Relays, thermostatic delay 30
Relays, three position 31
Relays, time-delay 32
Relays, tuned audio 33
Relays, underfrequency 34
Relays, undervoltage 35

Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-4-39
 Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa-7-18
 Devtronics Inc 221 N Hermitage Ave Trenton 8 NJ-7
 Dielectric Products Eng'g Raymond Me-3
 Dormeyer Industries 3418 N Milwaukee Ave Chicago 41 Ill-39
 Dow-Key Co PO Box 57 Warren Minn-3-12-22-23-38
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-38
 Durakool Inc 1010 N Main St Elkhart Ind-14-32
 Ebert Electronics 212-26 Jamaica Ave Queens Village 28 NY-7-9-13-14-22-30-32
 Edison Inc Thomas A Instrument Div 93 Lakeside Ave W Orange NJ-9-15-17-18-20-21-29-30-32-35
 Eicor Inc 1501 W Congress St Chicago 7 Ill-32
 Electro-Mechanical Specialties 6819 Melrose Ave Los Angeles 38 Calif-4-7-9-17-20-22-27
 Electro-Switch Controls 5755 Camilla Ave Culver City Calif-9-13-27-28
 Electronic Control Corp 1573 E Forest Ave Detroit 7 Mich-4-7-19-32
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-3-6-7-8-9-11-12-13-16-17-18-22-23-27-32-34-35
 Electronics Corp of America 77 Broadway Cambridge 42 Mass-7-19
 Electro-Physics Co 287-P Broadway New York 7 NY-7-19
 Electro-Seal Corp 946 North Ave Desplaines Ill-9
 El Mec Labs 730 Blvd Kenilworth NJ-7
 Ess Instrument Co 96 So Washington Ave Bergenfield NJ-19
 Falcon Electronics 308 William St Harrison NJ-32
 Farmer Electric Products 2300 Washington St Newton Lower Falls 62 Mass-7-19
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-11-24-27-28-32
 Filters Inc 30 Sagamore Hill Dr Port Washington NY-7-9-13-17-20-24-27
 Fisher-Pierce Co 170 Pearl St S Braintree 85 Mass-14
 General Communication Co 581 Beacon St Boston 15 Mass-3
 General Control Co 1224 Soldiers Field Rd Boston 34 Mass-12-32
 General Controls Co 801 Allen Ave Glendale 1 Calif-22
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-7-8-13-17-18-19-22-27-28-29-30-32-35-39
 General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-9
 Gibbs Mfg & Research 420 Main St Janesville Wisc-32
 Good-All Electric Mfg Co Good-All Bldg Ogallala Nebr-39
 Graybar Electric Co 420 Lexington Ave New York 17 NY-5-28-33
 Guardian Electric Mfg Co 1621 W Walnut St Chicago 12 Ill-4-7-9-11-12-13-16-17-18-20-22-24-25-26-27-28-31-32-35-39
 G-V Controls Inc 45 Hollywood Plaza E Orange NJ-8-9-16-17-18-29-30-32-34-35
 Gyro Electronics Co 325 Canal St New York 13 NY-7-8-33-37
 Haledy Electronics Co 57 William St New York 5 NY-7-14-19
 Hall-Scott Electronics Div 2950 N Ontario St Burbank Calif-32-34-35
 Hanson-Gorrill-Brian Inc 85 Hazel St Glen Cove NY-18
 Hart Mfg Co 218 Bartholomew Ave Hartford 1 Conn-7-9-12-20-21-22-23-27-38
 Haydon Co A W 232 N Elm St Waterbury 20 Conn-25-32
 Haydon Mfg Co 245 E Elm St Torrington Conn-9-32
 H-B Instrument Co American & Bristol Sts Philadelphia 40 Pa-7-9-14-29-36
 Hedin Tele Technical Corp 87 Dorsa Ave Livingston NJ-4-7-9-12-16-18-20
 Heinemann Electric Co Pennsylvania Ave & Plum St Trenton 2 NJ-32
 Hetherington Inc Sharon Hill Pa-4-9-10-13-22
 Hi-G Inc Bradley Field Windsor Locks Conn-7-9-11-20-24-27
 Hufco Industries 2815 W Olive Ave Burbank Calif-9-22-27-28
 Hughey & Phillips 3300 N San Fernando Blvd Burbank Calif-19
 Industrial Electronics Engrs 3973 Lankershim Blvd North Hollywood Calif-25
 Industrial Electronic Controls 2271 E 14 St Brooklyn 29 NY-7-19
 Industrial Electronics Co Hanover Mass-7
 Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-7-17-19
 Industrial Products Box 148 Danbury Conn-3-23-38
 Industrial Timer Corp 1407 McCarter Hwy Newark 4 NJ-32
 Iron Firearm Electronics Div 2838 SE 9 Ave Portland 2 Ore-9-37
 Jack & Heintz 17600 Broadway Cleveland 1 Ohio-39
 Jennings Radio Mfg Corp 970 McLaughlin Ave San Jose 8 Calif-10-11-13-17-20-23-36
 Johnson Co E F Waseca Minn-10-20-22-23



Kellogg Switchboard & Supply 79 W Monroe St Chicago Ill-5-11-25-26-28
 Kurman Electric Co 35-18 37 St Long Island City 1 NY-1-3-4-5-7-9-10-11-12-13-19-20-21-22-23-27-28
 Larson Instrument Co 24 Orchard St Tarrytown NY-4-15
 Leach Corp Leach Relay Div Inet-Palmer Div 5915 Avalon Blvd Los Angeles 3 Calif-4-6-7-8-9-10-11-12-13-16-17-18-20-22-23-24-27-28-32-34-35
 Leland Inc G H 123 Webster St Dayton 2 Ohio-9-13-24-25-26-39
 Liquidometer Corp 36 St & Skillman Ave Long Island City 1 NY-7-9-20
 Livingston Electronic Corp Livingston NJ-30-32
 Machinery Electrification Inc 35 Hudson St Northboro Mass-7-17-18-19-32-35
 Mack Electric Devices Inc 49 Glenside Ave Wyncoote Pa-14-22-36
 Magnecraft Electric Co 3352 W Grand Ave Chicago 51 Ill-4-5-6-9-10-12-13-17-18-20-22-25-27-28-32-35-36
 Magnetic Devices Inc 712 East St Frederick Md-10-21-24
 Manning Maxwell & Moore 250 E Main St Stratford Conn-7
 Marion Electrical Instrument Co Grenier Field Manchester NH-4-9-15-21
 McNeill Eng'g Co 4057 W Van Buren St Chicago 24 Ill-19
 Mercury Contacts Box 615-T Far Hills Station Dayton 9 Ohio-14
 Mercury Mfg Corp 45 Brown St Buffalo 11 NY-1-10-12-23-25-33-36
 Metals & Controls Corp Spencer Thermostat Div 34 Forest St Attleboro Mass-29-30
 Milwaukee Gas Specialty Co 730 N Jackson St Milwaukee 1 Wisc-1-6-7-9-17-18-19-20-27-35
 Modelectric Products Corp 1500 Bangs Ave Asbury Park NJ-39
 Moulic Specialties Co 1005 W Washington St Bloomington Ill-7
 Mullenbach Div Electric Machinery Mfg Co 2100 E 27 St Los Angeles 58 Calif-2-10-20
 Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-17-29
 National Acme Co 170 E 131 St Cleveland 8 Ohio-39
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-39
 Niagara Electron Labs PO Box 128 Andover NY-2
 North Electric Mfg Co Galion Ohio-5-6-9-11-13-20-21-24-25-26-27-28-32-38
 Oak Mfg Co 1260 Clybourn Ave Chicago Ill-24-26
 Ohmite Mfg Co 3601 Howard St Skokie Ill-4-9-13-17-18-20-22-28-32-35
 OK Electronics Corp 7 Hunt Pl Nutley 10 NJ-29-32
 Pacific Relays Inc 12027 Vose St N Hollywood Calif-4-7-9-20-22-27
 Penta Labs 312 N Nopal St Santa Barbara Calif-36
 Peschel Electronics Inc 13 Garden St New Rochelle NY-7
 Phaostron Co 151 Pasadena Ave S Pasadena Calif-6-8-9-11-13-15-16-17-18-21-22-27-32-34-35-39
 Philadelphia Scientific Glass Co 1866 Eckard Ave Abington Pa-4-7-9-14-17-22-36
 Phillips Control Corp 59 W Washington St Joliet Ill-4-6-9-13-17-20-22-28-32-35-38-39
 Photobell Co 43 Vesey St New York 7 NY-1-2-7-29-30-32
 Pickering & Co 309 Woods Ave Oceanside NY-39
 Post Machinery Co Electronic Products Div 140 Elliott St Beverly Mass-7-19
 Potter & Brumfield Princeton Ind-2-4-5-7-8-9-10-11-12-13-17-19-20-22-23-25-26-27-28-29-30-32-37
 Precision Scientific Co 3737 W Cortland St Chicago 47 Ill-7-14
 Precision Thermometer & Instrument Co 1434 Brandywine St Philadelphia 30 Pa-7-14
 Price Electric Corp E Church & 2 Sts Frederick Md-1-3-4-7-9-10-13-18-20-23-24-26-27-28-32-35
 PSP Eng'g Co 8606 Otis St South Gate Calif-39
 R B M Div Essex Wire Logansport Ind-4-7-9-10-13-17-18-19-20-22-23-28-32-39
 Relay Sales Inc Box 186 Dept 6 West Chicago Ill-3-4-6-7-9-10-11-12-13-14-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-35-36-38
 Reynolds Electric Co 3000 River Road River Grove Ill-29-30
 Rhodes Inc M H 30 Bartholomew Ave Hartford 6 Conn-32
 Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-13

Ripley Co 1 Factory St Middletown Conn-7-19
 Rockwell Eng'g Co 4065 N New Jersey St Indianapolis 5 Ind-7-19
 Seaco Controls Inc Market St Palmyra NJ-29-30
 Scherma Mfg Co Frank A 424 Broome St New York 13 NY-3-7-9-28
 Sealelectric Switch & Relay Corp 6025 N Keystone Ave Chicago 30 Ill-4-9-11-12-13-20-22-26
 Servo-Tek Products Co 1086 Goffle Rd Hawthorne NJ-7
 Sigma Instruments 170 Pearl St S Braintree Mass-6-7-9-12-13-20-21-27-31
 Signal Eng'g & Mfg 273 Branchport Ave Long Branch NJ-3-9-10-12-13-20-21-22-27-28-32
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-15
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-39
 Special Products Co PO Box 188 Rockville 1 Md-19
 Standard Electrical Products 2240 E 3 St Dayton 3 Ohio-6-9-10-12-13-14-17-18-20-22-28-29-30
 Stelma Inc 190 Henry St Stamford Conn-7
 Sterling Eng'g Co 54 Mill St Laconia NH-9-20-22-26-28
 Stevens-Arnold 22 Elkins St S Boston Mass-8-12-21
 Stewart Instrument Co 6507 Grand River Detroit 8 Mich-6
 Stromberg-Carlson Co Industrial Div 1225 Clifford Ave Rochester 21 NY-21-28-36
 Struthers-Dunn Inc Pitman NJ-4-6-9-11-12-13-14-17-18-20-22-23-25-26-27-29-30-32-35-36
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-38
 Tech Labs Inc Bergen & Edsall Blvds Palisades Park NJ-24
 Transdyne Corp 7337 Grand Ave Maspeth NY-19
 Transport Products Corp 3008 Magazine St Louisville 11 Ky-28
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-15
 Tung-Sol Electric Inc 95 8 Ave Newark 4 NJ-6-9-17-18-29-32
 Union Switch & Signal Div Westinghouse Air Brake Pittsburgh 18 Pa-9-20-21-24-27
 U S Relay Co 1744 Albion St Los Angeles 31 Calif-4-5-7-9-10-13-16-20-22-27-28-29-30-32-34-35-39
 Varo Mfg Co 2201 Walnut St Garland Texas-8-16-18-33-34-35
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-1
 Vocaline Co of America Old Saybrook Conn-32
 Vokar Corp Dexter Mich-37
 Waco Inc 2032 Broadway Santa Monica Calif-39
 Ward Leonard Electric Co Mt Vernon NY-17-22
 Western Electric Co 195 Broadway New York NY-28
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-6-8-13-17-18-21-29-32-35
 Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-22-26-28-32
 Wheelock Signals Inc Long Branch NJ-3-4-9-10-12-20-21-22-28
 Wilson & Co G C 1915 8 Ave Huntington WV-32
 Worner Electronic Devices Rankin Ill-19
 Yellow Springs Instrument PO Box 106 Yellow Springs Ohio-1
 Zenith Electric Co 152 W Walton St Chicago 10 Ill-22-32

62—RESISTORS & VOLUME CONTROLS

Attenuators, precision	1
Networks, potted	2
Potentiometers, composition	3
Potentiometers, metallic film	4
Potentiometers, precision	5
Potentiometers, slide wire	6
Potentiometers, trimmers	7
Potentiometers, wire-wound	8
Resistors, boroncarbon	9
Resistors, composition, variable	10
Resistors, decade	11
Resistors, deposited-carbon	12
Resistors, film	13
Resistors, fixed composition	14
Resistors, fixed wire-wound	15
Resistors, fuse	16
Resistors, high frequency	17
Resistors, high voltage	18
Resistors, industrial fixed	19
Resistors, negative temperature coefficient	20

Resistors, plug-in tube	21
Resistors, precision	22
Resistors, printed circuit	23
Resistors, subminiature	24
Resistors, tape	25
Resistors, variable	26
Resistors, wirewound, variable ..	27
Rheostats, power	28
Suppressors	29
Thermistors	30
Varistors	31
Volume controls	32
Wirewound strips	33

Acc Electronics Associates 99 Dover St Somerville 44 Mass-3-4-5-6-7-8-15-22-24-27
 ACF Electronics 800 N Pitt St Alexandria Va-23-25
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-2-8-12-13-22
 Aerovox Corporation & Divisions 740 Bellevue Ave New Bedford Mass-7-9-11-12-13-15-18-22-23-24-26-27
 Ahrendt Instrument Co 4910 Calvert Rd College Park Md-5
 A L Products Inc 311 Hickory St Kearny NJ-11
 Allen-Bradley Co 136 W Greenfield Ave Milwaukee 4 Wisc-3-10-14
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-5
 American Matrix Corp 15 Exchange Pl Jersey City 2 NJ-1
 Analogue Controls Inc 39 Roselle St Mineola LI NY-5-6-8
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-3-4-5-6-7-8
 Arenberg Ultrasonic Lab 94 Green St Jamaica Plain 30 Mass-1
 Arga Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-8
 Atlas Resistor Co Main & Cotton Sts Philadelphia 27 Pa-15-19-27
 Automatic Processing Corp 1335 N Wells St Chicago 10 Ill-23
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-2
 Axel Bros Electronic Div 134-20 Jamaica Ave Jamaica NY-15
 Batson Electronics Corp J A Waterloo Nebr-14-15-18-22-27
 Beck's Inc 298 E 5 St St Paul 1 Minn-23
 Bird Electronic Corp 1800 E 38 St Cleveland 14 Ohio-17
 Blackburn Electronic Corp 55 W 7 St Wyoming Pa-15-22-24
 Borg Corp Geo W Borg Equip Div Janesville Wisc-5-8
 Bourns Labs 6135 Magnolia Ave Riverside Calif-3
 Bradford Components 33 Bishop St Bradford Pa-15-16-18-22-27
 Bristol Co PO Box 1790 Waterbury Conn-6
 British Electronics Sales 23-03 45 Rd Long Island City 1 NY-1-8-12-15-22-23-24-27-32
 Calif Magnetic Control Corp 11922 Valerio St N Hollywood Calif-2
 Campbell Industries 3806 St Elmo Ave Chattanooga 9 Tenn-12-13-17-19-20-22-23-24
 Carborundum Co Globe Div Niagara Falls NY-14-18-19-20-24-26
 Carol Electronics Corp 315 W Stephen St Martinsburg W Va-15-22
 Carter Parts Co 213 W Institute Pl Chicago 10 Ill-26
 CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-13-17-20-22
 Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wisc-3-5-8-10-26-27-32
 Centran Inc PO Box 168 Greensburg Ind-2
 Ceramic Heater Cathode Resistor Co 20 1 St Keyport NJ-13-17-20-24
 Chicago Telephone Supply Corp 1142 W Beardsley Ave Elkhart Ind-10-23-24-26-27-32
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-1-5-8-15-22-24
 Circuit Instruments Inc 1927 1 Ave S St Petersburg Fla-5-6-7-8-27
 Clark Controller Co 1146 E 152 St Cleveland 10 Ohio-19-28
 Clarostat Mfg Co Washington St Dover NH-1-3-4-5-7-8-10-11-12-13-15-16-17-18-19-20-21-22-23-24-26-27-28-32-33
 Coilcraft Inc Cary Ill-2
 Cole Instrument Co 1600 N Olive St Anaheim Calif-1-5-6-8-11-15-18-22-24-33
 Colvin Labs 364 Glenwood Ave East Orange NJ-5
 Computer Instruments Corp 1964 Utica Ave Brooklyn 34 NY-4-5-7-26
 Continental Carbon 13900 Lorain Ave Cleveland 11 Ohio-8-12-13-15-19-22-26-27-29
 Corning Glass Works Corning NY-13-17-22
 Dale Products PO Box 136 Columbus Nebr-5-8-11-12-13-15-17-18-19-20-22-23-24

Daven Co Route 10 Livingston NJ-1-5-6-8-11-13-15-17-19-21-22-23-24-26-27-32
 Daystrom Instrument Archbald Pa-5-8-27
 Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-3-4-5-7-8
 Daystrom Pacific Corp Potentiometer Div 11150 La Grange Ave W Los Angeles Calif-4-5-7-8-27
 DeJur-Amseco Corp 45-01 Northern Blvd Long Island City 1 NY-5-8-27-28
 Deutschmann Corp Tobe 921 Providence Hwy Norwood Mass-29
 DeWitt Development Co 3008 W 127 St Blue Island Ill-33
 Diamond Microwave Corp 7 North Ave Wakefield Mass-1
 Dwyer Eng'g Co PO Box 452 Nashua NH-23-25
 Eastern Precision Resistor Co 675 Barbey St Brooklyn 7 NY-15-22
 Edcliff Instruments 383 N Foothill Blvd Pasadena 8 Calif-5-6-7-8-27
 Electra Mfg Co 4051 Broadway Kansas City 11 Mo-12
 Electrical & Physical Instrument Corp 42-19 27 St Long Island City NY-1
 Electromath Corp 190 Henry St Stamford Conn-5-6-7-8
 Electro-Measurements Inc 4312 SE Stark St Portland 15 Ore-5-8-11-15-22-27
 Electro Miniatures Corp 1060 Elm Ave Ridgefield NJ-2
 Electronic Industries Inc 7649 San Fernando Rd Burbank Calif-1
 Electron-Radar Products 4806 W Chicago Ave Chicago 51 Ill-1
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-13-15-23
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-1
 Engelhard Inc Charles 850 Passaic Ave E Newark NJ-6
 Epco Products 2500 Atlantic Ave Brooklyn 7 NY-2
 Erie Resistor Corp 644 W 12 St Erie 6 Pa-10-14-17-18-19-20-21-22-23-24-26-29
 ESC Corp 534 Bergen Blvd Palisades Park NJ-2
 Espey Mfg Co 200 W 57 St New York 19 NY-30
 Fairchild Controls Corp Components Div 225 Park Ave Hicksville LI NY-4-5-7-8-27
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-27-32
 Fenwal Inc Pleasant St Ashland Mass-30
 Fisher Radio Corp 21-21 44 Drive Long Island City NY-1
 Ford Engineering Co 129 E "A" St Upland Calif-5-8-27
 Friez Instrument Div Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-20-30
 Gamewell Co 1238 Chestnut St Newton Upper Falls 64 Mass-5-6-7-8
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-12-19-29
 General Controls Co 801 Allen Ave Glendale 1 Calif-5
 General Electric Co Carholoy Dept Box 237 Roosevelt Park Annex Detroit 32 Mich-30-31
 General Electric Co Apparatus Sales Div 1 River Road Schenectady 5 NY-5-19-26-28
 General Radio Co 275 Mass Ave Cambridge 39 Mass-1-5-8-11-15-22-27
 General RF Fittings Inc 702 Beacon St Boston 15 Mass-1
 Giannini & Co G M 918 E Green St Pasadena Calif-5-6-8
 Girard-Hopkins 1000 40 Ave Oakland 1 Calif-12-19
 Glenco Corp 212 Durham Ave Metuchen NJ-2-12
 Graybar Electric Co 420 Lexington Ave New York 17 NY-30-31-32
 Gray Instrument Co 200 E Church Lane Philadelphia 44 Pa-5-11-15
 Great Eastern Mfg Co 165 Remsen Ave Brooklyn 12 NY-15
 Greenleaf Mfg Co 7814 Maplewood Industrial Court St Louis 17 Mo-5
 Guild Electronics 388 Broadway New York 13 NY-29
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-30
 Hamilton-Hall Mfg 227 N Water St Milwaukee 2 Wis-15-16
 Hansen Electronics Co 7117 Santa Monica Blvd Los Angeles 46 Calif-23-24-25
 Hardwick Hindle Inc 40 Hermon St Newark NJ-8-15-27-28
 Helco Products Corp 2041 Colorado Ave Santa Monica Calif-5
 Helipot Corp 916 Meridian Ave S Pasadena Calif-4-5-7-8-26-27
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-1
 Holland Electronics 2133 Central Drive S East Meadow LI NY-1
 Houlihan Co T J 2508 W Lawrence Chicago 25 Ill-33
 Hycor Div Int'l Resistance Co Sylmar Calif-2-15-22
 Industrial Instruments Inc 89 Commerce Rd Cedar Grove NJ-11

Instrument Resistors Co 1036 Commerce Ave Union NJ-11-15-18-19-22-24
 Insulated Circuits Inc 620 Passaic Ave W Caldwell NJ-23
 International Resistance Co 401 N Broad St Philadelphia 8 Pa-3-5-8-9-10-12-14-15-16-17-18-19-22-24-26-27-31
 Ircal Industries 2242 S Sepulveda Blvd Los Angeles Calif-22
 I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 30 Pa-5-8-15-21-22-24-26-27
 Janco Corp 3111 Winona Ave Burbank Calif-22
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-1
 Kay Electric Co 14 Maple Ave Pinebrook NJ-1
 Keystone Carbon Co 1935 State St St Marys Pa-20-30
 K-F Development Co 2606 Spring St Redwood City Calif-5-6-8-15-18-22-26-27
 Lectrohm Inc 5560 Northwest Hwy Chicago 30 Ill-15-16-19-23
 Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-1-5-22
 Librascope Inc Burbank Div 133 E Santa Anita Ave Burbank Calif-5
 Lieco Inc 147 Ocean Ave Lynbrook NY-1
 Link Aviation Inc Binghamton NY-5-6
 Mallory & Co Inc P R 42 S Gray St Indianapolis 6 Ind-3-12-15-16-23-26-27-28-32
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-5-6-8
 Manning Maxwell & Moore 250 E Main St Stratford Conn-5
 Marconi Instruments Ltd 44 New St New York 4 NY-1
 Markite Corp 155 Waverly Pl New York 14 NY-5
 Mel-Rain Corp 2100 Fletcher Ave Indianapolis 3 Ind-23-24-26-27
 Mepeco Inc 37 Abbett Ave Morristown NJ-11-12-17-18-20-22-24
 Microwave Associates 22 Cummington St Boston 15 Mass-1
 Miller Electro-Research Labs 5529 S 5 St Milwaukee 7 Wisc-11-22-30
 Milwaukee Resistor Co 700 W Virginia St Milwaukee 4 Wisc-15-16-19-24-27
 Monson Corp 6059 W Belmont Ave Chicago 84 Ill-5-15-22
 Muter Co 1255 S Michigan Ave Chicago 5 Ill-5-15-16-23-26-27
 Narda Corp 160 Herricks Rd Mineola NY-20-30
 National Electric Controller Co 7070 Glenwood Ave Chicago 26 Ill-28
 Nesor Alloy Prods 282 Halsey St Newark 2 NJ-33
 Newcomb Spring of Conn College Hwy Southwington Conn-15
 New London Instrument Co 82 Union St New London Conn-1
 Nucleonic Products Co PO Box 5552 Metro Sta Los Angeles 55 Calif-12-22
 Ohio Carbon Co 12508 Berea Rd Cleveland 11 Ohio-10-14-15-18-27
 Ohmite Mfg Co 3601 Howard St Skokie Ill-6-8-11-15-16-19-21-22-26-27-28
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-2-29
 Pacific Scientific Co 1430 Grande Vista Ave Los Angeles 23 Calif-5
 Paul F H & Stein Bros 235 5 Ave New York 16 NY-5-8
 PCA Electronics Inc 2180 Colorado Ave Santa Monica Calif-2
 Perkin-Elmer Corp Norwalk Conn-5
 Photo Crystals Inc 15 S 1 St Geneva Ill-1
 Physics Research Labs 507 Hempstead Turnpike W Hempstead NY-22
 Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-13-22
 Potter Co 1950 Sheridan Rd N Chicago Ill-2
 Precision Inc 730 Lyndale Ave N Minneapolis 11 Minn-15-19-22-24
 Precision Resistor Co 109 U S Hwy 22 Hillside NJ-11-15-18-22-24
 Precision Thermometer & Instrument Co 1434 Brandywine St Philadelphia 30 Pa-30
 Pyrofilm Resistor Co 8 Whippany St Morristown NJ-12-17-20-22-24
 Rattray & Co George 116-08 Myrtle Ave Richmond Hill 18 NY-5-8
 Rawson Electrical Instrument Co 117 Potter St Cambridge 42 Mass-5
 Raytheon Mfg Co Receiving & Cathode Ray Tube Operations 55 Chapel St Newton 58 Mass-31
 RCL Mfg Co New Jersey Ave Riverside 1 NJ-24
 Reon Resistor Corp 117 Stanley Ave Yonkers NY-11-15-22-23-24
 Resistance Products Co 914 S 13 St Harrisburg Pa-13-15-17-18-19-22-23-24
 Resistors Inc 5226 W 26 St Chicago 50 Ill-15-27
 Rex Rheostat Co 3 Foxhurst Rd Baldwin LI NY-6-8-15-19-26-27-28
 RHO Eng'g Co 2240 Sepulveda Blvd Los Angeles Calif-2-15-22-23-24
 Rodale Mfg Co Emaus Pa-3
 Rubicon Co Ridge Ave & 35 St Philadelphia 32 Pa-5-11-15-22
 Ruckelshaus Labs John G Madison NJ-13-22-23-26

Sage Electronics Corp 302 N Goodman St Rochester 7 NY-15-22
 Sage Labs 30 Guinan St Waltham 54 Mass-1
 Sanders Associates 95 Canal St Nashua NH-25
 San Fernando Electric Mfg 1509 1 St San Fernando Calif-5-6-7-8
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-30
 Servomechanisms Inc Post & Stewart Aves Westbury NY-4
 Servonic Instruments Inc 1145 S Fair Oaks Pasadena 2 Calif-5-6-8-27
 Servotrol Co 114 W Illinois St Chicago 10 Ill-5-27
 Shallcross Mfg Co Pusey & Jackson Aves Collingdale Pa-1-2-3-4-5-6-7-8-11-13-14-15-18-19-22-24-26-27
 Shallite Inc 10 Mill St Paterson NJ-15-23
 S O S Cinema Supply Corp 602 W 59 St New York 19 NY-13
 Southern Electronics Corp 239 W Orange Grove Ave Burbank Calif-2
 Spectrol Electronics Div Carrier Corp 1704 S Del Mar Ave San Gabriel Calif-3-4-5-6-7-8
 Speer Carbon Div Speer Resistor St Marys Pa-14
 Sprague Electric Co Marshall St North Adams Mass-2-12-13-14-15-18-22-23-24
 Stackpole Carbon Co Tannery St St Marys Pa-8-10-14-23-32
 States Co 19 New Park Ave Hartford 6 Conn-20
 Stoddart Aircraft Radio Co 6644 Santa Monica Blvd Hollywood 38 Calif-1
 Stupakoff Div Carborundum Co Latrobe Pa-20-23-30
 Tech Labs Inc Bergen & Edsall Blvds Palisades Park NJ-1-11-26-27
 Technology Instrument Corp 531 Main St Acton Mass-4-5-6-7-8-26-27
 Tech-Ohm Resistor Corp 36-11 33 St Long Island City 6 NY-15-20-27
 Teleradio Eng'g Corp Wilkes-Barre Pa-15-27
 Telewave Labs Inc 42-20 34 St Long Island City 1 NY-17-24
 Thwing-Albert Instrument Co Penn St & Pulaski Ave Philadelphia 44 Pa-5
 Tru-Ohm Div Model Eng'g & Mfr 2800 N Milwaukee Ave Chicago 18 Ill-6-7-8-15-16-17-18-19-20-21-23-25-26-27-28
 Union Switch & Signal Div Westinghouse Air Brake Pittsburgh 18 Pa-31
 United Mineral & Chemical Corp 16 Hudson St New York 13 NY-5-8-12-13-15-18-22-26-27-28
 Vanguard Electronics 3384 Motor Ave Los Angeles 34 Calif-2
 Vectron Inc 1611 Trapelo Rd Waltham 54 Mass-5-7-8-27
 Victoreon Instrument Co 3814 Perkins Ave Cleveland 14 Ohio-12-13-22-24
 Victory Eng'g Corp 117 Springfield Rd Union NJ-20-30-31
 Vokar Corp Dexter Mich-24
 Volta Mfr Co 2154 N Halsted St Chicago 14 Ill-14-27
 Ward Leonard Electric Co Mt Vernon NY-15-17-18-19-27-28
 Waters Mfg Boston Post Rd Wayland Mass-5-8-26-27
 Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-1
 Welch Mfr Co W M 1515 Sedgwick St Chicago 10 Ill-6
 Welwyn Int'l Inc 3355 Edgecliff Terrace Cleveland 11 Ohio-12
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-15-18-19-22-27-28
 White Instrument Labs 203 E Riverside Dr Austin 4 Texas-2
 White S S Industrial Div 10 E 40 St New York 16 NY-14
 Winstrom Electronics Inc 4312 Main St Philadelphia 27 Pa-18
 Wirt Co 5221 Greene St Philadelphia 44 Pa-15-18-19-21-27-29-32
 Workman TV Inc 309 Queen Anne Rd Teaneck NJ-14-16-16-18-20



Bomac Labs Salem Rd Beverly Mass-2
 CBS-Hytron Div Columbia Bdcstg System 100 Endicott St Danvers Mass-1-2-3-5-6
 Cleveite Transistor Products 241 Crescent St Waltham 54 Mass-1-2-3-4-5-6-8
 Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-3-6
 Eagle Picher Co 900 American Bldg Cincinnati 1 Ohio-1
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-6
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-1-2-3
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-1-2
 Fretco Inc 406 N Craig St Pittsburgh 13 Pa-1-2-3-4-5-6
 Gahagan Inc 11 W 4 St Bethlehem Pa-1
 General Electric Co Semiconductor Products Electronics Park Syracuse 1 NY-1-2-3-5-6-8
 General Transistor Corp 180-11 90 Ave Richmond Hill 18 NY-3-4
 Germanium Products Corp 26 Cornelison Ave Jersey City 4 NJ-3-8
 Graybar Electric Co 420 Lexington Ave New York 17 NY-1-2
 Hughes Aircraft Co Florence & Teale Sts Culver City Calif-1-2-3
 International Rectifier Corp 1521 E Grand Ave El Segundo Calif-1-2
 Kemtron Electron Products 14 Prince Pl Newburyport Mass-1-2
 Mallory & Co Inc P R 42 S Gray St Indianapolis 6 Ind-1-6
 Microwave Associates 22 Cummington St Boston 15 Mass-1-2
 Minneapolis-Honeywell Regulator Co Transistor Div 2753 4 Ave S Minneapolis 8 Minn-3-6-8
 National Aircraft Corp 3411 Tulare Ave Burbank Calif-3-6-7-8
 National Semiconductor Prods Div Hoffman Electronics 930 Pitner Ave Evanston Ill-2
 Nucleonic Products Co PO Box 5562 Metro Sta Los Angeles 55 Calif-1-3-6
 Pacific Semiconductors Inc 10451 W Jefferson Blvd Culver City Calif-1-2
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-1-2-3-7
 Pye Corp of America 270 Park Ave New York 17 NY-3-5
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-1-3-5-6
 Radio Receptor Co 251 W 19 St New York 11 NY-1-2
 Raytheon Mfg Co Receiving & Cathode Ray Tube Operations 55 Chapel St Newton 58 Mass-1-2-3-6
 S O S Cinema Supply Corp 602 W 59 St New York 19 NY-6
 Sprague Electric Co Marshall St North Adams Mass-2-5-7
 Sylvania Electric Products 1740 Broadway New York 19 NY-1-2-3-4-5-6-8
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-2-6
 Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-2-3-4-5-6-8
 Transiron Electronic Corp 407 Main St Melrose 76 Mass-1-2-3-6
 Tung-Sol Electric Inc 95 8 Ave Newark 4 NJ-1-3-5-6
 U S Dynamics Corp 1250 Columbus Ave Boston 20 Mass-1-2
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-1-2-6

Pickups, binaural	16
Pickups, capacitance	17
Pickups, ceramic	18
Pickups, crystal	19
Pickups, dynamic	20
Pickups, magnetic	21
Pickups, photoelectric	22
Pickups, reluctance	23
Pickups, resistance	24
Record changers, automatic	25
Record compounds	26
Record pads	27
Record Players, coin-operated .	28
Record Players, home	29
Record Players, transcription ..	30
Record Racks	31
Record Presses	32
Records, binaural	33
Records, blank	34
Records, commercial	35
Records, frequency	36
Records, home	37
Records, sound effects	38
Records, test	39
Transcriptions, broadcast	40
Turntables	41

Admiral Corp 3800 Cortland St Chicago 47 Ill-12-14-25
 Aerovox Corporation & Divisions 740 Belleville Ave New Bedford Mass-4
 Affton Industries 8300 Flex O Lite Dr St Louis 23 Mo-34
 Allegro Electronics 226 New York Ave Huntington LI NY-12
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-4
 Allied Recording Products 32-32 Greenpoint Ave Long Island City 1 NY-34
 Altac Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-12-29
 American Electronics Co 1203 Bryant Ave New York 59 NY-39
 American Optical Co Instrument Div Box A Buffalo 15 NY-7
 Ami Inc 1500 Union Ave SE Grand Rapids Mich-12
 Ansley Mfg Co Arthur New Hope Pa-29
 ARF Products 7627 Lake St River Forest Ill-12-14
 Astatic Corp PO Box 120 Conneaut Ohio-8-9-10-15-18-19
 Atlantic Research Corp 901 N Columbus St Alexandria Va-6-19-20
 Andak Co 500 5 Ave New York 36 NY-21
 Audio Devices Inc 444 Madison Ave New York NY-9-10-11-34
 Audio Equip Co 15749 Wyoming Ave Detroit 38 Mich-31
 Audiogersch Corp 23 Park Pl New York 7 NY-25
 Audio-Master Corp 17 E 45 St New York 17 NY-12-14-29-30
 Autocrat Electronics Co 5024 Elm St Skokie Ill-12-25-29
 Barton Electronics 1000 Farmington Ave Hartford 7 Conn-22
 Barwood Mfg Co L J Williams & Norman Sts Everett 49 Mass-1
 Bausch & Lomb Optical Co 628 St Paul St Rochester 2 NY-7
 Beam Industries Inc 624 S Michigan Ave Chicago 5 Ill-12
 Bennett & Co Paul 230 E Ohio St Chicago 11 Ill-12
 Boetsch Bros 115 Cedar St New Rochelle NY-12
 Bogen Co David 29 9 Ave New York 14 NY-4-12-30
 B & R Electronics 1701 Boone Ave New York 60 NY-12
 Bristol Co PO Box 1790 Waterbury Conn-6
 British Industries Corp 80 Shore Rd Port Washington NY-15-20
 Buhl Optical Co 1009 Beech Ave Pittsburgh 38 Pa-7
 Califone Corp 1041 N Sycamore Ave Hollywood 38 Calif-12
 Capehart-Farnsworth Div IT&T 3700 E Pontiac St Ft Wayne Ind-18-19-23-24-25
 Capitol Records 1730 Broadway New York NY-12
 Capps & Co 20 Addison Pl Valley Stream LI NY-10
 CBS-Columbia Inc 3400 47 Ave Long Island City 1 NY-12
 Chesapeake Instrument Corp Shadyside Md-18-19
 Cleveland Instrument Co 735 Carnegie Ave Cleveland 15 Ohio-23
 Columbia Records Div Columbia Broadcasting System 799 7 Ave New York NY-12-29-35-36-37-39
 Computer-Measurements Corp 5528 Vineland Ave N Hollywood Calif-21-22

64—SOUND REPRODUCING EQUIPMENT, DISC

Brushes	1
Cloths, record cleaning	2
Compensators	3
Equalizers, record	4
Filters, needle scratch	5
Gages, pressure	6
Microscopes	7
Needles, diamond	8
Needles, metal	9
Needles, sapphire	10
Needles, steel	11
Phonographs, electric	12
Phonographs, hand-wound	13
Phonographs, radio combinations	14
Pickup arms	15

63—SEMI-CONDUCTORS

Diodes, germanium	1
Diodes, silicon	2
Transistors, junction	3
Transistors, photo	4
Transistors, point contact	5
Transistors, power	6
Transistors, surface-barrier	7
Transistors, tetrode	8

Amperex Electronic Corp 230 Duffy Ave Hicksville LI NY-1-3-6
 Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-3-4-5-6-7-8
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-2-6

Control Components Co 1 Holden St Brookline 46 Mass-21-23
Cook Laboratories 101 2 St Stamford Conn-33-35-36-38-39
Coscor (Canada) Ltd 801 Windsor St Halifax NS Canada-30
Crescent Industries Inc 5900 W Touhy Ave Chicago 31 Ill-12-14-25
Crosley Div Avco Mfg Corp 2630 Glendale-Milford Rd Evandale Cincinnati 15 Ohio-25
Culbertson Co George K 2515 Novato Pl Palos Verdes Estates Calif-29
Datran Eng'g Corp 3613 Aviation Blvd Manhattan Beach Calif-23
Daystrom Instrument Archbald Pa-41
Decca Records Inc 50 W 57 St New York NY-12
Defender Instrument & Regulator Co 815 Clark Ave St Louis 2 Mo-6
Detectolab Inc 6544 N Sheridan Rd Chicago Ill-41
Detroit Controls Corp Norwood Controls Unit 934 Washington St Norwood Mass-6
De Wald Radio Mfg Corp 35-15 37 Ave Long Island City 1 NY-14
D & R Ltd 402 E Cutierrez St Santa Barbara Calif-36-41
DuKane Corp St Charles Ill-12
DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-20-22-24-29
Duotone Co Locust St Keyport NJ-8-9-10-11
DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-5
Dynavox Corp 40-05 21 St Long Island City 1 NY-29-30
Edmund Scientific Corp 101 E Gloucester Pike Harrington 3 NJ-7
Edu-Craft Sales Corp 150-45 12 Ave White-stone NY-12
Eisler Eng'g 750 S 13 St Newark 3 NJ-31
Eircraft Electronics 32-28 49 St Long Island City NY-12
Electro Miniatures Corp 1060 Elm Ave Ridgefield NJ-1
Electron Enterprises 6917 W Stanley Ave Berwyn Ill-12-29-30
Electronic Crafts Co 74 Cortland St New York 17 NY-12
Electronic Creations Co 1701 Boone Ave New York 60 NY-12-14
Electronic Utilities Corp 153 W Huron St Chicago 10 Ill-12
Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-21
Electro Sound Corp 115 Halleck St Boston 20 Mass-30
Electro-Voice Inc Buchanan Mich-18-19
Electrovox Co 60 Franklin St East Orange NJ-8-9-10-11
Elgin Electronic Corp Box 13 Bluffton Ind-12
Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-14-29
Endevco Corp 161 E California St Pasadena Calif-18-19-20
Epcoc Electronics Inc 140 Liberty St New York 6 NY-4-5
Eraser Co 1068 S Clinton St Syracuse 4 NY-1
Erie Resistor Corp 644 W 12 St Erie 6 Pa-18-22
Espey Mfg Co 200 W 57 St New York 19 NY-5
Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36-Mass-41
Fairchild Recording Equipment Co 154 St & 7 Ave Whitestone NY-4-15-21-41
Fanon Electric Co 1550-09 South Rd Jamaica 33 NY-12
Federal Sapphire Products 292 Belmont Ave Paterson 2 NJ-10
Fenton Co 15 Moore St New York 14 NY-8-10-19-21-25-29
Ferranti Electric Inc 30 Rockefeller Plaza New York 20 NY-15-20
Fidelity Amplifier Co 703 W Willow St Chicago 14 Ill-29
Fischer & Porter 19 Warminster Rd Hathoro Pa-6
Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-5
Gaertner Scientific Corp 1250 Wrightwood Ave Chicago 14 Ill-7
Garrard Sales Corp Sub British Industries 80 Shore Rd Port Washington NY-6-12-25-29-30
Gates Radio Co 123 Hampshire St Quincy Ill-80-31-41
General Electric Co Apparatus Sales Div Schenectady 5 NY-3
General Industries Co Olive & Taylor Sts Elyria Ohio-12
Genisco Inc 2233 Federal Ave Los Angeles 64 Calif-41
Gotham TV Corp 123 W 64 St New York NY-12-14-27
Granco Products Inc 36-07 20 Ave Long Island City NY-12
Graphite Metallizing Corp 1002 Nepperhan Ave Yonkers NY-1
Graybar Electric Co 420 Lexington Ave New York 17 NY-4-8-10-15-20-21-23-25-29-30-41
Grayline Eng'g Co 12243 Ave O Chicago 33 Ill-12
Gray Research & Development 658 Hilliard St Manchester Conn-4-29
Greene Co L Charlton 314 Washington St Newton 58 Mass-12
Guild Radio & TV Co 460 N Eucalyptus Ave Inglewood Calif-14
Gulton Mfg Corp 212 Durham Ave Metuchen NJ-18-23
Hallcrafters Co 4401 5 Ave Chicago 24 Ill-12-29
Hamilton Electronics 2726 Pratt Ave Chicago 45 Ill-12
Hastings Instrument Co Newcomb Ave off Ivy Home Rd Hampton Va-6
Hays Corp 742 E 8 St Michigan City Ind-6
Hedco Mfg 161 W Huron St Chicago 10 Ill-12
Heath Co 305 Territorial Rd Benton Harbor Mich-41
Hillborn Electronics Products 55 Nassau Ave Brooklyn 22 NY-5
Hinners-Galanek Radio Corp 25-14 Broadway Long Island City 6 NY-12-14-29
Hoffman Electronics Corp 3761 S Hill St Los Angeles 43 Calif-12
Hogan Labs 155 Perry St New York 14 NY-22
Industrial Electronics Inc 8060 Wheeler St Detroit 10 Mich-6-20-32
Interelectronics Corp 2432 Grand Concourse New York 58 NY-3-4-5
International Radio & Electronics Box 123 Route 4 Elkhart Ind-12
International Research and Development 797 Thomas Lane Columbus 16 Ohio-20
Jensen Industries Inc 7333 W Harrison St Forest Park Ill-8-9-10-11
Keystone Carbon Co 1935 State St St Marys Pa-1
Kraft Bros 148-12 94 Ave Jamaica 52 NY-12
Lincoln Eng'g Co 4010 Goodfellow Blvd St Louis 20 Mo-29
Livingston Electronic Corp Livingston NJ-6-15-16-33
London Records Inc 539 W 25 St New York 1 NY-12
Magnadyne Co 84 S Water St Port Chester NY-12
Magnavox Co 2131 Bueter Rd Ft Wayne 4 Ind-12
Major Electronics 42 Meserole St Brooklyn 6 NY-14-29
Manufacturer's Lab 10610 Keswick St Sun Valley Calif-15
Markel Electric Products 147 Seneca St Buffalo NY-25
Marshalltown Mfg Co 810 E Nevada St Marshalltown Iowa-6
MB Mfg Co Div Textron American 1060 State St New Haven 11 Conn-20
McClure Talking Pictures O J 1115 W Washington Blvd Chicago 7 Ill-12-30
McGohan Inc Don 3700 W Roosevelt Rd Chicago 24 Ill-12
MeRix Chemical Co 1021 E 55 St Chicago 15 Ill-2
Merkle-Korff Gear Co 213 N Morgan St Chicago 7 Ill-41
MGM Records 701 7 Ave New York 36 NY-12
Miller Mfg Co M A 4 & Church Sts Libertyville Ill-8-9-10-11
Milwaukee Recorder Changer Corp 39 Warren St New York NY-25
Mitchell Mfg Co 2525 Clybourn Ave Chicago 14 Ill-12
Motorola Inc 4545 Augusta Blvd Chicago 51 Ill-12-25
MP Eng'g Fairfield 3 Conn-12-14-30
National Co 61 Sherman St Malden 48 Mass-14
National Hollywood 1475 El Mirador Dr Pasadena 3 Calif-34-37
Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-12-29-30
North American Philips Co 750 S Fulton Ave Mt Vernon NY-7-25-29
Oberline Inc PO Box 921 Beverly Hills Calif-4-30
Olympic Radio & TV Inc 34-01 38 Ave Long Island City 1 NY-14-29
Optron Mfg Co 3223 N Sheffield Ave Chicago 13 Ill-12
Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-4-5
Pace Eng'g Co 6914 Beck Ave N Hollywood Calif-6
Pacific Transducer Corp 11836 W Pico Blvd Los Angeles 64 Calif-4-6-7-8-10-15-21-39
Packard-Bell Co 12333 W Olympic Blvd Los Angeles 64 Calif-12
Pampa Electronics Corp 7354 Frankford Ave Philadelphia 36 Pa-20-21-23
Permo Inc 6415 Ravenswood Ave Chicago 26 Ill-8-9-10-11
Pfanstiehl Chemical Corp 104 Lake View Ave Waukegan Ill-8-9-10-11-24
Philoc Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-25
Philharmonic Radio 235 Jersey Ave New Brunswick NJ-12
Photocon Research Products 421 N Foothill Blvd Pasadena 8 Calif-6-17-21
Photo Crystals Inc 15 S 1 St Geneva Ill-22
Pickering & Co 309 Woods Ave Oceanside NY-4-8-10-15-21-23
Pilot Radio Corp 37-06 36 St Long Island City 1 NY-12
Poinsettia Co 112 Cedar Ave Pitman 15 NJ-32
Port-O-Matic Co 438 E 91 St New York 28 NY-12
Post Machinery Co Electronics Products Div 140 Elliott St Beverly Mass-21-22
Presto Recording Corp PO Box 600 Paramus NJ-4-8-9-10-11-15-23-29-30
Prosound Corp 175 5 Ave New York 10 NY-25
Pulse Techniques Inc 1411 Palisade Ave W Englewood NJ-4
Pye Corp of America 270 Park Ave New York 17 NY-7
QRK Electronic Products 445 N Circle Dr Fresno 4 Calif-30
Radio Corp of America Camden NJ-12
Radio Music Corp 84 S Water St Port Chester NY-12
Radio Supply & Eng'g 85 Selden St Detroit 1 Mich-12-25
Rek-O-Kut 38-01 Queens Blvd Long Island City 1 NY-30-41
Ristaurat Inc 1216 E Wis Ave Appleton Wis-12
Roberts Mfg Co 412 E Chambers St Cleburne Texas-12-29
Robins Industries Corp 214-26 41 Ave Bayside 61 NY-2-27-31
Robinson Recording Labs 35 S 9 St Philadelphia 7 Pa-41
Rockbar Corp 215 E 37 St New York 24 NY-25-29-30
Ronette Sales Corp 135 Front St New York 5 NY-15-19
Rowe Industries 1702 Wayne St Toledo 9 Ohio-21
Scherr Co George 200 Lafayette St New York 12 NY-7
Scott Radio Labs Liberty & Penna St Plymouth Ind-12-14
Seager Standard Carbon Co 291 Church St New York 18 NY-1
Seeburg Corp J P 1510 N Dayton Chicago Ill-12
Sentinel Radio Corp 2100 Dempster St Evanston Ill-12
Servonic Instruments Inc 1145 S Fair Oaks Pasadena 2 Calif-24
Shura-Tone Products 440 Adelphia St Brooklyn NY-12
Shure Bros 222 Hartrey Ave Evanston Ill-15-18-19-20-21
Sightmaster Corp 111 Cedar St New Rochelle NY-25
Signal Transformer Co 2518 Coney Island Ave Brooklyn 23 NY-4
Skatin' Toons Box 264 Smithtown NY-35
Sonex Inc 245 Sansom St Upper Darby Pa-4
Sonic Recording Products 58 Mill Rd Freeport NY-34-37
Standard Record Mfg Co 1475 El Mirador Dr Pasadena 3 Calif-34-37
Steelman Phonograph & Radio Co 2-30 Anderson Ave Mt Vernon NY-12
Swiss Jewel Co 225 Lafayette Bldg Philadelphia 6 Pa-10
Sylvania Electric Products 1740 Broadway New York 19 NY-12
Symphonic Radio 160 Washington St N Boston 8 Mass-12
Symphony Radio & TV Corp 925 S Western Ave Los Angeles 6 Calif-12
Telechrome Inc 88 Merrick Rd Amityville LI NY-22
Telex Co 46 Lakeview Ave Yonkers NY-8-10
Tetrad Co 62 St Mary St Yonkers 2 NY-8
Toman & Co E 8700 W 47 St Lyons Ill-13
Trans-sonics Inc PO Box 328 Lexington Mass-6-24
Transvision Inc 460 North Ave New Rochelle NY-14
Trav-Ler Radio Corp 571 W Jackson Blvd Chicago 6 Ill-12-14-29
Trutone Electronics Inc 812 N Highland Ave Hollywood 38 Calif-12-14
United Audio Prods Div United Optical Mfg 2-2 E 19 St New York 3 NY-25
United Research Labs 1650 Broadway New York 19 NY-35-37
U S Gauge Div American Machine & Metals Sellersville Pa-6
U S Recording Co 1347 S Capitol St Washington 3 DC-12-13
Vanity Fair Electronics 50 E 4 St Brooklyn 11 NY-12
Video Corp of America 229 W 28 St New York 1 NY-12
V-M Corp 280 Park St Benton Harbor Mich-12
Weathers Conley Co Rochester 1 Minn-12
Weathers Industries 66 E Gloucester Pike Barrington NJ-15-17
Webster-Chicago Corp 5610 W Bloomingdale Ave Chicago 39 Ill-12-25
Western Sound & Electric Labs 805 S 5 St Milwaukee 4 Wis-12-29-30
Westinghouse Electric Corp Metuchen NJ-12-25
Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-6
Wilcox-Gay Corp Charlotte Mich-12
Zenith Radio Corp 6001 W Dickens Ave Chicago 39 Ill-12-14-29

OMISSIONS

This electronic industries directory has been compiled with the utmost care and thoroughness. Listings have been omitted in all cases where, after three requests, a company has failed to return our directory questionnaire or otherwise verify its activity.

65—SOUND REPRODUCING EQUIPMENT, MAGNETIC

Editing blocks	1
Heads, magnetic film stripe	2
Heads, magnetic tape playback	3
Heads, magnetic wire playback	4
Players, magnetic tape	5
Players, magnetic wire	6
Reels	7
Tape indexes	8
Tape, magnetic	9
Tape, prerecorded	10
Tapes, test	11
Wire, magnetic	12

Afton Industries 8300 Flex O Lite Dr St Louis 23 Mo-9
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-2-3-5
 American Silver Co 36-07 Prince St Flushing 54 NY-9
 Ampex Corp 934 Charter St Redwood City Calif-2
 Audio Devices Inc 444 Madison Ave New York NY-9-11
 Audio Instrument Co 133 W 14 St New York 11 NY-9
 Audio-Master Corp 17 E 45 St New York 17 NY-9-10
 Audiomatic Labs 7230 Clinton Rd Upper Darby 14 Pa-5
 Berndt-Bach Inc 6926 Romaine St Hollywood 38 Calif-2
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-3-5-9
 Camera Equipment Co 315 W 43 St New York 36 NY-2-3-4-5-11
 Cannon Co C F Springwater NY-2
 Capehart-Farnsworth Div IT&T 3700 E Pontiac St Ft Wayne Ind-9
 Cousino Inc 2325 Madison Ave Toledo 2 Ohio-9
 Davies Labs Inc 4705 Queensbury Rd Riverdale Md-2-3-5-9
 Driver-Harris Co 201 Middlesex St Harrison NJ-12
 Dynamu Magnetronics Corp Div Maico Co 21 N 3 St Minneapolis 1 Minn-3
 Electronic Specialties 7230 Clinton Rd Upper Darby 14 Pa-10
 Electro Sound Corp 115 Halleck St Boston 20 Mass-10
 EMC Recording Corp 806 E 7 St St Paul Minn-10
 Florman & Babb 68 W 45 St New York 36 NY-7
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-9
 Graybar Electric Co 420 Lexington Ave New York 17 NY-5-9-10
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-2
 Lipps Co Edwin A 5485 W Washington Blvd Los Angeles 16 Calif-2-3
 Livingston Electronic Corp Livingston NJ-10
 Magnecessories Box 6960 Washington 20 DC-1
 Magnecord Inc 1101 S Kilbourn Ave Chicago 24 Ill-5
 Miller Electronics 2840 Naomi St Burbank Calif-10
 Minn Mining & Mfg 900 Fauquier Ave St Paul 6 Minn-9
 Mohawk Business Machines 944 Halsey St Brooklyn 33 NY-5-6-10
 Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-7
 National Company 61 Sherman St Malden 48 Mass-5
 National Hollywood 1475 El Mirador Dr Pasadena 3 Calif-7
 North American Instruments 2420 N Lake Ave Altadena Calif-3
 Norton Assoc PO Box 96 Garden City NY-2-3-4
 Olympic Instrument Labs Cove Wash-7
 ORRadio Industries 120 Marvyn Rd Opelika Ala-7-9
 Pampa Electronics Corp 7354 Frankford Ave Philadelphia 36 Pa-2-3-4-5
 Peirce Wire Recorder Corp 5900 N Northwest Hwy Chicago 31 Ill-12
 Pentron Corp 777 S Tripp Ave Chicago 24 Ill-10
 Potter Instrument Co 115 Cutter Mill Rd Great Neck NY-3-5
 Presto Recording Corp PO Box 500 Paramus NJ-4-5
 Radio Corp of America Camden 2 NJ-10
 Rea Co J B 1723 Cloverfield Blvd Santa Monica Calif-3
 Recorded Tape of the Month Club 449 W 51 St New York 19 NY-10
 Reeves Soundcraft Corp 10 E 52 St New York 22 NY-9
 Remington Rand Univac Div 315 4 Ave New York 10 NY-9
 Robins Industries Corp 214-26 41 Ave Bayside 61 NY-1
 Rowe Industries 1702 Wayne St Toledo Ohio-3



Shure Bros 222 Hartrey Ave Evanston Ill-3-4
 Simpson Mfg Co Mark 32-28 49 St Long Island City 3 NY-5
 Skatin' Toons Box 264 Smithtown NY-10
 Smith Associates Rawdon 1319 19 St N W Washington 6 DC-9-10-11
 S O S Cinema Supply Corp 602 W 59 St New York 19 NY-7
 Stancil Hoffman Corp 921 N Highland Ave Hollywood 38 Calif-2-3
 Standard Record Mfg Co 1475 El Mirador Dr Pasadena 3 Calif-7
 Tayloreel Corp 3 Rutter St Rochester 6 NY-7
 Topflight Corp 160 E 9 Ave York Pa-11
 United Research Labs 1650 Broadway New York 19 NY-10
 U S Recording Co 1347 S Capitol St Washington 3 DC-9
 Western Gold & Platinum Co 589 Bryant St San Francisco 7 Calif-12

66—SOUND SYSTEMS, INTER-COMMUNICATORS & HEARING AIDS

Acoustic materials	1
Amplifiers, mobile	2
Amplifiers, power	3
Bells & Buzzers	4
Carrier current systems	5
Consoles, studio	6
Controllers, remote	7
Equalizers	8
Hearing aids	9
Home sound systems	10
Intercommunicators	11
Megaphones, electronic	12
Musical electronic equipment	13
Paging systems	14
Preamplifiers	15
Public address systems	16
Telephone systems	17
Telephones, sound powered	18
Theater sound systems	19

Acme Teletronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-3
 Advance Relay Co Div Elgin National Watch 2435 N Naomi St Burbank Calif-18
 Aerovox Corp & Divisions 740 Belleville Ave New Bedford Mass-3-8-15
 Air Associates Inc 511 Joyce St Orange NJ-2-15
 Aircraft Radio Corp Boonton NJ-3
 Airtronix Development Corp 4902 Church Ave Brooklyn 3 NY-3-16
 Allegany Instrument Co Cumberland Md-15
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-10-14-15-16
 Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-3-6-15-16-19
 American Bosch Arma Corp Arma Div Roosevelt Field Garden City NY-3
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-15
 American Sound Products 1303 S Michigan Ave Chicago 5 Ill-9
 Ampex Corp 934 Charter St Redwood City Calif-14-19
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-15
 ARF Products Inc 7627 Lake St River Forest Ill-15
 Atlantic Research Corp 901 N Columbus St Alexandria Va-15
 Audio Equip Co 15749 Wyoming Ave Detroit 38 Mich-9
 Audio Equipment Co 805 Middle Neck Rd Great Neck NY-2-3-9-12-13-16
 Audio-Master Corp 17 E 45 St New York 17 NY-16
 Aurex Corp 1117 N Franklin St Chicago 10 Ill-9
 Avion Div ACF Industries 299 State Highway #17 Paramus NJ-15
 Baird Associates 33 University Rd Cambridge 38 Mass-15
 Bell Sound Systems 555 Marion Rd Columbus Ohio-2-15

Bennett Labs 2700 Bay Rd Redwood City Calif-11
 Bergen Labs 11 Godwin Ave Fairlawn NJ-5-15
 Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-3
 Bliss Electronic Corp Box 366 Sussex NJ-11-14-17
 Bogen Co David 29 9 Ave New York 14 NY-2-7-8-11-14-15-16-17-19
 British Industries Corp 80 Shore Rd Port Washington NY-15
 Brush Electronics Co Div Clevite Corp 3405 Perkins Ave Cleveland 14 Ohio-1-9-15
 Budelman Radio Corp 375 Fairfield Ave Stamford Conn-5-17
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-3-4
 Cable Specialists of Conn 474 Prospect Ave Hartford Conn-3
 Cadre Industries Corp Box 150 Endicott Ky-3
 Camera Equipment Co 315 W 43 St New York 36 NY-19
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-15
 Capehart-Farnsworth Div IT&T 3700 E Pontiac St Ft Wayne Ind-10
 CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-1
 Chesapeake Instrument Corp Shadyside Md-15
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-3-8-15
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-6
 Collins Radio Co 855 35 St N E Cedar Rapids Iowa-15
 Cole Instrument Co 1000 N Olive St Anaheim Calif-7
 Colortone Electronics 200 Frank Rd Hicksville NY-11
 Commercial Radio Sound Corp 652 1 Ave New York 16 NY-11-18
 Continental Electronics 302 Oakland St Brooklyn 22 NY-11
 Control Corp 718 Central Ave S Minneapolis 14 Minn-5
 Cook Laboratories 101 2 St Stamford Conn-15
 Cooper Electronics Inc 5637 Tulip St Philadelphia Pa-11
 Corbin Corp 5419 56 Pl Riverdale Md-5
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-2-3-15-16
 Couch Co S H 3 Arlington St Quincy 71 Mass-17
 Crescent Industries Inc 5900 W Touhy Ave Chicago 31 Ill-13
 Daystrom Instrument Archbald Pa-2-15
 Deagan Inc J C 1770 W Bertreau Ave Chicago 13 Ill-13
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-15
 Dilks Co PO Box 139 Seymour Conn-3-15-16
 DuKane Corp St Charles Ill-2-3-11-14-16-17
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-3-6
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-11
 Elettrend Products Corp State & Water Sts St Joseph Mich-3-15
 Electronic Communication Equip Co 1249 Loyola Ave Chicago 26 Ill-3
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-14
 Electronic Eng'g Co 362 W Bowery St Akron 7 Ohio-3-11
 Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 57 Calif-15
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-3-15
 Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-15
 Electro Sound Corp 115 Halleck St Boston 20 Mass-10-13-14-16
 Electro-Voice Inc Buchanan Mich-3-10-15
 El Mec Labs 730 Blvd Kenilworth NJ-3
 Elzee Metal Products 775 39 St Brooklyn 32 NY-6
 Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-16
 Entron Inc 4902 Lawrence St Bladensburg Md-15
 Epco Electronics Inc 140 Liberty St New York 6 NY-15
 Erco Radio Labs 637 Stewart Ave Garden City NY-14
 Espy Mfg Co 200 W 57 St New York 19 NY-3
 Executone Inc 415 Lexington Ave New York 17 NY-14
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-17
 Feedback Controls Inc 1332 N Henry St Alexandria Va-3-15
 Feiler Eng'g & Mfg 8026 N Monticello Ave Skokie Ill-5-11
 Fenton Co 15 Moore St New York 4 NY-9-15
 Fisher Radio Corp 21-21 44 Drive Long Island City NY-8-15
 Fluke Mfg Co John 1111 W Nickerson St Seattle 99 Wash-3
 Flush Wall Radio Co 1012 Cleveland St Clearwater Fla-10-11
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-3-15
 Galbraith & Son 450 Avenue of the Americas New York 11 NY-16

Gates Radio Co 123 Hampshire St Quincy Ill-6-15
 General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-5
 General Electric Co Electronics Div Communication Equip Syracuse NY-2
 General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-11
 General Products Corp Webb St Union Springs NY-4
 General Radio Co 275 Mass Ave Cambridge 39 Mass-3
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Texas-15
 G & M Equipment Co 7315 Varna Ave N Hollywood Calif-11
 Godfrey Mfg Co 2642 S Michigan Ave Chicago 16 Ill-11
 Gorrell & Gorrell 336 Old Hook Rd Westwood NJ-14
 Gotham Audio Development 2 W 46 St New York 36 NY-3
 Grason Stadler Co Electronics Park W Concord Mass-9
 Graybar Electric Co 420 Lexington Ave New York 17 NY-8-10-12-14-15-16-17-18
 Gray Mfg Co 16 Arbor St Hartford 1 Conn-17
 Gray Research & Development 658 Hilliard St Manchester Conn-8
 Guild Radio & T V Co 460 N Eucalyptus Ave Inglewood Calif-11
 Hal-Hen Co 36-14 11 St Long Island City 6 NY-9
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-14
 Hallicrafters Co 4401 W 5 Ave Chicago 24 Ill-3
 Hamilton Watch Co Columbia Ave Lancaster Pa-3
 Hanover Developments 401 E 74 St New York 21 NY-15
 Harmon Electronics Co 11431 Truman Rd Independence Mo-5
 Heath Co 305 Territorial Rd Benton Harbor Mich-3-15
 Hudson Associates 50 Drumm St San Francisco 11 Calif-2
 Hycor Div Int'l Resistance Co Sylmar Calif-8
 Industrial Development Labs 17 Pollock Ave Jersey City 5 NJ-11
 Industrial Test Equip Co 55 E 11 St New York 3 NY-3-15
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-2-3-8-13-15-16
 International Projector Corp 55 La France Ave Bloomfield NJ-3-11-15-16-19
 James Instrument Labs 9110 S 52 Court Oak Lawn Ill-3
 Johnson Co E F Waseca Minn-4
 Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-3
 Kearfott Co 1378 Main Ave Clifton NJ-3
 Keithley Instruments 3868 Carnegie Ave Cleveland 15 Ohio-15
 K-F Development Co 2606 Spring St Redwood City Calif-5
 Kilgen Aircraft Div Kilgen Organ Co 4632 W Florissant Ave St Louis 15 Mo-6
 Kirkland Co H R 8 King St Morristown NJ-4
 Krohn-Hite Instrument Co 580 Mass Ave Cambridge 39 Mass-3
 Lel Inc 380 Oak St Copiague NY-15
 Lenkurt Electric Co 1105 Old County Rd San Carlos Calif-5
 Loce Sound Engineers 2171 W Washington Blvd Los Angeles 48 Calif-2-11-16
 Loral Electronics Corp 794 E 140 St New York 54 NY-11
 Lynch Carrier Systems Inc 695 Bryant St San Francisco 7 Calif-5
 Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-15
 McIntosh Lab Inc 320 Water St Binghamton NY-3-15-19
 Magna Electronics Co 9810 Anza Blvd Inglewood Calif-13
 Magnasync Mfg Co 5546 Satsuma Ave N Hollywood Calif-3-6-19
 Magnetic Amplifiers 632 Tinton Ave New York 55 NY-3-15
 Magnetic Research Corp 200 Center St El Segundo Calif-15
 Manning Maxwell & Moore 250 E Main St Stratford Conn-7
 Marantz Co 44-15 Vernon Blvd Long Island City 1 NY-15
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-14-16
 Mayer Eng'g Frank 6442 Santa Monica Blvd Los Angeles 38 Calif-11-17
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-16
 Mercury Mfg Corp 45 Brown St Buffalo 11 NY-3
 Miller Electronics 2840 Naomi St Burbank Calif-11
 Motiograph Inc 4441 W Lake St Chicago 24 Ill-18-19
 Myers & Sons E A 306 Beverly Rd Pittsburgh 16 Pa-9
 National Company 61 Sherman St Malden 48 Mass-15

Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-2-3-14
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-3-15-16
 Oberline Inc PO Box 921 Beverly Hills Calif-6-7-14-15-16
 Ortho Filter Corp 196 Albion Ave Paterson NJ-2-8
 Otarian Inc 185 Ashford Ave Dobbs Ferry NY-9
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-3-6-15
 Partrick & Wilkins 51 N 7 St Philadelphia 6 Pa-4
 Pennwood Numechron Co 7249 Frankstown Ave Pittsburgh 8 Pa-9
 Pfanstiel Chemical Corp 104 Lake View Ave Waukegan Ill-15
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-6-14
 Pickering & Co 309 Woods Ave Oceanside NY-15
 Power Supplies Inc 1007 Olive St Highland Ill-3
 Precision Hearing Aids 5157 W Grand Chicago 39 Ill-9
 Precision Radiation Instruments & Suh Radio Craftsmen 4223 W Jefferson Blvd Los Angeles 16 Calif-15
 Pulse Techniques Inc 1411 Palisade Ave W Englewood NJ-8-15
 Pye Corp of America 270 Park Ave New York 17 NY-2
 Qualitone Co 4318 Upton S Minneapolis 10 Minn-9
 Radio Corp of America Camden 2 NJ-3-16
 Radio Eng'g Labs 36-40 37 St LI City 1 NY-3
 Radio Engineering Products 1080 University St Montreal 3 Can-5
 Radio Merchandise Sales 2016 Bronxdale Ave New York 62 NY-11
 Rayvovox Mfg Co 902 Albemarle Rd Brooklyn 18 NY-11
 Rayvar Inc 7810 W Addison St Chicago 34 Ill-3
 Rek-O-Kut Co 38-01 Queens Blvd Long Island City 1 NY-16
 Rose Eng'g Inc 731 Arch St Philadelphia Pa-3
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-3-15
 Rhein Sound Systems PO Box 112 Marion Ill-2-3-14
 Rixon Electronics 2414 Reddie Dr Silver Spring Md-15
 Roberts Mfg Co 412 E Chambers St Cleburne Texas-11
 Rust Industrial Co 41 E 42 St New York 17 NY-15
 Sargent-Raymont Co 4926 E 12 St Oakland 1 Calif-15
 Scaico Controls Inc Market St Palmvra NJ-4
 Scott Radio Labs Liberty & Penna St Plymouth Ind-2-3-15-16
 Sears Co M J Roxbury NY-18
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-15
 Shrader Sound Inc 2803 M St N W Washington 7 DC-14
 Simmon Mfg Co Mark 32-28 49 St Long Island City 3 NY-2-3-5-10-14-16
 Smith-Meeker Eng'g 157 Chambers St New York 7 NY-14-16
 Sonex Inc 245 Sansom St Upper Darby Pa-8-10
 Sperti Faraday Inc 1322 E Church St Adrian Mich-4-14
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-4-14
 Standard Electronics Corp 285 Emmet St Newark NJ-6
 Stavil Eng'g Co U S Hwy #22 Plainfield NJ-15
 Stephens Mfg Corp 8538 Warner Dr Culver City Calif-10
 Super Ear Products 675 Merrick Rd Lynbrook NY-9
 Talk-A-Phone Co 1512 S Pulaski Rd Chicago 23 Ill-11
 Tarc Electronics 48 Urban Ave Westbury LI NY-6
 Tech Master Corp 75 Front St Brooklyn 1 NY-15
 Tech-Ohm Resistor Corp 36-11 33 St Long Island City 6 NY-9
 Tektronix Inc PO Box 831 Portland 7 Ore-15
 Telecom Inc 1019 Admiral Blvd Kansas City 6 Mo-11-17
 Tele-Communications Inc 41 E 42 St New York NY-3
 Telephonics Corp Park Ave Huntington LI NY-2-3-15-16-18
 Telesound Inc 1505 Race St Philadelphia 2 Pa-16
 Tele-Systems Inc 6442 Santa Monica Blvd Los Angeles 38 Calif-11-17
 Televiso Corp 1415 Golf Rd Des Plaines Ill-15
 Telex Inc 1633 Eustis St St Paul 1 Minn-9
 Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-3
 Transelectric Mfg Co Hopewell Rd Oxford Pa-11-17
 Trans-Tel Corp 736 N Highland Ave Los Angeles 38 Calif-11
 Transvision Inc 460 North Ave New Rochelle NY-10
 University Loudspeakers Inc 80 S Kensico Ave White Plains NY-12-14-16-19

U S Recording Co 1347 S Capitol St Washington 3 DC-6-12-16
 Valco Mfg Co 4700 W Walton St Chicago 51 Ill-13
 Vickers Electric Div Vickers Inc A Unit of Sperry Rand Corp 1815 Locust St St Louis 3 Mo-15
 Virginia Electronics Co River Rd at B & ORR Washington 16 DC-2-3-10-11-15
 Visual Electronics Corp 500 5 Ave New York 36 NY-6
 Volkert & Schaffer Mfg Corp 444 2 St Schenectady NY-15
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-3-7
 Walkirt Co 145 W Hazel St Inglewood 3 Calif-3
 Webster Electric Co 1902 Clark St Racine Wis-2-5-11-14-15-16
 Webster Labs Inc Stanley 5225 W St Charles Rd Berkeley Ill-9-15
 Western Electric Co 195 Broadway New York NY-17
 Western Sound & Electric Labs 805 S 5 St Milwaukee 4 Wis-3-14-16
 Westinghouse Electric Corp-Electronics Div 2519 Wilkens Ave Baltimore 3 Md-3-5
 Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-3-18
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-13
 Zenith Radio Corp 6001 W Dickens Ave Chicago 39 Ill-9

67—SPEAKERS

Horns	1
Speakers, ceramic	2
Speakers, crystal	3
Speakers, electrodynamic	4
Speakers, electrostatic	5
Speakers, explosion-proof	6
Speakers, high-fidelity	7
Speakers, magnetic	8
Speakers, PM dynamic	9
Tweeters	10
Woofers	11

Alco Electronics 3 Wolcott Ave Lawrence 1 Mass-5
 Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-4-7-9
 Ampex Corp 934 Charter St Redwood City Calif-7
 Antlab 4950 N High St Columbus 14 Ohio-1
 Atlas Sound Corp 1449 39 St Brooklyn 18 NY-1-6-7-10
 Beam Instruments Corp 350 5 Ave New York 1 NY-4-7-9-10
 Becker Electronics Mfg 1091 Rockaway Ave Valley Stream NY-9
 Bell Sound Systems 555 Marion Rd Columbus Ohio-7-8
 Best Mfg Co 1200 Grove St Irvington 11 NJ-4-8-9
 Bofart Mfg Co 315 Siegel St Brooklyn 6 NY-1
 Bozak Mfg Co R T PO Box 966 Darien Conn-7-10-11
 British Industries Corp 80 Shore Rd Port Washington NY-4-7-10-11
 Capehart-Farnsworth Div IT&T 3700 E Pontiac St Ft Wayne Ind-4-7-9-10-11
 Carbonneau Industries 100 Lexington Ave SW Grand Rapids 4 Mich-4-9
 Clum Mfg Co 611 National Ave Milwaukee 4 Wis-4-8
 Columbia Records Div Columbia Broadcasting System 799 7 Ave New York NY-5
 Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-6-9
 Crouse-Hinds Wolf & 7 North Sts Syracuse 1 NY-1
 Decco Radio Div General Motors 700 E Firmin St Kokomo Ind-7-9
 De Mornay-Bonard Inc 780 S Arroyo Pkwy Pasadena 1 Calif-1
 Diamond Microwave Corp 7 North Ave Wakefield Mass-1
 Dilks Co PO Box 139 Seymour Conn-1-9
 Douglas Microwave Co 11 Beechwood Ave New Rochelle NY-1
 DuKane Corp St Charles Ill-1
 Duotone Co Locust St Keyport NJ-7
 DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-4-7-9
 Electro-Voice Inc Buchanan Mich-1-7-9-10-11
 Eltran Corp 109 W Station St St Anne Ill-4-7-9
 Graybar Electric Co 420 Lexington Ave New York 17 NY-1-4-6-7-8-9-10-11
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-9
 Hawley Products 333 N 6 St St Charles Ill-1
 Heath Co 305 Territorial Rd Benton Harbor Mich-7
 Heppner Mfg Co Box 1207 Round Lake Ill-5-8
 James Instrument Labs 9110 S 52 Court Oak Lawn Ill-7

Jensen Mfg Co 6601 S Laramie Ave Chicago 33 Ill-1-4-7-9-10-11
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-1
 Klipsch & Associates PO Box 64 Hope Ark-1
 Knowles Electronics 9400 Belmont Ave Franklin Park Ill-8
 Lansing Sound Inc James B 2439 Fletcher Dr Los Angeles 39 Calif-4-7-8-9
 Mar-Ko TV 441 Summit St Toledo 4 Ohio-9
 McGregor Electronic Industries 132 1 Ave McGregor Iowa-2-3-4-5-6-7-8-9
 Meridian Metalcraft Inc 8739 S Millergrove Dr Whittier Calif-1
 National Company 61 Sherman St Malden 48 Mass-7
 North American Philips Co 750 S Fulton Ave Mt Vernon NY-7-9
 N R K Mfg & Eng'g 4601 W Addison St Chicago 41 Ill-1
 Oxford Electric Corp 3911 S Michigan Ave Chicago 15 Ill-4-7-8-9-10-11
 Pampa Electronics Corp 7354 Frankford Ave Philadelphia 36 Pa-4-5-7-9-10
 Partrick & Wilkins 51 N 7 St Philadelphia 6 Pa-1
 Perfection Electric Co 2635 S Wabash Ave Chicago 16 Ill-7-8
 Permoflux Corp 2835 N Kedzie Ave Chicago Ill-7-9-10-11
 Pickering & Co 309 Woods Ave Oceanside NY-5-7-10
 Prodelin Inc 307 Bergen Ave Kearny NJ-1
 Quam-Nichols Co 234 E Marquette Rd Chicago 37 Ill-4-7-8-9
 Quincy Speaker Mfg Corp 221 Oak St Quincy Ill-4-6-7-9-10-11
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-7-8-9-10-11
 Rockbar Corp 215 E 37 St New York 24 NY-7-9
 Rola Co 2530 Superior Ave Cleveland 14 Ohio-4-9
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-5
 Seaco Controls Inc Market St Palmyra NJ-1
 Sears Co M J Roxbury NY-8
 Sieler Design Products 10460 San Pablo Ave El Cerrito Calif-1-7
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-1
 Sperti-Faraday Inc 1322 E Church St Adrian Mich-1
 Stephens Mfg Corp 8538 Warner Dr Culver City Calif-1-7
 Suffolk Products Corp Woodbine & Scudder Aves Northport L I NY-1
 Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-1
 Telephonics Corp Park Ave Huntington L I NY-9
 Telerad Mfg 1440 Broadway New York 18 NY-1
 Trutone Electronics Inc 812 N Highland Ave Hollywood 38 Calif-7
 University Loudspeakers Inc 80 S Kensico Ave White Plains NY-1-6-7-9-10-11
 Utah Radio Products Co 1123 E Franklin St Huntington Ind-4-6-7-8-9
 Weathers Industries 66 E Gloucester Pike Barrington NJ-7
 Wheelock Signals Inc Long Branch NJ-1
 Wright Inc 2233 University Ave St Paul 14 Minn-9
 Wright Zimmerman Inc New Brighton St Paul 12 Minn-9-10-11

American Radio Hdw Co 152 MacQuesten Pkwy S Mt Vernon NY-3
 Anchor Products Co 2712 W Montrose Ave Chicago 18 Ill-6
 Artted Co 367 Worthington St Springfield 3 Mass-7
 Atlas Coil Inc 205 Main St Ansonia Conn-8
 Atlas Sound Corp 1449 39 St Brooklyn 18 NY-2-4-10
 Auburn Mfg Co 110 Stack St Middletown Conn-14-15
 Audio Equip Co 15749 Wyoming Ave Detroit 38 Mich-4
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-7
 Barwood Mfg Co L J Williams & Norman Sts Everett 49 Mass-3
 Batson Electronics Corp J A Waterloo Neb-7-8
 Bell Sound Systems 555 Marion Rd Columbus Ohio-2
 Bittermann Electric Co Barlow St Canaan Conn-7-8
 Bogen Co David 29 9 Ave New York 14 NY-2
 Bozak Mfg Co R T PO Box 966 Darien Conn-4-13
 British Industries Corp 80 Shore Rd Port Washington NY-2-6
 Broadway Coil Co 5638 Broadway Chicago 40 Ill-7
 Buckbee Mears Co 4 & Rosabel Sts St Paul 1 Minn-14
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-2-3-4-6
 Butler Mfg Co B B 3150 Randolph St Bellwood Ill-2
 Calif Magnetic Control Corp 11922 Valerio St N Hollywood Calif-13
 Camera Equipment Co 315 W 43 St New York 36 NY-4-12
 Capehart-Farnsworth Div IT&T 2700 E Pontiac St Ft Wayne Ind-4-5-7-9-13
 CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-15
 CELCO (Constantine Eng'g Labs) PO Box 555 Mahwah NJ-7-8
 Centran Inc PO Box 168 Greensburg Ind-7-13
 Cleveland Wire Cloth & Mfg 3573 E 78 St Cleveland 5 Ohio-5-6
 Coil Winders Inc New York Ave Westbury NY-8
 Columbia Records Div Columbia Broadcasting System 799 7 Ave New York NY-4
 Cycle Transformer Corp 356 Glenwood Ave East Orange NJ-8
 Daystrom Instrument Archbald Pa-13
 Dilks Co PO Box 139 Seymour Conn-10
 DuKane Corp St Charles Ill-2-4
 DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-7-8
 Electro-Voice Inc Buchanan Mich-4-10
 El-Rad Mfg Co 2800 W Cullom Ave Chicago 18 Ill-7-13
 Eltran Corp 109 W Station St St Anne Ill-6
 Epo Products 2500 Atlantic Ave Brooklyn 7 NY-7-13
 Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-3-6
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-2-5
 General Precision Lab 63 Bedford Rd Pleasantville NY-7-13
 Golden Co 1054 38 St Brooklyn 19 NY-3
 Grand Ra-Tronics Inc 17360 Hayes St Grand Haven Mich-8
 Graybar Electric Co 420 Lexington Ave New York 17 NY-4-13
 Hawley Products 333 N 6 St St Charles Ill-2-9
 Houlihan Co T J 2508 W Lawrence Chicago 25 Ill-8
 Illinois Transformer Co 412 S Green St Chicago 7 Ill-7
 Insuline Corp of America 186 Granite St Manchester NH-3-4
 Johnson Electronics 521 Elwell St Orlando Fla-7
 Kulka Electric Mfg 633 S Fulton Ave Mt Vernon NY-3
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-12
 Lansing Sound Inc James B 2439 Fletcher Dr Los Angeles 39 Calif-13
 Lecraft Mfg Co 60 Greene St New York 12 NY-3
 Lowell Mfg Co 3030 Laclede Station Rd St Louis 17 Mo-2
 Magna Electronics Co 9810 Anza Blvd Inglewood Calif-2
 Malkin-Illion Co 400 Coit St Irvington 11 NJ-3-4
 Mar-Ko TV 441 Summit St Toledo 4 Ohio-3
 Mathis Tower & Equip 2200 E Washington St E Peoria Ill-3-4-5-12
 McGregor Electronic Industries 132 1 Ave McGregor Iowa-8
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-3-4-6
 Meyer & Co Hugo 39 W 60 St New York 23 NY-3
 Modern-Aire Mfg Corp 4436 W Roosevelt Rd Chicago 24 Ill-3
 Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-8
 National Company 61 Sherman St Malden 48 Mass-4
 Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-2

Noel Mfg 3 W 18 St New York 11 NY-3
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-7-13
 Park Armature Co 883 Boylston St Boston 16 Mass-8
 Philson Mfg Co 60 Sackett St Bklyn 31 NY-3
 Pix Mfg Co 75 Hudson St Newark 3 NJ-3
 Potter Co 1950 Sheridan Rd N Chicago Ill-13
 Premax Products Div Chisholm Ryder Co Highland & College Aves Niagara Falls NY-12
 Premier Metal Products 337 Manida St New York 59 NY-2-3-4-6
 Pye Corp of America 270 Park Ave NY NY-4
 Rada Products Co 2911 W Carroll Ave Chicago 12 Ill-3
 Rae Motor Corp 2009 Kewaunee St Racine Wis-8
 Randall Inc Douglas 6 Pawcatuck Ave Westerly RI-8
 Rayovox Mfg Co 902 Albemarle Rd Brooklyn 18 NY-2-4
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-3
 River Edge Sales Corp Sub British Industries 80 Shore Rd Port Washington NY-2
 R-J Audio Products Sub British Industries Corp 80 Shore Rd Port Washington NY-2-4
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-10
 Sieler Design Products 10460 San Pablo Ave El Cerrito Calif-2-4
 SNC Mfg Co PO Box 277 Oshkosh Wis-8
 South River Metal Products 377 Turnpike South River NJ-3
 Spaulding Fibre Co 310 Wheeler St Tonawanda NY-2
 Stephens Mfg Corp 8538 Warner Dr Culver City Calif-4
 Sterling Transformer Corp 297 N 7 St Brooklyn 11 NY-7
 Stevens Products 86 Main St E Orange NJ-9
 Stone City Machine & Tool Co PO Box 351 Bedford Ind-6
 Symphony Radio & TV Corp 925 S Western Ave Los Angeles 6 Calif-2
 Tele Coil Co 2733 Saunders St Camden 5 NJ-8
 Tele-Ex-Pand Corp PO Box 392 Berwick Pa-3
 Teleradio Eng'g Corp Wilkes-Barre Pa-7-8
 Tel-Rad Electronics Corp 73-20 Trotting Course Lane Glendale 27 NY-7
 Television Labs Inc Mill St Wauconda Ill-8
 Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-8
 Transvision Inc 460 North Ave New Rochelle NY-4
 Tricon Mfg Co 8008 Wallace St Chicago 20 Ill-14
 Tru-Art Industries Inc 8106 W Belmont Ave Chicago 34 Ill-2
 United Transformer Co 150 Varick St New York NY-13
 Utah Radio Products Co 1123 E Franklin St Huntington Ind-2-4
 University Loudspeakers Inc 80 S Kensico Ave White Plains NY-2-4-9-10-13-16
 Vector Electronic Co 3352 San Fernando Rd Los Angeles 65 Calif-3
 Vis-U-All Corp 311 E 79 St Chicago 19 Ill-4
 Visulite Co 423 Broome St New York 13 NY-3
 Walsco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-5-6
 Wesbar Stamping Corp West Bend Wis-12
 Western Sound & Electric Labs 805 S 5 St Milwaukee 4 Wis-2
 Wickes Eng'g & Construction 12 St & Perry Ave Camden 4 NJ-4
 Wind Turbine Co E Market St & Penna RR West Chester Pa-3
 Wright Inc 2233 University Ave St Paul 14 Minn-2-4-6

68—SPEAKER ACCESSORIES

Acoustic chambers	1
Baffles	2
Brackets	3
Cabinets	4
Grill cloths	5
Grills, metal	6
Coils, crossover	7
Coils, field	8
Cones	9
Drivers, PM	10
Exciters, field	11
Mountings, car top	12
Networks, crossover	13
Shims, adjusting	14
Sound absorbent materials	15
Stands	16

Abalon Precision Mfg Corp 540 Casanova St New York 59 NY-6
 Acme Wire Co 1250 Dixwell Ave New Haven 14 Conn-8
 Aerolite Electronics Corp 507 26 St Union City NJ-3
 Algo Inc 251 West St S Hackensack NJ-3
 American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-13

69—STUDIO EQUIPMENT, AUDIO

Amplifiers, distribution	1
Consoles, audio	2
Consoles, control	3
Consoles, remote switching	4
Controls, master	5
Distribution equipment	6
Preamplifiers	7
Receivers, cue	8
Receivers, studio	9
Remote audio equipment	10
Remote pickup, audio	11
Reverberation units	12
Special effects equipment	13
Studio transmitter links	14
Transmitters, cue	15

Aerovox Corp & Divisions 740 Belleville Ave New Bedford Mass-2-3-4
 Air Associates Inc 511 Joyce St Orange NJ-7
 Allegany Instrument Co Cumberland Md-7
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-6-7

Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-2-3-7
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-1
 American Lava Corp Subsidiary of Minn Mining & Mfg Cherokee Blvd & Mfvs Rd Chattanooga 5 Tenn-9-12
 Amplitel Inc 342 W 40 St New York 18 NY-1
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-7
 A R F Products Inc 7627 Lake St River Forest Ill-2-7
 Atlantic Research Corp 901 N Columbus St Alexandria Va-7
 Audio Instrument Co 133 W 14 St New York 11 NY-12
 Avion Div ACF Industries 299 State Highway 17 Paramus NJ-7
 Baird Associates 33 University Rd Cambridge 38 Mass-7
 Bell Sound Systems 555 Marion Rd Columbus Ohio-7
 Bergen Labs 11 Godwin Ave Fairlawn NJ-7
 Bogen Co David 29 9 Ave New York 14 NY-2-3-6-7
 Budelman Radio Corp 375 Fairfield Ave Stamford Conn-14
 Butler Mfg Co B B 3150 Randolph St Bellwood Ill-6
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-7
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-1
 Chesapeake Instrument Corp Shadyside Md-7
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-7
 Collins Radio Co 885 35 St N E Cedar Rapids Iowa-2-3-4-6-14
 Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-6-10-11-13
 Cook Laboratories 101 2 St Stamford Conn-7
 Coosor (Canada) Ltd 301 Windsor St Halifax NS Canada 3-7
 Daven Co Route 10 Livingston NJ-5
 Daystrom Instrument Archbald Pa-1-7
 Detectolab Inc 6544 N Sheridan Rd Chicago Ill-7
 Dilks Co P O Box 139 Seymour Conn-7
 DuKane Corp St Charles Ill-1-2-3-4-6
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-1-14
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-1
 Electrend Products Corp State & Water Sts St Joseph Mich-6-7
 Electronic Communication Equip Co 1249 Loyola Ave Chicago 26 Ill-1-2-3-4
 Electronic Eng'g Co 362 W Bowers St Akron 7 Ohio-6
 Electronic Eng'g Co of Calif 180 S Alvarado St Los Angeles 57 Calif-7
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-17
 Electro Products Labs 4501 N Ravenswood Ave Chicago 40 Ill-7
 Electro-Voice Inc Buchanan Mich-7
 Elzee Metal Products 775 39 St Brooklyn 82 NY-2-3-4
 Entron Inc 4902 Lawrence St Bladensburg Md-7
 Epco Electronics Inc 140 Liberty St New York 6 NY-7
 Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-2
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-1-4-6-13-14
 Feedback Controls Inc 1332 N Henry St Alexandria Va-7
 Fenton Co 15 Moore St New York 4 NY-7
 Fisher Radio Corp 21-21 44 Drive Long Island City NY-7
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill-7
 Gates Radio Co 123 Hampshire St Quincy Ill-2-3-4-7-10-13
 General Precision Lab 63 Bedford Rd Pleasantville NY-1
 Geotechnical Corp 3712 Haggar Dr Dallas 9 Tex-7
 Gotham Audio Development 2 W 46 St New York 36 NY-1-6
 Gotham TV Corp 123 W 64 St New York NY-7
 Graybar Electric Co 420 Lexington Ave New York 17 NY-1-2-3-6-7-10-11
 Gray Research & Development 658 Hilliard St Manchester Conn-18
 Greene Co I, Charlton 314 Washington St Newton 58 Mass-10
 Hammarlund Mfg Co 460 W 34 St New York 1 NY-4
 Hanover Developments 401 E 74 St New York 21 NY-7
 Hart Mfg Co 218 Bartholomew Ave Hartford 1 Conn-10-11
 Heath Co 305 Territorial Rd Benton Harbor Mich-7
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-1
 Industrial Test Equip Co 55 E 11 St New York 3 NY-7
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-1-2-3-4-5-6-7
 International Projector Corp 55 La France Ave Bloomfield NJ-7

International Telemeter Corp 2000 Stoner Ave Los Angeles 25 Calif-1
 Javex P O Box 646 Redlands Calif-6
 Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-11
 Kay Electric Co 14 Maple Ave Pinebrook NJ-12
 Keithley Instruments 3868 Carnegie Ave Cleveland 15 Ohio-7
 Kilgen Aircraft Div Kilgen Organic Co 4632 W Florissant Ave St Louis 15 Mo-2-3-4-5
 Lel Inc 380 Oak St Copiague NY-7
 Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-1-7
 Magnasync Mfg Co 5546 Satsuma Ave N Hollywood Calif-2-3-4
 Magnetic Amplifiers 632 Tinton Ave New York 55 NY-7
 Magnetic Research Corp 200 Center St El Segundo Calif-7
 Marantz Co 44-15 Vernon Blvd Long Island City 1 NY-7
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-1
 McIntosh Lab Inc 320 Water St Binghamton NY-6-7
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-2-3-13
 Mutual Electronic Industries 85 Beechwood Ave New Rochelle NY-5
 National Company 61 Sherman St Malden 48 Mass-7
 New London Instrument Co 82 Union St New London Conn-1
 Northeast Electronics Corp Municipal Airport Concord NH-1
 North Hills Electric Co 203-18 35 Ave Bayside 61 NY-1
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-7
 Oberline Inc P O Box 921 Beverly Hills Calif-2-3-4-5-7
 Pampa Electronics Corp 7354 Frankford Ave Philadelphia 36 Pa-12
 Pfanstiehl Chemical Corp 104 Lake View Ave Waukegan Ill-7
 Phileo Corp 4700 Wissahickon Ave Philadelphia 44 Pa-14
 Picking & Co 309 Woods Ave Oceanside NY-7
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-1-15
 Precision Associates 354 Cumberland St Brooklyn 38 NY-6
 Precision Hearing Aids 5157 W Grand Chicago 39 Ill-13
 Pulse Techniques Inc 1411 Palisade Ave W Englewood NJ-7
 Pye Corp of America 270 Park Ave New York 17 NY-2-3-5
 Radio Receptor Co 251 W 19 St New York 11 NY-4
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-7
 Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-6
 Rixon Electronics 2414 Reddie Dr Silver Spring Md-1-7
 Rust Industrial Co 41 E 42 St New York 17 NY-7
 Sargent-Rayment Co 4926 E 12 St Oakland 1 Calif-7
 Scott Radio Labs Liberty & Penna St Plymouth Ind-1-7
 Servo Corp of America 20-20 Jericho Turnpike New Hyde Park L I NY-7
 Simpson Mfg Co Mark 32-28 49 St Long Island City 3 NY-1-6
 Smith-Meeker Eng'g 157 Chambers St New York 7 NY-2-3-4
 Sonex Inc 245 Sansom St Upper Darby Pa-5
 Stancil Hoffman Corp 921 N Highland Ave Hollywood 38 Calif-12
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-6
 Standard Electronics Corp 285 Emmet St Newark NJ-1-2-3-4-5-6
 Stavid Eng'g Co U S Hwy 22 Plainfield NJ-1
 Tarc Electronics 48 Urban Ave Westbury LI NY-1-2-3-4-5-6
 Tech Master Corp 75 Front St Brooklyn 1 NY-7
 Technical Material Corp P O Box 142 Mamaroneck NY-1
 Tektronix Inc PO Box 831 Portland 7 Ore-7
 Telechrome Inc 88 Merrick Rd Amityville LI NY-1
 Telephonics Corp Park Ave Huntington LI NY-7
 Telesound Inc 1505 Race St Philadelphia 2 Pa-1-6
 Televiso Corp 1415 Golf Rd Des Plaines Ill-1-7
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-1
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-1
 US Recording Co 1347 S Capitol St Washington 3 DC-2
 Vickers Electric Div Vickers Inc A Unit of Sperry Rand Corp 1815 Locust St St Louis 3 Mo-7
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-1-3-4-6-7-10
 Visual Electronics Corp 500 5 Ave New York 36 NY-14

Volkers & Schaffer Mfg Corp 444 2 St Schenectady NY-7
 Voron & Co George 835 N 19 St Philadelphia 30 Pa-3-5
 Webster Labs Inc Stanley 5225 W St Charles Rd Berkeley Ill-7
 Western Sound & Electric Labs 806 S 7 St Milwaukee 4 Wis-2-3-4-6
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-1
 Wickes Eng'g & Construction 12 St & Perry Ave Camden 4 NJ-1-2-3-4-6-10

70—STUDIO EQUIPMENT & ACCESSORIES, TV

(Color & Black-and-White)

Adapters, field sequential	1
Adapters, line & dot sequential	2
Amplifiers, distribution	3
Amplifiers, montage	4
Amplifiers, stabilizing	5
Amplifiers, video faders	6
Camera cranes	7
Camera dollies	8
Camera mounts	9
Camera switching equipment	10
Camera turrets	11
Cameras, field	12
Cameras, studio	13
Cameras, TV film	14
Color TV camera chains	15
Color TV encoders	16
Color TV Equipment	17
Color TV film chains	18
Color TV generators	19
Color TV monitors	20
Color TV pickup tubes	21
Color slide & film scanners	22
Color TV stabilizing amplifiers	23
Color TV sync equipment	24
Color TV test equipment	25
Consoles, control	26
Consoles, remote switching	35
Control equipment	36
Controls, camera	37
Controls, master	38
Controls, remote camera	39
Converters, field sequential	40
Distribution equipment	41
Faders	42
Generators, color signal	43
Generators, sync	44
Generators, sync stretchers	45
Generators, TV signal	46
Lenses	47
Mirrors	48
Monitors, line & program	49
Panels, video patch	50
Pan heads	51
Pedestals	52
Projection units	53
Projectors, TV film	54
Projectors, TV kaleidoscope	55
Projectors, TV mirror multiplexers	56
Projectors, TV rear screen	57
Projectors, TV slide	58
Projectors, TV special purpose	59
Prompting equipment	60
Receivers, cue	61
Receivers, studio	62
Remote pickup, video	63
Scanners, flying spot	64
Special effects equipment	65
Studio transmitter links	66
Transmitters, cue	67
Tripods	68
Tubes, color	69

ACCESSORIES

Patch panels	27
Power supplies	28
Racks, disc storage	29

Racks equipment	30
Racks, film storage	31
Racks, tape storage	32
Stop Watches	33
Test equipment	34



Abalon Precision Mfg Corp 540 Casanova St New York 59 NY-30
 Advance Electronics Co 8510 North End Ave Oak Park 37 Mich-48
 Advance Electronics Co 451 Highland Ave Passaic NJ-34
 Aerovox Corp & Divisions 740 Belleville Ave New Bedford Mass-27
 Aircraft Marine Products 2100 Paxton St Harrisburg Pa-27
 Airtron Inc 1101 W Elizabeth Ave Linden NJ-34
 Alden Electronics & Impulse Recording Equipment Co Westboro Mass-64
 Alden Products Co 123A N Main St Brockton Mass-30
 Alden Systems Co Washington St Westboro Mass-64
 All American Tool & Mfg 8027 Lawndale Ave Skokie Ill-34
 Allegany Instrument Co Cumberland Md-10-37
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill-34
 Alltec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-30
 American Bosch Arma Corp Arma Div Roosevelt Field Garden City NY-5
 American Electronic Labs 641 Arch St Philadelphia 6 Pa-3
 American Metric Corp 15 Exchange Pl Jersey City 2 NJ-17-19-20-23-25-44-45-46
 American Radio Hdw Co 152 MacQueen St S Mt Vernon NY-27
 Amplital Inc 342 W 40 St New York 18 NY-3
 Ampro Corp 2835 N Western Ave Chi Ill-54
 Anchor Specialty Mfg 300 N Industrial Ave Teterboro NJ-34
 Antlab 4950 N High St Columbus 14 Ohio-52
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-28
 ARF Products 7627 Lake St River Forest Ill-41
 Audio Accessories Amityville NY-27-50
 Audio Equip Co 15749 Wyoming Ave Detroit 38 Mich-29-30-32
 Bache Semon & Co 636 Greenwich St New York 14 NY-47-48
 Background Engineers 7313 Santa Monica Blvd Hollywood 46 Calif-53-54-57-58-59
 Baird Associates 33 University Rd Cambridge 38 Mass-34
 Bassett Inc Rex 1314 NE 17 Court Fort Lauderdale Fla-34
 Bausch & Lomb Optical Co 628 St Paul St Rochester 2 NY-47-48-58
 Bell & Howell 7100 McCormick Rd Chi Ill-54
 Berken Labs 11 Godwin Ave Fairlawn NJ-34
 Berndt-Bach Inc 6926 Romaine St Hollywood 38 Calif-8-14
 Bill Jack Scientific Instrument 143 S Cedros Ave Colona Beach Calif-34-39
 Bliss Electronic Corp Box 366 Sussex NJ-34
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-12-41
 Bodde Projector Co 11541 Bradley Ave San Fernando Calif-57-58-59
 Boonton Radio Corp Intervale Rd Boonton NJ-34-46
 Borden Eng'g 39 E Hanover Ave Morris Plains NJ-34
 Bowser Technical Refrigeration Div Bowser Inc Terryville Conn-34
 Budelman Radio Corp 375 Fairfield Ave Stamford Conn-66
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-30
 Burke & James 321 S Wabash Ave Chicago Ill-47
 California Chassis Co 3445 E Century Blvd Lynwood Calif-30
 Cal-Tronics Corp 11307 Hindry Ave Los Angeles 45 Calif-34
 Camera Equipment Co 315 W 43 St New York 36 NY-8-9-13-14-47-51-53-54-57-59-68
 Camera Mart 1845 Broadway New York 23 NY-8-68
 Carol Electronics Corp 315 W Stephen St Martinsburg WVa-34
 CBS-Hytron Div Columbia Bdcstg System 100 Endicott St Danvers Mass-69
 Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-3
 Chatillon & Sons John 85 Cliff St NY NY-34
 Cincinnati Sub Zero Products 3932 Reading Rd Cincinnati 29 Ohio-34
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-16-17-18-19-20-21-22-23-24-25-36-41-44-49-53-54-58-62-64-69
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-27-50
 Cole Instrument Co 1000 N Olive St Anaheim Calif-10-34-37-39
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa-26-28-30-66
 Color TV Inc 973 E San Carlos Ave San Carlos Calif-34
 Commercial Optical Mfg 118 Bridge St Huntington 2 WVa-48

Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-41
 Conrac Inc 19217 E Foothill Blvd Glendora Calif-62
 Conrad Inc 141 Jefferson St Holland Mich-34
 Corbin Corp 5419 56 Pl Riverdale Md-40
 Cornell-Dublier Electric Corp 333 Hamilton Blvd S Plainfield NJ-34
 Craig Systems Inc 90 Holten St Danvers Mass-30
 Crosby Labs Box 233 Robbins Lane Hicksville NY-34
 Cunningham Son & Co Jas 33 Litchfield St Rochester 8 NY-17
 Dage Television Div Thompson Products W 10 St Michigan City Ind-10-12-13-15-17-18-20-22-36-39-44
 Daven Co Route 10 Livingston NJ-34-35-36-38
 Daystrom Instrument Archbald Pa-3-5-34
 Daming Indicator Co 1016 Acorn Dr Dayton 9 Ohio-34
 DeMornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-5
 Diamond Microwave Corp 7 North Ave Wakefield Mass-34
 Donner Scientific Co 2829 7 St Berkeley 10 Calif-34
 Dressen-Barnes Corp 250 N Vinedo Ave Pasadena 8 Calif-28
 DuKane Corp St Charles Ill-3-5-30
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-3-4-5-6-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-28-30-34-35-36-37-38-39-41-44-46-49-54-58-59-62-63-64-65-66
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY-34
 Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-3-34-41
 Eastern Specialty Co 3617 N 8 St Philadelphia 40 Pa-34
 Edin Co 207 Main St Worcester 8 Mass-5
 Edmund Scientific Corp 101 E Gloucester Pike Barrington 3 NJ-48
 Electronic Communication Equip Co 1249 Loyola Ave Chicago 26 Ill-3
 Electronic Development Labs 4468 N Harlem Ave Chicago 31 Ill-34
 Electronic Instrument Co 84 Withers St Brooklyn 11 NY-34-46
 Electronic Mfg Co 227 W Chestnut Ave Monrovia Calif-34
 Electronic Research Associates 67 E Centre St Nutley 10 NJ-34
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-37-39
 Electronic Test Instrument Corp 13224 Livernois Ave Detroit 38 Mich-34
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-8-39
 Electronics Development 3743 Cahuenga Blvd N Hollywood Calif-41
 El Mec Labs 730 Blvd Kenilworth NJ-34
 Elzee Metal Products 775 39 St Brooklyn 32 NY-26-30-35-52
 Empire Devices Products Corp 38-15 Bell Blvd Bayside 61 NY-34
 Engelhard Inc Charles 850 Passaic Ave Newark NJ-68
 Engineered Magnetics Div Gulton Mfg Corp 11818 Teale St Culver City Calif-28
 Equipto Aurora Ill-30
 Erca Tool Die & Stamping 19 Ash St Brooklyn 22 NY-51
 Erie Resistor Corp 644 W 12 St Erie 6 Pa-17
 Espey Mfg Co 200 W 57 St New York 19 NY-34
 Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-29-30
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-3-4-5-12-14-26-35-38-41-44-49-50-64-65-66
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-30-34
 Fish-Schurman Corp 70 Portman Rd New Rochelle NY-25-47-48-65
 Flett Lab 3711 Marshall Rd Drexel Hill Pa-14
 Florman & Babb 68 W 45 St New York 36 NY-8-9-47-68
 Foto-Video Labs 25 Amity St Little Falls NJ-6-10-12-13-15-16-17-18-19-24-25-28-30-36-38-41-43-44-46-48-56-64-65
 F-R Machine Works 26-12 Borough Pl Woodside 77 NY-34
 Gaertner Scientific Corp 1250 Wrightwood Ave Chicago 14 Ill-48
 Gates Radio Co 123 Hampshire St Quincy Ill-26-28-30-32
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-48
 General Precision Lab 63 Bedford Rd Pleasantville NY-3-6-8-9-10-12-13-14-16-17-18-19-20-22-23-24-25-26-28-35-36-37-38-39-41-43-44-46-47-50-51-52-53-54-56-57-58-62
 General Radio Co 275 Mass Ave Cambridge 89 Mass-20-34

Genisco Inc 2233 Federal Ave Los Angeles 64 Calif-34
 Gibbs Mfg & Research 420 Main St Janesville Wisc-46
 Goodyear Aircraft Corp 1210 Massillon Rd Akron 15 Ohio-5-34-64
 Gordon Enterprises 5362 N Cahuenga Blvd N Hollywood Calif-9-10-11-14-37-39-47-48-57-58
 Gotham Audio Development 2 W 46 St New York 36 NY-3
 Grant Pulley & Hdw Co 31-85 Whitestone Pkwy Flushing 54 LI NY-58
 Graybar Electric Co 420 Lexington Ave New York 17 NY-3-7-8-9-27-30-37-39-41-42-47-49-54-57-62-68
 Gray Research & Development 658 Hilliard St Manchester Conn-58-59
 Gurley W & L E 514 Fulton St Troy NY-68
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-9-12-13-26-34-35-36-38-41
 Hall-Scott Electronics Div 2950 N Ontario St Burbank Calif-30
 Hamilton Watch Co Columbia Ave Lancaster Pa-33
 Harrison Labs 45 Industrial Rd Berkeley Heights NJ-17-20-28-65
 Hart Mfg Co 218 Bartholomew Ave Hartford 1 Conn-63
 Harwald Co Inc 1216 Chicago Ave Evanston Ill-54-57-59
 Heath Co 305 Territorial Rd Benton Harbor Mich-34-46
 Heiland Div Minneapolis-Honeywell 5200 E Evans Ave Denver 22 Colo-9
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-3
 Hickok Electrical Instrument Co 10514 Dupon Ave Cleveland 8 Ohio-19-25-34-43-46
 Holland Electronics 2133 Central Drive S East Meadow LI NY-41
 Holmes Projector Co 1815 Orchard St Chicago 14 Ill-54-57-59
 Houston Fearless Div Color Corp of America 11801 W Olympic Blvd Los Angeles 64 Calif-36-39-68
 Hupp Instrument Co 2119 Sepulveda Blvd Los Angeles 25 Calif-34
 Hycon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-25
 Hycor Div Int'l Resistance Co Sylmar Calif-42
 Impact-O-Graph Corp 1900 Euclid Ave Cleveland 15 Ohio-34
 Industrial Development Labs 17 Pollock Ave Jersey City 5 NJ-34
 Industrial Test Equip Co 55 E 11 St NY NY-34
 Instrument Labs 315 W Walton Pl Chicago 10 Ill-34
 Insuline Corp of America 186 Granite St Manchester NH-30
 Interelectronics Corp 2432 Grand Concourse New York 58 NY-3
 International Projector Corp 55 La France Ave Bloomfield NJ-52
 International Telemeter Corp 2000 Stoner Ave Los Angeles 25 Calif-3-41
 Invar Instrument Co 1749 N Eastern Ave Los Angeles 32 Calif-17-25-46
 Jackson Electrical Instrument Co 18 S Patterson Blvd Dayton 2 Ohio-17-19-25-34-43-46
 Javex PO Box 646 Redlands Calif-41
 Jones Electronics Co M C 185 N Main St Bristol Conn-34
 Kahn & Co 541 Windsor St Hartford 1 Conn-34
 Kaiser Aircraft & Electronics Electronics Div Toledo Ohio-34
 Kay Electric Co 14 Maple Ave Pinebrook NJ-19-20-25-34-41-43-44-46
 Kearfott Co 1378 Main Ave Clifton NJ-34
 Kennedy & Co D S 155 King St Cohasset Mass-52
 Kepco Labs 131-38 Sanford Ave Flushing 55 NY-28
 Kilgen Aircraft Div Kilgen Organ Co 4632 W Florissant Ave St Louis 15 Mo-26-35-36-38
 Kliegl Bros 321 W 50 St New York 19 NY-27-36
 Kollmorger Optical Corp 30 Church St New York 7 NY-47
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-9
 Lambda Electronics Corp 11-11 131 St College Point 56 NY-28
 Lane Electronics Co 7254 Atoll Ave N Hollywood Calif-34
 Lavoie Labs Inc Matawan and Freehold Rd Morganville NJ-34
 Leach Corp Leach Relay Div Inet-Palmer Div 5915 Avalon Blvd Los Angeles 3 Calif-28
 Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-3-41
 Macleod & Hanopol 10 Roland St Charlestown 29 Mass-64
 Magnatran Inc PO Box 211 Kearny NJ-34
 Magnetic Research Corp 200 Center St El Segundo Calif-23-34
 Malkin-Ilion Co 400 Coit St Irvington 11 NJ-30
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-34-47-48
 Manson Labs 207 Greenwich Ave Stamford Conn-34
 Mathis Co G E 5745 S Claremont Ave Chicago 36 Ill-30
 Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-3
 Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-34

MB Mfg Co Div Textron American 1060 State St New Haven 11 Conn-34
 McColpin-Christie Corp 3410 W 67 St Los Angeles 43 Calif-28
 Measurement Eng'g Ltd John St Arnbricr Ontario Canada-30-34
 Measurements Corp Boonton NJ-34-46
 Mercury Electronic Co Box 450A Red Bank NJ-28
 Merkle-Korff Gear Co 213 N Morgan St Chicago 7 Ill-37-39
 Metal Fabricators Corp 73 Pond St Waltham Mass-30-52
 Metropolitan Electronics & Instruments Co 106 5 Ave New York 11 NY-46
 Meyer & Co Hugo 39 W 60 St New York 23 NY-9-47
 Millivac Instrument Corp 444 2 St Schenectady NY-34
 Mitchell Camera Corp 666 W Harvard St Glendale 4 Calif-14-68
 Model Rectifier Corp 557 Rogers Ave Brooklyn 25 NY-34
 Mohawk Electronic Research Box 126-A RD 4 Amsterdam NY-28
 Mosley Electronics Inc 8622 St Charles Rock Rd St Louis 14 Mo-41
 Munston Mfg & Service Inc Beech St Islip NY-34
 Musicolor Inc 3100 Lake Shore Dr Michigan City Ind-17-19-57-59
 Mutual Electronic Industries 85 Beechwood Ave New Rochelle NY-37-39
 Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-34
 Narda Corp 160 Herricks Rd Mineola NY-34
 Nevada Air Products Co North Valley Rd Reno Nev-34
 New England Electronics Co Box 143 New London Conn-34
 New London Instrument Co 82 Union St New London Conn-3
 NJE Corp 345 Carnegie Ave Kenilworth NJ-28
 Northeast Electronics Corp Municipal Airport Concord NH-3
 North Hills Electric Co 203-18 35 Ave Bayside 61 NY-3-28-41
 Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-28
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-34
 Pacific Universal Products Corp 168 Vista Ave Pasadena 8 Calif-48
 Pancor Mirrors Inc 2958 Los Feliz Blvd Los Angeles 39 Calif-60
 Panoramic Radio Products 10 S 2 Ave Mt Vernon NY-34
 Par Products Corp 926 N Citrus Lane Hollywood 38 Calif-11-34-47
 Perkin-Elmer Corp Norwalk Conn-47
 Perkin Eng'g Corp 345 Kansas St El Segundo Calif-28
 Peschel Electronics Inc 13 Garden St New Rochelle NY-28
 Philbrick Researches G A 230 Congress St Boston 10 Mass-5-27
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-10-13-14-15-16-17-18-19-20-22-23-24-25-26-35-36-43-54-56-58-64-66
 Philco Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-19-25
 Photon Instrument Co 6516 Detroit Ave Cleveland 2 Ohio-5
 Pittsburgh Plate Glass Co 632 Fort Duquesne Blvd Pittsburgh 22 Pa-48
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-3-15-17-18-19-20-22-24-25-34-41-43-46-54-58-64-67
 Pomona Electronics 1126 W 5 Ave Pomona Calif-27
 Ponder & Best Telelens Div 814 N Cole Ave Hollywood 38 Calif-47
 Power Designs Inc 89-25 130 St Richmond Hill 18 NY-5-28
 Power Transformer Co 532 Mulberry St Newark 5 NJ-28
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-25-34-46
 Precision Associates 354 Cumberland St Brooklyn 38 NY-34-46
 Precision Scientific Co 3737 W Cortland St Chicago 47 Ill-33
 Precision Technology Inc 66 South P St Livermore Calif-37
 Press Wireless Laboratories Inc 25 Prospect Place West Newton 65 Mass-34
 Probescope Co 44-05 30 Ave Long Island City 3 NY-34
 Eye Corp of America 270 Park Ave New York 17 NY-10-12-13-14-26-35-36-37-38-39-41-54-58-62
 Radio City Products Co Centre & Glendale Sts Easton Pa-34-46
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-21-25-34-43-46-69
 Railway Communications PO Box 67 Raytown Mo-64
 Ransom Research PO Box 382 San Pedro Calif-34
 Raytheon Mfg Co Receiving & Cathode Ray Tube Operations 55 Chapel St Newton 58 Mass-69
 Reeves Instrument Corp 215 E 91 St New York 28 NY-27
 Remington Rand Univac Div 315 4 Ave New York 10 NY-59

Rese Eng'g Inc 731 Arch St Philadelphia Pa-34
 Research Electronics Labs Roslyn Pa-17-25-34
 Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-27-39
 Rixon Electronics 2414 Reddie Dr Silver Spring Md-3
 Robins Industries Corp 214-26 41 Ave Bayside 61 NY-29
 Robinson Aviation Teterboro NJ-9
 Rust Industrial Co 41 E 42 St New York 17 NY-36
 Sanborn Co 195 Massachusetts Ave Cambridge 39 Mass-5
 Scott Radio Labs Liberty & Penna St Plymouth Ind-3-4-6-41
 Seco Mfg Co 5015 Penn Ave S Minneapolis 19 Minn-34
 Sensitive Research Instrument Corp 310 Main St New Rochelle NY-34
 Setchell-Carlson New Brighton St Paul 12 Minn-62
 Shallcross Mfg Co Pusey & Jackson Aves Colingdale Pa-34
 Shasta Div Beckman Instruments Inc PO Box 296 Station A Richmond Calif-34
 Sierra Electronic Corp 1050 Britton Ave San Carlos Calif-34
 Simmonds Aerocessories 105 White Plains Rd Tarrytown NY-34
 Simpson Electric Co 5208 W Kinzie St Chicago 44 Ill-17-19-25-43-46
 Simpson Mfg Co Mark 32-28 49 St LI City NY-3
 Skiatron Electronics & TV 3 E 10 St NY NY-64
 Sorenson & Co 375 Fairfield Ave Stamford Conn-28
 S O S Cinema Supply Corp 602 W 52 St New York 19 NY-11-12-14-28-31-33-37-47-53-54-57-58-59-65-68
 Spencer-Kennedy Labs 1320 Soldiers Field Rd Boston 35 Mass-41
 Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-34
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-27
 Standard Electronics Corp 285 Emmet St Newark NJ-3-5-10-26-35-36-38-41-50
 Stavid Eng'g Co US Hwy 22 Plainfield NJ-3-5-6-30-34
 Stelma Inc 190 Henry St Stamford Conn-34
 Sterling Precision Corp-Instrument Div 34-17 Lawrence St Flushing LI NY-64
 Stewart Instrument Co 6507 Grand River Detroit 8 Mich-34
 Strong Electric Corp 87 City Park Ave Toledo 2 Ohio-58-59
 Studio TV Products 11 W 42 St New York 36 NY-8-9-31-52
 Sun Electric Corp Harlem & Avondale Aves Chicago 31 Ill-34
 Switchcraft Inc 1328 N Halsted St Chi Ill-27
 Taller & Cooper 75 Front St Bklyn 1 NY-10-12
 Tarc Electronics Inc 48 Urban Ave Westbury LI NY-3-4-5-6-10-14-16-17-18-19-20-22-23-24-25-26-27-28-34-35-36-38-41-43-44-45-46-49-53-54-56-57-58-59-63-64-65
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-4-12-13-17-18-20-22-23-24-41-49-53-54-58-59
 Tech Master Corp 75 Front St Brooklyn 1 NY-62
 Technical Development Corp 4060 Ince Blvd Culver City Calif-34
 Technical Material Corp PO Box 142 Mamaroneck NY-3
 Telephone Inc 88 Merrick Rd Amityville LI NY-1-2-3-4-6-10-12-13-14-15-16-17-18-19-20-22-23-24-25-26-34-35-36-37-38-39-41-43-44-46-49-62-64-65
 TelePrompster Corp 300 W 43 St New York 36 NY-57-60
 Telesound Inc 1505 Race St Philadelphia 2 Pa-3-12-41
 Teletronics Lah Inc 54 Kinkel St Westbury LI NY-34
 Televiso Corp 1415 Golf Rd Des Plaines Ill-3
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-3-16-17-19-20-24-26-28-34-41-43-44-46-49
 Telonic Industries 73 N 2 Ave Beech Grove Ind-19-25-43-46
 Tenney Eng'g Inc 1090 Springfield Rd Union NJ-34
 Thomas Electronics Inc 118 9 St Passaic NJ-69
 Trad TV Co 1001 1 Ave Asbury Park NJ-34
 Trans-Lux Corp 1270 6 Ave New York 20 NY-57-58-59-65
 Trio Labs Inc 4025 Merrick Rd Seaford LI NY-34
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-25-34-43-46
 Transvision Inc 460 North Ave New Rochelle NY-34-62
 Tung-Sol Electric Inc 95 8 Ave Newark 4 NJ-69
 TV Specialty Co 350 W 31 St New York 1 NY-8-12-13-53-57-58-59
 TV Utilities Corp 1315 Jericho Turnpike New Hyde Park LI NY-3-12-13-41-49-62
 TV Zoomar Corp 500 5 Ave New York 36 NY-47
 Ultra-Violet Products 5114 Walnut Grove Ave San Gabriel Calif-34
 United Mfg Div W L Maxson Corp 41 Haig St Hamden 14 Conn-34
 Universal Electronics 1720 22 St Santa Monica Calif-28
 U S Electronics Corp of America 800 Slaters Lane Alexandria Va-34

Vacuum Tube Products Co 506 S Cleveland St Oceanside Calif-34
 Ventrak Corp 11 W 42 St New York 36 NY-30
 Victorlite Industries 4117 W Jefferson Blvd Los Angeles 16 Calif-59-60
 Virginia Electronics Co River Rd at B&O RR Washington 16 DC-3-27
 Visual Electronics Corp 500 5 Ave New York 36 NY-5-10-12-13-14-16-17-18-19-20-21-24-25-26-27-28-34-35-36-37-38-39-41-43-44-45-46-47-50-51-54-56-57-58-59-60-63-64-66-69
 Wabash Metal Products Box 305 Wabash Ind-34
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-3-52
 Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-34
 Weston Labs Old Littleton Rd Harvard Mass-34
 Westronics Inc 3605 McCart Ft Worth 10 Texas-34
 Whittington Pump & Eng'g 1126 Prospect St Indianapolis 3 Ind-34
 Wickes Eng'g & Construction 12 St & Ferry Ave Camden 4 NJ-3-16-17-19-20-23-25-27-28-30-34-41-43-46-49
 Wind Turbine Co E Market St & Penna RR West Chester Pa-68
 Winston Electronics Inc 4312 Main St Philadelphia 27 Pa-25
 Wright Equipment Co 128 N Main St Milltown NJ-25-34
 Yonkers Industries 28 School St Yonkers NY-34
 Zenith Optical Lab 1940 Great Neck Rd Copiague NY-48
 Zoomar Inc 55 Sea Cliff Ave Glen Cove NY-9-47-48

71—SWITCHES

Contactors	1
Switches, circuit breaker	2
Switches, coaxial	3
Switches, commutator	4
Switches, contact	5
Switches, crossbar	6
Switches, decade	7
Switches, electronic	8
Switches, float	9
Switches, fluorescent lamp starter	10
Switches, foot	11
Switches, hermetically sealed	12
Switches, jack	13
Switches, key	14
Switches, knife	15
Switches, limit	16
Switches, mercury	17
Switches, microphone	18
Switches, oil immersed	19
Switches, plunger	20
Switches, pressure	21
Switches, printed circuit	22
Switches, programmer	23
Switches, pulse	24
Switches, push-button	25
Switches, rotary chopper	26
Switches, rotary sampling	27
Switches, rotary selector	28
Switches, safety-interlock	29
Switches, slide	30
Switches, snap action	31
Switches, stepping	32
Switches, subminiature	33
Switches, telemetering	34
Switches, thermal	35
Switches, time delay	36
Switches, toggle	37
Switches, turret	38
Switches, vacuum	39
Switches, wave change receiver	40
Switches, wave change, transmitter	41
Switches, waveguide	42

Aero Switch Div Aero Mfg Co Columbus 16 Ohio-31
 Advance Relay Co Div Elgin National Watch 2435 N Naomi St Burbank Calif-18
 Aero Instrument Co 11423 Vanowen St N Hollywood Calif-21
 Aerolite Electronics Corp 507 26 St Union City NJ-4
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-28-33-39

Aerovox Corp & Divisions 740 Belleville Ave New Bedford Mass-7-13-14-22
Aircraft Marine Products 2100 Paxton St Harrisburg Pa-4
Airpax Products Co Middle River Baltimore 20 Md-2
Airtron Inc 1101 W Elizabeth Ave Linden NJ-42
A-K Mfg Co 115 S Northwest Hwy Barrington Ill-4
Alford Mfg Co 299 Atlantic Ave Boston 10 Mass-3
Allen-Bradley Co 136 W Greenfield Ave Milwaukee 4 Wis-16-21-25
Allied Control Co 2 East End Ave New York 21 NY-1
Allis-Chalmers Mfg Co Milwaukee 1 Wis-1-28
American Radio Hdw Co 152 MacQuesten Pkwy S Mt Vernon NY-4-13-14-37
Anatran Eng'g Corp 165 E California St Pasadena Calif-7-32-33
Anderson Inc 2921 Brooklyn Ave Kansas City 9 Mo-1-17
Andrew Corp 863 E 75 St Chicago 19 Ill-3
ARF Products 7627 Lake St River Forest Ill-18-27
Assembly Products Wilson Mills Rd Chesterland 21 Ohio-5-16
Associated Eng'g Corp 65 Kent St Brookline 46 Mass-4
Atlas Electric Product Co PO Box 1591 Erie Pa-12-17-20-35
Atlas Sound Corp 1449 39 St Brooklyn 18 NY-18
Audio Accessories Amityville NY-4
Automatic Electric Co 1033 W Van Buren St Chicago 7 Ill-28-31-32
Automatic Metal Products Corp 315 Berry St Brooklyn 11 NY-3
Automatic Processing Corp 1335 N Wells St Chicago 10 Ill-22
Automatic Switch Co 391 Lakeside Ave Orange NJ-8
Barker & Williamson 237 Fairfield Ave Upper Darby Pa-3-41
Bavside Watch Tool Co 20-20 Utopia Pkwy Whitestone 57 NY-4
Beck's Inc 298 E 5 St St Paul 1 Minn-4-5-22-24-28-32-34
Bergen Labs 11 Godwin Ave Fairlawn NJ-8-28-32
Bird Electronic Corp 1800 E 38 St Cleveland 14 Ohio-3
Birnback Radio Co 145 Hudson St New York 13 NY-4-15-30-37
Bromac Labs Salem Rd Beverly Mass-42
Bristol Co PO Box 1790 Waterbury Conn-9-21-26-28-34-35-36-39
Bogart Mfg Co 315 Siegel St Brooklyn 6 NY-42
Buckbee Mears Co 4 & Rosabel Sts St Paul 1 Minn-22
Budd-Stanley Co 43-01 22 St Long Island City 1 NY-42
Burling Instrument Co 16 River Rd Chatham NJ-35
Burrughs Corp Electronic Instrument Div 1209 Vine St Philadelphia 7 Pa-8-24
Cable Electric Products 234 Daboll St Providence 7 RI-17-31-37
Carling Electric Inc 505 New Park Ave West Hartford 10 Conn-20-30-31-37
Cascade Research Corp 53 Victory Lane Los Gates Calif-42
CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-4
Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wis-8-28-30-33
Central Sales & Mfg Corp 2 Richwood Pl Denver NJ-42
Century Electronics & Instruments 1333 N Utica St Tulsa 10 Okla-21
Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-8-39
Chester Morton Electronics 10 St & Morton Ave Chester Pa-4
Chicago Telephone Supply Corp 1142 W Beard-sley Ave Elkhart Ind-22-31
Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif-4-28
Clare & Co C P 3101 Pratt Blvd Chicago Ill-14-32
Clark Controller Co 1146 E 152 St Cleveland 10 Ohio-1-9-11-16-25
Clarostat Mfg Co Washington St Dover NH-5-28-31-33-40
Clum Mfg Co 611 National Ave Milwaukee 4 Wis-5-20-29
Cole Instrument Co 1000 N Olive St Anaheim Calif-7-8-12-21-23-27-28-32-33
Connector Corp 6025 N Keystone Ave Chicago 30 Ill-12-16-26-27-28-31-32
Continental Carbon 13900 Lorain Ave Cleveland 11 Ohio-30
Control Products Inc 306 Sussex St Harrison NJ-16-25-31-35-37
Controls Corp of America Soreng Div 9555 Soreng Ave Schiller Park Ill-9-16-21-26-28-31-36-37
Cook Electric Co 2700 Southport Ave Chicago 14 Ill-12-21-35
Couch Co S H 3 Arlington St Quincy 71 Mass-28
Cramer Co H W Centerbrook Conn-36
Crouse Hinds Wolf & 7 North Sts Syracuse 1 NY-2-9-17-25-29-37
Cunningham Son & Co Jas 33 Litchfield St Rochester 8 NY-6-23-34
Curtis-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-85-36
Cutler-Hammer Inc 316 N 12 St Milwaukee 1 Wis-2-5-8-9-11-12-16-19-20-21-23-25-28-29-30-31-32-35-36-37-39
Dalmo Victor Co Div Textron American Inc 1414 El Camino Real San Carlos Calif-42
Daven Co Route 10 Livingston NJ-4-5-7-22-26-27-28-33-34
Daystrom Instrument Archbald Pa-7-8
Decatur Electronic Industries 203 Orinoco Dr Brightwaters LI NY-4
Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-42
Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa-8
De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-18-42
Detroit Controls Corp 1650 Broadway Redwood City Calif-4-27-34
Dielectric Products Eng'g Raymond Me-3-40
Dietz & Co Henry G 12-16 Astoria Blvd Long Island City 2 NY-21-39
Dimco-Gray Co 207 E 6 St Dayton 2 Ohio-36
Dolinko & Wilkens 1907 Summit Ave Union City NJ-39
Douglas Microwave Co 11 Beechwood Ave New Rochelle NY-3-42
Dubrow Development Co 235 Penn St Burlington NJ-8
DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-8
Durakool Inc 1010 N Main St Elkhart Ind-17
Eastern Specialty Co 3617 N 8 St Philadelphia 40 Pa-28
Ebert Electronics 212-26 Jamaica Ave Queens Village 28 NY-1-2-8-12-17-20-36-39
Eby Co Hugh H 4701 Germantown Ave Philadelphia 14 Pa-25
Edison Inc Thomas A Instrument Div 93 Lakeside Ave W Orange NJ-2-12-35-36
Eicor Inc 1501 W Congress St Chicago 7 Ill-5
Eitel-McCullough Inc 728 San Mateo Ave San Bruno Calif-39
Electrical & Physical Instrument Corp 42-19 27 St Long Island City NY-3
Electro Miniatures Corp 1060 Elm Ave Bridgefield NJ-26-27
Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-8-24
Electronic Instrument Co 84 Withers St Brooklyn 11 NY-8
Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-3-8
Electronics Corp of America 77 Broadway Cambridge 42 Mass-8-16-29-36
Electro-Snap Switch & Mfg 4218 W Lake St Chicago 24 Ill-12-16-20-24-25-29-31-33-37
Electro Switch Corp King Ave Weymouth 88 Mass-2-28-31
Electro Tec Corp 4 Romanelli Ave S Hackensack NJ-23-24-26-27-28-33
Empire Electronics Co 166 River St Paterson 1 NJ-4
Endevco Corp 161 E California St Pasadena Calif-7-22-30-33
Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-4-14-28-32
Ferrara Inc 8106 W 9 Mile Rd Oak Park 37 Mich-36
Flett Lab 3711 Marshall Rd Drexel Hill Pa-17
Friez Instrument Div Bendix Aviation Corp 1400 Taylor Ave Baltimore 4 Md-21
F-R Machine Works 26-12 Borough Pl Woodside 77 NY-42
Furnas Electric Co 1000 McKee St Batavia Ill-1-9-11-16-19-21-25-32-35
Gavitt Wire & Cable Co Div American Hard Rubber Brookfield Mass-22
Gee-Lar Mfg Co 418 S Wyman St Rockford Ill-3-5-8-25-30-31-37
General Cement Mfg Co 919 Taylor Ave Rockford Ill-2-5-8-13-14-30-31-37
General Control Co 1224 Soldiers Field Rd Boston 34 Mass-5-8-11-13-14-16-20-25-36-37
General Controls Co 801 Allen Ave Glendale 1 Calif-17-21-23-31
General Devices Inc Princeton NJ-4-5-12-22-26-27-28-34
General Electric Co Construction Materials Div 1285 Boston Ave Bridgeport 2 Conn-10-14-17-25-28-31-37
General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-2-8-9-15-16-19-21-25-31-37-39
General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-12-37
General Radio Co 275 Mass Ave Cambridge 39 Mass-4-7
Gorn Electric Co Stamford Conn-9-21-38
Gorrell & Gorrell 336 Old Hook Rd Westwood NJ-36
Grant Pulley & Hdw Co 31-85 Whitestone Pkwy Flushing 54 LI NY-30
Graphite Metallizing Corp 1002 Nepperham Ave Yonkers NY-26
Grason Stadler Co Electronics Park W Concord Mass-8
Graybar Electric Co 420 Lexington Ave New York 17 NY-6-14-17-18-19-25-32-36
Grayhill 561 Hillgrove Ave La Grange Ill-5-18-25-28-31-33
Grigsby-Allison Co 407 N Salem Ave Arlington Heights Ill-5-8-22-25-27-28-30-31-40
Guardian Electric Mfg Co 1621 W Walnut St Chicago 12 Ill-5-8-31-32
Gulton Mfg Corp 212 Durham Ave Metuchen NJ-17
G-V Controls Inc 45 Hollywood Plaza E Orange NJ-35
Hal-Hen Co 36-14 11 St Long Island City 6 NY-4
Hamlin Inc 1316 Sherman Ave Evanston Ill-17
Harnischfeger Corp 4400 W National Ave Milwaukee 46 Wis-1
Hart Mfg Co 218 Bartholomew Ave Hartford 1 Conn-3-5-8-12-26-28-31-37
Haydon Co A W 232 N Elm St Waterbury 20 Conn-12-36
Haydon Mfg Co 245 E Elm St Torrington Conn-36
Haydon Switch Inc 536 S Leonard St Waterbury Conn-5-12-16-20-25-27-28-31-33-37
Haydu Bros of NJ Sub Burroughs Corp PO Box 1226 Plainfield NJ-8
H-B Instrument Co American & Bristol Sts Philadelphia 40 Pa-8-12-17-20-35-39
Heath Co 305 Territorial Rd Benton Harbor Mich-8
Heinemann Electric Co Pennsylvania Ave & Plum St Trenton 2 NJ-2
Hetherington Inc Sharon Hill Pa-5-11-12-15-16-18-20-25-28-30-31-33-37
Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-42
Hycon Electronics Inc 321 S Arroyo Pkwy Pasadena Calif-2-27-29-31
Industrial Instruments Inc 89 Commerce Rd Cedar Grove NJ-7-28
Industrial Products Box 148 Danbury Conn-3
Industrial Timer Corp 1407 McCarter Hwy Newark 4 NJ-36
Instrument Development Labs 163 Highland Ave Needham Heights 94 Mass-4-26-27-34
Insulated Circuits Inc 620 Passaic Ave W Caldwell NJ-22
Insuline Corp of America 186 Granite St Manchester NH-15-20-30-37
International Instruments Inc PO Box 2954 New Haven 15 Conn-28
Janco Corp 3111 Winona Ave Burbank Calif-28
Javex PO Box 646 Redlands Calif-3-8-28
J-B-T Instruments Inc 441 Chapel St New Haven 12 Conn-28-37
Jennings Radio Mfr Corp 970 McLaughlin Ave San Jose 8 Calif-2-39
Johnson Co E F Waseca Minn-1
J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-3-42
Kennedy & Co D S 155 King St Cohasset Mass-8-42
Kirkland Co H R 8 King St Morristown NJ-25
Kliegl Bros 321 W 50 St New York 19 NY-4
Kolton Electric Mfg Co 123 NJ Railroad Ave Newark 5 NJ-2-15
Kulka Electric Mfg Co 633 S. Fulton Ave Mt Vernon NY-10-37
Landis & Cyr 45 W 45 St New York 11 NY-36
Larson Instrument Co 24 Orchard St Tarrytown NY-1
Leeds & Northrup 4970 Stenton Ave Philadelphia 44 Pa-7-28
Leland Inc G H 123 Webster St Dayton 2 Ohio-28-32
Lewis Eng'g Co Naugatuck Conn-28
Lico Inc 147 Ocean Ave Lynbrook NY-33-37-42
Liquidometer Corp 36 St & Skillman Ave Long Island City 1 NY-9
Livingston Electronic Corp Livingston NJ-11
Luhrs & Co C H 297 Hudson St Hackensack NJ-18
Machinery Electrification Inc 35 Hudson St Northboro Mass-36
Mack Electric Devices Inc 49 Glenside Ave Wyncote Pa-1
Makepeace Co D E Div Union Plate & Wire Attleboro Mass-1
Mallory & Co Inc P R 42 So Gray St Indianapolis 6 Ind-7-8-13-14-20-21-22-25-28-30-31-33-34
Manning Maxwell & Moore 250 E Main St Stratford Conn-23-34
Marco Industries Co 207 S Helena St Anaheim Calif-25
Master Appliance Mfg Co 4 & Ontario Sts Racine Wis-31-37
Maxson Instruments 47-37 Austell Pl Long Island City 1 NY-12-33
Mechanical Industries Production Co 217 Ash St Akron 8 Ohio-35
Meletron Corp 950 S Highland Ave Los Angeles 38 Calif-21
Mercoird Corp 4201 Belmont Ave Chicago 41 Ill-9-16-17-21-39
Mercury Contacts Box 615-T Far Hills Station Dayton 9 Ohio-17
Mercury Mfg Corp 45 Brown St Buffalo 11 NY-39

Meridian Metalcraft Inc 8739 S Milergrove Dr Whittier Calif-42
Metals & Controls Corp Spencer Thermostat Div 34 Forest St Attleboro Mass-2-5-8-12-16-25-31-33-35
Microphase Corp PO Box 1166E Greenwich Conn-3-42
Micro Switch Div Minn-Honeywell Regulator Chicago & Spring Sts Freeport Ill-8-11-12-16-17-20-25-28-29-30-31-33-37
Microwave Associates 22 Cummington St Boston 15 Mass-40-41-42
Miller-Harris Instrument 601 E Ogden Ave Milwaukee 2 Wis-25
Montgomery Mfg Co 204 S Main St Owensville Ind-23
Mosley Electronics Inc 8622 St Charles Rock Rd St Louis 14 Mo-28
Mossman Inc Donald P PO Box 265 Brewster NY-13-14-25
Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-17
Muter Co 1255 S Michigan Ave Chicago 5 Ill-25-30-31
Mycalex Corp of America 125 Clifton Blvd Clifton NJ-4-26-27-34
Nader Mfg Co 2661 S Myrtle Ave Monrovia Calif-35
Narda Corp 160 Herricks Rd Mineola NY-42
National Acme Co 170 E 131 St Cleveland 8 Ohio-16-25-31
National Fabricated Products Div Hoffman Electronics 2650 W Belden Ave Chicago 47 Ill-1
National Research Corp 160 Charlemont St Newton Highlands 6 Mass-39
Network Mfg Corp 213 W 5 St Bayonne NJ-37
Newark Controls Co 15 Ward St Bloomfield NJ-16-21
Newton Co 55 Elm St Manchester Conn-8
Nichols Products 325 W Main St Moorestown NJ-42
N R K Mfg & Eng'g 4601 W Addison St Chicago 41 Ill-42
Ohmite Mfg Co 3601 Howard St Skokie Ill-5
Omega Labs Inc Haverhill St Rowley Mass-42
Paragon Electric Co 1600 12 St Two Rivers Wisc-36
Penn Controls Inc Goshen Ind-16-21-35-39
Penta Labs 312 N Nopal St Santa Barbara Calif-39
Peschel Electronics Inc 13 Garden St New Rochelle NY-8
Philadelphia Scientific Glass Co 1866 Eckard Ave Abington Pa-5-17-18-20
Philmore Mfg Co 113 University Pl New York 3 NY-15-37
Photobell Co 43 Vesey St New York 7 NY-36
Photocircuits Corp Sea Cliff Ave Glen Cove NY-22
Pioneer Electronics Corp 2235 S Carmelina Los Angeles 64 Calif-39
PM Industries 280 Fairfield Ave Stamford Conn-23-24-26-27-28-33-34
Pomona Electronics 1126 W 5 Ave Pomona Calif-4
Precision Associates 354 Cumberland St Brooklyn 38 NY-4
Premier Instrument Corp 52 W Houston St New York 12 NY-42
Pyle-National Co 1334 N Kostner Ave Chicago 51 Ill-29
Radiation Inc PO Box 37 Melbourne Fla-8
Radio Merchandise Sales 2016 Bronxdale Ave New York 62 NY-15
RBM Div Essex Wire 131 Godfrey St Logansport Ind-1
Recora Co 6100 S Archer Rd Summit Ill-11-12
Reynolds Electric Co 3000 River Road River Grove Ill-12-28-35-36
Rhodes Inc M H 30 Bartholomew Ave Hartford 6 Conn-36
Ripley Co 1 Factory St Middletown Conn-8
Rockwell Eng'g Co 4065 N New Jersey St Indianapolis 5 Ind-22
Rodale Mfg Co Emaus Pa-15-38
Rosen Eng'g Products Raymond 32 & Walnut Sts Philadelphia 19 Pa-27-34
Rotron Mfg Co Schoonmaker Lane Woodstock NY-29
Runzel Cord & Wire Co 4723 W Montrose Ave Chicago 41 Ill-4
Sage Labs 30 Guinan St Waltham 54 Mass-3-42
Sangamo Generators Sub Sangamo Electric Co Springfield Ill-35
Seaco Controls Inc Market St Palmyra NJ-21-25-35-36
Sealctric Switch & Relay Corp 6025 N Keystone Ave Chicago 30 Ill-2-5-12-16-20-25-27-28-31-32-33-37
Sears Co M J Roxbury NY-18
Shallcross Mfg Co Pusey & Jackson Aves Colingdale Pa-5-7-8-25-28-33
Sherman Industrial Electronics 505 Washington Ave Belleville 9 NJ-11
Shure Bros 222 Hartrey Ave Evanston Ill-18
Slater Electric & Mfg 66 St & 37 Ave Woodside NY-5-12-24-25-31-37
Smith Inc Herman H 2326 Nostrand Ave Brooklyn 10 NY-4-15-25-30-37
Sperry Gyroscopic Co Division of Sperry Rand Corp Great Neck NY-42
Stackpole Carbon Co Tannery St St Marys Pa-30-31
Stavid Eng'g U S Hwy 22 Plainfield NJ-42
Switchcraft Inc 1328 N Halsted St Chicago 22 Ill-5-6-13-14-18-25-28
Sylvania Electric Products 1740 Broadway New York 19 NY-10
Tech Labs Inc Bergen & Edsall Blvd Palisades Park NJ-4-7-8-12-19-22-26-27-28-41
Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-42
Telecom Inc 1019 Admiral Blvd Kansas City 6 Mo-34
Telerad Mfg 1440 Broadway NY 18 NY-42
Teleradio Eng'g Corp Wilkes-Barre Pa-13-28-31-36
Teletronics Lab Inc 54 Kinkel St Westbury LI NY-8
Telex Inc 1633 Eustis St St Paul 1 Minn-4
Tensitron Inc Pin Hill Harvard Mass-24
Thermo Electric Co Saddle Brook NJ-14-25-28
Thompson Products Inc Electronics Div 2196 Clarkwood Rd Cleveland 3 Ohio-3-28-42
Time-O-Matic Inc 1106 Bahls St Danville Ill-1
Tork Clock Co 1 Grove St Mt Vernon NY-36
Torsion Balance Co 35 Monhegan St Clifton NJ-8-22-33-37
Transco Prods 12210 Nebr Ave Los Angeles 25 Calif-3
Trimung Inc 400 W Lake St Libertyville Ill-4
Trigg-Sol Electric Inc 95 8 Ave Newark 4 NJ-35-36
Tuttle & Kift 1823 N Monitor Ave Chicago 89 Ill-5-28
Ucinite Co Div United-Carr Fastener 459 Watertown St Newtonville Mass-28-31
Ulanet Co George 419 Market St Newark NJ-35-36
Unimax Switch Div W L Maxson Corp 460 W 34 St New York 1 NY-31-33
United Electric Control Co 85 School St Watertown 72 Mass-16-21-31-35-39
Universal Circuit Controls Corp 3601 Oakton St Skokie Ill-13-14-25
Valverde Labs 252 Lafayette St NY NY-35
Vector Electronic Co 3352 San Fernando Rd Los Angeles 65 Calif-4
Vemaline Products Co PO Box 222 Hawthorne NJ-11-25-36
Vidaire Electronics Mfg 576-80 W Merrick Rd Lynbrook NY-4
Vocaline Co of America Old Saybrook Conn-36
Walkirt Co 145 W Hazel St Inglewood 3 Calif-8
Walsco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-15-25-28-30-37
Ward Leonard Electric Co Mt Vernon NY-1-25
Waveline Inc Passaic Ave Box 470 Caldwell NJ-42
Weltronic Co 19500 W 8 Mile Rd Detroit 19 Mich-1-8
Western Int'l Co 45 Vesey St New York 7 NY-3-5-8-18-37
Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-1-2-9-16-21-25-29-31-35-36
White Electron Devices Inc Roger 4 Ave Haskell NJ-42
Willy Guenther K G 1138 Massachusetts Ave Arlington 74 Mass-17-36
Wirt Co 5221 Greene St Philadelphia 44 Pa-30

Amelco Inc 2040 Colorado Ave Santa Monica Calif-7-11
American Electronic Labs 641 Arch St Philadelphia 6 Pa-19
American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-3-6-7-15
American Scientific Devel 336 S Main St Ft Atkinson Wisc-20
Anchor Products Co 2712 W Montrose Ave Chicago 18 Ill-4-15
Anchor Specialty Mfg 800 N Industrial Ave Teterboro NJ-2-7-19
Anderson Inc W E 2921 Brooklyn Ave Kansas City 9 Mo-7
Anko Mfg Co 5042 W State St Milwaukee 8 Wisc-20
Arga Div Beckman Instruments 220 Pasadena Ave S Pasadena Calif-18
Associated Research Inc 3758 W Belmont Ave Chicago 18 Ill-2-12
Audio Instrument Co 133 W 14 St New York 11 NY-10
Baird Associates 33 University Rd Cambridge 38 Mass-19
Basset Inc Rex 1314 NE 17 Court Fort Lauderdale Fla-8
Batson Electronics Corp J A Waterloo Nebr-5
Bellare Electronics Inc 62 White St Red Bank NJ-16
Bergen Labs 11 Godwin Ave Fairlawn NJ-15
Biddle Co James G 1316 Arch St Philadelphia 7 Pa-2-12-14
Bill Jack Scientific Instrument Co 143 S Cedros Ave Sonoma Beach Calif-5-7-14
Bischof Die & Engraving 1405 16 St Racine Wisc-14
Bliss Electronic Corp Box 366 Sussex NJ-2-5-7-12
Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-5-7-11
Bomac Labs Salem Rd Beverly Mass-13
Booth Co Arthur E 265 S Alexandria Ave Los Angeles 4 Calif-17
Borden Eng'g Co 39 E Hanover Ave Morris Plains NJ-2
Bristol Co PO Box 1790 Waterbury Conn-5
Bristol Eng'g Corp Electronics Div Bristol Pa-19
Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-8
Cable Electric Products 234 Daboll St Providence 7 RI-5
Calidyne Co 120 Cross St Winchester Mass-21
Cal-Tronics Corp 11307 Hindry Ave Los Angeles 45 Calif-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19
Carol Electronics Corp 315 W Stephen St Martinsburg W Va-15
Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-4
Central Research Labs Red Wing Minn-12
Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-20
Chatillon & Sons John 85 Cliff St New York 38 NY-14
Chesapeake Instrument Corp Shadyside Md-21
Chicago Industrial Instrument 865 N Sangamon St Chicago 22 Ill-4-5-6-7-15-17-20
Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-3-4-20
Clegg Labs Inc Ridgedale Ave Morristown NJ-2-3-5-6-13
Clifton Precision Products Co Marple & Broadway Clifton Heights Pa-18
Cole Instrument Co 1000 N Olive St Anaheim Calif-2-3-5-6-7-8-9-11-12-15-17-19
Color TV Inc 973 E San Carlos Ave San Carlos Calif-2-5-7-13-16
Computing Devices of Can Ltd PO Box 508 Ottawa Ontario Canada 4-11
Cornell-Dubilier Electric Corp 333 Hamilton Blvd S Plainfield NJ-3
Dante Elec Mfg Bantam Conn-7
Davenport Mfg Co 1713 N Ashland Ave Chicago 22 Ill-12
Daystrom Instrument Archbald Pa-3-7-16
Daystrom Pacific Corp 3030 Nebraska Ave Santa Monica Calif-7
De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-13
Devenco Inc 117 Liberty St New York 38 NY-19
Diamond Microwave Corp 7 North Ave Wakefield Mass-13
Dice Co J W 1 Engle St Englewood NJ-12
Dit-Mco Inc 911 Broadway Kansas City 5 Mo-2-5-7-12-17
Donner Scientific Co 2829 7 St Berkeley 10 Calif-10
Dubrow Development Co 235 Penn St Burlington NJ-3-9-15
DuKane Corp St Charles Ill-7-11-16
Dunn Eng'g Associates 186 Massachusetts Ave Cambridge 39 Mass-8-19
Dynamic Electronics-NY Inc 73-39 Woodhaven Blvd Forest Hills NY-13
Eclipse-Pioneer Div Bendix Aviation Corp Teterboro NJ-18
Electronic Brazing Co 140 Glenridge Ave Montclair NJ-12
Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-2-5-7-11-13-14
Electronic Instrument Co 84 Withers St Brooklyn 11 NY-1-3-4-6-15-20
Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-19

72—TESTERS

Testers, battery	1
Testers, cable	2
Testers, capacitor	3
Testers, cathode ray tube	4
Testers, circuit	5
Testers, coil	6
Testers, continuity	7
Testers, crystal	8
Testers, diode	9
Testers, distortion	10
Testers, guided missile	11
Testers, insulation	12
Testers, microwave	13
Testers, motor	14
Testers, multimeter	15
Testers, radar	16
Testers, relay	17
Testers, synchro error	18
Testers, transistor	19
Testers, tube socket	20
Testers, vibration	21

Advance Instrument Corp 1709 F St Delmar NJ-18
Advanced Electronics Inc 94 Silas Deane Hwy Rocky Hill 9 Conn-2-21
All American Tool & Mfg 8027 Lawndale Ave Skokie Ill-21
Allegany Instrument Co Cumberland Md-5
Allied Radio Corp 100 N Western Ave Chicago 25 Ill-15-20

Electronic Products Co 111 E 3 St Mt Vernon NY-20
 Electronic Research Associates 67 E Centre St Nutley 10 NJ-19
 Electronic Test Instrument Corp 13224 Liver-
 nois Ave Detroit 38 Mich-4-5-20
 El Mec Labs 730 Blvd Kenilworth NJ-2-3-5-7-
 9-12-17
 El-Tronics Inc Penn Ave Mayfield 1 Pa-12
 Emerson Radio & Phonograph Corp 14 & Coles
 Sts Jersey City 2 NJ-16
 Enkelhard Inc Charles 850 Passaic Ave E
 Newark NJ-7
 Epco Electronics Inc 140 Liberty St New York
 6 NY-5-12
 Erca Tool Die & Stamping 19 Ash St Brooklyn
 22 NY-13
 Erwood Inc 1770 W Berteau Ave Chicago 13
 Ill-21
 Espey Mfg Co 200 W 57 St New York 19 NY-13
 Fairchild Engine & Airplane Co Guided Mis-
 siles Division Wyandanch NY-19
 Federal Telephone & Radio Co Div IT&T 100
 Kingsland Rd Clifton NJ-13
 Feiler Eng'g & Mfg 8026 N Monticello Ave
 Skokie Ill-4-5-7-14
 Fordham Mfg Co 2220 Pearsall Ave New York
 69 NY-5-7
 Fox Products Co 4720 N 18 St Philadelphia 41
 Pa-1
 Franklin Electronics Inc E 4 St Bridgeport
 Pa-3-5-9-11-15-19-20
 Freed Transformer Co 1718 Weirfield St Brook-
 lyn 27 NY-6-10
 F-R Machine Works 26-12 Borough Pl Wood-
 side 77 NY-13
 General Communication Co 681 Beacon St
 Boston 15 Mass-2-13-16
 General Electric Co Apparatus Sales Div 1
 River Rd Schenectady 5 NY-12-14
 General Hermetic Sealing Corp 99 E Haw-
 thorne Ave Valley Stream NY-2-12-17
 General Mills Inc Mechanical Div 2600 Far
 Hills Bldg Dayton 9 Ohio-11-13-16
 G & M Equipment Co 7315 Varna Ave N Holly-
 wood Calif-13-16
 Goldak Co 1644 W Glenoaks Blvd Glendale 1
 Calif-1-19
 Goodyear Aircraft Corp 1210 Massillon Rd
 Akron 15 Ohio-11-16
 Gulton Mfg Corp 212 Durham Ave Metuchen
 NJ-19
 Hallicrafters Co 4401 W 5 Ave Chicago 24 Ill-
 11-16
 Hamilton Watch Co Columbia Ave Lancaster
 Pa-14
 Harvey-Wells Electronics Southbridge Mass-1-
 3-8-12
 Heath Co 305 Territorial Rd Benton Harbor
 Mich-3-4-10-15-20
 Hewlett-Packard Co 275 Page Mill Rd Palo
 Alto Calif-10-13-15
 Hewson Co 443 Broad St Newark 2 NJ-2-3-12-
 14
 Hickok Electrical Instrument Co 10514 Dupon
 Ave Cleveland 8 Ohio-1-15-20
 Hillyer Instrument Co 54 Lafayette St New
 York 13 NY-16
 Ideal Industries 5127 Park Ave Sycamore Ill-7
 Impact-O-Graph Corp 1900 Euclid Ave Cleve-
 land 15 Ohio-21
 Industrial Electronics Inc 8060 Wheeler St
 Detroit 10 Mich-21
 Industrial Instruments Inc 89 Commerce Rd
 Cedar Grove NJ-7
 Industrial Test Equip Co 55 E 11 St New York
 3 NY-2-3-5-6-12-18
 Industrial Transformer Corp Gouldsboro Pa-12
 Instrument Labs 315 W Walton Pl Chicago 10
 Ill-2-5-14
 International Instruments Inc PO Box 2954
 New Haven 15 Conn-15
 International Research Assoc 2221 Warwick
 Ave Santa Monica Calif-4-19
 International Research and Development 797
 Thomas Lane Columbus 16 Ohio-21
 Jackson Electrical Instrument Co 18 S Patter-
 son Blvd Dayton 2 Ohio-2-3-4-5-7-20
 Janco Corp 3111 Winona Ave Burbank Calif-12
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-
 13-16
 Fartron Inc PO Box 472 Huntington Beach
 Calif-6
 Kay Electric Co 14 Maple Ave Pinebrook NJ-2
 3-4-5-6-8-9-13-16-19-20-21
 Kearfott Co Western Mfg Div 14844 Oxnard St
 Van Nuys Calif-13-16
 Kearfott Co 1378 Main Ave Clifton NJ-13-18
 Keystone Electronics 423 Broome St New York
 13 NY-5-7
 King Electric Equip 9123 Inman Ave Cleve-
 land 5 Ohio-1
 K V Transformer Corp 20 E Franklin St Dan-
 bury Conn-2-3-4-5-6-8-9-10-11-12-13-14-15-16-
 17-19-20-21-22
 L A B Corp Skaneateles NY-14-21
 Laboratory for Electronics 75 Pitts St Boston
 14 Mass-15
 Larson Instrument Co 24 Orchard St Tarry-
 town NY-12
 Lavoie Labs Inc Matawan-Freehold Rd Mor-
 ranville NJ-5-11-13-16
 Leeds & Northrup 4970 Stenton Ave Philadel-
 phia 44 Pa-12
 Link Aviation Inc Binghamton NY-2
 Magnetic Amplifiers 632 Tinton Ave New York
 55 NY-19
 Manson Labs 207 Greenwich Ave Stamford
 Conn-2-3-4-13-20
 Marconi Instruments Ltd 44 New St New York
 4 NY-19
 MB Mfg Co Div Textron American 1060 State
 St New Haven 11 Conn-21
 McColpin-Christie Corp 3410 W 67 St Los
 Angeles 43 Calif-1
 Measurement Eng'g Ltd John St Arnprior
 Ontario Canada-8-20
 Metropolitan Electronics & Instruments Co
 106 5 Ave New York 11 NY-15-20
 Microphase Corp PO Box 1166E Greenwich
 Conn-13
 Millivac Instrument Corp 444 2 St Schenectady
 NY-5-8-15
 Mine Safety Appliances Co 201 N Braddock
 Ave Pittsburgh 8 Pa-2
 Nader Mfg Co 2661 S Myrtle Ave Monrovia
 Calif-5-10-11-19
 Narda Corp 160 Herricks Rd Mineola NY-13-16
 National Aircraft Corp 3411 Tulare Ave Bur-
 bank Calif-19
 Network Mfg Corp 213 W 5 St Bayonne NJ-12
 Nevada Air Products Co North Valley Rd Reno
 Nev-11-13-16
 New London Instrument Co 82 Union St New
 London Conn-20
 Norden-Ketay Corp Boston Electronics Div
 Snow & Union Sts Boston 35 Mass-19
 Nuclear-Electronics Corp 2632 W Cumberland
 St Philadelphia 32 Pa-12
 Omega Labs Inc Haverhill St Rowley Mass-9-
 13
 Owen Labs 55 Beacon Pl Pasadena Calif-19
 Panoramic Radio Products 10 S 2 Ave Mt
 Vernon NY-10-11-21
 Peschel Electronics Inc 13 Garden St New
 Rochelle NY-2-5-7-12
 Philco Corp Accessory Div "A" & Allegheny
 Ave Philadelphia 34 Pa-4-5-20
 Polarad Electronics Corp 43-20 34 St Long
 Island City 1 NY-13
 Polyphase Instrument Co 701 Haverford Rd
 Bryn Mawr Pa-19
 Potter Instrument Co 115 Cutter Mill Rd Great
 Neck NY-16
 Precise Measurements Co 942 Kings Hwy
 Brooklyn 23 NY-12
 Precision Apparatus Co 70-31 84 St Glendale
 27 LI NY-4-5-15-20
 Press Wireless Laboratories Inc 25 Prospect
 Place West Newton 65 Mass-18
 Proscope Co 44-05 30 Ave Long Island City
 3 NY-10-21
 Quantum Electronics Inc 1921 Virginia St NE
 Albuquerque New Mex-19
 Radar Engineers 403 E 45 St Seattle 5 Wash-2
 Radio City Products Co Centre & Glendale Sts
 Easton Pa-3-4-5-6-7-9-15-19
 Radio Corp of America Tube Div 215 S 5 St
 Harrison NJ-1-19-20
 Raytronic Inc 9701 Reading Rd Cincinnati 15
 Ohio-4
 Rectifier Eng'g Co 1803 E 7 St Los Angeles 21
 Calif-1
 Reeves Instrument Corp 215 E 91 St New York
 28 NY-8
 Research Electronics Labs Roslyn Pa-4-8-9-19-
 20
 Rheem Mfg Co 9236 E Hall Rd Downey Calif-
 20
 Rich Electronics Inc 212 NW 8 Ave Miami 36
 Fla-12
 Rubicon Co Ridge Ave & 35 St Philadelphia
 32 Pa-18
 Rust Industrial Co 41 E 42 St New York 17
 NY-16
 Sage Labs 30 Guinan St Waltham 54 Mass-18
 Sciaky Bros 4915 W 67 St Chicago 38 Ill-20
 Seco Mfg Co 5015 Penn Ave S Minneapolis 19
 Minn-6-20
 Sensitive Research Instrument Corp 310 Main
 St New Rochelle NY-15
 Servo Corp of America 20-20 Jericho Turnpike
 New Hyde Park LI NY-18
 Shallcross Mfg Co Pusey & Jackson Aves Col-
 lingsdale Pa-12
 Shasta Div Beckman Instruments Inc PO
 Box 296 Station A Richmond Calif-1
 Simmonds Accessories 105 White Plains Rd
 Tarrytown NY-3
 Simpson Electric Co 5208 W Kinzie St Chicago
 44 Ill-15
 Sittler Corp 18 N Ada St Chicago 7 Ill-5-7
 Slaughter Co Young & College Sts Pique Ohio-
 12
 Solatron Electronic Group Ltd Thomas Ditton
 Surrey England-11-18
 Sonex Inc 245 Sansom St Upper Darby Pa-19
 Sperry Gyroscope Co Division of Sperry Rand
 Corp Great Neck NY-13-16
 Stavid Eng'g U S Hwy 22 Plainfield NJ-5-11-
 13-16-18
 Sticht Co Herman H 27 Park Pl New York 7
 NY-7-12
 Sun Electric Corp Harlem & Avondale Aves
 Chicago 31 Ill-1-5-6-14
 Sylvania Electric Products 1740 Broadway New
 York 19 NY-4
 Takk Corp PO Box 346 Newark Ohio-12
 Tarc Electronics 48 Urban Ave Westbury LI
 NY-2-7
 Technical Development Corp 4060 Ince Blvd
 Culver City Calif-2-5-7
 Technical Instrument Co Div Brush Electronics
 3732 Westheimer Rd Houston 6 Texas-21
 Technicraft Labs Inc Thomaston-Waterbury
 Rd Thomaston Conn-13
 Teletronics Lab Inc 54 Kinkel St Westbury LI
 NY-9
 Towaco Electronics Pine Brook Rd Towaco
 NJ-10
 Trans Electronics Co 7349 Canoga Ave Canoga
 Park Calif-9-19
 Transvision Inc 460 North Ave New Rochelle
 NY-4-5-7-20
 Tricraft Products Corp 1535 N Ashland Ave
 Chicago 22 Ill-20
 Trio Labs Inc 4025 Merrick Rd Seaford LI
 NY-14
 Triplett Electrical Instrument Harmon Rd
 Bluffton Ohio-5-15-20
 Union Plastics Corp Wire & Cable Div 1627
 Paterson Plank Rd Secaucus NJ-2
 United Mfg Div W L Maxson Corp 41 Haig
 St Hamden 14 Conn-11
 U S Electronic Research & Devel 1605 W
 Lafayette St Detroit 16 Mich-20
 U S Electronics Corp of America 800 Slaters
 Lane Alexandria Va-20
 Vectron Inc 1611 Trapelo Rd Waltham 54
 Mass-13
 Vibroscope Co PO Box 97 Glenford NY-21
 Vidair Electronics Mfg 576-80 W Merrick
 Rd Lynbrook NY-1-4
 Virginia Electronics Co River Rd at B & O RR
 Washington 16 DC-2
 Visual Electronics Corp 500 5 Ave New York
 36 NY-13
 Vis-U-All Corp 31 E 79 St Chicago 19 Ill-4-20
 Voron & Co George 835 N 19 St Philadelphia
 30 Pa-8-15-17
 Waters Mfg Boston Post Rd Wayland Mass-9
 Waveline Inc Passaic Ave Box 470 Caldwell
 NJ-16
 Webster Labs Inc Stanley 5225 W St Charles
 Rd Berkeley Ill-19
 Weinschel Eng'g & Mfg Corp 10505 Metropoli-
 tan Ave Kensington Md-13
 Westinghouse Electric Corp Box 868 Pittsburgh
 30 Pa-5-15
 Weston Electrical Instrument Corp Subsidiary
 Daystrom Inc 614 Frelinghuysen Ave
 Newark 5 NJ-5
 Weston Labs Old Littleton Rd Harvard Mass-
 8-9-13-15-16-19
 Westronics Inc 3605 McCart Ft Worth 10
 Texas-2
 White Electron Devices Inc Roger 4 Ave
 Haskell NJ-20
 White S Industrial Div 10 E 40 St New York
 16 NY-18
 Winkler Labs 5225 N 20 St Phoenix Ariz-21
 Winston Electronics Inc 4312 Main St Phila-
 delphia 27 Pa-5-8

73—TRANSFORMERS

Transformers, antenna matching	1
Transformers, audio	2
Transformers, autotransformer	3
Transformers, bias	4
Transformers, current	5
Transformers, filament	6
Transformers, flyback	7
Transformers, HV	8
Transformers, instrument	9
Transformers, isolation	10
Transformers, microwave	11
Transformers, modulation	12
Transformers, plate	13
Transformers, plug-in	14
Transformers, power receiving	15
Transformers, power transmitting	16
Transformers, pulse	17
Transformers, RF-IF	18
Transformers, toroidal	19
Transformers, transistor	20
Transformers, ultrasonic	21
Transformers, vibrator	22
Transformers, voltage, regulating	23
Transformers, laminations	24

Accurate Eng'g Co 2005 Blue Island Ave Chi-
 cago 8 Ill-3-10-13-23
 Ace Coil & Electronics 916 Lincoln Hwy
 Metuchen NJ-18
 Acme Coil & Transformer Corp 1915 W Cly-
 bourn Ave Chicago 14 Ill-2-3-5-6-8-10-12-13-
 14-15-16-17-22-23
 Acme Electric Corp Water St Cuba NY-3-23
 Acro Products Co 369 Shurs Lane Philadelphia
 28 Pa-2-3-4-5-6-8-9-10-13-14-15-17-20-21-22
 Acro Transformer & Mfg Corp 26-02 4 St Long
 Island City 2 NY-2-3-4-5-6-8-10-12-13-14-15-
 16-19-20-21-22

A C Transformer Corp 89 Madison St Newark NJ-3-4-6-8-9-10-13-15-16
Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-2-3-4-5-6-10-17-18-19-20
Aerovox Corp & Divisions 740 Belleville Ave New Bedford Mass-2-18-19
Aircraft Marine Products 2100 Paxton St Harrisburg Pa-17
Airdesign Inc 241 Fairfield Ave Upper Darby Pa-2-3-4-6-8-10-12-13-14-15-16-17-20-21-22
Airpax Products Co Middle River Baltimore Md-2-3-4-6-8-12-13-14-15-16-17-19-20-22
Aladdin Radio Industries 703 Murfreesboro Rd Nashville 2 Tenn-17-18
Allis-Chalmers Mfg Co Milwaukee 1 Wisc-23
All-Tronics Inc 45 Bond St Westbury NY-1-8-18
Altco Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-2-6-8-9-12-13-14-17
American Bosch Arma Corp Arma Div Roosevelt Field Garden City NY-3-4-5-6-8-9-10-12-13-15-16-17-19-20-22
American Speedlight Corp 63-01 Metropolitan Ave Middle Village 79 NY-13-17-22
Annis Co R B 1101 N Delaware St Indianapolis 2 Ind-9
Apex Coil & Transformer Corp 1919 S Fairfield Chicago 8 Ill-3-6-10-11-13-20
A P W Co 72 W Main St Rockaway NJ-20
Arco Transformer & Electric Corp 1602 S Hanna St Fort Wayne 5 Ind-2-3-4-5-6-8-9-10-12-13-15-22
Arnold Magnetics Co 5962 Smiley Dr Culver City Calif-19-20
Artted Co 367 Worthington St Springfield 3 Mass-18
Assembly Products Wilson Mills Rd Chesterland 21 Ohio-5-9
Associated Research Inc 3758 W Belmont Ave Chicago 18 Ill-9
Atlantic Transformer Div New London Instrument 30 Hynes Ave Groton Conn-4-5-6-8-9-10-12-13-14-15-16-17-19-20-21-22
Atlas Coil Inc 205 Main St Ansonia Conn-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23
Audio Development Co 2833 13 Ave S Minneapolis 7 Minn-2-6-9-11-12-13-14-17-20
Avion Div ACF Industries 299 State Highway 17 Paramus N.J-19
Baldwin Piano Co 1801 Gilbert Ave Cincinnati 2 Ohio-17
Ballastran Corp 1701 N Calhoun St Fort Wayne Ind-2-3-4-5-6-8-9-10-11-12-13-15-16-17-18-20-21-22-23
Barker & Williamson 237 Fairfield Ave Upper Darby Pa-1-2-17-18-19
Barry Electronics 512 Broadway NY NY-6-19
Basler Electric Co 605 S St Highland Ill-2-3-4-6-8-9-10-11-12-13-14-15-16-17-19-20-21-22-23
Bellaire Electronics Inc 62 White St Red Bank NJ-18
Berkshire Transformer Corp 15 South Ave New Milford Conn-2-3-4-5-6-8-9-10-11-12-13-14-15-16-21-22
Better Coil & Transformer Corp 202 W Union St Goodland Ind-2-3-5-6-8-9-10-11-12-13-14-15-16-20-22-23
Bitterman Electric Co Canaan Conn-5-9
Blonder-Tongue Labs 526 Worth Ave E Westfield N.J-1
Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-23
Bracke-Seib X-Ray Co 16 Pelham Bay Park W Pelham Manor NY-8
Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-18
Burnell & Co 45 Warburton Yonkers NY-19
Burrage Corp Electronic Instruments Div 1209 Vine St Philadelphia 7 Pa-17
Caledonia Electronics & Transformer Caledonia NY-2-3-5-6-8-12-13-15-16-17-19-20
Calif Magnetic Control Corp 11922 Valerio St N Hollywood Calif-2-3-4-5-6-8-9-10-11-12-13-14-15-16-17-19-20-21-22
Cambridge Thermionic Corp 445 Concord Ave Cambridge 38 Mass-18-20
Campbell X-Ray Corp 110 Cummington St Boston 15 Mass-5-6-10-13-15-16
Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-11
Capitol Stage Lighting Co 527 W 45 St New York NY-3
Carad Corp 2850 Bay Rd Redwood City Calif-7-12-13-14-17-19
Carol Electronics Corp 315 W Stephen St Martinsburg W Va-2-3-4-6-10-12-13-14-15-16-17-20
CBC Electronics Co 2601 N Howard St Philadelphia 33 Pa-17
CELCO (Constantine Eng'g) PO Box 555 Mahwah NJ-2-3-4-5-6-7-8-9-10-14-17-18-19-20-21
Central Transformer Co 910 W Jackson Blvd Chicago 7 Ill-2-3-4-5-6-8-9-10-11-12-13-15-16-21-22-23
Centran Inc PO Box 168 Greensburg Ind-1-2-3-5-6-9-10-12-13-15-16-18-20-21-22
CGS Labs 391 Ludlow St Stamford Conn-1
Chicago Electronic Eng'g 3223 Armitage Ave Chicago 47 Ill-2-3-5-6-9-15-16
Chicago Standard Transformer Corp 3501 Addison St Chicago 18 Ill-2-3-4-5-6-8-10-11-12-13-15-16-17-19-20-22-23
Clum Mfg Co 611 National Ave Milwaukee 4 Wisc-23
Coast Coil Co 5333 W Washington Blvd Los Angeles 16 Calif-19
Coil Company of America 207 Washington St Northvale NJ-2-3-4-6-8-10-13-14-15-16-17-22-23
Coilcraft Inc Cary Ill-18
Coil Eng'g & Mfg 200 Main St Roanoke Ind-2-3-6-10-13-15-20-23
Coil Winders Inc New York Ave Westbury NY-18-19
Cole Instrument Co 1000 N Olive St Anaheim Calif-5-9
Columbus Process Co State & Mapleton Sts Columbus Ind-2-3-5-6-15-20-22
Communication Accessories Co 110 St & 71 Hwy Hickman Mills Mo-19-20
Control Corp 718 Central Ave S Minneapolis 14 Minn-16
Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-17-21
Crest Transformer 1834 W North Ave Chicago 22 Ill-2-3-4-5-6-8-9-10-12-13-14-15-16-22
Cycle Transformer Corp 356 Glenwood Ave East Orange NJ-2-3-4-5-6-7-8-9-10-12-13-15-16-17-20-21-22-23
Daystrom Instrument Archhald Pa-14-18
DeCoursey Eng'g Lab 11828 W Jefferson Blvd Culver City Calif-19
Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-2-18-22
Delta Radio 115 Worth St New York 13 NY-18
De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-11
Developmental Electronics Corp 4213 S Broadway Los Angeles 37 Calif-17
Dilectron Div Gudeman Co 2669 S Myrtle Ave Monrovia Calif-2-17
Dietz Design & Mfg Co Grandview 13 Mo-2-3-6-10-12-13-14-15-17-18-19-20-21-22
Dongan Electric Mfg Co 2987 Franklin St Detroit 7 Mich-3-10
Dresser Electric Co 942 E Larned St Detroit 7 Mich-3
D & R Ltd 402 E Gutierrez St Santa Barbara Calif-19
DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-10-17
DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-2-6-7-8-15-18-19-20-22
Dynamo Magntronics Corp Div Maico Co 21 N 3 St Minneapolis 1 Minn-4
Edko Electronics Eng'g 202 Grand St Brooklyn 11 NY-2-3-4-5-6-8-9-10-12-13-14-15-16-20-21-22
Eisler Eng'g 750 S 13 St Newark 3 NJ-3-6-10-13
Electran Mfg Co 1901 Clybourn Ave Chicago 14 Ill-2-3-5-6-9-10-12-13-15-16
Electro Eng'g Works 401 Preda St San Leandro Calif-12-13-14-16
Electrometric Inc Woodstock Ill-7-17-18-20
Electronic Communication Equip Co 1249 Loyola Ave Chicago 26 Ill-2
Electronic Components 2655 W 19 St Chicago 8 Ill-2-15-16
Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-10-11
Electronic Transformer 70 Washington Brooklyn NY-1-2-3-4-5-6-8-9-10-12-13-15-16-17
El-Rad Mfg 2800 W Cullom Chicago 18 Ill-18
Emerson Radio & Phonograph Corp 14 & Coles Sts Jersey City 2 NJ-2-19
Entron Inc 4902 Lawrence St Bladensburg Md-1
Epo Products 2500 Atlantic Ave Brooklyn 7 NY-2-3-4-6-8-10-12-13-14-15-16-17-19-21-22
ESC Corp 534 Bergen Blvd Palisades Park NJ-17
Espey Mfg 200 W 57 St New York NY-1-2-3-4-5-6-7-8-9-10-11-12-13-14-17-18-19-20-21-22-23
Essex Electronics 550 Springfield Ave Berkeley Heights NJ-17-18-19
Esterline-Angus Co PO Box 596 Indianapolis 6 Ind-5
Federal Telephone & Radio Div IT&T 100 Kingsland Rd Clifton NJ-4-10-12-13-17-19-22-23
Ferranti Electric Inc 30 Rockefeller Plaza New York 20 NY-2-3-4-6-8-10-12-13-15-16-20-21-22
Forbes & Wagner 345 Central Ave Silver Creek NY-1-7-14-17-18-20
Forest Electric Co 7216 Circle Ave Forest Park Ill-1-2-3-4-5-6-8-9-10-12-13-14-15-16-23
Foster Transformer Co 3820 Colerain Ave Cincinnati 23 Ohio-2-3-6-10-12-13-15-16-17-19-22
Freed Transformer Co 1718 Weirfield St Brooklyn 27 NY-2-3-4-5-6-8-9-10-12-13-14-15-16-17-19-20-21-22
Fugle-Miller Labs Central Ave Clark NJ-1-18
Gabriel Electronics Div 135 Crescent Rd Needham Hrts 94 Mass-1
Galbraith & Son 450 Avenue of the Americas New York 11 NY-2-3-4-5-6-8-10-13-14-15-16-21
General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-2-3-5-7-8-9-11-17-19-21-23
General Instrument Corp 65 Gouverneur St Newark 4 NJ-7-12-14-18-19
General Radio Co 275 Mass Ave Cambridge 39 Mass-2-3-19
General Transformer Co 18240 Harwood Ave Homewood Ill-1 thru 23
Geotronic Labs 1314 Cedar Hill Ave Dallas 8 Texas-2-6-9-15-20

Goslin Electric & Mfg Co 2921 W Olive St Burbank Calif-2-3-4-6-15-16-17-23
Gramer-Halldorson Transformer Corp 2734 N Pulaski Rd Chicago 39 Ill-2-3-4-6-7-8-9-10-11-12-13-15-16-17-18-19-20-23
Grand Ra-Tronics Inc 17360 Hayes St Grand Haven Mich-2-3-10-12-13-15-22
Grand Transformers Beechtree & Marion Grand Haven Mich-2-3-4-6-8-9-10-12-13-14-15-16-20-22
Graybar Electric Co 420 Lexington Ave New York 17 NY-3-5
Gudeman Co 340 W Huron St Chicago 10 Ill-17
Hadley Co Robert M 5112 S Hoover St Los Angeles 37 Calif-2-3-4-5-6-8-9-10-12-13-14-15-16-17-19-20-21-22
Hanovia Chemical & Mfg Co 100 Chestnut St Newark 5 NJ-17-23
Harnett Electric Lincoln & Hallett Ave Riverhead LI NY-2-3-4-5-6-7-8-10-13-14-15-17-18
Heath Co 305 Territorial Rd Benton Harbor Mich-10
Hoppner Mfg Co Box 1207 Round Lake Ill-7
Hermetic Seal Transformer Co 555 No 5 St Garland Texas-2-10-12-13-15-16-19-20
Hevi-Duty Electric Co 4212 W Highland Blvd Milwaukee Wisc-5-6-8-10-13-15
Highland Eng'g Co 90 Magnolia St Westbury LI NY-2-3-4-5-6-8-9-10-12-13-14-15-16-17-22-23
Hillburn Electronic Products 55 Nassau Ave Brooklyn 22 NY-18
Hindle Transformer Co Woods Church Rd Flemington NJ-3-6-10-12-13-14-15-16
Houlihan Co T J 2508 W Lawrence Chicago 25 Ill-1-18-20
Hycor Div Int'l Resistance Sylmar Calif-19-21
Illinois Transformer Co 412 S Green St Chicago 7 Ill-1-2-6-8-10-13-15-23
Industrial Transformer Corp Gouldsboro Pa-1-2-3-4-5-6-8-9-10-12-13-15-16-17-19-20-22
Instrument Labs 315 W Walton Pl Chi Ill-9
Islip Transformer & Metal Co Beech St Islip LI NY-1-2-3-4-5-6-10-12-13-14-15-16-18-22
I-T-E Circuit Breaker Co 19 & Hamilton Sts Philadelphia 30 Pa-18-19
Jacobs Instrument Co 4718 Bethesda Ave Bethesda 14 Md-14-16
Jack & Heintz 17600 Broadway Cleveland 1 Ohio-5
JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-1
Jobbins Electronic Enterprises 771 Hamilton Ave Menlo Park Calif-3-4-5-6-8-10-13-16
Johnson Electronics 521 Elwell St Orlando Fla-18-19-20
J-V-M Eng'g Co 8846 W 47 St Brooklyn Ill-11
Kearfott Co 1378 Main Ave Clifton NJ-15-16
Kenyon Transformer Co 840 Barry St NY NY-2-3-4-5-6-8-9-10-12-13-14-15-16-17-21-22
Kepec Labs 131-38 Sanford Ave Flushing 55 NY-23
Knopp Inc 4224 Holden St Oakland 8 Calif-5-9
Kobzy Tool Co 1539 Dayton St Chicago 22 Ill-24
Laboratory for Electronics 75 Pitts St Boston 14 Mass-1-2-3-4-5-6-8-13-17-18-19
Lavoie Labs Inc Matawan-Freehold Rd Morganville NJ-2-6-9-12-13-15-16-17-18
Lee Electric & Mfg Co 2806 Clearwater St Los Angeles 39 Calif-3-5-6-15-16-19-22
Leonard Electric Prods 67 34 St Brooklyn 32 NY-1 thru 23
Levinthal Electronic Products 2821 Fair Oaks Ave Redwood City Calif-18
Light Electric Corp 214 Lackawanna Ave Newark 3 NJ-3-5-6-8-10-13
Lindberg Eng'g 2540 W Hubbard St Chicago 12 Ill-3-6-13
Luther Electronic Mfg Co 5728 W Washington Blvd Los Angeles 16 Calif-8-17
Lynmar Engrs Inc 1432 N Carlisle St Philadelphia 21 Pa-1
Magnatran Inc PO Box 211 Kearny NJ-2-3-5-6-8-10-11-12-13-16-17-23
Magnetic Amplifiers 632 Tinton Ave New York 55 NY-3
Magnetic Research Corp 200 Center St El Segundo Calif-19
Marchant Calculators Inc 1475 Powell St Oakland Calif-17
Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-2-3-4-6-8-13-14-15-18-19-22
McGregor Electronic Industries 132 1 Ave McGregor Iowa-2-3-7-15
McIntosh Lab Inc 320 Water St Binghamton NY-2
Measurement Eng'g Ltd John St Arnprion Ontario Canada-19
Meleo Products Inc 301 5 Ave S Minneapolis 15 Minn-2-3-5-6-9-10-12-13-15-16-22-23
Meridian Metalcraft Inc 8739 S Miller Grove Dr Whittier Calif-11
Merit Coil & Transformer Corp 4427 N Clark St Chicago 40 Ill-1-2-3-6-7-8-10-12-13-15-16-18-20-22-23
Mico Instrument Co 80 Trowbridge St Cambridge 38 Mass-19
Microphase Corp PO Box 1166E Greenwich Conn-1-11
Microtran Co 84-11 Rockaway Beach Blvd Rockaway Beach 93 NY-2-3-4-5-6-8-9-10-12-13-14-15-16-17-20-21-22-23
Midwest Coil & Transformer 1640 N Halsted St Chicago Ill-2

- Midwest Electric Products Mankato Minn-5-9-19
- Milwaukee Transformer Co 5231 N Hopkins St Milwaukee 9 Wis-1 thru 23
- Modelcraft Products Corp 1500 Bangs Ave Asbury Park NJ-17
- Moloney Electric Co 5390 Bircher Blvd St Louis 20 Mo-3-6-8-10-11-12-13-17
- Moran Electronic Components 7660 Woodbury Dr Silver Springs Md-2-6-13-15-16-18-22
- Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-6-15-22
- Mystic Transformers 63 Swanton St Winchester Mass-2-3-4-6-8-10-12-13-15-16-17
- Nardu Corp 160 Herricks Rd Mineola NY-11
- National Aircraft Corp 3411 Tulare Ave Burbank Calif-2-3-5-9-10-13-15-16-17-18-19-20-23
- National Coil Co PO Box 1237 Sheridan Wyo-18
- National Company 61 Sherman St Malden 48 Mass-18
- Nems-Clarke Inc 919 Jesup-Blair Dr Silver Spring Md-1
- Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-14
- New London Instrument Co 82 Union St New London Conn-1-2-4-5-6-7-9-10-12-13-15-17-18-19
- New York Coil Co 40 2 Ave Phoenixville Pa-1-2-3-5-18-22
- New York Transformer Co 3 Ave Alpha NJ-2-3-4-6-8-9-10-11-12-13-15-16-17-19-20-22
- NJE Corp 345 Carnegie Ave Kenilworth NJ-5-6-8-10-13-14-17-23
- Noel Mfg Co 3 W 18 St New York 11 NY-6
- Nothelfer Winding Labs PO Box 455 Trenton 3 NJ-2-3-4-5-6-7-8-9-10-11-12-13-17-18-19-23
- N R K Mfg & Eng'g Co 4601 W Addison St Chicago 41 Ill-11
- Nyt Electronics Inc 2979 N Ontario St Burbank Calif-2-3-4-5-6-8-9-10-11-12-13-14-15-16-17-19-20-21-22
- Ogden Coil & Transformer Co 2124 W Carroll Ave Chicago 12 Ill-2-3-4-5-6-8-9-10-13-14-15-16-22
- Omega Labs Inc Haverhill St Rowley Mass-11
- Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-2-3-4-5-6-8-9-10-12-13-14-15-16-17-18-19-20-21-22
- Osborne Transformer Corp 948 E Lafayette Ave Detroit 7 Mich-3-5-6-8-9-10-12-13-16-21
- Oxford Electric Corp 3911 S Michigan Ave Chicago 15 Ill-2
- Pacific Transducer Corp 11836 W Pico Blvd Los Angeles 64 Calif-2
- Partridge Transformers Ltd Tolworth Surrey England-2-3-4-6-8-9-10-12-13-15-16-17-22-23
- PCA Electronics Inc 2180 Colorado Ave Santa Monica Calif-14-17-19
- Pearson Electronics 895 Commercial St Palo Alto Calif-17
- Peerless Electrical Prods Div Altec Lansing Corp 9356 Santa Monica Blvd Beverly Hills Calif-2-10
- Penn-East Eng'g Corp Box 240 Kutztown Pa-2-4-6-13-15
- Penn Transformer Corp E Bishop St Ext Bellefonte Pa-7
- Perkin Eng'g Corp 345 Kansas St El Segundo Calif-3-4-5-6-8-15-19-23
- Polyphase Instrument Co 701 Haverford Rd Bryn Mawr Pa-17-19-20
- Power Transformer Co 532 Mulberry St Newark 5 NJ-3-4-6-8-10-13-16-23
- Precise Measurements Co 942 Kings Hwy Brooklyn 23 NY-3-5-8-9-10-13-15-16-22-23
- Precision Associates 354 Cumberland St Brooklyn 38 NY-1-18
- Premier Instrument Corp 52 W Houston St New York 12 NY-11
- Prodelin Inc 307 Bergen Ave Kearny NJ-18
- QLC Corp 409 Main St Greenport LI NY-18
- Qutronic Transformer Corp 525 Broadway New York 12 NY-3-4-5-6-8-9-10-12-13-14-15-16-19-20-21-22-23
- Radio Corp of America Tube Div 215 S 5 St Harrison NJ-2-3-7-8-10-12-13-19-20
- Railway Communications PO Box 67 Raytown Mo-19
- Ratigan Electronics 3614 Maple Ave Los Angeles 11 Calif-18
- Raypar Inc 7810 W Addison St Chicago 34 Ill-2-3-4-5-6-7-8-9-10-11-12-13-15-16
- Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass-5-9-10-11-13-17-18-19-20-21-23
- Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-2-8-13-17-18-19-21-23
- Redman Electronics Corp PO Box 72 Thompsonville Conn-15-17-18-19
- Remington Rand Univac 1902 W Minnehaha Ave St Paul W4 Minn-17
- Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla-1
- R K Mfg Co PO Box 112 Marion Ill-2-3-4-5-6-10-12-13-14-16-17-20-22
- Rogers Electronic Corp 43 Bleeker St New York 12 NY-7
- Rola Co 2530 Superior Ave Cleveland 14 Ohio-2-6-7
- Rollins Electronics Corp Schley Ave Lewes Dela-2-3-4-5-6-8-9-10-12-13-15-16-17-18-19-21-22
- Sag Harbor Industries Bay St Sag Harbor NY-5-9
- Sage Labs 30 Guinan St Waltham 54 Mass-11
- Sangamo Generators Sub Sangamo Electric Co Springfield Ill-5-9
- Sangamo Electric Co Box 7 Marion Ill-2-6-9-15-16-17-18
- Saxton Products Inc 1661 Boone Ave Bronx 60 NY-1
- Sciaky Bros 4915 W 67 St Chicago 38 Ill-16
- Servo Corp of America 20-20 Jericho Turnpike New Hyde Park LI NY-8
- Servomechanisms Inc Post & Stewart Aves Westbury NY-9-19
- Sierra Electronic Corp 1050 Britton Ave San Carlos Calif-18
- Signal Transformer Co 2518 Coney Island Ave Brooklyn 23 NY-3-4-5-6-7-8-9-10-13-14-15-16-20-22-23
- Skysweeper Inc 51 Bridge St McHenry Ill-2-3-4-5-6-8-9-10-15-16-20-22
- SNC Mfg Co PO Box 277 Oshkosh Wis-2-3-4-5-6-8-9-10-12-13-14-15-16-17-22-23
- Sola Electric Co 4633 W 16 St Chicago 50 Ill-23
- Sorensen & Co 375 Fairfield Ave Stamford Conn-23
- Southwestern Industrial Electronics 2831 Post Oak Rd Houston 19 Texas-2-9-19
- Spellman TV Co 3029 Webster Ave Bronx 67 NY-8
- Sperry Gyroscope Co Division of Sperry Rand Corp Great Neck NY-11
- Sprague Electric Co Marshall St North Adams Mass-17
- Standard Electrical Products 2240 E 3 St Dayton 3 Ohio-3-5-6-8-9-10-12-13-15-16-19-20-23
- Standard Electronics Corp 285 Emmet St Newark NJ-2-3-4-5-6-8-10-12-13-16-23
- Stanwyck Winding Co 137 Walsh Ave Newburgh NY-1-18
- Sterling Transformer Corp 297 N 7 St Bklyn NY-2-3-4-6-10-12-13-14-15-16-17-20-21-22-23
- Summit Coil Co 4 Claremont Rd Bernardsville NJ-18
- Superior Electric Co Bristol Conn-3-23
- Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-11
- Technitrol Eng'g Co 2751 N 4 St Phila Pa-17
- Tele Coil Co 2733 Saunders St Camden 5 NJ-18
- Terleradio Eng'g Corp Wilkes-Barre Pa-19-20-21
- Telex Inc 1633 Eustis St St Paul 1 Minn-2-20
- Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-9-10-17-18-20-21
- Thermedor Electrical Mfg Co Electronics Div 2000 S Camfield Ave Los Angeles 22 Calif-2-3-4-6-8-9-10-12-13-14-15-16-17-19-20
- Thordarson-Meissner Mfg Div Maruire Industries Mt Carmel Ill-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-22-23
- Timely Instruments & Controls Corp 1645 W 135 St Gardena Calif-23
- Todd-Tran Corp 156 Gramatan Ave Mt Vernon NY-6-7-15-16
- Torwico Electronics 1090 Morris Ave Union NJ-2-4-6-10-13-19
- Transformer Engrs 325 N Halstead Ave Pasadena 8 Calif-2-3-6-9-17-19
- Transformer Technicians 2608 N Cicero Ave Chicago 39 Ill-2-3-4-5-6-8-9-10-12-13-14-15-16-17-20-21-22-23
- Transformers Inc Vestal NY-1 thru 24
- Translite Electronics Corp 5720 W Armitage Ave Chicago 39 Ill-7
- Transonic Inc 808 16 St Bakersfield Calif-1-2-3-4-5-6-8-9-10-11-12-13-14-15-16-17-19-20-21-22
- Trenton Transformer Corp PO Box 568 Trenton NJ-3-5-6-8-9-10-13-15-16
- Tresco Inc 3824 Terrace St Philadelphia 28 Pa-2-3-4-6-8-10-11-12-13-14-15-16-17-19-22
- Triad Transformer 4055 Redwood Ave Venice Calif-2-3-4-6-7-10-12-13-14-15-16-17-20-22
- Triweg Transformer Co 3261 N Milwaukee Ave Chicago 18 Ill-2-3-6-15-16-17
- Union Electric & Mfg Co 1057 Summit Ave Jersey City 7 NJ-3-6-10-13-15-20-23
- United Transformer Co 150 Varick St New York NY-1-2-2-3-4-5-6-8-9-10-11-12-13-14-15-16-17-19-20-21-22-23
- University Loudspeakers Inc 80 S Kensico Ave White Plains NY-2
- Utah Radio Products 1123 E Franklin St Huntington Ind-2-3-5-6-8-9-10-12-13-14-17-20-22
- Valor Electronic Component Co 5808 Marilyn Ave Culver City Calif-14-17-19-20
- Vanguard Electronics 3384 Motor Ave Los Angeles 34 Calif-7-17-18
- Varo Mfr Co 2201 Walnut St Garland Texas-2-6
- Vibration Research Labs 97 Lake Ave Tuckahoe NY-3-6-8-13-20-22-23
- Vokar Corp Dexter Mich-18-20
- Waco Inc 2032 Broadway Santa Monica Calif-3-4-5
- Wang Labs Inc 37 Hurley St Cambridge 41 Mass-17-19
- Waveforms Inc 333 6 Ave New York 14 NY-9
- Western Coil Prods 2989 Middlefield Rd Palo Alto Calif-1-18-20
- Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-1-2-3-4-6-8-10-12-13-16-17-18-19
- Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-3-4-5-6-8-9-10-12-13-15-16-17-23
- Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-5
- Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-2-6-9-10-13-14-17-19-20
- Wiegand Mfg Co 120 E Hawthorne Ave Valley Stream LI NY-15-16
- Wirt Co 5221 Greene St Philadelphia 44 Pa-13
- Workman TV Inc 309 Queen Anne Rd Teaneck NJ-23

74—TRANSMITTERS

Transceivers, fixed	1
Transmission monitoring equipment	2
Transmitters, amateur	3
Transmitters, aviation	4
Transmitters, broadcast AM ...	5
Transmitters, broadcast FM ...	6
Transmitters, broadcast UHF-TV	7
Transmitters, broadcast VHF-TV	8
Transmitters, citizens radio ...	9
Transmitters, code	10
Transmitters, color TV	11
Transmitters, direction finding ..	12
Transmitters, facsimile	13
Transmitters, loran	14
Transmitters, marine	15
Transmitters, microwave	16
Transmitters, mobile	17
Transmitters, radar	18
Transmitters, single sideband ..	19
Transmitters, sonar	20
Transmitters, telemetering	21
Transmitters, UHF	22
Transmitters, VHF	23

- Acme Electronix Div Nea Service 1200 W 3 St Cleveland 13 Ohio-10-13
- Aeronautical Communications Equip 3090 SW 37 Ave Miami 33 Fla-4-10-12
- Aeronautical Electronics PO Box 6043 Raleigh NC-17-23
- Air Associates Inc 511 Joyce St Orange NJ-16-21-22
- Airborne Instruments Lab 160 Old Country Rd Mineola NY-16-18
- Aircorn Inc 354 Main St Winthrop 52 Mass-16-21
- Aircraft Armaments Cockeysville Md-16
- Aircraft Radio Corp Boonton NJ-4-22-23
- Alcor Electronics 180 Lafayette St NY 13 NY-10
- Alden Electronic & Impulse Recording Equipment Co Westboro Mass-13
- Allied Radio Corp 100 N Western Ave Chicago 25 Ill-3-10
- American Electronics Co 1203 Bryant Ave New York 59 NY-3-10
- Applied Electronics Co 1246 Folsom St San Francisco 3 Calif-15
- Audio Products Co 2265 Westwood Blvd Los Angeles 64 Calif-4-18-21-22-23
- Avion Div ACF Industries 299 State Highway 117 Paramus NJ-18
- Babcock Radio Eng'g 7942 Woodley Ave Van Nuys Calif-22
- Barker & Williamson 237 Fairfield Ave Upper Darby Pa-3-10-12-19
- Bassett Inc Rex 1314 NE 17 Court Fort Lauderdale Fla-1
- Bell Aircraft Corp Box 1 Buffalo 5 NY-16-18
- Bellaire Electronics Inc 62 White St Red Bank NJ-3
- Bendix Aviation Corp Pacific Div 11600 Sherman Way N Hollywood Calif-15-18-20-21
- Bendix Radio Div Bendix Aviation Corp Baltimore 4 Md-17-18
- Biddle Co James G 1316 Arch St Phila 7 Pa-2
- B-I-F Industries 345 Harris Ave Providence 1 RI-21
- Bludworth Marine Div Nat'l-Simplex-Bluworth 92 Gold St New York 38 NY-15-18-20
- Boehm Inc H O 915 Broadway New York 10 NY-2-10
- Budelman Radio Corp 375 Fairfield Ave Stamford Conn-22-23
- Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-5-6
- Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif-18
- Central Electronics Inc 1247 W Belmont Ave Chicago 13 Ill-3-4-19
- Clegg Labs Inc Ridgedale Ave Morristown NJ-3-9-19-22-23
- Collins Radio Co 855 35 St NE Cedar Rapids Iowa-3-5-16-19
- Color TV Inc 973 E San Carlos Ave San Carlos Calif-16
- Colvin Labs 364 Glenwood Ave East Orange NJ-21
- Communications Co Coral Gables Fla-4-9-10-17-23
- Continental Electronics Mfg 4212 S Buckner Blvd Dallas 27 Tex-5-7-16-19-22

Control Corp 718 Central Ave S Minneapolis 14 Minn-21
 Cossor (Canada) Ltd 301 Windsor St Halifax NS Canada-18-20-23
 Craig Systems 90 Hollen St Danvers Mass-17
 Crosby Labs Box 233 Robbins Lane Hicksville NY-3-19
 Crown Eng'g Sta B Box 6127 Albuquerque N Mex-21
 Cubic Corp 2841 Canon St San Diego 6 Calif-16-22-23
 Dage TV Div Thompson Products W 10 St Michiran City Ind-7
 Daystrom Instrument Archbald Pa-18-21
 D & R Ltd 402 E Gutierrez St Santa Barbara Calif-19
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-2-7-8-9-11-17
 Eldico of NY Inc 72 E 2 St Mineola LI NY-3-4-12-15-17-19-21-22-23
 Electrod Products Corp State & Water Sts St Joseph Mich-3-17
 Electro-Craft Co 5 Milton Ave Dorchester Mass-14-15
 Electro-Mechanical Research 64 Main St Ridgefield Conn-21
 Electronic Control Systems 2136 Westwood Blvd Los Angeles 25 Calif-3-10
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-10-13-15
 Electronic Protection Inc 452 W Chicago Ave Chicago Ill-9-17-21-22
 Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-21-22-23
 Electronics Development 3743 Cahuenga Blvd N Hollywood Calif-4-8
 Equipment Crafters Inc River Edge NJ-3-17-23
 Ereo Radio Labs 637 Stewart Ave Garden City NY-10-12-15-17-19-22-23
 Federal Telecommunication Labs 500 Washington Ave Nutley NJ-7-8-16-17-22-23
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-12-14-16-18-19-22-23
 Fischer & Porter 19 Warminster Rd Hatboro Pa-21
 Gates Radio Co 123 Hampshire St Quincy Ill-5-6-8-10-19-23
 General Electric Co Electronics Div Communication Equip Syracuse NY-9-16-17-22-23
 General Precision Lab 63 Bedford Rd Pleasantville NY-7-11
 General Riveters Inc 785 Hertel Ave Buffalo 7 NY-4
 G & M Equipment Co 7315 Varna Ave N Hollywood Calif-1-15-23
 Graybar Electric Co 420 Lexington Ave New York 17 NY-5-6
 Gray Radio Co 501 Forest Hill Blvd W Palm Beach Fla-15
 Gyro Electronics Co 325 Canal St NY 13 NY-9
 Hallamore Electronics Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-4
 Hallcrafters Co 4401 W 5 Ave Chicago 24 Ill-3-16-17-18-19
 Harristahl Labs 474 E 2 St Brooklyn 18 NY-3-17-23
 Heath Co 305 Territorial Rd Benton Harbor Mich-3
 Hill Electronic Eng'g & Mfg New Kingston Pa-21
 Hogan Labs 155 Perry St New York 14 NY-13
 Hudson American Corp 25 W 43 St NY 36 NY-15
 Hudson Associates 50 Drumm St San Francisco 11 Calif-15
 Jarvis Electronics Corp 6058 W Fullerton Ave Chicago 39 Ill-4-23
 Jefferson Inc Ray 40 E Merrick Rd Freeport NY-15
 Johnson Co E F Waseca Minn-3-17-19-23
 J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-16-18
 Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-15-17-23
 Kahn Research Labs 22 Pine St Freeport NY-19
 Kay Electric Co 14 Maple Ave Pinebrook NJ-2-5-6-7-8-11-19-22-23
 Laboratory for Electronics 75 Pitts St Boston 14 Mass-18
 Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-16
 Lavoie Labs Inc Matawan and Freehold Rd Morkanville NJ-12-15-17-18-22-23
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-1-4-23
 Lettine Radio Mfg 62 Berkley St Valley Stream NY-3-23
 Levintahl Electronic Products 2821 Fair Oaks Ave Redwood City Calif-7-16-18-22
 Link Radio Corp 110 Jericho Turnpike New Hyde Park LI NY-9-17
 L & O Research & Development 134 N Wayne Ave Wayne Pa-2
 Mackay Radio & Telegraph Co Marine Div 133 Terminal Ave Clark NJ-15-19
 MacKay Research Labs RR 2 Box 401 McHenry Ill-23
 Manning Maxwell & Moore 250 E Main St Stratford Conn-2-12-21
 Maryland Electronic Mfg Corp 5009 Calvert Rd College Park Md-23
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-15-16
 Melpar Inc Sub Westinghouse Air Brake Falls Church Va-12-18-20-21-22-23

Mitchell Industries PO Box 17 Mineral Wells Texas-4-23
 Morrow Radio Mfg Co 2794 Market St Salem Ore-3-23
 Motorola Communications & Electronics 4501 W Augusta Blvd Chicago 51 Ill-1-9-15-16-17-21-22-23
 Multi-Products Co 21470 Coolidge Hwy Oak Park 37 Mich-3-17
 National Aeronautical Corp 180 S Main St Ambler Pa-1-4-22-23
 National Company 61 Sherman St Malden 48 Mass-16
 National Electronics Labs 1713 Kalorama Rd NW Washington 9 DC-17-23
 New London Instrument Co 82 Union St New London Conn-4-23
 Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-15
 Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-4-10-12-14-17-18-19-20-21-22-23
 Pearce-Simpson Inc 3023 Coral Way Miami 34 Fla-15-17
 Peer Inc 1200 Milton St Benton Harbor Mich-4-23
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-7-8-11-16
 Philmore Mfg Co 113 University Pl NY 3 NY-3
 Planet Service Corp 88-02-06 102 St Richmond Hill 18 NY-15
 Pratt Albert 114 W Lake View Ave Milwaukee 17 Wis-17
 Press Wireless Labs 25 Prospect Pl W Newton 65 Mass-2
 Pye Corp of America 270 Park Ave New York 17 NY-3-4-7-8-15-16-17-22-23
 Radiation Inc PO Drawer 37 Melbourne Fla-21
 Radio Corp of America Camden 2 NJ-11-12-14-15-16-18-22-23
 Radio Eng'g Labs 36-40 37 St Long Island City 1 NY-6-16-22-23
 Radiomarine Corp of America 75 Varick St New York 13 NY-10-15
 Radio Receptor Co 251 W 19 St New York 11 NY-4-16-22-23
 Railway Communications PO Box 67 Raytown Mo-2
 Raypar Inc 7810 W Addison St Chi Ill-3-10
 Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass-16-18
 Reeves Instrument 215 E 91 St New York NY-16-18
 Rixon Electronics 2414 Reddie Dr Silver Spring Md-2
 Rosen Eng'g Products Raymond 32 & Walnut Sts Philadelphia 19 Pa-21
 Schafer Custom Eng'g 235 S 3 St Burbank Calif-21
 Seismograph Service Corp PO Box 1590 Tulsa 1 Okla-12
 Sierra Electronic Corp 1050 Britton Ave San Carlos Calif-22
 Sonar Radio Corp 3050 W 21 St Brooklyn 24 NY-4
 Standard Electronics Corp 285 Emmet St Newark NJ-5-6-7-8-11
 Stavid Eng'g U S Hwy 22 Plainfield NJ-2-12-16-18-19-20-21
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-2-7-8-11-22-23
 Taylor Instrument Companies 95 Ames St Rochester 1 NY-21
 Technical Material Corp PO Box 142 Mamaroneck NY-3
 Telechrome Inc 88 Merrick Rd Amityville LI NY-2-11-21-22-23
 Telecom Inc 1019 Admiral Blvd Kansas City 6 Mo-21
 Tele-Communications Inc 41 E 42 St New York NY-3-5-17-22-23
 Telemetering Associates 494C Pine Forest Dr Marietta Ga-21-23
 Telephonics Corp Park Ave Huntington NY-4
 Televiso Corp 1415 Golf Rd Des Plaines Ill-4-12-15-17-18-19-21-22-23
 Tel-Instrument Electronics 728 Garden St Carlstadt NJ-11
 Texas Instruments Inc 6000 Lemmon Ave Dallas 9 Texas-18-20
 Times Facsimile Corp 540 W 58 St New York 19 NY-13
 Union Switch & Signal Div Westinghouse Air Brake Pittsburgh 18 Pa-10
 United Geophysical Corp Electrodynamics Div 1200 S Marengo Ave Pasadena Calif-21
 Varian Associates 611 Hansen Way Palo Alto Calif-16-18-22
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-1-15-17
 Visual Electronics Corp 500 5 Ave New York 36 NY-2-3-7-8-11-16-22-23
 Vocaline Co of America Old Saybrook Conn-1-9
 Voron & Co George 835 N 19 St Phila Pa-5-10
 West Coast Electronics 5873 Rodeo Rd Los Angeles 16 Calif-17-18-21-22-23
 Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-5-6-10-15-16-17-18-19-21-22-23
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-5-21
 Wilcox Electric Co 1400 Chestnut St Kansas City 27 Mo-4-10-23
 Williams Ship Radio 4366 Mentone St San Diego 7 Calif-15
 World Radio Labs 3415 W Broadway Council Bluffs Iowa-3

75—TRANSMITTER ACCESSORIES

Blowers	1
Control alarms	2
Control consoles	3
Couplers	4
Diplexers	5
Keys	6
Keys	7
Power Supplies	8
Power Supplies, auxiliary	9

Accurate Eng'g Co 2005 Blue Island Ave Chicago 8 Ill-9
 Admiral Corp 3800 Cortland St Chi Ill-7-8
 Aeronautical Communications Equip 3090 S W 37 Ave Miami 33 Fla-6
 Aircom Inc 354 Main St Winthrop 52 Mass-5
 Air-Marine Motors 369 Bayview Ave Amityville LI NY-1
 Alden Products Co 123A N Main St Brockton Mass-7
 American Electronics Co 1203 Bryant Ave New York 59 NY-5
 American Electronics Inc 655 W Washington Blvd Los Angeles 15 Calif-1
 American Radio Hdw Co 152 MacQuesten Pkwy S Mt Vernon NY-7
 American TV & Radio Co 300 E 4 St St Paul Minn-9
 Andrew Corp 363 E 75 St Chicago 19 Ill-5
 Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-8-9
 Arkey Co 605 1 Ave S W Rochester Minn-6
 Barker & Williamson 237 Fairfield Ave Upper Darby Pa-3-4-6-8
 Beck's Inc 298 E 5 St St Paul 1 Minn-6
 Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-5
 Boehme Inc H O 915 Broadway NY NY-6-7
 Bogue Electric Mfg Co 52 Iowa Ave Paterson 3 NJ-1-9
 Booth Co Arthur E 265 S Alexandria Ave Los Angeles 4 Calif-9
 Budd-Stanley Co 43-01 22 St LI City 1 NY-5
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-7
 Calif Magnetic Control Corp 11922 Valerio St N Hollywood Calif-9
 Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-8
 Clegg Labs Inc Ridgedale Ave Morristown NJ-8
 Continental Electronics Mfg Co 4212 S Buckner Blvd Dallas 27 Tex-7-8
 Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-6
 Diamond Microwave Corp 7 North Ave Wakefield Mass-5
 Diatron Co 3827 Dixie Dr Houston 21 Texas-2
 Dow-Key Co PO Box 57 Warren Minn-7
 Dressen-Barnes Corp 250 N Vinedo Ave Pasadena 8 Calif-8
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-3-7-8
 Eastern Air Devices 385 Central Ave Dover NH-1
 Eldico of NY Inc 72 E 2 St Mineola LI NY-6-8-9
 Electric Eye Equip Co 1938 E Fairchild Danville Ill-6
 Electro-Mechanical Research 64 Main St Ridgefield Conn-1
 Electro-Medical Lab S Woodstock 7 Vt-7
 Electronic Measurements Co Lewis St & Maple Ave Eatontown NJ-6-8-9
 Electronics Development 3743 Cahuenga Blvd N Hollywood Calif-5-7-8
 Elzee Metal Products 775 39 St Bklyn NY-3
 Equipment Crafters Inc River Edge NJ-8
 Ereo Radio Labs 637 Stewart Ave Garden City NY-3
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-7
 Flett Lab 3711 Marshall Rd Drexel Hill Pa-1
 Forest Electric Co 7216 Circle Ave Forest Park Ill-8
 Foto-Video Labs 25 Amity St Little Falls NJ-8
 F-R Machine Works 26-12 Borough Pl Woodside 7 NY-1-5-8
 Gates Radio Co 123 Hampshire St Quincy Ill-3-7-8
 General Control Co 1224 Soldiers Field Rd Boston 34 Mass-6-7
 General Precision Lab 63 Bedford Rd Pleasantville NY-7-8
 Georator Corp Manassas Va-9
 Globe Industries 1784 Stanley Ave Dayton 4 Ohio-1
 Graybar Electric Co 420 Lexington Ave New York 17 NY-3
 Hallamore Electronics Co Div Siegler Corp Brockhurst & Santa Ana Freeway Anaheim Calif-3
 Haydon Mfg Co 245 E Elm St Torrington Conn-6

Hertner Electric Co 12690 Elmwood Ave Cleveland 11 Ohio-1
Hogan Labs 155 Perry St New York 14 NY-6
Ideal Industries 5127 Park Ave Sycamore Ill-1
Interelectronics Corp 2432 Grand Concourse New York 58 NY-9
Jobbins Electronic Enterprises 771 Hamilton Ave Menlo Park Calif-8
Johnson Co E F Waseca Minn-7
Kaar Eng'g Corp 2995 Middlefield Rd Palo Alto Calif-2
Kay Electric Co 14 Maple Ave Pinebrook NJ-7-8
Kearfott Co 1378 Main Ave Clifton NJ-1
Kennedy & Co D S 155 King St Cohasset Mass-5
Kepco Labs 131-38 Sanford Ave Flushing 55 NY-8-9
Krohn-Hite Instrument Co 580 Mass Ave Cambridge 39 Mass-9
Lambda Electronics Corp 11-11 131 St College Point 56 NY-8
Leach Corp Leach Relay Div Inet-Palmer Div 5915 Avalon Blvd Los Angeles 3 Calif-9
Lear Inc 3171 S Bundy Dr Santa Monica Calif-9
Leiman Bros 166 Christie St Newark 1 NJ-1
Leland Electric Co Div American Mach & Fdry 1501 Webster St Dayton 1 Ohio-9
Levinthal Electronic Products 2821 Fair Oaks Ave Redwood City Calif-8
Lico Inc 147 Ocean Ave Lynbrook NY-5
Magnatran Inc PO Box 211 Kearny NJ-9
Magnetic Research Corp 200 Center St El Segundo Calif-9
Master Appliance Mfg Co 4 & Ontario Sts Racine Wis-1
McLean Eng'g Labs PO Box 228 Princeton NJ-1
Mercury Electronic Co Box 450A Red Bank NJ-8
Mercury Mfg Corp 45 Brown St Buffalo 11 NY-6
Microphase Corp PO Box 1166E Greenwich Conn-4
Mohawk Electronic Research Labs Box 126-A RD 4 Amsterdam NY-8
Motor Generator Corp Hobart Bros Affiliate Troy Ohio-9
Multi-Products Co 21470 Coolidge Hwy Oak Park 37 Mich-8
National Aircraft Corp 3411 Tulare Ave Burbank Calif-9
National Company 61 Sherman St Malden 48 Mass-8
National Electronics Labs 1713 Kalorama Rd NW Washington 9 DC-8
Nems-Clarke Inc 919 Jesup-Blair Dr Silver Spring Md-6
NJE Corp 345 Carnegie Ave Kenilworth NJ-8
Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-8
Ortho Filter Corp 196 Albion Ave Paterson 2 NJ-2-9
Oster Mfg Co John 1 Main St Racine Wis-1
Otis Elevator Co Electronic Div 35 Ryerson St Brooklyn 5 NY-3-8
Peerless Electric Co 1501 W Market St Warren Ohio-1
Perkin Eng'g Corp 345 Kansas St El Segundo Calif-9
Peschel Electronics Inc 13 Garden St New Rochelle NY-8-9
Pesco Products Div Borg-Warner 24700 N Miles Rd Bedford Ohio-1
Phileo Corp 4700 Wissahickon Ave Philadelphia 44 Pa-7-8
Power Transformer Co 532 Mulberry St Newark 5 NJ-8-9
Premier Instrument Corp 52 W Houston St New York 12 NY-5
Press Wireless Labs 25 Prospect Pl W Newton 65 Mass-4
Prodelin Inc 307 Bergen Ave Kearny NJ-5
Pye Corp of America 270 Park Ave New York 17 NY-7-8
Radex Corp 2076 Elston Ave Chicago 14 Ill-1
Radionics Inc PO Box 186 Cockeyville Md-9
Raypar Inc 7810 W Addison St Chicago 34 Ill-8
Rea Co J B 1723 Cloverfield Blvd Santa Monica Calif-1
Ripley Co 1 Factory St Middletown Conn-1
Rotron Mfg Co Schoonmaker Lane Woodstock NY-1
Rust Industrial Co 41 E 42 St NY 17 NY-2
Sanders Associates 95 Canal St Nashua NH-1
Senn Corp New Augusta Ind-8
Servo-Tek Products Co 1086 Goffle Rd Hawthorne NJ-1
Small Motors Inc 2076 Elston Ave Chi Ill-1
Stanat Mfg Co 47-23 37 St LI City 1 NY-1
Standard Electronics Corp 285 Emmet St Newark NJ-3-5-7-8
Stavid Eng'g U S Hwy 22 Plainfield NJ-8
Tarc Electronics 48 Urban Ave Westbury L I NY-3
Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-7-8
Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-5
Telescope Inc 88 Merrick Rd Amityville L I NY-7-8
Times Facsimile Corp 540 W 58 St NY NY-6

Trans Electronics Co 7349 Canoga Ave Canoga Park Calif-8
Union Electric & Mfg Co 1057 Summit Ave Jersey City 7 NJ-8
Universal Electronics 1720 22 St Santa Monica Calif-8
Varo Mfg Co 2201 Walnut St Garland Texas-3
Vibration Research Labs 97 Lake Ave Tucka-hoe NY-9
Virginia Electronics Co River Rd at B & O RR Washington 16 DC-3
Visual Electronics Corp 500 5 Ave NY NY-7-8
Voron & Co George 835 N 19 St Phila Pa-3
Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-3-8
Wickes Eng'g Construction 12 St & Ferry Ave Camden 4 NJ-3
Wincharger Corp E 7 & Division Sts Sioux City 2 Iowa-9
Yardney Electric Corp 40 Leonard St New York 13 NY-9

British Industries Corp 80 Shore Rd Fort Washington NY-16-33
Capehart-Farnsworth Div IT&T 3700 E Pontiac St Ft Wayne Ind-5-21-23-26-38
Cascade Research Corp 53 Victory Lane Los Gatos Calif-2
CBS-Hytron Div Columbia Bdcstg System 100 Endicott St Danvers Mass-5-6-16-21-23-24-26-34-38-41
Central Sales & Mfg Corp 2 Richwood Pl Den-ville NJ-22-24-26-31-34
Chatham Electronics Div Gera Corp 630 W Mt Pleasant Ave Livingston NJ-3-4-7-10-11-16-21-22-23-24-26-29-30-34-41
Chromatic TV Labs 1501 Broadway New York 36 NY-6-26-38
Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England-5-6-7-9-11-18-20-21-26-38
Claremont Tube Corp 36-02 35 Ave Long Island City 6 NY-39
Clarostat Mfg Co Washington St Dover NH-3
Curtis Associates 24 Woodland Ave San Rafael Calif-5-38-39
Curtiss-Wright Corp Electronics Div 631 Central Ave Carlstadt NJ-9-11
Detectolab Inc 6544 N Sheridan Rd Chicago Ill-11
DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-5-8-10-11-13-18-30-36-37-38
DuMont Labs Inc Allen B Cathode Ray Tube Div 750 Bloomfield Ave Clifton NJ-38
Eitel-McCullough Inc 798 San Mateo Ave San Bruno Calif-14-22-24-30-34
Electronic Enterprises 65 7 Ave Newark 4 NJ-3-22-24-26-34
Electronic Products Co 111 E 3 St Mt Vernon NY-10-11-16-26-28-41
Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-5-26
Electrons Inc 127 Sussex Ave Newark 3 NJ-10-22-30
Eureka X-Ray Tube Corp 3250 N Kilpatrick Ave Chicago 41 Ill-42
Fairchild Controls Corp Electronic Div 200 Hudson St New York NY-26
Farnsworth Electronic Co 3702 E Pontiac St Ft Wayne Ind-18-20
Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-15-22-23-34-35
General Electric Co Apparatus Sales Div 1 River Rd Schenectady 5 NY-4-22
Hamlin Inc 1316 Sherman Ave Evanston Ill-42
Hanovia Chemical & Mfg Co 100 Chestnut St Newark 5 NJ-3-10
HayDu Bros of N J Sub Burroughs Corp PO Box 1226 Plainfield NJ-5-7-10-16-21-29-34-38-39
Huggins Labs 711 Hamilton Ave Menlo Park Calif-2-35
Hughes Aircraft Co Florence & Teale Sts Cul-ver City Calif-5
Industrial Tubes Inc 321 Stevens St Geneva Ill-10-12-22
Industro Inc 649 Broadway New York 12 NY-1-3-4-8-9-10-11-12-13-14-15-16-17-18-21-22-23-24-25-26-27-28-29-30-31-33-34-41
JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-3
Kemlite Labs 1819 W Grand Ave Chicago 22 Ill-13-27-40
Kip Electronics Corp 29 Holly Pl Stamford Conn-3-7-10-16-17-18-21-23-26-28-29-30-41
Kuthe Labs 730 S 13 St Newark 3 NJ-30
Lambda-Pacific Eng'g Inc PO Box 105 Van Nuys Calif-35
Landsverk Electrometer Co 550 W Garfield Ave Glendale 4 Calif-9-11
Lewis & Kaufman 50 Drumm St San Fran-cisco Calif-22-24-26-34
Litton Industries 1025 Brittan Ave San Carlos Calif-14-15
Machlett Labs 1063 Hope St Springdale Conn-22-24-26-30-34-42
Mackay Inc A D 198 Broadway New York 38 NY-13
MacKay Research Labs RR 2 Box 401 McHenry Ill-5-8-10-13-15-18-26-30
Mar-Ko TV 441 Summit St Toledo 4 Ohio-21-38-39
Matchless Electric Co 1700 Washington Blvd Chicago 12 Ill-3
Menlo Research Lab Box 522 Menlo Park Calif-40
Microwave Associates 22 Cummington St Boston 15 Mass-1-15-31
Midland Mfg Co 3151 Fiberglass Rd Kansas City 15 Kan-5
Mullard Overseas Shaftsbury Ave London England 1 thru 42
National Electronics Inc 628 North St Geneva Ill-10-12-22-30
National Video Corp 4300 W 47 St Chicago 32 Ill-5-38
North American Philips Co 750 S Fulton Ave Mt Vernon NY-42
NRD Instrument Co 6425 Etzel Ave St Louis 14 Mo-9-11-25
Nuclear Development Lab PO Box 7034 Kan-sas City 13 Mo-9-11-41
Nuclear-Electronics Corp 2632 W Cumberland St Philadelphia 32 Pa-7-11
Nuclear Instrument & Chemical Corp 223 W Erie St Chicago 10 Ill-11

76—TUBES

Tubes, ATR	1
Tubes, backward wave	2
Tubes, ballast	3
Tubes, battery charger	4
Tubes, cathode-ray	5
Tubes, color TV picture	6
Tubes, counting	7
Tubes, electron multiplier	8
Tubes, gamma ray	9
Tubes, gas	10
Tubes, geiger counter	11
Tubes, ignitron	12
Tubes, infra-red	13
Tubes, klystron	14
Tubes, magnetron	15
Tubes, miniature	16
Tubes, noise	17
Tubes, photo	18
Tubes, pirani	19
Tubes, projection	20
Tubes, receiving	21
Tubes, rectifying, industrial	22
Tubes, rectifying, receiving	23
Tubes, rectifying, transmitting ..	24
Tubes, scintillation	25
Tubes, special purpose	26
Tubes, strobe	27
Tubes, subminiature	28
Tubes, switching	29
Tubes, thyatron	30
Tubes, TR	31
Tubes, transducer	32
Tubes, transmitting-receiving ..	33
Tubes, transmitting	34
Tubes, traveling wave	35
Tubes, TV camera iconoscopes ..	36
Tubes, TV camera image orthicons	37
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Tubes, TV picture, rebuilt	39
Tubes, ultra violet	40
Tubes, voltage regulators	41
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Accurate Eng'g Co 2005 Blue Island Ave Chi-cago 8 Ill-22
Aerolux Light Corp 653 11 Ave New York 36 NY-7-10-11-13-22-26-27-30-40-41
American Radio Co 445 Park Ave New York 22 NY-2
American TV Inc 5050 N Broadway Chicago 40 Ill-5-38
Anglo Corp 2037 W Division St Chicago 22 Ill-10-26-27-40
Amperex Electronic Corp 230 Duffy Ave Hicksville LI NY-4-7-9-11-12-14-15-16-22-24-26-28-30-34-41-42
Anton Electronic Labs 1226 Flushing Ave Brooklyn 37 NY-3-7-8-9-10-11-12-13-14-15-16-17-18-19-25-26-28-29-30-32
Atomic Instrument Co 84 Massachusetts Ave Cambridge 39 Mass-7
Beam Instruments Corp 350 5 Ave New York 1 NY-5
Bendix Aviation Corp Red Bank Div Eaton-town NJ-10-14-16-17-21-23-26-28-30-31-35-41
Bomac Labs Salem Rd Beverly Mass-1-2-14-15-16-26-27-29-30-31-33-35

Nucleonic Corp of America 196 DeGraw St Brooklyn 31 NY-11
 Penta Labs 312 N Nopal St Santa Barbara Calif-26-30-34-35
 Philadelphia Scientific Glass Co 1866 Eckard Ave Abington Pa-29
 Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa-5-6-16-21-23-26-28-38
 Philco Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-5-6-21-38
 Photo Crystals Inc 15 S 1 St Geneva Ill-13-18
 Pioneer Electronics Corp 2235 S Carmelina Los Angeles 64 Calif-5-38-39
 Polarad Electronics Corp 43-20 34 St Long Island City 1 NY-14
 Practical Electronic Mfg Co 2214 S Michigan Chicago Ill-39
 Precision Paper Tube Co 2035 W Charleston St Chicago 47 Ill-38
 Pye Corp of America 270 Park Ave New York 17 NY-5-38
 Radiation Counter Labs 5122 W Grove St Skokie Ill-25
 Radio Corp of America Tube Div 215 S 5 St Harrison NJ-5-6-7-8-10-12-13-14-15-16-18-19-20-21-22-23-24-25-26-28-30-32-33-34-35-36-37-38-41
 Radio Research & Neon Eng'g Labs 170 Front St Marietta Ohio-27
 Rauland Corp 4245 N Knox Ave Chicago Ill-5-10-20-26
 Raytheon Mfg Co Receiving & Cathode Ray Tube Operations 55 Chapel St Newton Mass-5-6-10-11-16-21-23-26-28-33-38-41
 Raytheon Mfg Co Microwave & Power Tube Operations Foundry Ave Waltham Mass-2-14-15-22-24-26-34-35
 Resitron Labs 2908 Nebraska St Santa Monica Calif-5-18-22-24-26-29-30-33-36-37-38-42
 Skintron Electronics & TV 3 E 10 St New York 3 NY-26
 SOS Cinema Supply 602 W 52 St New York 19 NY-18-20
 Sperry Gyroscope Co Div Sperry Rand Corp Great Neck NY-2-14-35
 Standard Electric Time Co 89 Logan St Springfield 2 Mass-26
 Standard TV Tube Corp 706 Dryaes St New Orleans 12 La-38-39
 Stanford Labs PO Box 252 Menlo Park Calif-2-14-35
 Stewart Eng'g Co PO Box 277 Soquel Calif-2-35
 Strohlic Co 75 W 45 St New York 36 NY-40
 Sylvania Electric Products 1740 Broadway New York 19 NY-1-3-5-6-7-10-14-15-16-18-19-21-22-23-24-26-27-28-30-31-33-34-35-38
 Technical Publishing House PO Box 61 Waltham 54 Mass-43
 Televideo Corp of America 3400 S Main St Los Angeles 7 Calif-38
 Texas Electronics Mfg Co 3120 Lamar Houston 3 Texas-38-39
 Thomas Electronics Inc 118 9 St Passaic NJ-5-6-38
 Tracerlab Inc 130 High St Boston 10 Mass-7-9-11-25-26
 Triplett & Barton 831 N Lake St Burbank Calif-42
 Tung-Sol Electric Inc 95 8 Ave Newark 4 NJ-3-6-16-21-23-26-28-38
 United Electronics Co 42 Spring St Newark 4 NJ-10-24-26-30-34
 Universal X-Ray Products 1140 North Western Ave Chicago 22 Ill-42
 Vacuum Tube Products Co 506 S Cleveland St Oceanside Calif-5-19-22-26-29
 Varian Associates 611 Hansen Way Palo Alto Calif-2-14-34-35
 Vinson Co E R 1401 Middle Harbor Rd Oakland 20 Calif-9
 Visual Electronics Corp 500 5 Ave New York 36 NY-6-34-36-37
 Waterman Products Co 2445 Emerald St Philadelphia 25 Pa-5
 Western Radiation Lab 1107 W 24 St Los Angeles 7 Calif-9-11
 Westinghouse Electric Corp Elmira NY-1-5-6-7-10-12-15-18-21-22-23-24-29-30-31-33-34-38
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-12-18
 Westlabs Inc PO Box 1111 Palo Alto Calif-35
 White Electron Devices Inc Roger 4 Ave Haskell NJ-2-10-17-35

Cathode ray, shields	12
Cathode ray, side contacts	13
Cathode ray, sleeves	14
Cathodes	15
Cavities	16
Ceramic parts	17
Coatings, CRT	18
Color tube parts	19
Faceplates, CRT	20
Fittings, power tape	21
Fluorescent materials	22
Focusing magnets	23
Fused quartz parts	24
Getters	25
Grids	26
Heat dissipators	27
Ion Traps	28
Magnets, permanent	40
Metal shells	29
Mica parts	30
Picture tube masks	31
Picture tube revitalizers	32
Plating, precious metal	41
Rare gases	33
Stamped parts	34
Supports	35
Tube repairing	36
Tube seal leads	37
Water jackets	38
Wire parts	39

Acheson Colloids Co Div Acheson Industries 1955 Washington Ave Port Huron Mich-18
 Acromark Co 443 Morrell St Elizabeth NJ-34
 Aerolite Electronics 507 26 St Union City NJ-7
 Aerolux Light Corp 653 11 Ave New York 36 NY-6
 Aerovox Corp Pacific Coast Div 2724 Peck Rd Monrovia Calif-17
 Aerovox Corp & Divisions 740 Belleville Ave New Bedford Mass-17
 Alden Products Co 123A N Main St Brockton Mass-1-5
 Algo Inc 251 West St S Hackensack NJ-29
 Allied Research & Eng'g Inc 6916 Santa Monica Blvd Los Angeles 38 Calif-41
 Alproco Inc Mineral Wells Texas-5
 American Brass Co Waterbury 88 Conn-3-4
 American Lava Corp Sub Minn Mining & Mfg Cherokee Blvd & Mfrs Rd Chattanooga 5 Tenn-5-17-35
 American Radio Hdwe Co 152 MacQuesten Pkwy S Mt Vernon NY-34
 American TV Inc 5050 N Broadway Chi Ill-38
 Anchor Products Co 2712 W Montrose Ave Chicago 18 Ill-32
 Arnold Eng'g Co PO Box G Marengo Ill-40
 Art Wire & Stamping Co 227 High St Newark 2 NJ-34-39
 Associated Eng'g & Mfg Corp Glen Ridge NJ-16
 Atlas E-E Corp Bedford Airport Terminal Bldg Bedford Mass-34
 Augat Brothers 31 Perry Ave Attleboro Mass-34
 Baer Co N S 1 Montgomery St Hillside 5 NJ-34
 Barwood Mfg Co L J Williams & Norman Sts Everett 49 Mass-34
 Bead Chain Mfg Co 201 Mountain Grove St Bridgeport Conn-34
 Best Mfg Co 1200 Grove St Irvington 11 NJ-23
 Bigelow Mfg Corp 225 W Bigelow St Newark 8 NJ-37-39
 Birnbach Radio Co 145 Hudson St NY NY-17-31
 Buckbee Mears Co 4 & Rosabel Sts St Paul 1 Minn-19-26-31
 Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-5
 Calvideo Tube Corp 5232 W 104 St Los Angeles 45 Calif-38
 Canadian Radium & Uranium 630 5 Ave New York NY-22
 C B C Electronics Co 2601 N Howard St Philadelphia 33 Pa-32
 Centralab Div Globe-Union 900 E Keefe Ave Milwaukee 1 Wisc-17
 Cinch Mfg Co Jones Div 1026 S Homan Ave Chicago 24 Ill-1
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London S E 26 England-38
 Circon Component Co Santa Barbara Municipal Airport Goleta Calif-6
 Clarostat Mfg Co Washington St Dover NH-28
 Condar Radio Mfg Co 4068 E Paseo Grande Tucson 12 Ariz-27
 Conn Telephone & Elec Corp 70 Britannia St Meriden Conn-41
 Corning Glass Works Corning NY-19
 Crescent Industries Inc 5900 W Touhy Ave Chicago 31 Ill-34
 Crest Transformer Corp 1834 W North Ave Chicago 22 Ill-32

Curtis Associates 24 Woodland Ave San Rafael Calif-38
 Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-34
 Diamonite Products Div U S Ceramic Tile Co 217 4 St N E Canton 2 Ohio-17
 Du-Co Ceramics Co Box 586 Butler Pa-17
 DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-8-9-10-12-38
 DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-25
 Eastern Industries Inc 100 Skiff St Hamden Conn-27
 Eastern Specialty Co 3617 N 8 St Phila Pa-34
 Eby Co Hugh H 4701 Germantown Ave Philadelphia 44 Pa-1-34
 Electrochemical Industries 15 Armory St Worcester 3 Mass-41
 Electronic Test Instrument Corp 13224 Livernois Ave Detroit 38 Mich-32
 Electronic Tube Corp 1200 E Mermaid Lane Philadelphia 18 Pa-8-10-11-12
 Ellis & Sons George D 4028 N American St Philadelphia 40 Pa-34
 Elzee Metal Products 775 39 St Brooklyn 32 NY-5-34
 Engelhard Inc Charles 850 Passaic Ave E Newark NJ-3-17
 Engineering Co 27 Wright St Newark 5 NJ-34
 Erca Tool-Die & Stamping 19 Ash St Brooklyn 22 NY-34
 Eric Resistor Corp 641 W 12 St Erie 6 Pa-17
 Eugene Eng'g Co 1217 Hyde Park Ave Hyde Park 36 Mass-5-7
 Faber Mfg Co Merle 35 Stillman St San Francisco 7 Calif-34
 Fansteel Metallurgical Corp 2200 Sheridan Rd N Chicago Ill-3
 Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-38
 Ferroxeube Corp of America 4290 E Bridge St Saugerties NY-23
 Fish-Schurman Corp 70 Portman Rd New Rochelle NY-17-24
 Frenchtown Porcelain Co Muirhead Ave Trenton NJ-17
 General Cement Mfg Co 919 Taylor Ave Rockford Ill-6-28
 General Ceramic Corp Keasbey NJ-17
 General Chemical Div Allied Chemical & Dye 40 Rector St New York 6 NY-22
 General Electric Co Carboly Dept Box 237 R P A Detroit 32 Mich-40
 Glaser-Steers Corp 2 Main St Belleville NJ-23
 Golden Co 1054 38 St Brooklyn 19 NY-31
 Great Eastern Mfg Co 165 Remsen Ave Brooklyn 12 NY-32
 Guastavino Co R 660 Main St Woburn Mass-17
 Hamilton Watch Co Columbia Ave Lancaster Pa-41
 Hanovia Chemical & Mfg Co 100 Chestnut St Newark 5 NJ-24
 Haydu Bros of N J Sub Burroughs Corp PO Box 1226 Plainfield NJ-9-10-16-37-38-39
 Heppner Mfg Co Box 1207 Round Lake Ill-23-28
 Hermetic Seal Products 29 S 6 St Newark NJ-5
 Hi-Grade Alloy 1236 S Talman Chicago Ill-3
 Hohson Bros 4940 W Lawrence Ave Chicago 30 Ill-5-7
 Huse Liberty Mica Co 171 Camden St Boston 18 Mass-30
 I E Mfg 325 N Hoyne Ave Chicago 12 Ill-5
 Indiana Steel Products Valparaiso Ind-40
 Industrial Hdwe Mfg Co 109 Prince St New York 12 NY-34
 Insulation Mfrs Corp 565 W Washington Blvd Chicago 6 Ill-30
 Insuline Corp of America 186 Granite St Manchester NH-41
 Integrated Mica Corp 202 Franklin Pl Woodmere NY-30
 Ippolito & Co James 401 Concord Ave Bronx 54 NY-35
 Isolantite Mfg Corp Stirling NJ-5
 Jan Hdwe Mfg Co 75 N 11 St Bklyn NY-12
 Javex PO Box 646 Redlands Calif-4
 Jobbins Electronic Enterprises 771 Hamilton Ave Menlo Park Calif-23
 Johnson Co E F Waseca Minn-7-17
 Johnson & Hoffman Mfg Co 31 E 2 St Mineola NY-8-10-19
 Kearfott Co 1378 Main Ave Clifton NJ-17
 Kemet Co Div Union Carbide & Carbon PO Box 6087 Cleveland 1 Ohio-25
 Keystone Electronics 423 Broome St NY NY-34
 Keystone Watch Case Div Riverside Metal Co Div H K Porter Co Riverside NJ-34
 Kine-Lab 3250 Kenilworth Ave Berwyn Ill-10
 Kings Labs Inc 127 Solar St Syracuse 3 NY-25-34-39
 Kirkland Co H R 8 King St Morristown NJ-6
 Kolton Electric Mfg Co 123 N J Railroad Ave Newark 5 NJ-34
 Kulite Tungsten Co 723 Sip St Union City NJ-37
 La Magne Mfg Co 51 Clinton Pl E Rutherford NJ-28-34
 Laminations Co 300 Main St Stamford Conn-34
 Lancaster Lens Co 220 W Main St Lancaster Ohio-6
 Lann Insulator Co Radio Specialties Div Le Roy NY-17

77—TUBE PARTS

Adapters	1
Anodes, graphite	2
Anodes, metal	3
Base pins	4
Bases	5
Bulbs	6
Caps	7
Cathode ray, deflection plates ..	8
Cathode ray, electrodes	9
Cathode ray, electron guns	10
Cathode ray, phosphors	11

Linde Air Products Co Div Union Carbide & Carbon 30 E 42 St New York 17 NY-33
Mackay Inc A D 198 Broadway New York 38 NY-22
Magnetic Metals Co 21 & Hayes Ave Camden 1 NJ-12
Mahoney Teletronic Labs 209 16 Ave Newark 3 NJ-18
Malkin-Illion Co 400 Coit St Irvington 11 NJ-5
Mandex Mfg Co 2608 W 16 St Chicago 8 Ill-34
Mansol Ceramics 140 Little St Belleville 9 NJ-17
Maryland Lava Co Box 205 Belair Md-17
Mathis Co G E 5745 S Claremont Ave Chicago Ill-5
Mathis Tower & Equip 220 E Washington St E Peoria Ill-4-5-35
McGregor Electronic Industries 132 1 Ave McGregor Iowa-28
Mel-Rain Corp 2100 Fletcher Ave Indianapolis 3 Ind-28
MeRix Chemical Co 1021 E 55 St Chi Ill-19
Metal Textile Corp 647 E 1 Ave Roselle NJ-27
Micraflight Products Inc 701 McCarter Hwy Newark NJ-30
Micro-Circuits Co New Buffalo Mich-18
Micro-Wire Stranding Co 252 Chestnut St Passaic NJ-15
Multi-Tron Lab 4624 W Washington St Chicago 44 Ill-4-8-9-10-34-36
Mycalex Corp of America 125 Clifton Blvd Clifton NJ-30
National Carbon Co 30 E 42 St New York 17 NY-6
National Ceramic Co 500 Southard St Trenton 2 NJ-17
National Company 61 Sherman St Malden 48 Mass-7-17
National Fabricated Products Div Hoffman Electronics 2650 W Belden Ave Chicago 47 Ill-1-4-19
Newcomb Spring of Conn College Hwy Southington Conn-39
New Jersey Zinc Co 160 Front St NY NY-3
New York Mfg & General Supply 10-38 Jackson Ave Long Island City 1 NY-6
Ney Co J M 71 Elm St Hartford Conn-39
Peerless Products Industries 812 N Pulaski Rd Chicago 51 Ill-34
Perfection Mica Co Magnetic Shield Div 1322 N Elston Ave Chicago 22 Ill-12-30
Perma Power Co 4727 N Damen Ave Chi Ill-32
Philadelphia Scientific Glass Co 1866 Eckard Ave Abington Pa-37
Philco Corp 4700 Wissahickon Ave Phila Pa-38
Philco Corp Accessory Div "A" & Allegheny Ave Philadelphia 34 Pa-38
Photo Chemical Products 479 Walton Ave New York 51 NY-22-41
Pix Mfg Co 75 Hudson St Newark 3 NJ-4-5-84-89
Pomona Electronics 1126 W 5 Ave Pomona Calif-1
Printed Electronics Corp 7 North Ave Natick Mass-41
Pye Corp of America 270 Park Ave New York 17 NY-8-9-10-11-12-13-14-15-21-28-38
Quam-Nichols Co 234 E Marquette Rd Chicago 87 Ill-28-28
Rada Products Co 2911 W Carroll Ave Chicago 12 Ill-34
Radiant Lamp Co 300 Jelliff Ave Newark 8 NJ-6
Radio Corp of America Tube Div 215 S 5 St Harrison NJ-28-38
Raytheon Mfg Co Microwave & Power Tube Operations Foundry Ave Waltham Mass-17
Reliable Spring & Wire Forms Co 3167 Fulton Rd Cleveland 9 Ohio-34
Repath Inc Paul R 641 E 61 St Los Angeles 1 Calif-34
Research Instrument Co 233 Broadway New York 7 NY-29
Saxonburg Ceramics Saxonburg Pa-17
Saxton Products Inc 1661 Boone Ave Bronx 60 NY-39
Sel-Rex Precious Metals 229 Main St Belleville 9 NJ-41
Spaulding Fibre Co 310 Wheeler St Tonawanda NY-4-34
Spruce Pine Mica Co Spruce Pine N Car-30
Stackpole Carbon Co Tannery St St Marys Pa-2-40
Star Porcelain Co Muirhead Ave Trenton 9 NJ-17
Staver Co 41-51 N Saxon Ave Bay Shore NY-29-34
Steel Co Herman D 225 Lafayette Bldg Philadelphia 6 Pa-4
Steward Mfg Co D M PO Box 510 Chattanooga Tenn-17
Stone City Machine & Tool Co PO Box 351 Bedford Ind-7-29-35
Stupakoff Div Carborundum Co Latrobe Pa-17
Sun Tube Corp Route 69 Washington NJ-29
Superior Electronics Corp 208 Piaget Ave Clifton NJ-10
Superior Steatite & Ceramic Corp 83 W Forest Ave Englewood NJ-17
Superior Tube Co Box 191 Norristown Pa-8-9-14-15-19

Sylvania Electric Products 1740 Broadway New York 19 NY-3-4-5-7-8-9-11-12-13-14-15-16-22-26-30-34-35-39
Tele-Ex-Pand Corp PO Box 392 Berwick Pa-5
Teleradio Eng'g Corp Wilkes-Barre Pa-23-28
Telerad Mfg Corp 1440 Broadway New York 18 NY-41
Thermal American Fused Quartz Co 18 Salem St Dover NJ-24
Thomas Electronics Inc 118 9 St Passaic NJ-38
Tinnerman Products Inc Dept 16 PO Box 6688 Cleveland 1 Ohio-34
Tracerlab Inc 130 High St Boston 10 Mass-33
Transvision Inc 460 North Ave New Rochelle NY-32
Tricon Mfg Co 8008 Wallace St Chi Ill-34
Tuttle & Kift 1823 N Monitor Ave Chi Ill-27
UM&F Mfg Co 10929 Vanowen St N Hollywood Calif-12
Union Switch & Signal Div Westinghouse Air Brake Co Pittsburgh 18 Pa-41
United Mineral & Chemical Corp 16 Hudson St New York 13 NY-17-30
U S Electronic Research & Devel 1605 W Lafayette St Detroit 16 Mich-32
U S Radium Corp 535 Pearl St New York 7 NY-10-18-22
Vacuum Tube Products Co 506 S Cleveland St Oceanside Calif-10
Valpey Crystal Corp Holliston Mass-24
Vector Electronic Co 3352 San Fernando Rd Los Angeles 65 Calif-1-5
Vidaire Electronics Mfg 576-80 W Merrick Rd Lynbrook NY-32
Volkert Stampings Inc 222-34 96 Ave Queens Village 29 LI NY-34
Waterman Products Co 2445 Emerald St Philadelphia 25 Pa-12-14
White Electron Devices Inc Roger 4 Ave Haskell NJ-23
Wind Turbine Co E Market St & Penna RR West Chester Pa-18-35
Workman T V Inc 309 Queen Anne Rd Teaneck NJ-32
Zell Products Corp 280 Main St Norwalk Conn-34

Electronic Specialty Co 5121 San Fernando Rd Los Angeles 39 Calif-5-8
Electro-Voice Inc Buchanan Mich-2-3
Engineering Associates 434 Patterson Rd Dayton 9 Ohio-5
Fisher Radio Corp 21-21 44 Drive Long Island City NY-1-2-3
General Instrument Corp 65 Gouverneur St Newark 4 NJ-6-7-8
Gonset Co 801 S Main St Burbank Calif-1-3
Granco Products 36-07 20 Ave Long Island City NY-3
Graybar Electric Co 420 Lexington Ave New York 17 NY-1-2-3
Grigsby-Allison Co 407 N Salem Ave Arlington Heights Ill-1-7
Harmon-Kardon Inc 520 Main St Westbury NY-2-3
Heath Co 305 Territorial Rd Benton Harbor Mich-1-3
J-V-M Eng'g Co 8846 W 47 St Brookfield Ill-4-5
Mallory & Co Inc P R 42 S Gray St Indianapolis 6 Ind-7-8
Mattson Electronics Corp 1487 Lincoln Ave Pasadena Calif-3
Microphase Corp PO Box 1166E Greenwich Conn-5-8
Narda Corp 160 Herricks Rd Mineola NY-5
National Co 61 Sherman St Malden 48 Mass-2
Newcomb Audio Products Co 6824 Lexington Ave Hollywood 38 Calif-2
NRK Mfg & Eng'g 4601 W Addison St Chicago 41 Ill-5
Omega Labs Inc Haverhill St Rowley Mass-5
Polytechnic Research & Development Co 202 Tillary St Brooklyn 1 NY-5
Precision Electronics Inc 9101 King St Franklin Park Ill-2
Precision Radiation Instruments & Sub Radio Craftsmen 4223 W Jefferson Blvd Los Angeles 16 Calif-2-3
Radio Condenser Co Davis & Copewood Sts Camden 2 NJ-6-7-8
Radio Eng'g Labs 36-40 37 St Long Island City 1 NY-3
Regency Div Idea Inc 7900 Pendleton Pike Indianapolis 26 Ind-2-3
Sage Labs 30 Guinan St Waltham 54 Mass-5
Sargent-Raymont Co 4926 E 12 St Oakland 1 Calif-2
Scott Inc Hermon Hosmer 385 Putnam Ave Cambridge 39 Mass-2-3
Sperry Gyroscope Co Div Sperry Rand Corp Great Neck NY-4-5
Standard Coil Products 2085 N Hawthorne Melrose Park Ill-7
Tarzian Inc Sarkes 415 N College Ave Bloomington Ind-7-8
Tech Master Corp 75 Front St Brooklyn 1 NY-1-3
Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-5
Telerad Mfg 1440 Broadway NY 18 NY-5
Teleradio Eng'g Corp Wilkes-Barre Pa-1-2-8-6-7-8
Thordarson-Meissner Mfg Div Maguire Industries Mt Carmel Ill-1-2-3
Trans-Tel Corp 736 N Highland Ave Los Angeles 38 Calif-2
Union Electric & Mfg Co 1057 Summit Ave Jersey City 7 NJ-1-2-3
Varian Associates 611 Hansen Way Palo Alto Calif-4
Virginia Electronics Co River Rd at B & O RR Washington 16 DC-1
Waveline Inc Passaic Ave Box 470 Caldwell NJ-4-5
Weinschel Eng'g & Mfg Corp 10505 Metropolitan Ave Kensington Md-5
Westinghouse Electric Corp Electronics Div 2519 Wilkens Ave Baltimore 3 Md-5
Wheeler Labs Inc 122 Cutter Mill Rd Great Neck NY-5

78—TUNERS

Tuners, AM	1
Tuners, AM-FM	2
Tuners, FM	3
Tuners, Klystron	4
Tuners, Microwave	5
Tuners, Permeability	6
Tuners, Television	7
Tuners, UHF	8

Admittance Inc 5 Marine St Farmingdale NY-5
Aircom Inc 354 Main St Winthrop 52 Mass-5
Aladdin Radio Industries 703 Murfreesboro Rd Nashville 2 Tenn-6
Allied Radio Corp 100 N Western Ave Chi Ill-2
Amerac Inc Wenham Mass-4-8
American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-1-2-3-8
American Steel Package Co Defiance Ohio-11
Ansley Mfg Co Arthur New Hope Pa-2
ARF Products Inc 7627 Lake St River Forest Ill-2-3-5
Barker & Williamson 237 Fairfield Ave Upper Darby Pa-6
Bell Sound Systems 555 Marion Rd Columbus Ohio-2-3
Blonder-Tongue Labs 526 Worth Ave E Westfield NJ-8
Bogart Mfg Co 315 Siegel St Brooklyn 6 NY-4-5
Bozen Co David 29 9 Ave NY NY-1-2-3
Brainard Electronics 8586 Santa Monica Blvd Los Angeles 46 Calif-1-2-3
Browning Labs 750 Main St Winchester Mass-1-2-3
Budd-Stanley Co 43-01 22 St LI City 1 NY-5
Capehart-Farnsworth Corp Div IT&T 3700 Pontiac St Ft Wayne Ind-2
Dalmo Victor Co Div Textron American 1414 El Camino Real San Carlos Calif-5
Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-5
Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-6
De Mornay-Bonardi Inc 780 S Arroyo Pkwy Pasadena 1 Calif-5
Denson Electronics Corp Box 122 Rockville Conn-3
Diamond Microwave Corp 7 North Ave Wakefield Mass-4
Douglas Microwave Co 11 Beechwood Ave New Rochelle NY-5
DuMont Labs Inc Allen B 760 Bloomfield Ave Clifton NJ-3
Dunn Eng'g Associates 186 Massachusetts Ave Cambridge 39 Mass-5
DX Radio Products Co 2300 W Armitage Ave Chicago 47 Ill-7-8
Eastern Specialty Co 3617 N 8 St Phila 40 Pa-7

79—WIRE & CABLE

Bus bar	1
Cable, antenna transmission, receiving	2
Cable, antenna transmission, transmitting	3
Cable, assemblies	4
Cable, coaxial	5
Cable, delay	6
Cable, flat woven	7
Cable, ignition	8
Cable, insulated	9
Cable, microphone	10
Cable, shielded	11
Cable, solid dielectric	12
Cable, telephone	13
Cable, UHF	14
Clamps, cable	52
Cords, attachment	15
Cords, resistance	16

Lacing tape & cord	53
Test Leads	17
Transmission line	18
Wire, aluminum	19
Wire, asbestos insulated	20
Wire, ceramic insulated	21
Wire cloth	22
Wire, copper, bare	23
Wire, copper, insulated	24
Wire, enameled	25
Wire filament	26
Wire, forms	27
Wire, glass insulated	28
Wire, guy	29
Wire, harnesses	30
Wire, high voltage	31
Wire, hookup	32
Wire, litz	33
Wire, magnet	34
Wire, magnetic recording	35
Wire, markers	36
Wire, molybdenum	37
Wire, nickel-clad copper	38
Wire, phosphor bronze	39
Wire, plastic insulated	40
Wire, platinum	41
Wire Reels	42
Wire, resistance	43
Wire, shielded	44
Wire, silicon bronze	45
Wire, silver plated	46
Wire, steel	47
Wire, tantalum	48
Wire, teflon insulated	49
Wire, thermocouple	50
Wire, tungsten	51

Accurate Insulated Wire Corp 25 Fox St New Haven 1 Conn-15-20-24-31-32-40-44
Acme Wire Co 1250 Dixwell Ave New Haven 14 Conn-24-25-28-34
Acromark Co 443 Morrell St Elizabeth 4 NJ-86
Acrolite Electronics Corp 507 26 St Union City NJ-4-17-30-52
Aeronautical Electronics PO Box 6043 Raleigh NC-4-8
Aero Research Instrument Co 315 N Aberdeen St Chicago 7 Ill-21-50
Aero Specialties Inc Pleasant Valley Rd Sutton Mass-2-3-4-5-6-9-10-11-12-13-14-21-24-28-30-31-32-40-44-49
Aircraft & Electronic Specialties 22 S Green St Brownsburg Ind-4-30
Airdesign 241 Fairfield Upper Darby Pa-4
A-K Mfg Co 115 S Northwest Hwy Barrington Ill-4-5-9-10-11-13-15-16-17-24-28-30-31-32-40-44
Alden Products Co 123A N Main St Brockton Mass-4-11-17
Alden Systems Co Washington St Westboro Mass-15
Alford Mfg Co 299 Atlantic Ave Boston 10 Mass-18
Alphaduct Wire & Cable Co PO Box 709 New Brunswick NJ-24-40
Alpha Wire Corp 200 Varick St New York 11 NY-1-2-3-5-9-10-11-13-23-24-26-28-31-32-39-40-44-45
Aluminum Co of America 1501 Alcoa Bldg Pittsburgh 19 Pa-1-9-19
Aluminum Mfr Co 1629 Portland Ave Louisville 3 Ky-19-23-24
Amelco Inc 2040 Colorado Ave Santa Monica Calif-4-30
American Brass Co Waterbury 88 Conn-23
American Electric Cable Co 181 Appleton St Holyoke Mass-2-3-4-7-8-9-10-11-12-13-14-24-28-30-31-32-40-43-44-50
American Metrix Corp 15 Exchange Pl Jersey City 2 NJ-17
American Radio Hdw Co 152 MacQuesten Pkwy S Mt Vernon NY-4-17-52
Ames Mfg Co 4320 Park Ave New York 57 NY-29-32-40
Amphenol Electronics Corp 1830 S 54 Ave Chicago 50 Ill-2-3-4-5-10-11-12-14-20-32-49
Anaconda Wire & Cable Co 25 Broadway New York 4 NY-2-3-5-7-8-9-10-11-12-13-14-19-20-23-24-28-31-32-34-40-44
Anchor Specialty Mfg 300 W Industrial Ave Teterboro NJ-4-30
Andrew Corp 363 E 75 St Chicago 19 Ill-8-5-12-18
Ansonia Wire & Cable Co 111 Martin St Ashton RI-9-11-13-40
Antenna Specialists Co 12435 Euclid Ave Cleveland 6 Ohio-4
Apex Wire & Cable Corp 287 37 St Brooklyn 82 NY-15-24-82-40

Arens Controls Inc 2017 Greenleaf St Evanston Ill-4-52
Artisan Electronics Corp 171 Ridgedale Ave Morristown NJ-4
Aeco Wire & Cable Co 2 Burroughs St Bridgeport 8 Conn-24-25-33-34
Associated Eng'g Corp 65 Kent St Brookline 46 Mass-17
Associated Eng'g & Mfg Corp Glen Ridge NJ-26-37-38-39-51
Atlantic & Pacific Wire & Cable 112-01 Northern Blvd E Elmhurst LI NY-20-21-23-24-25-28-30-31-32-33-34-35-38-39-40-43-44-45-46-49-50
Atlantic Wire & Cable Co 114-14 14 Rd College Point NY-2-3-5-9-10-11-13-14-24-28-31-32-40-44
Atlas E-E Corp Bedford Airport Bedford Mass-52
Baker & Co 113 Astor St Newark 5 NJ-51
Belden Mfg Co 4647 W Van Buren St Chicago 44 Ill-1-2-3-5-7-8-9-10-11-12-14-17-18-19-20-23-24-25-28-31-32-33-34-44
Bellaire Electronics 62 White Red Bank NJ-4
Bergen Wire Rope 455 Gregg St Lodi NJ-4-29
Besko Mfg Co 32-37 Downing St Flushing 52 NY-24-32-40
Bill Jack Scientific Instrument Co 143 S Cedros Ave Solana Beach Calif-4
Birnbach Radio Co 145 Hudson St New York 13 NY-1-2-3-4-5-8-9-10-11-12-13-14-15-16-17-19-23-24-26-28-29-31-32-33-34-39-40-44-45-49-52-53
Blaco Mfg Co 6541 Euclid Ave Cleveland 8 Ohio-52
Bogen Co David 29 9 Ave New York 14 NY-2
Booth Co Arthur E 265 S Alexandria Ave Los Angeles 4 Calif-17
Boston Insulated Wire & Cable 65 Bay St Dorchester 25 Mass-2-3-5-7-8-9-11-12-14-24-28-31-32-40-44-49-53
Brady Co W H 727 W Glendale Ave Milwaukee 12 Wisc-36
Bram Chemical Co 820 65 Ave Philadelphia 26 Pa-37-38-39-41-46-48-51
Brand Co Wm North & Valley Sts Willimantic Conn-2-3-4-5-9-10-11-12-13-14-24-28-30-31-32-36-40-44
Breeze Corporations 700 Liberty Ave Union NJ-11
Bridgeport Brass Co 30 Grand St Bridgeport 2 Conn-45
Bristol Eng'g Corp Electronics Div Bristol Pa-4
Buchan Co R J PO Box 9 Bricelynn Minn-18
Bud Radio Inc 2118 E 55 St Cleveland 5 Ohio-17
Buggie Inc H H PO Box 817 Toledo 1 Ohio-4
Bunnell & Co J H 81 Prospect St Brooklyn 1 NY-4
Burndy Eng'g Norwalk Conn-5-52
Cable Electric Products 234 Daboll St Providence 7 RI-4-15
Cable Specialists of Conn 474 Prospect Ave Hartford Conn-4
Cadre Industries Box 150 Endicott NY-4-30
Cannon Electric Co 3209 Humboldt St Los Angeles 31 Calif-52
Capitol State Lighting Co 527 W 45 St New York NY-20
Carol Cable Div Crescent Co 20 Central Ave Pawtucket RI-2-3-4-5-7-8-9-10-11-14-24-30-31-40-44
Carol Electronics Corp 315 W Stephen St Martinsburg W Va-4
CIC Electronics Co 2601 N Howard St Philadelphia 33 Pa-4-30
Channel Master Corp Ellenville NY-18
Channer Corp 1488 Skokie Blvd Highland Park Ill-4-15-30
Chase Brass & Copper Co 236 Grand St Waterbury 20 Conn-1-9-13-22-23-24-28-34-39
Chester Cable Corp 1000 Hill St Chester NY-2-3-4-5-6-8-9-10-11-12-13-14-19-20-23-24-28-31-32-33-40-41-43-44-46-49-50
Chester Morton Electronics 10 St & Morton Ave Chester Pa-4-17-30
Cinch Mfg Corp 1026 S Homan Ave Chicago 24 Ill-52
Cleveland Wire Cloth & Mfg 3573 E 78 St Cleveland 5 Ohio-22
Coaxial Connector Co 37 N 2 Ave Mt Vernon NY-4-17
Cohn Corp Sigmund 121 S Columbus Ave Mt Vernon NY-25-39-41-43-46-50
Coleman Cable & Wire Co 4515 W Addison St Chicago 41 Ill-5-8-9-10-11-12-13-14-19-20-23-24-26-38-39-31-32-33-34-49
Columbia Technical Corp 5 E 57 St NY NY-5
Columbia Wire & Supply Co 2850 Irving Park Rd Chicago 18 Ill-2-3-4-5-7-8-9-10-11-12-13-14-16-19-20-23-24-25-28-29-30-31-32-34-42-43-44-49
Commercial Plastics Co 2806 W North Ave Chicago Ill-52
Commercial Radio-Sound Corp 652 1 Ave New York 16 NY-44
Commonwealth Wire & Cable Pleasant Valley Rd Sutton Mass-2-3-4-5-6-9-10-11-12-13-14-21-24-28-30-31-32-40-44-49
Continental Wire Corp Wallingford Conn-20-21-24-28
Co-Operative Industries 100 Oakdale Rd Chester NJ-4-8-11-44
Copperweld Steel Co Wire & Cable Div Glassport Pa-2-3-23-24-29-32
Cords Ltd Div Essex Wire Corp DeKalb Ill-15
Cornish Wire Co 50 Church St New York 7 NY-2-4-9-10-11-14-16-24-28-30-31-32-44

Courter Products Div Model Eng'g & Mfg Boyne City Mich-4
Craig Systems Inc 90 Holten St Danvers Mass-4
Dale Products PO Box 136 Columbus Nebr-4
Daystrom Instrument Archbald Pa-4
Decatur Electronic Industries 208 Orinoco Dr Brightwaters LI NY-4-15-17-30
Defiance Eng & Microwave Corp 81 Albion St Wakefield Mass-4
Delco Radio Div General Motors 700 E Firmin St Kokomo Ind-30
Detcolab Inc 6544 N Sheridan Rd Chi Ill-4
Diamond Microwave Corp 7 North Ave Wakefield Mass-4
Diamond Wire & Cable 445 Park Ave Sycamore Ill-20-23-24-40
Dielectric Materials Co 5315 N Ravenswood Ave Chicago 40 Ill-5-9-11-12-24-28-31-32-44
Dielectric Products Eng'g Raymond Me-2-3-4-5-14-18
Douglas Microwave Co 11 Beechwood Ave New Rochelle NY-18
Driver Co Wilbur B 1875 McCarter Hwy Newark 4 NJ-20-25-26-28-43-46-47-50
Driver-Harris Co 201 Middlesex St Harrison NJ-25-28-43-46-50
Dunlee Corp 4560 W Congress St Chicago 24 Ill-22-23-24-42
Duramark Inc 2 Secatoag Ave Port Washington NY-36
Eagle Electronics Corp 177 Hart St New Britain Conn-24-30-32-40-44-49
Eastern Specialty Co 3617 N 8 St Phila 40 Pa-4
Eberline Instrument Div Reynolds Electrical & Eng'g PO Box 1539 Santa Fe NMex-4
Elco Corp "M" St below Erie Ave Phila 34 Pa-4
Electric Auto-Lite Co Wire & Cable Div Port Huron Mich-19-23-24-25-30-32-34-46
Electrical & Physical Instrument Corp 42-19 27 St Long Island City NY-4-5-6
Electri-Wire Assemblies 700 W Virginia Milwaukee 4 Wisc-30
Electrofilm Inc 7116 Laurel Canyon Blvd N Hollywood Calif-52
Electronic Production & Development 138 Nevada St El Segundo Calif-4-30
El Mec Labs 730 Blvd Kenilworth NJ-4
El-Tronics Inc Penn Ave Mayfield 1 Pa-4
Empire Electronics Co 166 River St Paterson 1 NJ-2-4-15-16-17-30
Engelhard Inc Charles 850 Passaic Ave E Newark NJ-20-21-25-41-50
Entron Inc 4902 Lawrence St Bladensburg Md-4
ERCA Tool Die & Stamping Co 19 Ash St Brooklyn 22 NY-52
Essex Wire Corp 1601 Wall St Ft Wayne Ind-4-8-9-10-11-25-30-31-32-34
Eureka X-Ray Tube Corp 3250 N Kilpatrick Ave Chicago 41 Ill-4
Factory Enterprises 3431 Butler St Pittsburgh 1 Pa-22
Fairbanks Wire Co 2287 Hollers Ave New York 69 NY-24-33-34
Fansteel Metallurgical Corp 2200 Sheridan Rd N Chicago Ill-37-48-51
Federal Screw Products Inc 3917 N Kedzie Ave Chicago 18 Ill-52
Federal Telecommunication Labs 500 Washington Ave Nutley NJ-5-40
Federal Telephone & Radio Co Div IT&T 100 Kingsland Rd Clifton NJ-2-3-4-5-6-9-10-11-12-13-14-18-32-40-44-49-52
Fenton Co 15 Moore St New York 4 NY-5-10-14-29
Fidelitone Inc 6415 Ravenswood Ave Chicago 26 Ill-35
Flexo Wire Div Copperweld Steel Co Oswego NY-1-2-23-32
Fort Wayne Metals Inc 3211 MacArthur Dr Fort Wayne 6 Ind-35-47
Frederick Tool & Eng'g Frederick Md-4
Fretco Inc 406 N Craig St Pittsburgh 13 Pa-18-52
Garfield Wire Div Overlakes Corp Garfield NJ-23-25-34
Gates Radio Co 123 Hampshire St Quincy Ill-18
Gavit Wire & Cable Co Div American Hard Rubber Brookfield Mass-4-7-9-10-11-13-24-28-30-32-40-44-49-50
Gem Electric 233-37 St Brooklyn 32 NY-24
General Cable Corp 420 Lexington Ave New York 17 NY-2-3-4-5-8-9-10-11-12-13-19-20-21-23-24-25-28-29-31-32-34-40-44-47-50
General Cement Mfr Co 919 Taylor Ave Rockford Ill-15-16-17-19-22-24-35-42-52-53
General Electric Co Construction Materials Div 1285 Boston Ave Bridgeport 2 Conn-4-9-11-12-13-20-24-25-28-30-31-32-34-40-44
General Electric Co Wiring Device Dept 95 Hathaway St Providence 7 RI-52
General Hermetic Sealing Corp 99 E Hawthorne Ave Valley Stream NY-4
General Insulated Wire Works 69 Gordon Ave Providence 5 RI-4-5-10-11-15-24-40-44
General Products Corp Webb St Union Springs NY-4
General Radio Co 275 Mass Ave Cambridge 39 Mass-4-5-14
General R F Fittings Inc 702 Beacon St Boston 15 Mass-4
Graybar Electric Co 420 Lexington Ave New York 17 NY-2-3-5-10-11-12-13-18-24-25-28-34

Guardian Electric Mfg Co 1621 W Walnut St Chicago 12 Ill-5
 Gudebrod Bros 12 S 12 St Philadelphia 7 Pa-53
 Gulton Mfg Corp 212 Durham Ave Metuchen NJ-5-11
 Hackensack Cable Corp 110 Orchard St Hackensack NJ-2-3
 Hal-Hen Co 36-14 11 St Long Island City 6 NY-15-16
 Hallett Mfg Co 1601 W Florence Ave Inglewood Calif-4-5-8-9-11-17-30-44-52
 Hall-Scott Electronics 2950 N Ontario St Burbank Calif-4
 Harnett Electric Corp Lincoln & Hallett Ave Riverhead LI NY-4
 Hart Mfg Co 218 Bartholomew Ave Hartford 1 Conn-1
 Harwood Mfg Co 466 W Superior St Chicago 10 Ill-52
 Haydu Bros of NJ Sub Burroughs Corp PO Box 1226 Plainfield NJ-26-27
 Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif-4
 Hitemp Wires Inc 26 Windsor Ave Mineola LI NY-4-5-9-11-24-25-28-32-33-34-40-44-49
 Holub Industries 413 DeKalb Sycamore Ill-52
 Holyoke Wire & Cable Co Holyoke Mass-2-4-9-10-11-14-15-16-18-24-30-31-32-40-44
 Hoskins Mfg Co 4445 Lawton Ave Detroit 8 Mich-43-46-50
 Houlihan Co T J 2508 W Lawrence Chicago 25 Ill-4
 Hudson Wire Co Winsted Div 981 Main St Winsted Conn-24-25-33-34
 Illinois Testing Labs 420 N La Salle St Chicago 10 Ill-50
 Imperial Radar & Wire 1661 Boone Ave New York NY-1 thru 53
 Indiana Steel & Wire Co 700 S Council St Muncie Ind-29-47
 Industrial Hdwe Mfg Co 109 Prince St New York 12 NY-4
 Industrial Products Box 148 Danbury Conn-4
 Insulation & Wires 1534 Swinney Ave Ft Wayne Ind-34
 Insuline Corp of America 186 Granite St Manchester NH-17-52
 International Telemeter Corp 2000 Stoner Ave Los Angeles 25 Calif-5
 Janco Corp 3111 Winona Ave Burbank Calif-1
 Javex PO Box 646 Redlands Calif-15
 Jefferson Products Pleasant Valley Rd Sutton Mass-2-3-4-5-6-9-10-11-12-13-14-21-24-28-30-31-32-40-49
 JFD Mfg Co 6101 16 Ave Brooklyn 4 NY-2-5-8-11-18-20-29-43
 Kanthal Corp Amelia Pl Stamford Conn-43
 Kellogg Switchboard & Supply 79 W Monroe St Chicago 3 Ill-53
 Keystone Electronics 423 Broome St NY NY-4-17
 Koiled Kords Inc Box K New Haven 14 Conn-9-10-11-15
 Kulite Tungsten Co 723 Sip St Union City NJ-26-37-38-51
 Kulka Electric Mfg Co 633 S Fulton Ave Mount Vernon NY-52
 Kupfrian Mfg 395 State St Binghamton NY-4
 La Magna Mfg Co 51 Clinton Pl E Rutherford NJ-22
 Lear Inc 3171 S Bundy Dr Santa Monica Calif-4
 Leecraft Mfg 60 Greene St New York NY-4
 Lenz Electric Mfg Co 1751 N Western Ave Chicago 47 Ill-4-5-7-9-10-11-15-24-28-31-32-44
 Lewis Eng'g Co Naugatuck Conn-20
 Mackay Inc A D 198 Broadway New York 38 NY-19-37-40-41-43-46-47-48-51
 Makepeace Co D E Attleboro Mass-46
 Mallory & Co Inc P R 42 S Gray St Indianapolis 6 Ind-37
 Manger Electric Co Miller St Stamford Conn-27
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif-30
 Marco Industries Co 307 S Helena St Anaheim Calif-4
 Mar-Ko TV 441 Summit St Toledo 4 Ohio-14-24
 Markwik Mfg 147-39 18 Ave Whitestone NY-36
 Matthews & Co J H 3966 Forbes St Pittsburgh 13 Pa-36
 Measurement Eng'g Ltd John St Arnprior Ontario Canada-4
 Mercury Eng'g 339 E Cottage York Pa-30
 MeRix Chemical 1021 E 55 St Chicago Ill-5
 Metal Textile Corp 647 E 1 Ave Roselle NJ-22
 Microdot Inc 1826 Fremont Ave S Pasadena Calif-4-5
 Micro-Wire Stranding Co 252 Chestnut St Passaic NJ-26-51
 Modelectric Products Corp 1500 Bangs Ave Asbury Park NJ-4
 Modern Wire Co 39-30 Review Ave Long Island City 1 NY-19-22-23-24-25-29-47
 Mohawk Wire & Cable Corp 320 River St Fitchburg Mass-2-3-4-5-8-9-10-11-12-13-14-23-24-31-32-40-44
 Molded Insulation Co 335 E Price St Philadelphia 44 Pa-4
 Mount Sopris Instrument Corp 1320 Pearl St Boulder Colo-4
 Mueller Electric Co 1583 E 31 St Cleveland 14 Ohio-17



Mutual Electronic Industries 85 Beechwood Ave New Rochelle NY-3-4-7-9-10-11-12-13-14
 Narda Corp 160 Herricks Rd Mineola NY-4-18
 National Fabricated Prods Div Hoffman Electronics 2650 W Belden Chicago 47 Ill-4
 National Wire & Cable Corp 136 San Fernando Rd Los Angeles 31 Calif-25-28-30-31-32-33-34-38-40-44-49
 Nesor Alloy Prods 282 Halsey St Newark 2 NJ-41
 New England Electrical Works 365 Main St Lisbon NH-7-24-33-34
 Ney Co J M 71 Elm St Hartford Conn-27-41-43
 Nichols Wire & Aluminum 1725 Rockingham Rd Davenport Iowa-19-29
 Noel Mfg 3 W 18 St New York 11 NY-4-15-30
 Nonotuck Mfg Co Holyoke Mass-23
 North American Philips Co 750 S Fulton Ave Mt Vernon NY-25-26-34-37-46-51
 North Shore Nameplate Inc 214-27 Northern Blvd Bayside 11 NY-36
 Okonite Co 220 Passaic St Passaic NJ-5-8-9-10-11-12-13-14-20-24-28-31-32-40-43-44-49-50
 Paraplegics Mfg Co 10068 Franklin Ave Franklin Park Ill-4-30
 Peirce Wire Recorder Corp 5900 N Northwest Hwy Chicago 31 Ill-35
 Permonite Mfg Co 4554 N Broadway Chi Ill-4
 Peschel Electronics Inc 13 Garden St New Rochelle NY-4-30
 Phalo Plastics Corp 25 Foster St Worcester 8 Mass-4-5-10-11-15-24-30-32-40-44
 Phelps Dodge Copper Products Corp 300 Park Ave New York 22 NY-1-2-3-5-6-9-10-11-12-13-14-15-20-23-24-25-28-31-32-34-40-44
 Philco Corp C & Tioga Sts Philadelphia 34 Pa-52
 Pix Mfg Co 75 Hudson St Newark 3 NJ-27-52
 Plastodip Corp 42-61 24 St Long Island City 1 NY-2-5-9-10-11-13-20-24-31-32-40-49
 Pomona Electronics Pomona Calif-17
 Potter Co 1950 Sheridan Rd N Chicago Ill-4
 Precision Apparatus Co 70-31 84 St Glendale 27 LI NY-17
 Precision Tube Co Wissahickon Ave & Church Rd North Wales Pa-5-11-44
 Prodelin Inc 307 Berzen Ave Kearny NJ-3-5-18
 Pyle-National Co 1334 N Kostner Ave Chicago 51 Ill-4-52
 Pyrometer Instrument Co 92 Portland Ave Bergenfield NJ-50
 QLC Corp 409 Main St Greenport LI NY-30
 Radio City Products Co Centre & Glendall Sts Easton Pa-17
 Raypar Inc 7810 W Addison St Chicago 34 Ill-4
 Rea Magnet Wire Co 3610 E Pontiac St Fort Wayne Ind-24-25-34
 Reliable Spring & Wire Forms Co 3167 Fulton Rd Cleveland 9 Ohio-27
 Rembar Co 147 Main St Dobbs Ferry NY-26-37-51
 Rex Corp W Acton Mass-2-5-9-10-11-14-24-31-32-40-44
 Richards Co Arkley S 37 Winchester St Newton Highlands 61 Mass-41-50
 Roberts Mfg Co 412 E Chambers St Cleburne Texas-4
 Rockbestos Products Corp Nicoll & Canner Sts New Haven 4 Conn-5-9-11-12-14-20-24-28-32-34-40-44-49-50
 Rodale Mfg Co Emaus Pa-44
 Roebbling's Sons John A 640 S Broad St Trenton 2 NJ-9-13-19-20-23-24-25-27-28-34-47
 Rollins Electronics Corp Schley Ave Lewes Dela-4
 Rome Cable Corp Rome NY-5-9-10-11-19-23-24-28-32-34-40-44
 Rowe Industries 1702 Wayne St Toledo 9 Ohio-4
 Royal Electric Co 95 Grand Ave Pawtucket RI-4-8-9-10-13-15-20-24-32-40
 Runzel Cord & Wire Co 4723 W Montrose Ave Chicago 41 Ill-23-24-28-30-32-40-44
 Santa Monica Bay Sheltered Workshop 2521 5 St Santa Monica Calif-4-30
 Saxton Products Inc 1661 Boone Ave Bronx 60 NY-2-3-5-7-9-10-11-12-13-14-19-24-25-29-31-32-34-44-47
 Scintillya Div Bendix Aviation Corp Sidney NY-52
 Scovill Mfg Waterbury Conn-23-38-39-45
 Sears Co M J Roxbury NY-4-10
 Sequoia Process 871 Willow St Redwood City Calif-5-9-10-11-12-13-23-24-28-31-32-40-44-49
 Seymour Mfg Co Franklin St Seymour Conn-39
 Shaw Insulator Co 160 Coit St Irvington 11 NJ-42
 Sittler Corp 18 N Ada St Chicago 7 Ill-4-30
 Slater Electric & Mfg 56 St & 37 Ave Woodside NY-4
 Smith Inc Herman H 2326 Nostrand Ave Brooklyn 10 NY-17-53

SOS Cinema Supply 602 W 52 St New York 19 NY-10
 South River Metal Products 377 Turnpike South River NJ-19-29
 Sprague Electric Co Marshall St North Adams Mass-34
 Standard Metals Corp 262 Broad St North Attleboro Mass-32-46
 Star-A Electric Mfg 269 Meserole St Brooklyn 6 NY-15
 Stone City Machine & Tool Co PO Box 351 Bedford Ind-27
 Suffolk Products Corp Woodbine & Scudder Aves Northport LI NY-4
 Suprenant Mfg 172 Sterling Clinton Mass-2-3-5-9-10-11-12-13-14-19-24-31-32-40-44-49
 Switchcraft Inc 1328 N Halsted St Chicago 22 Ill-4
 Sylvania Electric Products 1740 Broadway New York 19 NY-23-26-37-38-46-47-51
 Techalloy Co Rahns Pa-38-48-47
 Technicraft Labs Inc Thomaston-Waterbury Rd Thomaston Conn-18
 Tempo TV Sales Corp 21341 Roscoe Blvd Canoga Park Calif-29
 Tensolite Wire Co Tarrytown NY-4-5-9-10-11-24-28-30-31-32-40-43-46-49-50
 Terpening Co L H 16 W 61 St New York 23 NY-18
 Thermo Electric Co Saddle Brook NJ-50
 Thwing-Albert Instrument Co Penn St & Pulaski Ave Philadelphia 44 Pa-50
 Tinnerman Products Inc PO Box 6688 Cleveland 1 Ohio-52
 Transradio Ltd 138A Cromwell Rd London SW 7 England-5-9-11
 Trico Fuse Mfg Co 2948 N 5 St Milwaukee 12 Wisc-52
 Tricon Mfg Co 8008 Wallace St Chicago 20 Ill-27-39-41
 Tri-Dex Electronics Lindsay Calif-4
 Trimm Inc 400 W Lake St Libertyville Ill-15
 Triplett Electrical Instrument Harmon Rd Bluffton Ohio-17
 Tru-Art Industries Inc 8106 W Belmont Ave Chicago 34 Ill-4-30
 T-V Products Co 145-68 228 St Springfield Gardens 13 NY-4-52
 Unilectric Inc 405 S 6 Milwaukee Wisc-4-30
 Uni-Products Div Uni-Science Inc Frederick Md-17
 Union Plastics Corp Wire & Cable Div 1627 Paterson Plank Rd Secaucus NJ-2-3-4-5-8-9-10-11-12-13-14-17-23-24-28-30-31-32-40-44-46-49-50
 Univox Corp 102 Warren New York NY-4-5
 U S Components 454 E 148 New York NY-4
 Vector Electronic Co 3352 San Fernando Rd Los Angeles 65 Calif-17
 Vergon Specialties 481 Mountainview Dr N Plainfield NJ-36
 Victor Electric Wire & Cable Corp 64 Ackerman Ave Clifton NJ-2-3-9-10-11-13-14-15-23-24-32-40-43-44
 Virginia Electronics Co River Rd at B & O RR Washington 16 DC-4-30
 Visual Electronics Corp 500 5 Ave New York 36 NY-5-18
 Vokar Corp Dexter Mich-4
 Walsco Electronics Corp 3225 Exposition Pl Los Angeles 18 Calif-29-36-52
 Warren Wire Co Pownal Vt-5-9-11-23-24-25-32-34-44-49
 Weckesser Co 5261 N Avondale Ave Chicago 30 Ill-52
 Western Gold & Platinum Co 589 Bryant St San Francisco 7 Calif-41
 Western Insulated Wire Co 2425 E 30 St Los Angeles 58 Calif-9-10-11-13-20-24-25
 Western Int'l Co 45 Vesey St New York 7 NY-4-5-9-10-11-14-32-44-49
 Westinghouse Electric Corp Box 868 Pittsburgh 30 Pa-1
 West Instrument Corp 4263 W Montrose Ave Chicago 41 Ill-50
 Westline Prods Div Western Lithograph Co 600 E 2 St Los Angeles 54 Calif-36
 Weston Electrical Instrument Corp Subsidiary Daystrom Inc 614 Frelinghuysen Ave Newark 5 NJ-17
 Weston Labs Old Littleton Rd Harvard Mass-17
 Westronics Inc 3605 McCart Ft Worth 10 Texas-4
 Wheeler Insulated Wire Co 150 E Aurora St Waterbury Conn-23-24-25-28-30-33-34
 Whitaker Cable Corp 1301 Burlington St North Kansas City 16 Mo-4-8-9-11-15-23-24-30-32-40-44
 White & Son J L 374 Verona Newark 4 NJ-1
 Whitney Blake Co New Haven 14 Conn-9-10-11-12-13-24-40-44
 Willard Storage Battery Co 1220 Huron Cleveland Ohio-52
 Wirecraft Products 10 Lake St W Brookfield Mass-24-28-44-49
 Wire Stripper Co 1721 Eastham Ave E Cleveland 12 Ohio-30
 Workman T V Inc 309 Queen Anne Rd Teaneck NJ-17
 Wright Steel & Wire Co G F 243 Stafford St Worcester 3 Mass-29

1956 ELECTRONIC INDUSTRIES DIRECTORY

Brand & Trade Name Index

The brand names of the products, equipment, and instruments in the radio-TV-electronic and related industries are listed alphabetically, with the name of the manufacturer.

The address of the manufacturer whose brand or trade name is listed may be obtained by referring to the Alphabetical Listing of Manufacturers, beginning on page 331.

- A**
- Accuracy—Ind. Neucleonics
Accwire—Accurate Insulated Wire
Acem—Trimm Inc.
Acepnot—Ace Electronics Assoc.
Acetrim—Ace Electronics Assoc.
Acme—Aerovox Corp.
Acoustalloy—Electro-Voice
Acousti-gate—Altec Lansing
Acra-Cote—Pacific Universal Prods.
Acrobrand—Acromark Co.
Acrodie—Acromark Co.
Acrohex—Acromark Co.
Acromarker—Acromark Co.
Acroplan—Acromark Co.
Acrotool—Acromark Co.
Acrotweed—Apex Coated Fabrics
Adaphone—Fenton Co.
Adar—Radialion Inc.
Adashaft—Centralab
Ad-A-Switch—Clarostat Mfg.
ADC—Audio Development Co.
Addaplun—Associated Eng'g Corp.
Add-A-Unit—Blonder-Tongue Labs
Addiphon—Metronics, Inc.
Additive Drive—Electro-Voice
Adelco—Advance Electronics
Adjust-A-Cone—Quam-Nichols
Adjustoroid—Burnell & Co.
Adlake—Adams & Westlake
Admatic—Harwald Co.
Arad—Macled & Hanopol
Advance—Driver-Harris Co.
Adventurer—Johnson Co., E. F.
Aeco—Amer. Elec. Cable
Aercom—Aeronautical Comm.
Aerlog—Link Aviation Inc.
Aerocor—Aerovox Corp.
Aerodynamic—Radio Corp. of Amer.
Aerofilm—Aerovox Corp.
Aeroflex—Anchor Plastics
Aerohead—Giannini Co.
Aerohm—Waters Mfg. Inc.
Aerolene—Aerovox Corp.
Aerolite—Aerovox Corp.
Aerolog—Link Aviation Inc.
Aero-Magnette—Heinemann Elec.
Aerotemp—Aerovox Corp.
Aerotron—Aeronautical Electronics
Afferro—Affton Industries
Aflac—Affton Industries
Airboy—Mitchell Industries
Air Commander—Audio Equipment
Aircraft—U. S. Elec. Motors
Airflex—Lemert Eng'g Co.
Air-Oz-Fresh—Melco Products
Agaswitch—A/G'A Div. Elastic Stoo Nut Corn.
Akra-Ohm—Shallcross Mfg.
Alba—New York Mfg. & General Supply Co.
Alcoa—Aluminum Co. of America
Alctral—General Cable
Algin—Autel Electronics
All Angl—Barry Controls
Alphation—National Research
Alphatron—Can. Radium & Uranium Corp.
Alphlex—Alpha Wire Corp.
Alsimag—American Lava
Alto-Trols—Healy-Ruff Co.
Alumaweld—Johnson Mfg. Co.
Aluzoom—JFD Mfg.
Alwac—Logistics Research
Amberyl—Vaco Products Co.
Ambirite—Micamold Radio
AMCH-1—Rese Eng'g Inc.
Amco—Amer. Solder & Flux
Amcon—American Condenser
Ameco—American Electronics
Amer-Dial—Amerac Inc.
- American Beauty—Qualitone Co.**
American-Microsen—Manning Maxwell & Moore
American—Snyder Mfg. Co.
Amertran—Standard Electronics
Ametron—Streeter—Amet Co.
AMP—Aircraft-Marine
Ampec—Centralab
Amplet—Devol Research Co.
Amplical—Rauland-Borg Corp.
Amplitrol—Thermo Electric Mfg.
Ampli-Vision—Int'l Telemeter
Amprobe—Pyramid Instrument
Amrecon—Ohmite Mfg. Co.
Anemotherm—Anemostat Corp.
Angle Drive—James Vibrapower
Ankoseal—Ansonia Wire & Cable
Anofax—Feay Co., Neal
Antenaplex—Radio Corp. of Amer.
Antenn-Gineered—Snyder Mfg.
AO—American Optical
Apco—Applied Precision Prods.
Apelco—Applied Electronics
API—Assembly Products
Application Engineered—General Control Co.
Aquadag—Acheson Colloids
Aquaseal—General Cable
ARC—Aircraft Radio Corp.
Arcon—Lear, Inc.
Arhco—Amer. Radio Hdw.
Aristocrat—Electro-Voice
Asco—Automatic Switch
Ascor—American Speedlight Corp.
Asenco—Associated Eng'g & Mfg.
Atcometer—Automatic Temperature Control Co.
Atcotran—Automatic Temperature Control Co.
Atcotrol—Automatic Temperature Control Co.
Atlanticable—Atlantic Wire & Cable Corp.
Atlas—SKF Industries
Atlee—Atlas E-E
Atomic Jewel—Robins Industries
ATR—Amer. TV & Radio
Audax—Audak Co.
Audet—Centralab
Audigane—Branson Inst.
Audio Aid—Ansley Mfg., Arthur
Audio Aid—Greene L., Charlton
Audio Art—Bellaire Electronics
Audiorec—Audio Devices
Audiofilm—Audio Devices
Audio-Graphic—Graphic Recorders
Audio Hailer—Audio Equipment
Audio-Line—Audio Accessories
Audiophone—Femco Inc.
Audioscope—Audio Master
Audiotape—Audio Devices
Audio-Grafic—Audio-Tone Oscillator
Audio Vendor—Cousino Inc.
Audiplex—Electronics Development Co.
Audograph—Gray Mfg. Co.
Auricon—Berndt-Bach Inc.
Auto-Bridge—Industrial Instruments Inc.
Autocom—Sprague Electric Co.
Autograf—Moseley Co., F. L.
Autolog—Taller & Cooper
Automacap—Standard Condenser
Auto-Node—Kay Electric
Autoscaler—Tracerlab Inc.
Auto-Set—Machine O'Matic Inc.
Autosyn—Eclipse-Pioneer
Autotab—General Mills Inc.
Auto-Vox—Kay Electric
Auto-Zoom—Perkin-Elmer Corp.
AVC—Rockbestos Products
Aveco—Associated Valve & Eng'g
Avigator—Mitchell Industries
- B**
- Balanced Phase—Sieler Design Products
Baline—JFD Mfg. Co.
Banshee—JFD Mfg. Co.
Bantam—Aerovox Corp.
Barex—King Labs, Inc.
Barkhausen—Perfection Electric
Baronet—Electro-Voice
Barrymount—Barry Controls
Bartite—Barwood Mfg. Co., L. J.
Baseball—Antenna Specialists
Baso-Milwaukee Gas Specialty
Bat's Eye—Kennedy, D. S.
BBB—Butler Mfg. Co., B. B.
Beamajuster—Perfection Electric
Beamplexer—Burrroughs Corp. Electronic Instr. Div.
Belcon—Bogue Electric Mfg.
Belle—Guild Radio & TV Co.
Benco—Buck Eng'g Co.
BetaGauge—Tracerlab Inc.
BH—Bently Harris
Biflex—Altec Lansing
Big Jack—Kay-Townes Antenna
Big-Shot—Radio Merchandise
Bimag—Burrroughs Corp., Electronic Instruments Div.
Binoc—Taylor Instrument Co.
Biraco—Birnbach Radio
Birch—Boetsch Bros.
Birflene—Birnbach Radio Co.
Birflex—Birnbach Radio Co.
Birflon—Birnbach Radio Co.
Bit Carrier—Femco Inc.
Bit Step—Femco Inc.
BTW—Boston Insulated Wire
Black Beauty—Sprague Electric
Black Ray—Ultra-Violet Prods.
Bluebird—Radio Corp. of Amer.
Blue Diamond—Pioneer Gen-E-Motor Corp.
Blue Jacket—Sprague Electric
Blue Point—Astron Corp.
Blue Streak—Amer. Elec. Cable
Boro-Carbofilm—Aerovox Corp.
Borofilm—Aerovox Corp.
Boron X—Technicraft Co.
Boscar—Benson-Lehner
Bosopt—Workman TV Inc.
Bow-Flector—JFD Mfg.
Bow-Tie—JFD Mfg.
Boy-Mar—Electrical Service
Brandes—Cannon C., C. F.
Brenkert—Radio Corp. of Amer.
Brea—Pace Eng'g Co.
Brenco—Bristol Eng'g
Breeze Mark—Breeze Corp.
Brice-Phoenix—Phoenix Precision Instrument
Bridger—Audio Inst.
Bristol—Vocaline Co.
Bronco—Western Insulated Wire
Brown Devil—Ohmite Mfg. Co.
Brownie—Browning Labs.
Built-On—Radion Corp.
Bulplate—Sprague Electric
Buss—Bussmann Mfg. Co.
Button—Erie Resistor
Buzz or Talk—Rayovox Mfg. Co.
BTX-1—Brillhart Plastics Corp.
B & W—Barker & Williamson
- C**
- Calmag—Calif. Magnetic
Califilm—Shamban Eng'g Co.
Calivolter—Calidyne Co.
Caltrol—Caltron Prods.
Cambricoid—Amer. Elec. Cable
Camtrol—Lear Inc.
Candohm—Muter Co.
Cannon-Ball—Cannon Co., C. F.
Canto-Chime—Deagon Co., J. C.
Capacilog—Barber-Colman
Capacitrols—Barber-Colman
Capachometer—Simpson Electric
Capaswitch—Mullenbach Electrical
Carbidized—Ceramic Heater
Cathode Resistor Co.
Carbofilm—Aerovox Corp.
Carbomite—Continental Carbon
Cardax—Electro-Voice
Cardialyzer—Kay Electric
Cardyne—Electro-Voice
Carrilon Dynamic—Miller, M. A.
Cartwheel—Aerovox Corp.
Cary—Applied Physics
Cascode—JFD Mfg. Co.
Castohm—Shallcross Mfg. Co.
Castordag—Acheson Colloids
Castenoid—National Company
Cathalay—Superior Tube Co.
Cathovisor—Cinema-Television
Cavalier—Hinners-Galanek Radio
CCC—Continental Connector Corp.
CDP—Electro-Voice
CDR—Radiart Corp.
Ceco—Camera Equipment Co.
Cee-Cor—Permoflux Corp.
Celesta-Chime—Deagan, J. C.
Cenco—Central Scientific Co.
Cencil—Central Coil
Cenitator—Kay Electric
Centre-Kooled—Tarzian Inc. Sarkes
Cen-Tri-Core—Alpha Metals
Centurion—Electro-Voice
Century—Electro-Voice
Ceromag—Stackpole Carbon
Ceromagnet—Stackpole Carbon
Ceramicap—Muter Co.
Ceranicon—Erie Resistor
Cera-Mite—Sprague Electric
Ceroc—Sprague Electric
Cer-Ohm—Bradford Components
Challenger—Rek-O-Kut Co.
Challenger by Bogen—Bogen, David
Challenger—Channel Master Corp.
Champion—Channel Master Corp.
Chanalyst—Radio Corp. of Amer.
Change-A-Cycle—Carter Motor
Change-A-Volt—Carter Motor
Channelock—Radio Eng'g Labs.
Charg-A-Matic—Hertner Electric
Chargatrol—Assembly Products
Chargitators—Hick Electrical Instr. Co.
Chasbestos—Chase & Sons
Chexsel—Weston Labs.
Chemalloy-Kahl—Chemalloy-Elect
Chemelec—U. S. Gasket
Chemiflex—Technicraft Co.
Chemiglas—Technicraft Co.
Chemrok—Richardson Co.
Chief—Audio Equipment Co.
Chimag—Chicago Magnetic
Chitran—Chi. Std. Transformer
Chromabar—Kay Electric
Chromadot—Kay Electric
Chromascope—Telechrome Inc.
Chromatron—Chromatic TV Labs.
Chromel A—Hoskings Mfg. Co.
Chromel-Alumel—Hoskings Mfg. Co.
Chromel C—Hoskings Mfg. Co.
Chromolytic—Micamold Radio
Cinema—Aerovox Corp.
Cinescanner—Philco Corp.
Cintel—Cinema-Television Ltd.
Cintel—Marconi Instruments Ltd.
Circle "B"—Vocaline Co.
Circlotron—Electro-Voice
Circon—Univ. Circuit Control
Circuitmaster—Fordham Mfg.
- Cir-Q-Line—Atlantic Wire & Cable**
CK—Farmer Electric
Clarkstan—Pacific Transducer
Claro—Clarostat Mfg. Co.
C-Lector—Kilgen Aircraft Div.
Cletalay—Superior Carbon Prod.
Clevelite—Cleveland Container
CPPC—Clifton Precision Prods.
Climaster—Clegg Labs.
C Line—Clarostat Mfg. Co.
Clorinol—Sprague Electric Co.
Clumcoils—Clum Mfg. Co.
CML—Comm. Measurements
Coast Cable—Pacific Electricord
Coax Splicer—Dittmore-Freimuth
Co-AX—Transradio Ltd.
Coilriatic—Conn. Hard Rubber
Coiltenna—Electrend Products
Co-Lateral—Finney Co.
Cold Gate—Tarc Electronics
Collar—Rockbar Corp.
Colorbeam—Tennalab
Colorbeam—Winegard Co.
Color Cord—Pacific Electricord
Colorbot—Musicolor Inc.
ColorRotor—Channel Master Corp.
Colorscope—Tarc Electronics
Color-Tenna—JFD Mfg. Co.
Colortop—Trico Fuse Mfg.
Colortran—Natural Lighting
Col-R-Rel—Color Converter Inc.
Combo—Winegard Co.
Comet—Astron Corp.
Commercial—Trimm Inc.
Comco—Communications Co.
Communicator—Bludworth Marine
Compasses—Eclipse-Pioneer
Compac—Coleman Instruments
Compenrol—Centralab
Comp-U-Trim—Eastern Precision Resistor Corp.
Comtel—Radio Frequency Labs.
Convor—Radio Frequency Labs.
Conalert—Kaar Eng'g Corp.
Concertcaster—Audiomation Labs.
Concertcaster—Electrosnic Specialties
Concert-Line—Shure Bros.
Concertone—Berlant
Condulet—Crouse-Hinds Co.
Confessional—Audio Equip. Co.
Connect-A-Call—Conn. Telephone & Electric Co.
Connect-A-Phone—Conn. Telephone & Electric Co.
Connie—Clear Beam TV Antenna
Conntec—Conn. Telephone & Elec.
Conofite—Continental Can Co.
Constellation—JFD Mfg. Co.
Contact—Telecomputing Corp.
Contartene—Walsco Electronics
Contelco—Conn. Tele & Elec.
Continental—DeJur-Amsco
Control-A-Matic—Rockwell Eng'g
Controlarc—Vickers Inc.
Control Master—Kilgen Aircraft
Controllead—Marathon Electric
Copel—Hoskins Mfg. Co.
Copley—National Company
Copley Square—National Company
Coral Designs—Dietz, H. G.
Corona—Peschel Electronics
Corrib—Ohmite Mfg. Co.
Corsair—Hudson American Corp.
Corulite—Permax Products
Cor-Vox—Webster Labs., S.
Corwico—Cornish Wire
Corvette—JFD Mfg. Co.
Cosmo-Trol—Cosmo Eng'g Labs.
Cosmopolitan—Radion Corp.
Cosplute—Centralab
Crablok—Burndy Eng'g
Craftsmen—Precision Radiation Instruments

BRAND and TRADE NAME INDEX

Cranephone—Femco Inc.
Crest Lab—Microtran Co.
Crestbrite—Crest Transformer
Crestwood—Daystrom Electric
Crimpit—Burdny Eng'g Co.
Criterion—National Company
CRL—Centralab
Crolite—Aerovox Corp.
Croloy—Aerovox Corp.
Cromag—Aerovox Corp.
Crow Electric-Kits—Universal Scientific
Crowley—Aerovox Corp.
Crusader—Hudson American Corp.
C-Temp' Sealed—Amer. Radionic
C.T.P.—Clevite Transistor Prod.
CTS—Chicago Telephone Supply
CueMeter—Lear Inc.
Cunningham—RCA
Cupron—Printed Electronics
Curtain of Light—Electr Control
Customix—Oberline Inc.
Cyclohm—Howard Industries
Cypak—Westinghouse Electric

D

Dabs—Downing Crystal
Dag Dispersions—Acheson Colloids
Daka-Ware—Davies Molding Co., H.
Dalohm—Dale Products
Dandee—Aerovox Corp.
Dandux—Daniels, C. R.
Darb—Ryan Co., S. C.
Datareader—ElectroData Corp.
Dataatron—ElectroData Corp.
Data-Vision—Dage Television
Datex—Giannini & Co.
Davenoil—Daven Co.
Davey—Vibroscope Co.
Davohm—Daven Co.
DeArmond—Rowe Ind.
Decasol—Decimeter Products
Deci—Dwyer Engineering
Decision—Librascope Inc.
Defiance—All Star Prods.
deForest—American TV Inc.
DeForest—Radio Corp. of Amer.
Dekaboxes—Electro-Measurements
Dekapots—Electro-Measurements
Dekastats—Electro-Measurements
Dekatron—Atomic Instr.
Dekaviders—Electro-Measurement
Delcon—Deltron Inc.
Deltaswitch—Detroit Controls
Densichron—Welch, W. M.
Dependable—Trimmm Inc.
Desco—Dietz Design
Detect-A-Fire—Fenwal Inc.
Detectrodes—Detectolab Inc.
Determohm—Ohmite Mfg. Co.
Develco—Developmental Electr.
DI-Acro—O'Neil-Irwin
Dialco—Dialight Corp.
Dialgo—Ackerman Engravers
Diall—Mesa Plastics
Dialmatic—JFD Mfg. Co.
Dial-O-Phone—Conn. Telephone
Diamaccontrol—Standard Electronics Research Corp.
Diamatrol—Standard Electronics Research Corp.
Diamond—Trilsch Co., John D.
"Diamond H"—Hart Mfg.
Diaphlex—Cook Electric Co.
Diatron—Consolidated Eng'g
Dico—Diamond Microwave Corp.
Dielectrometer—Central Research Labs.
Differential—Electro-Voice
Dijicon—Anatran Eng'g Corp.
Digipot—Anatran Eng'g Corp.
Digitac—Ransom Research
Digit-matics—Victor Adding Machine Co.
Dietco—Continental Diamond Fibre Co.
Dimco—Dimco-Gray
Dimension—Fretco Inc.
Diminette—Permoflux Corp.
Diploitt—Dielectric Materials
Direct-A-Call—Conn. Telephone
Diretron—Snyder Mfg. Co.
Diron—Peerless Prods. Indust.
Discap—Radio Materials
Disclosures—Robins Industries
Dispatcher—Shure Bros.
Dividohm—Ohmite Mfg. Co.
Do-Do—JFD Mfg. Co.
Dor-Alarm—Vinson Co., E. R.
Double Diamond—H-B Instrument
Duallex—Bell & Gossett
Dualtronic—Goldak Co.
Dumonitor—DuMont Labs., A. B.

Duc—Utah Radio Prods.
Duodial—Helipot Corp.
Duodyne—Telex Inc.
Duofonic—Paraplegics Mfg. Co.
DuoVolt—Carter Motor Co.
Duplex—Altec Lansing Corp.
Duplican—Can. Radium & Uranium
Durable Products—Seager Standard Carbon Co.
Duraflex—Co-operative Ind.
Duranyl—Duralith Cora.
Durameg—Sprague Electric
Duramic—Aerovox Corp.
Duranite—Aerovox Corp.
Duratest—Dearborn Electronic
Duroid—Rogers Corp.
Durpoint—Duotone Co.
Dustronic—Radex Corp.
Dutch Brand—Johns-Manville
D & W—Dolinko & Wilkens
DX Mitter—Babcock Radio
Dykanol—Cornell-Dubilier
Dyacorad—Pentron Corp.
Dynaflex—Lear Inc.
Dynamizer—Hall-Scott Electronics Div.
Dynamic—Jackson Elect. Instr.
Dyna-Myke—Industrial Electronics Inc.
Dynamrene—Whitney Blake
Dyna-Q—K-W Eng'g Works
Dynasert—United Shoe Machinery
Dyna Therm—Guild Electronics
Dyna-Trol—Industrial Electronic
Dynamtroph—Lear Inc.
Dyngraph—Annis, R. B.
Dyngraph—Offner Electronics

E

EC—Electric Coil Co.
Eccoform—Emerson & Cuming
Eccosorb—Emerson & Cuming
Echo—Fort Wayne Metals
Echo-Matic—Cosino Inc.
Echo-Vox—Kay Electric
Eclipse—McNeill Eng'g Co.
Econohm—Tru-Ohm Div.
Eddystone—Marconi Instruments
Edge-lit panels—Ackerman Engravers
Edscorp—Edmund Scientific Corp.
Educator—Fairchild Controls
EE—Radio Cores Inc.
Eeco—Electronic Eng'g Co. of Calif.
EF—Electric Furnace Co.
Efcorn—Electronic Fabricators
Eico—Electronic Instrument
Eimac—Eitel-McCullough
Ekotape—Webster Electric
Eldec—Electro Development
Electricord—Pacific Electricord
EL—Electrons Inc.
Elasticables—Mutual Electronic
Elcor—Eagle Electronics
Elecom—Underwood Corp.
Electenna—Electrend Products
Electracer—Special Products
Electraloy—Circon Component
Electrofab—National Wire & Cable Corp.
Electroflo—Hays Mfg.
Electro-Glasbes—Sun Chemical
Electro-Graphic—Precise Measurements Co.
Electro-Level—Ferrara Inc.
Electrolink—Lear Inc.
Electromaze—Air-Maze Corp.
Electromax—Leeds & Northrup
Electro-Measurflo—Hays Mfg.
Electromite—Hays Mfg.
Elmenco—Electro Motive Mfg.
Electronamic—Precision Apparatus Co.
Electronheat—Resdel Eng'g
Electronic Butler—Miller Electr.
Electropilot—Lear Inc.
Electro-Probe—Erwood Inc.
Elasto-Rib—Korfund Co.
Electroscope—Feiler Eng'g
Electro-seal—Electro Eng'g Works
Electroschild—Kinney Co., Joseph
Electro Silbestos—Sun Chemical
Electro-Span—Bendix Aviation
Electrox—Schauer Mfg.
Elephant—Seymour Mfg. Co.
Elix—El Products
Elisico—Eillis & Sons, George D.
Elphco—Electro-Physics Co.
El-Tec—Electronic Protection
Em-Bed-It—Electronic Plastic
Embee—Fairbanks Wire Co.
E.M.C.—Howard Industries
Empire—Electro-Voice

E.M.S.—Electro-Mechanical Specialties Co.
Encasor—Alcor Electronics
Energized—Alpha Metals Inc.
Enpo—Piqua Machine & Mfg. Co.
Envoy—Ansley Mfg., Arthur
Eppo—Etched Products
Epinate—Amer. Printed Circuits
Epsal—Electro Eng'g Works
Eput—Berkeley Div. Beckman Instr.
Equibar—Trans-Sonics Inc.
Equipmobile—Esco Mfg.
Erectohm—Workman TV Inc.
Erla—Sentinel Radio
Ersin—Multicore Sales
Esco—Electric Specialty
Esco—Electro-Switch & Controls
Esico—Electric Soldering Co.
Esicoluger—Electric Soldering
Esipots—Electro-Measurements Inc.
Estep—Sprague Electric Co.
ETS-7—Industrial Electronic Engrs.
Eutec-SilWeld 1618—Eutectic Welding Alloys Corp.
Eutec-TinWeld—Eutectic Welding Alloys Corp.
E-V—Electro-Voice
Ever-Kleer—Chemical Electronic Eng'g
Everlock—Thompson-Bremer & Co.
Ever-Quiet—Chemical Electronic Eng'g
Exactohm—Workman TV Inc.
Exide Lightguard—Electric Storage Battery Co.
Exide Manchex—Electric Storage Battery Co.
Exide Tytex—Electric Storage Battery Co.
Exploro-former—Geotronic Labs.
Eye Witness—Radio Corp. of Amer.
E-Z Code—Westline Products

F

Fantasia—National Company
Faraday—Sperti Faraday Inc.
Faratron—Luhrs & Co., C. H.
Farnsworth—Capehart-Farnsworth
Fastach—Centralab
Fastop—Lear Inc.
Fathometer Jr.—Raytheon Mfg.
Fault-Finder—Radax Engineers
Faximile—Hogan Labs.
Faxpaper—Hogan Labs.
Faxwriter—Times Facsimile
F & B—Florman & Babb
FC—General Riveters
Featherweight—Goldak Co.
Featherweight—Trimmm Inc.
Felco—Forest Electric
Fen-Tone—Fenton Co.
Fenwire—Fenton Co.
Ferramic—General Ceramics
Ferramite—National Moldite
Ferri-Chokes—Superex Electronics Corp.
Ferristor—Berkeley Div. Beckman Instrument
Ferro-Dynamic—Lear Inc.
Ferrotron—Polymer Corp.
Festival—Harman-Kardon Inc.
Fidelivox—Audiomation Labs.
Fidelivox—Electrosonic Specialties
Field-Fone—Industrial Radio
15 3C-PACs—Computer Control
Filmagnetic—Berndt-Bach Inc.
Filmosound—Bell & Howell
Film-X—Goodall Electric
Filpec—Centralab Div.
Filplate—Centralab Div.
Filterette—Deutschmann Corp.
Filter Point—Duotone Co.
Finco—Finney Co.
Finflex—Finn & Co., T. R.
Fireball—JFD Mfg. Co.
Fire-Flock—Cellusuede Products
Fixtohm—Campbell Industries
Fixtohm—Clarostat Mfg. Co.
Fleetway—Conn. Telephone & Elec.
Fleetwood—Conrac Inc.
Flexaguide—Airtron Inc.
Flexifone—Dukane Corp.
Flexo—Art Specialty
Flexohm—Clarostat Mfg. Co.
Flexo Mkester—Flevo Int'l
Flevshield—Amer. Elec. Cable
Fluoretro—Mento Research Lab.
Flux Gate—Fritse-Pioneer
Fluxvalve—Pickerind & Co.

Flying Typewriter—Potter Instrument Co.
Flyweight Magnemite—Amplifier Corp. of America
FM—General Riveters
FME—Federal Mfg. & Eng'g
Foamflex—Phelps Dodge Copper
Foalizer—Quam-Nichols Co.
Fonex—Transelectric Mfg.
Fono-Twin—Culvertson Co., G. K.
Footrol—General Control Co.
Formeze—General Cable Corp.
Formvar—General Cable Corp.
Fortissimo—Permoflux Corp.
Fotoactor—Harworth Mfg. Co.
Fotolux—Amer. Speedlight
Frahm—Biddle Co., J. G.
Freas—Precision Scientific Co.
Freed-Eiseman—Fairchild Controls Corp.
Fretaray—Fretco Inc.
Fretline—Fretco Inc.
Fringecount—Link Aviation Inc.
Fulsecope—Taylor Instrument Co.
Fusebar—Workman TV Inc.
Fusetron—Bussmann Mfg. Co.
Fusitor—Bradford Components
Fuze-on—Aetna Supply Inc.
Fuzohm—Clarostat Mfg. Co.
FXR—F-R Machine Works
Fyrcall—Plectron Corp.

G

Gain Set—Kay Electric Co.
Gamma Gun—Universal Atomics
Gap/R—Philbrick Researches
Garceau—Electro-Medical Lab.
Gardsman—West Instrument Corp.
GB—Goldsmith Bros. Co., S & R
GB Jet—Workman TV Inc.
GC-100—Gahagan Inc.
Geda—Goodyear Aircraft Corp.
Geiger Gun—Universal Atomics
Genaco—Great Eastern Mfg.
Genalex—British Industries
Georgian—Electro-Voice
GH—Girard-Hopkins
GI—General Industries
Giant Meters—Dittmore-Freimuth Corp.
Gibson Girl—Robins Industries
Gilbarco—Gilbert & Barker
G-L—Gee-Lar Mfg. Co.
Glamoram—Radio Merchandise
Gasline—Knights Co., James
Glasohm—Clarostat Mfg. Co.
Glasterra—Chase & Sons
Glennite—Glenco Corp.
Glennite—Gulton Mfg. Corp.
Glennite—Vibro-Ceramics Corp.
Globe-O-Matic—Channel Master
Globe—Carborundum Co.
Globe King—World Radio Labs.
Globe Scout—World Radio Labs.
Globe Trotter—Radio Corp. of Amer.
Glo-Drop—Workman TV Inc.
Glydag—Acheson Colloids
Gold Crown—Pioneer Gen-E-Motor
Golden Throat—Radio Corp. of Amer.
Golden Wand—Peerless Prods. Ind.
Goodmans—Rockbar Corp.
GP—Erie Resistor
GPL—Gen'l Precision Equipment
Grade EE-284—Trimount Plastic
Gra-Lab—Dimco-Gray Co.
Graphallo—Graphite Metallizing
Gravoflex—Hermes Engravers
GRC—Gies Reproducer
Great Western—Interlectric Corp.
Green Bullet—Shure Bros.
Greenohm—Clarostat Mfg.
Gridnic—Driver-Harris Co.
Grommes—Precision Electronics
Gundometer—Borden Eng'g
Gundelace-H—Gudebrod Bros.
Guideline—Airtron Inc.
G. W.—Wright Electronics Inc.
GX-10—Gahagan Inc.
Gyropilot—Sperry Gyroscope
Gyrosyn—Sperry Gyroscope
Gyrotrotron—Sperry Gyroscope

H

Haero—Aero Instrument
Hallmark—Br.—Radio Electronics
Handie-Talkie—Motorola
Handy Boxes—Alpha Metals
Harkins—Schafer Custom Eng'g
Hastings—Franklin Electronics
Hawley—Hawley Products

Hazegage—Ess Instrument Co.
Headlines—Snyder Mfg. Co.
Heathkits—Heath Co.
Heatzone—Rockbestos Products
Heemco—Hill Electronic Eng'g
Heliax—Andrew Corp.
Helicop-Hut—Craig Systems Inc.
Helidel—Helipot Corp.
Hercules—Acromark Co.
Hercules—Shure Bros.
Hermatronic—General Hermelite Sealing Corp.
Hess-Bright—SKF Industries
Hex Seal—Automatic & Precision
HMB—Buggie Inc., H. H.
Hi-Ball—Radiart Corp.
Hi-Cor—Alpha Metals
Hi-Farad—Aerovox Corp.
Hi-Flex—Electro-Flex Heat
Hi-Flux—Annis Co., R. B.
Hi-g—General Controls Co.
HI-K—Erie Resistor
Hi-Kaps—Centralab Div.
Hi-Q—Aerovox Corp.
His Master's Voice—Radio Corp. of America
Hi-Stab—Erie Resistor Corp.
Hi-Tension—JFD Mfg. Co.
Hi-Therm—Taylor Instrument
Hitronic—Bliss Electronic
Hi-V-Kaps—Centralab Div.
Hobby Time—Western Coil & Electrical Co.
Honeywell—Micro Switch Div.
Honeywell—Minn.—Honeywell
Horton—National Company
Hornet—New York Transformer
Horton—Becker Electronics
Hotelivision—Dynamic Electronics
Hornet—N. Y. Inc.
House of Resistors—Clarostat Mfg. Co.
Hoyt Meters—Burton-Rogers
HR—Houston Technical Labs.
Hudson-Oxford Electric Corp.
Hug-A-Plug—Page-Fogwell
Humdinger—Clarostat Mfg. Co.
Hunter—Clear Beam TV Antenna
Hurletron—Electric Eye Equip.
Hush—Chemical Electronic Eng'g
Husite—Huse Liberty Mica Co.
Hyclasp—Burdny Eng'g Co.
Hydramotor—General Controls Co.
Hydron—Clifford Mfg.
Hyflux—Indiana Steel Products
Hylink—Burdny Engineering Co.
Hy/Low—Stevens Products
Hylug—Burdny Engineering Co.
Hy-Met—Astron Corp.
Hypass—Sprague Electric
HyperCore—Moloney Electric Co.
Hypercave—Central Scientific
Hypot—Associated Research
Hyrad—Sequoia Process Corp.
Hyring—Burdny Engineering Co.
Hytemco—Driver-Harris Co.
Hy-Temp—Precision Scientific
Hyvac—Central Scientific Co.

I

Iatron—Farnsworth Electronics
Im-Plast—Richardson Co.
IBM—Int'l Business Machines
ICA—Insuline Corp. of America
Iconic—Altec Lansing Corp.
Ideal—Melody Master Mfg.
Ideco—Dresser-Ideco Co.
IHC—Illinois Condenser Co.
IHT—Illinois Condenser Co.
II-TV—General Precision Labs.
Illini-300 Bantam—Illinois Condenser Co.
Illini-300—Illinois Condenser
Immerscope—Electrocircuits Inc.
IMP—Wingard Co.
Imperial—Rek-O-Kut Co.
Imperial—Trans-Tel Corp.
Incorn—Western Gold & Platinum
Incosil—Western Gold & Platinum
Indi-AC—Cleveland Instrument Co.
Inдох—Indiana Steel Products
Inductosyn—Farrand Optical Co.
Inductuner—Mallory & Co., P. R.
Industravox—Electronic Eng'g Industrial—Technic Inc.
Infomat—Union Switch & Signal
In-Line—JFD Mfg. Co.
IN-RES-CO—Instrument Resistors
Inspect-o-Film—Harwald Co.
Inspectogone—Alcor Instruments
Instansolder—Cole Radio

BRAND and TRADE NAME INDEX

Insulcon—Stupakoff Ceramic
 Insulink—Burndy Engineering Co.
 Insulug—Burndy Engineering Co.
 Interceptor—Winegard Co.
 International—Antenna Specialists Co.
 Interverter—Interelectronics Corp.
 Intrex—Interelectronics Corp.
 IRA—International Research
 Iresco Relays—International Research Assoc.
 Irish—Orradio Industries
 IRO—International Research & Development Corp.
 Iron Grip—Equipto Product
 Isatron—Consolidated Eng'g
 Iso-Elastic—Chatillon & Sons
 Isoplas—Natvar Corp.
 Isomode—M B Mfg.
 Isophase—Pickering & Co.
 IWP—Industrial Wire Products

J

Jackson—Vulcan Electric Co.
 Jaimco—Jacobs Instrument Co.
 Jaincomp—Jacobs Instrument Co.
 JBL—Lansing Sound, James B.
 Jeco—Jarvis Electronics
 JeTenna—JFD Mfg. Co.
 Jet-Helix—JFD Mfg. Co.
 JeTomic—JFD Mfg. Co.
 Jolta—Jan Hdw. Mfg. Co.
 Jordan—Panellit Inc.
 J-W—Johnson Williams

K

Kantarks—Trico Fuse Mfg.
 Karadio—Eckstein Radio TV
 Karma—Driver-Harris Co.
 K-D—Electro Voice Inc.
 Kel-F—Elco Corp.
 Kelon-T—Shamban Eng'g Co.
 Kemetal—Radio Industries
 Kenco—Kenwood Eng'g
 Keysweep—Kay Electric
 Keypak—Benson-Lehner
 Kilo-Q—Kay Electric
 Kilo-Sweep—Kay Electric
 Kilovolt—Electronic Test Instrument Corp.
 Kine-Center—Perfection Electric
 Kingkat—Wang Labs. Inc.
 KleeNeeDie—Rbins Industries
 Klieglights—Kliegl Bros.
 Klikit—Raw Fastener Co.
 Klipalok—Trico Fuse Mfg.
 Klipschorn—Klipsch & Associates
 Klipzoo—United Tech Labs.
 K-Lok—Erie Resistor
 Knight—Allied Radio Corp.
 K. O.—Chanel Master Corp.
 Kold-Pak—Tenney Eng'g Inc.
 Kolite—Radio Research & Neom Eng'g Labs.
 Kompo-Kork—Korfund Co.
 Koolohm—Sprague Electric
 Kose—Tele-Systems Inc.
 Kovar Alloy—Stupakoff Ceramic
 Kraftone—Kraft Bros.
 K-TRAN—General Instrument Corp.
 Kurmelec—Kurman Electric
 KwikKits—University Loudspeaker
 Kwik-Kall—LogeSound Engineers, J. M.
 Kwiklik—Royal Electric Co.
 Kybernetes—Self-Winding Clock

L

Lackon—U. S. Radium
 Lady Tycoon—SoundScriber Corp.
 Lamco—La Manna Mfg. Co.
 Lamco—Laminations Co.
 Laminair—Simolex Valve & Meter
 Lamitex—Franklin Fibre
 Lamp-Tenna—S/C Laboratories
 Larno—Permoflux Corp.
 Lazy-X—Radiart Corp.
 L-C Checker—Aerovax Corp.
 Leak—British Industries
 Leakproof—Ray-O-Vac Co.
 Learadio—Lear Inc.
 Learmatic—Lear Inc.
 Learsyn—Lear Inc.
 Leartran—Lear Inc.
 Lectrodryer—Pittsburgh Lectrodryer Co.
 Ledex—Leland Inc., G. H.
 Leesona—Universal Winding Co.
 Lektron—Electronic Rectifiers
 Lev-Elasto—Korfund Co.
 Lewis—Western Coil & Electrical
 Lewis Vertical—Universal Prods
 LGP-30—Librascope Inc.
 Lifetone—Duotone Co.
 Ligna-Sweep—Kay Electric

Lin-A-Syn—MinAtron Corp.
 Linear—Control Components Co.
 Linearsyn—Control Components
 Lineatrol—Oberline Inc.
 Line-O-Life—Carter Motor Co.
 Lineotube Tester—Electronic Test Instrument Corp.
 Lindmeter—Bourns Laboratories
 Linstick—Altec Lansing
 Little Devil—Ohmite Mfg. Co.
 Little Giant—JFD Mfg. Co.
 Little Jim—Kay-Towne Antenna
 Littl-Lytic—Sprague Electric
 Little Nipper—Radio Corp. of Amer.
 Livermont—Richmont Inc.
 LL450—Buchan Co., R. J.
 Lloyd's—Johnson Mfg. Co.
 LL300—Buchan Co., R. J.
 Loaded X—Radiart Corp.
 Loadstar—Leland Electric Co.
 Logger—Audio Instrument
 Logrinc—Logistics Research
 Lohm—Driver-Harris Co.
 Lo-Ohm—Bradford Components
 Loopstick—Supertex Electronics
 Lorac—Seismograph Service Corp.
 Lorán—Rust Industrial Co.
 Los Gatos—Lewis & Kaufman
 Lumatrol—Micro Balancing
 Luminite—Associated Projects
 Lusterized—Amer. Elec. Cable
 Lusterlac—Amer. Elec. Cable
 Luxtron—Bradley Labs.
 Lyticap—Planet Mfg.

M

Mag-Electric—National Aircraft
 Magic Circle—A.R.F. Products
 Manic Eye—Radio Corp. of Amer.
 Manic Mirror—Pacific Universal Products Corp.
 Manic Monitor—Radio Corp. of Amer.
 Magmeter—Airtax Products
 Magmotor—Carter Motor Co.
 Magnadur—Ferrocube Corp.
 Magnaglo—Magnaflux Corp.
 Magnapack—Engineered Magnetics
 Magnatest—Magnaflux Corp.
 Magnatone—Magna Electronics
 Magnatoro—Hansen Mfg.
 Magnecorder—Magnecord Inc.
 Magne DISC—Houston Technical Labs.
 Magneloop—Amplifier Corp. of America
 Magnemite Portable—Amplifier Corp. of America
 MagneMusic—Magnecord Inc.
 Magnepaint—Micro-Circuits Co.
 Magnepulse—Magnetic Research
 Magneraser—Amplifier Corp.
 Magne-Speed—Magnetic Amplifiers
 Magnestats—Magnetic Research
 Magnesvit—Eclipse-Pioneer
 Magnette—Heinemann Electric
 Mag-Nac—Magnetic Devices
 Magneticon—Magnetic Recording
 Magniharp—Deagan Inc., J. C.
 Magnistor—Potter Instrument Co.
 Magnityper—Potter Instrument
 Magnivision—Eng'g Developments
 Major—Gem Electric Mfg.
 Majorette—Major Electronics
 Mallard—Electrend Products
 Mamco—Master Appliance Mfg.
 Mapico—Columbian Carbon Co.
 Marbelite—Good-All Electric
 Mariguide—Bludworth Marine Div.
 Mariner—Hudson American Corp.
 Marka-Sweep—Kay Electric Co.
 Mark II—Technical Devices
 Marksman—West Instrument Corp.
 Mark-Time—Rhodes Inc., M. H.
 Marquardt—Br. Electronic Sales
 Marvelco—National Aircraft
 Marvelite—C B C Electronics Co.
 Masco—Simpson Mfg. Mark
 Masterline—Blonder-Tongue Labs.
 Master Selective Control—Kilgen Aircraft Div.
 Master-Tenna—Radio Corp. of Amer.
 Matco—Mattson Electronics Corp.
 Max Mixer—Special Products Co.
 ME—Marathon Electric Mfg.
 MEC—Milgo Electronic Corp.
 Mechanophase—Electro-Voice Inc.
 Medal-Line—Medal Mfg. Co.
 Menaligner—Kav Electric Co.
 Megalume—NEMS-CLARKE Inc.

Megalyzer—Kay Electric Co.
 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.
 Megavac—Central Scientific Co.
 Mega-X—Kay Electric Co.
 Megger—Biddle Co., J. G.
 Megohmer—Sticht Co., H. H.
 Megohmtest—Davenport Mfg.
 Meg-O-Max—Sprague Electric
 Meggot—Gen'l Hermetic Sealing
 Melacon—Photocircuit Corp.
 Melcore—Melpar Inc.
 Melitone—Electron Enterprises
 Melodier—Waters Conley Co.
 Melodist—Altec Lansing Corp.
 Melody Mike—Audio Equip. Co.
 Memco—Maryland Electronic
 Memocorder—Electrosonic Specialties
 Memograf—Electrosonic Specialties
 Memotape—Electrosonic Specialties
 Memotron—Hughes Aircraft Co.
 Mencolab—Menlo Research Labs.
 Mercury—Electro-Voice Inc.
 Mercury—Vulcan Electric Co.
 Merl-Miller Electro-Research
 Merlin—Mohawk Electronic
 Message Repeater—Mohawk Bus. Machines
 Mesurlo—Hays Mfg.
 Metalite—Astron Corp.
 Metal Mike—Sperry Gyroscope Co.
 Metalohm—Litton Industries
 Meteor—Astron Corp.
 Metex—Metal Textile Corp.
 Met-L-Flex—Robinson Aviation
 Metrix—American Metrix Corp.
 Metroducer—Metrotype Corp.
 Metrofault—Metrotype Corp.
 Metropolitan—Radion Corp.
 M.G.C.—Motor Generator Corp.
 Micaps—Micamold Electronics
 Micaply—Mica Corp.
 Mica-Ramic—Spruce Pine Mica
 Micrelay—Ebert Electronics
 Micro—N. H. Ball Bearings
 Micro-AC—Cleveland Instrument
 Micro-Cal—Cubic Corp.
 Micro-Circle—Precise Measurements Co.
 Microdials—Borg Equip., George
 Microdual—Transradio Ltd.
 Micro-Gap—Shure Bros.
 Microalarm—Conn. Tele. & Electric
 Microline—Sperry Gyroscope Co.
 Microtroller—Kay Electric Co.
 Microlytic—Micamold Radio Corp.
 Micromags—Magnetic Research
 Micrometron—Optionic Research
 Micro-Namic—Micro Balancing
 Microscilligraph—Central Research Labs.
 Micropaints—Micro-Circuits Co.
 Micropositioner—Barber-Colman
 Microprot—Borg Equip., George
 Micro-Pulser—Kay Electric Co.
 Micro-set—Precision Scientific
 Micro-Tapestoppers—Anelex Corp.
 Microtomatic—Doall Co.
 Microtorque—Giannini Co.
 Midnet—Sprague Electric Co.
 Midgetape—Mohawk Bus. Machines
 Widgetester—Simpson Electric
 Midgy-Lytics—Standard Condenser
 Midohm—Driver-Harris Co.
 Mighty Mite—Mechanical Indust.
 Millisaid—Consolidated Eng'g
 Millisec—Stevens-Arnold
 Min-Amp—Osterland Co., Edmund
 Mineralight—Ultra-Violet Prods
 Miniac—Marchant Calculators
 Minicube—Sanders Associates
 Mini-Gator—Mueller Electric
 Mini-Mike—Telex Inc.
 Mininoise—Mirrodot Inc.
 Minisel—Electronic Devices
 Minipak—Radio Specialty Mfg.
 Minirelay—Ebert Electronics
 Mini-Shield—Staver Co.
 Mini-Springs—Staver Co.
 Minitorque—Giannini Co.
 Mini Volt—Industrial Devices
 Minor Leaguer—Antenna Specialists Co.

Min. Oval—Milwaukee Resistor
 Miro-Point—Duotone Co.
 Mobile-Mike—Electro-Voice Inc.
 Mobilphone—Mobil Electronics
 Mobiltone—Mobil Electronics
 Mo-Bond—Assoc. Eng'g & Mfg.
 Modac—Mountain Systems Inc.
 Modern Flow—Equipto Products
 Modulair—Simplex Valve & Meter Co.
 Modulite—Berndt-Bach Inc.
 Modu-Wave—Sciaky Bros.
 Moldite—National Moldite Co.
 Mold-X—American Radionic
 Monoblec—Winchester Electronic
 Monomatic—Pentron Corp.
 Monoplex—Shure Bros.
 Monotube—Tuttle & Kift
 Monrobot—Monroe Calculating Machine Co.
 Moran Gamma Logger—Moran Instrument Corp.
 Morse-Eureka—Morse Co., F. W.
 Motel-O-Phone—Connecticut Telephone & Electric Co.
 Moto-Mag—Keystone Products
 Moto-Mite—Globe Industries
 Motorlytics—Micamold Electronics Mfg. Corp.
 MPT-2A—Rese Eng'g Inc.
 M-S-A—Mine Safety Appliances
 MT-1M—Prestostal Mfg.
 Multi-Cell—Shielding Inc.
 Multicore—British Industries
 Multi-Elmac—Multi-Products Co.
 Multimeters—Rawson Elec. Instr.
 MultiPac—Dubrow Development Co.
 Multiphase—Central Electronics
 Multipot—Ford Eng'g Co.
 Multi-Pulser—Kay Electric Co.
 Multitace—Smith Associates, R.
 MUR—Sorensen Co.
 Music Lovers—Shure Bros.
 Myke-A-Trol—Industrial Electronics Inc.
 Mylar—DuPont de Nemours, E. I.

N

Na-Aid—Alden Products
 Namco—National Acme Co.
 Napco—Nevada Air Products Co.
 Narco—National Aeronautical
 National—Valco Mfg. Co.
 Natite—National Ceramic Co.
 NatFab—Nat'l Fabricated Prods.
 N-Cap—Eastern Precision Resistor Corp.
 Nemcoite—New England Mica
 Neco—National Electric Prods.
 Never-Stain—Nichols Wire & Aluminum
 NH—North Hills Electric Co.
 Nicad—Nickel Cadmium Battery
 Nichrome—Driver-Harris Co.
 Nicora—Western Gold & Platinum
 Niking—Hudson American Corp.
 Nikrothal—Kanthal Corp.
 Nilvar—Driver-Harris Co.
 Nipper—Radio Corp. of America
 Nitelighter—Fisher-Pierce Co.
 Nobatrons—Sorensen & Co.
 Nobeloy—Continental Carbon
 Noilette—Continental Carbon
 Nobrush—Georator Corp.
 No-Ghost—Dynamic Electronics
 Noiseraser—Librascope Inc.
 No-Noise—Electronic Chemical
 No-Ox—Walco Electronics
 Norelco—N. American Phillips
 Northam—N. American Instrument
 NRC—National Research Corp.
 NS—Nat. Semiconductor Prods.
 Numar—Perkin-Elmer Corp.
 Nu-Tronic—Nuclear-Electronics
 Nuvox—Hal-Hen Co.
 Nu-Way—Marshall Assoc., John
 NWL—Nothelfer Winding Labs.
 NYCD—New York Coil Co.
 Nviallow—Polymer Corp.
 Nylaron—Polymer Corp.

O

Observer—Blonder-Tongue Labs.
 Ogtran—Ogden Coil Co.
 Ogyro—Dynamic Electronics
 Ohiohm—Ohio Carbon Co.
 Ohmspun—States Co.
 Ohmtown News—Clarostat Mfg.
 Oildag—Acheson Colloids
 OilMite—Deutschmann Corp.,
 Tobé

Omni Glow—Industrial Devices
 Omnimatic—Lear Inc.
 Omnimeter—Lear Inc.
 Omnipack—Lear Inc.
 Omniscope—Lear Inc.
 Omnitenna—Lear Inc.
 Oratron—OMCO
 Orthoflow—Simplex Valve & Meter Co.
 Orthosil—Thomas & Skinner
 Orienter—Lear Inc.
 Oscar—Benson-Lehner Corp.
 Oscillo-Record—Fairchild
 Camera & Instrument Corp.
 Ovaltube—Plastoid Corp.
 O-Z—Zernickow Co., O.

P

Pace—Precision Apparatus
 Pac—Erie Resistor
 Pacemaker—Bell Sound
 Pace-Setter—JFD Mfg. Co.
 Pacitron—Simmonds Aerocessories
 Paco—Park Armature Co.
 Painton—British Electronic Sale
 Pakap—Audio Products
 Pak-Fone—Industrial Radio Corp.
 Pal—JFD Mfg. Co.
 Palmgren—Chicago Tool & Eng'g
 PAMCO—Paraplegics Mfg. Co.
 Panacoustic—U. S. Recording
 Panalarm—Panellit Inc.
 Panscan—Panellit Inc.
 Pandux—Pacific Transducer
 Panelscopes—Waterman Prods.
 Panto—Preis Engraving, H. P.
 Par-AC—Cleveland Instrument Co.
 Para-Flux—Radio Music Corp.
 Paraformed—Paramount Paper Tube
 Partek—Magnaflux Corp.
 Partridge—Br. Electronic Sales
 Pathfinder—Raytheon Mfg. Co.
 Patrician—Electro-Voice
 Peatophone—Tarc Electronics
 Peco—Pacific Electricord Co.
 Peco—Pomona Electronics
 Peerage—Electro-Voice
 Peerless—Altec Lansing Corp.
 Peerless—National Vulcanized Fibre Co.
 Pee Wee—Mueller Electric
 Pendet—Centralab
 Penni-Trans—Penn Transformer
 PE—Precision Electronics
 Perco—Linell Eng'g, C. S.
 Pereco—Pereny Equipment
 Perma-Cal—Topflight Corp.
 Perm-A-Caps—Chicago Condenser
 Permaline—Columbia Wire
 Permaphoto—Permanent Label
 Permaplast—Richardson Co.
 Permasel—Sprague Electric
 Perma-Tube—Jones & Laughlin
 Pfan-Tone—Pfanstiehl Chemical
 Phazor—Industrial Test Equip.
 Phenolite—National Vulcanized Fibre Co.
 Phil-Trol—Phillips Control
 Phonort—Electronic Creations
 Phono-Gard—Grayline Eng'g
 Phonola—Waters Conley Co.
 Photoprobe—Electro-Physics Co.
 Phototron—Thomas Electronics
 PicBoost—C. B. C. Electronics
 Piccolino—Electro-Voice
 Pick-A-Shaft—Clarostat Mfg. Co.
 Picturephone—McClure Talking Pictures, O. J.
 Pig-Tailor—Bruno-NY Industries
 Pilotone—Pilot Radio Corp.
 Pilotuner—Pilot Radio Corp.
 Pioneer—Eclipse-Pioneer
 Pip-A-Roo—JFD Mfg. Co.
 Pip-Jet—JFD Mfg. Co.
 Pitchometer—Amer. Chronoscope
 Pittomatic—Rowan & Kunzi
 Pitco—Pittsburgh Coil
 Pixie—Winenard Co.
 Planetaire—Planet Service Corp.
 Planofax—Times Facsimile
 Plastico—Condenser Products
 Plastiscord—Chester Cable Corp.
 Plastico—Chester Cable Corp.
 Plastisel—Electronic Devices
 Plastok—Richardson Co.
 Plasturbo—Master Appliance Mfg.
 Playmaster—Market Electric
 Plexicon—Erie Resistor
 Plytubular—Tennalab
 PMP—General Riveters
 PMP—Precision Metal Products
 Pocket Power—Cook Co., Frank R.
 Pocketscopes—Waterman Prods.
 Polax—Union Plastics
 Polsignal—A. R. F. Products

BRAND and TRADE NAME INDEX

- Polyken—Kendall Co.
 Polyken—Pres Industrial Prods.
 Polyohm—Polytechnic Res. & Dev.
 Polyramer—Sensitive Research
 Portafone—Stewart-Warner
Electronics
 Porta-Kal—Loge Sound Engineers
 Port-A-Phone—Feller Eng'g
 Porto—Taller & Cooper
 Power Fireball—JFD Mfg. Co.
 Power Helix—JFD Mfg. Co.
 Power Page—University Loud-speakers Inc.
 Powerel—Electronic Devices
 Powerstat—Superior Electric
 Powerstreak—Amer. Elec. Cable
 Powrmike—University Loud-speakers Inc.
 Powr-Rib—Ohmite Mfg. Co.
 Precedent—Radio Eng'g Labs.
 Precise-Ohm—Precision Inc.
 Precision-Charge—Lincoln Electric Co.
 Precision Counters—Dittmore-Freimuth Corp.
 Precision—Illinois Transformer
 Press-Fit—Sealestro Corp.
 Pres-Sure—Buchanan Elec. Prods.
 PRI—Precision Radiation Instruments
 Prince—Precision Thermometer & Instrument Co.
 Printate—Amer. Printed Circuits
 Printometer—Electro-Physics
 Private Eye—TV Utilities
 Private Tudor—Eldico of N. Y.
 Privateer—Hudson American Corp.
 Productimeters—Durant Mfg.
 Professional—Trim Inc.
 Prokax—Sprague Electric
 Promatic—General Control Co.
 Propellair—Robbins & Myers
 Protomaka—Printed Electronics
 Proxitron—Fischer-Smith Inc.
 PSI—Pacific Semiconductors Inc.
 Pulsescopes—Waterman Products
 Pulsional—A. R. F. Products Inc.
 Pulsolite—Electronic Control
 Pultec—Pulse Techniques
 Push-Lok—Sprague Electric Co.
 Puretone—Qualitone Co.
 Py-Caps—Chicago Condenser Corp.
 Pye—British Radio Electronics
 Pyrohm—Aerovox Corp.
 Pyro—Pyrometer Instrument
- Q**
 QT—Qualitone Co.
 Q-Tran—Johnson Electronics
 Quadri-line—Radio Eng'g Labs.
 Quantograph—Applied Research
 Quantometer—Applied Research
 Quarie—Quare Associates
 Quick—Roylyn Inc.
 Quik-Rig—JFD Mfg. Co.
 Quintenna—Tennalab
- R**
 Radaligner—Kay Electric Co.
 Rada-Node—Kay Electric Co.
 Radaset—Weston Labs.
 Rada-Sweep—Kay Electric Co.
 Radax—Electro-Voice Inc.
 Radelin—U. S. Radium
 Radicom—Crosby Labs.
 Radio-Com—Trans-Tel Corp.
 Radiocrafter—Technicraft Co.
 Radiodyne—Western Coil & Electrical Co.
 Radiola—Radio Corp. of Amer.
 Radiopak—Kaar Eng'g Corp.
 Radiotron—Radio Corp. of Amer.
 Rafax—Haller, Raymond & Brown
 Rainbow—Channel Master Corp.
 Rainbow—JFD Mfg. Co.
 RaKool—Flett Lab.
 Ranger—Shure Bros.
 Rapromatic—Kenyon Instrument
 Ratiotran—Gertsch Products
 Raymaster—Gates & Co. G. W.
 Rayonic—Waterman Products
 R/C—Radio Condenser
 RCA Victor—Radio Corp. of Amer.
 RCP—Radio City Products
 Reac—Reeves Instr. Co.
 Re-Cirk-It—Heinemann Elec.
 Recitalist—Rek-O-Kut Co.
 Reco—Rectifier Engineering
 Reco—Reynolds Electric Co.
 Recordal—Miles Reproducer
 Recordio—Wilcox-Gay
 Rectaloy—Union Switch & Signal
 RectiCharger—Raytheon Mfg.
 RectiFilter—Raytheon Mfg.
 Rectipot—Giannini Co.
- RectiRinger—Raytheon Mfg.
 Rectisil—Electronic Devices
 Rectodyne—McColpin-Christie
 Rectopower—Mallory & Co., P. R.
 Red-D—Diamond Wire & Cable
 Red Dot—G-V Controls Inc.
 Red-E-Nut—Frederick Tool & Eng.
 Red Seal—Radiart Corp.
 Red Seal—Radio Corp. of Amer.
 Red-Wood—JFD Mfg. Co.
 Redmount—Snyder Mfg. Co.
 Reeder—Reeder & Co., C. M.
 Reevelec—Reeve Electronics
 Reflectogage—Sperry Products
 Reflectoscope—Sperry Products
 Reflex—University Loudspeakers
 Regatrone—Electronic Measurements Co.
 Regency—Electro-Voice Inc.
 Regohm—Electric Regulator
 Reg-O-Matic—CBC Electronics
 Regular—Paramount Paper Tube
 Refajix—Popper & Sons
 Relay-Amp—Goldak Co.
 R—Electronic Rectifiers Inc.
 Reliacube—Sanders Associates
 Reliator—Westinghouse Electric
 Reliohm—Sanders Associates
 Rembrandt—All Channel Antenna
 Ramcon—Pyramid Instrument
 Remotrol—Midwest Elec. Prods.
 REN—Nebel Lab., R. E.
 Ren-o-Lyzer—U. S. Electronic Research & Devel.
 Repeater—Kemlite Labs.
 Resomax—Link Aviation Inc.
 Rexon—Hamilton Kent Mfg.
 Rexselen—Knopp Inc.
 Rex—Shura Bros.
 Rex—Trim Inc.
 Rhomized—R H O Eng'g Co.
 Rhythmster—Rek-O-Kut Co.
 Ribohm—Tru-Ohm Div.
 Ribwound—Milwaukee Resistor
 Richelain—Richardson Co.
 R.I.G.—United Mineral & Chemical
 Rigid Rig Snapout—Medal Mfg.
 Riteohm—Ohmite Mfg. Co.
 Ri-Tran—Radio Inds.
 R&M—Robbins & Myers
 R.M.C.—Radio Materials Corp.
 RMS—Radio Merchandise Sales
 Rochester—Qualitone Co.
 Rollico—Rollins Electronics
 Rollocon—Circon Component
 Romex—General Cable
 Rondine—Rek-O-Kut Co.
 Rotalyzer—Kay Electric Co.
 Rotaseal—Gen'l Hermetic Sealing
 Rotobridge—Comm. Measurements
 Roto-King—JFD Mfg. Co.
 Rotomotive—Jack & Heintz
 Rotorold—Burnell & Co.
 Rotosteper—Giannini Co.
 Roto-Trols—Healy-Ruff Co.
 Rov-A-Lite—Terado Co.
 Royal—Permoflux Corp.
 Royal-Noark—Royal Electric Co.
 RPC—Resistance Products
 RTV—Claroat Mfg.
 Rub-Erok—Richardson Co.
 Rush—Eraser Co.
 Rycom—Railway Communications
- S**
 Sabre—Welco Mfg. Co.
 Sadio—Consolidated Eng'g
 Safe-T-Ohm—Anderson Inc., W. E.
 SafeTVision—Bennett Labs.
 Safety Margin—Astron Corp.
 Sanabria—American TV Inc.
 Sanders—U. S. Time Corp.
 Sapphire—National Aeronautical
 Sarah—Simmonds Aerocessories
 Sara—Taller & Cooper
 Sardap—Nuclear Research
 Saucerline—Fretco Inc.
 Scinflex—Scintilla Div. Bendix
 Scintillator—Precision Radiation Instruments
 Scmatco—Stone City Mch. & Tool
 Scotch—Minn. Mining & Mfg.
 Scribe—Permoflux Corp.
 Seal-Off—Taylor-Winfield Corp.
 Seco—Stewart Eng'g Co.
 Secode—Electrical Communications Corp.
 SezZak—U M & F Mfg. Corp.
 Selfluc—Keystone Carbon
 Selfocus—DuMont Labs., A. B.
 Semitron—Westinghouse Electric
 Sencotronic—Senn Corp.
 Sentinel—Johnson-Williams
 Sentinel—Photobell Co.
 Seramelite—Good-All Electric
- Series X—Astron Corp.
 Serrasoid—Radio Eng'g Labs.
 Service Engineered—Jackson Electrical Instrument Co.
 Servoboard—Servo Corp. of Amer.
 Servoflex—Servo Corp. of Amer.
 Servoflight—Servo Corp. of Amer.
 Servofrax—Servo Corp. of Amer.
 Servomation—Servo Corp. of Amer.
 Servoscope—Servo Corp. of Amer.
 Servospeed—Electro-Devices Inc.
 Servotherm—Serv Corp. of Amer.
 Servus-Fone—Motiograph Inc.
 7000—Houston Technical Labs.
 7000B—Houston Technical Labs.
 71-35—Valverde Labs.
 Shield-arc—Lincoln Electric Co.
 Shorthorn—Klipsch & Assoc.
 Shur-Flu—Hays Mfg.
 Shut-Out—JFD Mfg. Co.
 Sieco—Sherman Industrial Electronics Co.
 SIE—Southwestern Industrial Electronics Co.
 Signa-Glow—Industrial Devel.
 Signalator—Kay Electric Co.
 Signalmax—Wilmar Mfg.
 Signal Splitter—McLaughlin Corp., J. L. A.
 Signa-Matcher—Centralab
 Silcad—Yardney Electric Corp.
 Silcobest—Silicone Insulation
 Silcord—Western Gold & Platinum
 Silicohm—Sage Electronics
 Siliconductors—Nat. Semiconductor
 Silic-O-Netic—Heinemann Elec.
 Silikone—Ebcor Products Corp.
 Silvercel—Yardney Electric
 Silver-Q—Decimeter Products
 Silvertex—Erie Resistor
 Silver Wand—Peerless Prods. Ind.
 Simplex—International Projector
 Sinclair-Phoenix—Phoenix Precision Instrument
 Sintilon—National Radiac
 SK—Skottie Electronics
 SKL—Spencer-Kennedy Labs.
 Sky-Bullett—Macon Electronics
 Skylark—Electro-Voice
 Skyliner—Clegg Labs.
 Sky-Lok—JFD Mfg. Co.
 Skyscope—Clear Beam TV Antenna
 Sky Streak—Amer. Elec. Cable
 Slendyne—Shure Bros.
 Slideohm—Aerovox Corp.
 Slimair—Electro-Voice Inc.
 Slim-trim—Electro-Voice Inc.
 Slim-X—Shure Bros.
 Small Broadcast—Shure Bros.
 Small Unidyne—Shure Bros.
 Smokegag—Ess Instrument Co.
 Snapit—Cable Electric Products
 Snap Jack—Jan Hdw. Mfg. Co.
 Snap-Jack—Kay-Townes Antenna
 Snap-Lock—National Acme Co.
 Sniffer—Johnson-Williams Inc.
 Snowlite—Luxor Lighting Prods.
 SNS—Special Products Co.
 Snydermatic—Snyder Mfg. Co.
 Sodeco—Landis & Gyr
 SolaVolt—Sola Electric Co.
 Solder-Quik—Stark Mfg. Co.
 Sona-Graph—Kay Electric Co.
 Sonalator—Kay Electric Co.
 Sona-Stretcher—Kay Electric Co.
 Sona-Sweet—Kay Electric Co.
 Sonizon—Magnaflex Corp.
 Sonobond—Aeroprojects Inc.
 Sonodyne—Shure Bros.
 Sonogen—Branson Instrument
 Sono-Probe—Advanced Electronics
 Sonora—Otarion Inc.
 So-owing—Seneca Falls Machine
 Soundcraft—Reeves Soundcraft
 Soundscriber Tycoon—Sound-Scriber Corp.
 Sovereign—Certified Radio
 Spauldite—Spaulding Fibre
 Speco—Special Products Co.
 Spectracord—Perkin-Elmer Corp.
 Spectromet—Baird Associates
 Spectrosadic—Consolidated Eng'g
 Speech—Qualitone Co.
 Speedcraft—Wire Stripper
 Spee-Dee—Radiart Corp.
 Speedmaster—Accurate Eng'g Co.
 Speedomax—Leeds & Northrup Co.
 Speedy—Master Electric Co.
 Speedy-Cal—North Shore Nameplate Inc.
 Speedy-Marx—North Shore Nameplate Inc.
 Spencer—American Optical Co.
 Spherex—Electro-Voice Inc.
- Spice Chest Radio—Guild Radio & TV Co.
 Spico—Spirling Products Co.
 Spinlab—Special Instruments
 Spin-Pin—Bruno-NY Industries
 Spirafil—Phelps Dodge Copper Products
 Spiralpot—Giannini & Co.
 Splac—Westline Products Div.
 Spotcheck—Magnaflex Corp.
 Stabiline—Superior Electric
 Stabivolt—Magnetic Reseach
 Stancor—Chi. Std. Transformer
 Standard Arrow—Bludworth Marine Div.
 Standard—New York Solder Co.
 Standco—Sticht Co., Herman H.
 Standee—Claroat Mfg.
 Standout—Channel Master Corp.
 Star-Helix—JFD Mfg. Co.
 Star Line—Duotone Co.
 Staticator—Anderson Inc., W. E.
 Statiflux—Magnaflex Corp.
 Stavolt—McColpin-Christie Corp.
 Steacaps—Micamold Electronics
 Stemo—Stevens Mfg. Co.
 Stentorian—Beam Instruments
 Step-Servo—Bergen Labs.
 Stere-o-matic—V-M Corp.
 Stenafax—Times Facsimile
 Straitflo—Hays Mfg.
 Strat-O-Bord—Stratoseal Mfg.
 Strat-O-Gard—Stratoseal Mfg.
 Strat-O-Kit—Stratoseal Mfg.
 Stratoliner—Shure Bros.
 Strat-O-Lite—Stratoseal Mfg.
 Strat-O-Seal—Stratoseal Mfg.
 StratoTower—Spaulding Products
 Stress Coat—Magnaflex Corp.
 String-A-Lite—Joy Mfg.
 Strobic—Kemlite Labs.
 Stroboconn—Conn Ltd., C. G.
 Strobo-Lite—Wilcox Research
 Strobocast—General Radio Co.
 Stycast—Emerson & Cuming
 Styroflex—Nativar Corp.
 Styroflex—Phelps Dodge Copper Products
 Subscriber-Vision—Skiatron Electronics & TV Corp.
 Suburban—Radion Corp.
 Sunbeam—Clear Beam TV Antenna
 Sunflash—Kemlite Labs.
 Sunform—Sun Chemical Corp.
 Sun-Pli—Sun Chemical Corp.
 Super-Beam—JFD Mfg. Co.
 Superceptor—Winegard Co.
 Super-Davohm—Daven Co.
 Super-Dodo—JFD Mfg. Co.
 SuperFan—Channel Master Corp.
 Super-Lap—Acme Scientific Co.
 Super-Nemcoite—New England Mica
 Super Power-Helix—JFD Mfg.
 Super-Power-Jet—JFD Mfg. Co.
 Super Rear Guard—Kay-Townes Antenna Co.
 Super Royal—Permoflux Corp.
 Superscaler—Tracerlab Inc.
 Super-Sonex—Electro-Voice
 Super Star-Helix—JFD Mfg. Co.
 SuperTel—General Cable Corp.
 SuperTester—Color TV Inc.
 Supertrac—Control Corp.
 Supervac—Central Scientific
 Supramica—Mycalox Corp.
 Supro—Valco Mfg. Co.
 Surco—Surprenant Mfg.
 Sure Flux—New York Solder Co.
 Swetite—Alpha Metal Inc.
 Swiftol—Southwest Products
 Switchaids—Michigan Electronics
 Switchmaster—Tork Clock Co.
 Syl-O-White—Mayer Corp.
 Symphonette—Hedco Mfg.
 Synchron—Hansen Mfg.
 Synchroprinter—Anelex Corp.
 SyncKit—Randertone Inc.
 Syncrogear—U. S. Elec. Motors
 SyncSound—Randertone Inc.
 Synkote—Plastoid Corp.
 Syntholvar—VarFlex Corp.
- T**
 Taco—Technical Appliance
 Takk—Hewson Co.
 Tantalax—Sprague Electric Co.
 Tapek—Broadcast Equip. Spec.
 Tape-o-matic—V-M Corp.
 Tape-Talks—Fischer-Smith Inc
 Tapeoons—Skatin' Toons
 Tappers—Saxton Products Inc.
 TDC—Bell & Howell
 Tebtolog—Fielden Instrument
- Tebtor—Fielden Instrument Div.
 TEC—Transite Electronics
 Tecraft—Equip. Crafters Inc.
 Tecco—Trutone Electronic
 Texco—Union Plastics
 Teffon—Audio Master
 Tela-Ear—Telex Inc.
 Tel-A-Pipe Westline Products
 Telecable—Whitney Blake Co.
 Telecap—Sprague Electric
 Telecolor—Musicolor Inc.
 Telecon—Teletenna Co.
 Telecordex—Telecomputing Corp.
 Teleducer—Telecomputing Corp.
 Tele-Flex—Telrad Mfg.
 Telefunken—American Elite
 Tele-Guide—Telrad Mfg.
 Telemagnet—Mohawk Bus. Machine
 TelePlex—JFD Mfg. Co.
 Tele Process—Trans-Lux Corp.
 Telereader—Telecomputing Corp.
 Telereadex—Telecomputing Corp.
 Telering—Telkor Inc.
 Teleset—DuMont Labs., A. B.
 Tele-Set—Telex Inc.
 Tele-Thermometer—Yellow Springs Instrument
 Telotone—Electronic Creations
 Telo-Trol—Electronic Labs.
 Tele-Twin—JFD Mfg. Co.
 Televolter—Jackson Elect Instr.
 Telstor—Fielden Instrument
 Temco—Thermo Electric Mfg.
 Temcometer—Thermo Electric Mfg.
 Temflex 105—Irrington Div., Minn. Mining & Mfg. Co.
 Tempall—Deutschmann Corp., Tobe
 Tempclad—Hitemp Wires Inc.
 Tempilaq—Tempil Corp.
 Tempil-Pellets—Tempil Corp.
 Tempistick—Tempil Corp.
 Temprene—Hitemp Wires Inc.
 Temprex—Hitemp Wires Inc.
 Temprite—Hitemp Wires Inc.
 Temproof—Lord Mfg. Co.
 Temproid—Hitemp Wires Inc.
 Tempprobe—Victory Eng'g
 Temp-R-Tape T—Conn Hard Rubber
 Tempswitch—Scaico Controls Int.
 Temptube—Hitemp Wires Inc.
 Tennakits—Tennalab
 Tenn-A-Liner—Crown Controls Co.
 Tenna-Pak—JFD Mfg. Co.
 Tenna-Tube—Javex
 Tenna Tuner—Snyder Mfg. Co.
 Tenney-Mite—Tenney Eng'g Inc.
 Tenneyzper—Tenney Eng'g Inc.
 Tensilok—General Cable Corp.
 Tensolex—Tensolite Insulated Wire Co.
 Tensolite—Tensolite Insul. Wire
 Tensolon—Tensolite Insul. Wire
 TenTenna—Dynamic Electronics
 Termaline—Bird Electronic Corp.
 Termond—Buchanan Elec. Prods.
 Tesa—United Mineral & Chemical
 Tesco—Eastern Specialty
 Tescon—T-V Products
 Test Master—Precision Apparatus
 Testometer—United Mfg. Div.
 Tetroc—Sprague Electric Co.
 Texas Leaguer—Antenna Specialists Co.
 Tex-Ray—Texas Electronics Mfg.
 The Country-Belle Music Maid—Guild Radio & TV Co.
 The Country—Guild Radio & TV Co.
 Thelco—Precision Scientific Co.
 The Listener—Otarion Inc.
 Therlo—Driver-Harris Co.
 Thermalac—North Shore Namplate
 Thermalon—Hitemp Wires Inc.
 Thermatool—N. Rochelle Tool
 Thermex—Girdler Co.
 Thermistol—Workman TV Co.
 Thermocap—Niagara Electron Labs.
 Thermocube—Radio Eng'g Labs.
 Thermolastic—Cox & Co.
 Thermosheet—Cox & Co.
 Thermowatch—Cox & Co.
 Thermowire—Cox & Co.
 Thermystal—James Knights Co.
 Thesaurus—Radio Corp. of Amer.
 Thingplates—Park Nameplate
 3C-PAC—Computer Control Co.
 3G-Blac—Computer Control Co.
 Three-Phase—Sciaky Bros.

BRAND and TRADE NAME INDEX

- TIC—Technology Instrument
Tico—Technical Instrument
Timefax—Times Facsimile Corp.
Time-It—Precision Scientific
Tiny-Fix—Production Tool & Fixture
Tinymax—Torwico Electronics
Tinymite—Renbrandt Inc.
Tiolektric—American Lava
Titania—American Lava
Titelmaster—Flett Lab.
Titrilog—Consolidated Eng'g
TN-ITU—Eldico of N. Y.
Tobe—Deutschmann Corp., Tobe
Tocco—Ohio Crankshaft Co.
Tom Thumb—Automatic Radio
Tonotron—Hughes Aircraft Co.
Torbal—Torsion Balance Co.
Torkmaster—Tork Clock Co.
Torque Drive—Electro-Voice
Torque Tenn—Snyder Mfg. Co.
Torque Watch—Waters Mfg. Inc.
Torsynator—Air-Marine Motors
Towerette—Easy-Up Inc.
Town & Country—Kraft Bros.
Trailblazer—Channel Master Corp.
Trailertenna—Clear Beam TV Antenna Corp.
Trainsaire—Taylor Instrument
Transac—Philco Corp.
Transamp—Electronic Research
Trans-citer—Multi Products Co.
Transet—Taylor Instrument Co.
Transidyne—Nader Mfg. Co.
Translite—Plasteck Inc.
Transi-Mag—Magnetic Amplifiers
Transpac—Electronic Research
Trans-Pix—Kay Electric Co.
Transtat—Standard Electronics
Transverta—Clevite Transistor
Transverter—Hertner Electric
Trelco—Transitron Elect. Corp.
Trapper—Technical Appliance
TRCO—Richardson Co.
Triakon—Sieler Design Products
Tri-Dexes—Tri-Dex Co.
Tri-Flux—Redmond Co.
Trig Towers—Rostan Corp.
Tri-Ind-X—Triplett & Barton
Tri-King—Clear Beam TV Antenna
Trimpot—Bourns Labs.
Trim R—Bourns Labs.
Tlonode—Walkirt Co.
Tri-Plate—Sanders Associates
- Tri-Plax—Sta-Warm Electric
Tri-Trans—Triwec Transformer
Trolleyphone—Femco Inc.
Tronex—Wheaton Co., T. C.
Tropicaps—Micamold Electronics
Troupier—Strong Electric Corp.
Trylon—Wind Turbine Co.
Trushade—Technic Inc.
Tru-Sonic—Stephens Mfg.
TS-175—Colortone Electronics
Tube Master—Precision Apparatus
Tunepate—Miller Electronics
Turbo—Brand & Co., William
Turboglas—Brand & Co., Wm.
Turbolene—Brand & Co., Wm.
Turbolex—Brand & Co., Wm.
Turbo 117—Brand & Co., Wm.
Turbosil—Brand & Co., Wm.
Tubotherm—Brand & Co., Wm.
Turbotrans—Brand & Co., Wm.
Turbotuf—Brand & Co., Wm.
Turbozong—Brand & Co., Wm.
Tweezer-Weld—Federal Tool
200—SoundScriber Corp.
Twilt—Electro-Voice Inc.
Twin-Lever—Shure Bros.
Twin Screen Hi-Lite—DuMont Labs., Allen B.
Twin-Tilt—Electro-Voice Inc.
Twin-Twenty—Channel Master Corp.
Twist-Lok—Sprague Electric
T-W—Taylor-Winfield Corp.
Tymeter—Pennwood Numechron Co.
Tynicouple—Detroit Controls
Type ET—Astron Corp.
Typotron—Hughes Aircraft Co.
- U**
- U-Ask-It—Electronic Eng'g
UHF Silver Arrow—Fretco Inc.
ULteax—Medcraft Electronic
Ultracoustic—Gustin-Bacon Mfg.
Ultrafine—Gustin-Bacon Mfg.
Ultralite—Gustin-Bacon Mfg.
Ultra-Pix—Kay Electric Co.
Ultra-Sweep—Kay Electric Co.
Ultra-Telecom—Teletenna Co.
Ultraverter—Blonder-Tongue Lab.
Uni-Cast—Redmond Co.
Uniclosed—U. S. Electrical Motors
Uni-Core—Alpha Metals Inc.
- Uni-Crimp—Sherman Mfg., H. B.
Uni-Grille—Utah Radio Prods.
Uni-Lock—Macon Industries
Unimagic—Pentron Corp.
Unimation—Devel. Research Co.
Unimax—Maxson, W. L.
Unimount—U. S. Electrical Motors
Uniplug—Applegate & Co., C. J.
Unipole—Andrew Corp.
Uniprene—General Cable Corp.
UniVac—Remington Rand Univac
Unireg—Universal Electronics
Unitized—Magnatran Inc.
Unit-Ized—Setchell-Carlson
Unitone—Duo-tone Co.
Universal—K-W Eng'g Works
Universal—Mueller Electric
Universal—Shielding Inc.
Universal—Strong Electric
Universal Hi-Fi—Universal Atomics Corp.
Universal Telereader—Telecom-puting Corp.
Urbanette—Videon Electronic
URL—United Research Labs.
Utone—Utah Radio Prods.
- V**
- Vagabond—International Research Assoc.
Vagabond—Shure Bros.
VAL 90—Valverde Labs.
Valvseal—Richardson Co.
VAM—Video Accessory Mfg.
Vamistor—Ruckelshaus Labs.
Vaporlux—Luxor Lighting Prods.
Varglas—Varflex Corp.
Variable D—Electro-Voice Inc.
Variac—General Radio Co.
Variacell—Superior Electric
Vari-Chokes—Superex Electronics
Varidrive—U. S. Elect. Motors
Vari-Flex—Hamner Electronics
Variogen—Nilsen Mfg. Co.
Variphase—Dubrow Development
Vari-plotter—Electronic Assoc.
Vari-Sweep—Kay Electric Co.
Vasco—Mitchell Industries
Vavmeter—Fluke Mfg. Co., John
V-Cap—Balco Research Labs.
Veeco—Victory Eng'g
VectoHrm—Vectron Inc.
Vectromatic—Vectron Inc.
- Vectronic—Vectron Inc.
Vee-Beam—JFD Mfg. Co.
Velac—Union Switch & Signal
Velco—Virginia Electronics
Ventisel—Electronic Devices
Venus—JFD Mfg. Co.
Veritell—West Instrument Corp.
Vermiculite—Mica Fabricating
Vernistat—Perkin-Elmer Corp.
Versatrol—Assembly Products
Vertar—Par Products
Vibralyzer—Kay Electric Co.
Vibro-Isolators—Korfund Co.
Vibrometer—Televiso Corp.
Vibrotest—Associated Research
Vibrotron—BJ Electronic Div. Borg Warner Corp.
Vibrotron—Byron Jackson Co.
Vic-Dar—Victor Adding Machine
Victor—Radio Corp. of America
Vidaligner—Kay Electric Co.
Vidaplex—Electronics Development Co.
Vidigage—Branson Instruments
Viking—Jensen Mfg. Co.
Viking—Johnson Co., E. F.
Viking Kilowatt—Johnson Co.
Vinox—Union Plastics
Vipower—Radiart Corp.
Visi-Mag—Magneessories
Visitron—Rauland Corp.
VisualCast—Victorlite Indust.
Vitameter—Electronic Test Instrument Corp.
Vitrosil—Thermal American Fused Quartz Co.
VLF—Houston Technical Labs.
Vocatron—Vocalline Co. of America
Voice of Music—V-M Corp.
Voice of the Theatre—Altec Lansing Corp.
Voicon—Radio Frequency Labs.
Volta-Chek—Electronic Test Instrument Corp.
Vultbox—Superior Electric
Volter—Electro-Physics
Votest—Davenport Mfg.
Volt-Ohmatic—Bergen Labs.
Vollthymst—Radio Corp. of Amer.
Vo-Tron—Vokar Corp.
VRL—Vibration Research Labs.
VTP—Vacuum Tube Products
VTVM—Precision Electronics
- Vu Magnemite—Amplifier Corp. of America
- W**
- Wahlquiet—Nilsson Electrical Lab.
Walco—Recordvox Co.
Walkie-Recordall—Miles Reproducer Co.
Walking Stick—Universal Atomics
Walsoclear—Walsco Electronics
Warrenex—Warren Wire Co.
Warrenite—Warren Wire Co.
Wayne Kerr—Marconi Instruments
Waytrol—Jeffrey Mfg. Co.
Weatherfax—Times Facsimile
Webcor—Webster Chicago Corp.
Weldanpower—Lincoln Electric
Weldmatic—Unitek Corp.
Wellesley—National Company
Wesco—West Coast Electronics
Wesgo—Western Gold & Platinum
Weslab—Weston Labs.
Wespot—Giannini Co.
Westach—Westberg Mfg.
West-Cap—San Fernando Electric
Wharfedale—British Industries
Wide-Range—Aftton Industries
Wilcolec—Wilcox Electric Co.
Wilkor—Aerovox Corp.
Winco—Wincharger Corp.
Win-Tronix—Winston Electronics
Wirenut—Ideal Industries
Wirewatt—Ohmite Mfg. Co.
Wire-Wrap—Keller Tool Div.
Wirewound—Milwaukee Resistor
Wiss—Workman TV Inc.
Wobblulator—Canoga Corp.
Worometer—Stewart Instrument
Wrinlay—Photo Chemical Prods.
Wyco—Wyzenbeek & Staff
- Y**
- Yagi-Helix—JFD Mfg. Co.
- Z**
- Zee-Beam—Welco Mfg. Co.
Zero-Max—Revco Inc.
ZIP—JFD Mfg. Co.
Zipper—Centralah
Z-match—Channel Master Corp.
Zygle—Magnafix Corp.

Engineering Societies

Alphabetical listing of professional societies, industry associations and technical organizations serving the radio-TV-electronic and allied fields

- Acoustical Society of America, 57 E 55 St New York N Y
Aircraft Industries Ass'n of America 610 Shoreham Bldg Washington 5 D C
American Assoc of Engineers 8 S Michigan Ave Chicago 3 Ill
American Institute of Electrical Engineers 33 W 39 St New York N Y
American Institute of Physics, 57 E 55 St New York N Y
American Physical Society Columbia Univ Broadway & 116 St New York N Y
American Radio Relay League 38 La Salle Rd W Hartford Conn
American Society for Mechanical Engrs., 29 W 39 St New York N Y
American Society for Quality Control, 50 Church St New York 7 N Y
American Society for Testing Materials, 1916 Race St Philadelphia 3 Pa
American Soc of Tool Engineers 10700 Puritan Ave Detroit 38 Mich
American Standards Ass'n 70 E 45 St New York N Y
American Women in Radio & TV 70 E 45 St New York 17 N Y
Armed Forces Communications & Electronics Ass'n 1624 Eye St N W Washington 6 D C
Associated Police Communication Officers, 528 Tully Rd San Jose Calif
Ass'n for Computing Machinery 2 E 63 St New York 21 N Y
Ass'n of Electronic Parts & Equip Mfrs 11 S LaSalle St Chicago 3 Ill
Ass'n of Federal Communications Consulting Engrs 1302 18 St N W Washington 6 D C
Audio Eng'g Society Box 12 Old Chelsea Sta New York 11 N Y
Electrochemical Society 216 W 102 St New York 25 N Y
Electronic Mfrs Ass'n 598 Madison Ave New York N Y
Electronic Parts Mfrs Ass'n 430 Wyatt Bldg, Washington 5 D C
Engineers Joint Council 29 W 39 St New York 18 N Y
Federal Communications Bar Ass'n 1317 F St N W Washington 4 D C
Hi-Fidelity Institute Inc 1 N LaSalle St Chicago 2 Ill
Industrial Communications Ass'n c/o Bethlehem Steel 701 E 3 St Bethlehem Pa
Institute of Aeronautical Sciences 2 E 64 St New York 21 N Y
Institute of High Fidelity Mfrs 25 Broad St New York 4 N Y
Institute of Radio Engineers 1 E 79 St New York 21 N Y
Instrument Society of America 1319 Allegheny Ave Pittsburgh 33 Pa
Int'l Municipal Signal Ass'n 130 W 42 St New York 36 N Y
Joint Electron Tube Eng'g Council of RETMA and NEMA 155 E 44 St New York 17 N Y
Joint Technical Advisory Committee 1 E 79 St New York 21 N Y
Magnetic Recording Industry Assoc 274 Madison Ave New York 16 N Y
National Alliance of TV & Electronic Service Ass'ns 5908 S Troy Ave Chicago 29 Ill
National Appliance and Radio-TV Dealers Assoc 1141 Merchandise Mart, Chicago 54 Ill
National Ass'n of Electrical Distributors 290 Madison Ave New York N Y
National Assoc of Music Merchants 25 E Jackson Blvd Chicago 4 Ill
National Ass'n of Radio & TV Broadcasters 1771 M St N W Washington 6 D C
National Audio-Visual Ass'n 254D Eastwood Ave Evanston Ill
National Community TV Ass'n 710 14 St N W Washington D C
National Conference on Aeronautical Electronics P O Box 621 Far Hills Br Dayton 9 Ohio
National Electrical Mfrs Ass'n 155 E 44 St New York 17 N Y
National Electronic Distributors Ass'n 4704 W Irving Park Rd Chicago 41 Ill
National Electronics Conference 84 E Randolph Chicago 1 Ill
National Society of Professional Engrs 1121 15 St N W Washington 5 D C
Operational Fixed Microwave Council c/o Ass'n of American Railroads 59 E Van Buren St Chicago 5 Ill
Phonograph Mfrs Ass'n 562 Fifth Ave New York 36 N Y
Radar-Radio Industries of Chicago Inc 1 N LaSalle St Chicago 2 Ill
Radio Club of America 11 W 42 St New York 36 N Y
Radio-Electronics-TV Mfrs Ass'n 777 14 St N W Washington 5 D C
Radio Pioneers 589 Fifth Ave New York 17 N Y
Radio Technical Commission for Aeronautics Rm 2036 Bldg T-5 16th & Constitution Ave N W Washington 25 D C
Radio & TV Executives Soc 420 Lexington Ave New York 17 N Y
Record Industry Ass'n of America 1 E 57 St New York 22 N Y
Representatives of Electronics Products Mfrs 600 S Mich Ave Chicago 5 Ill
Scientific Apparatus Makers Ass'n 20 N Wacker Drive Chicago 6 Ill
Society of Motion Picture & Television Engrs 55 W 42 St New York 36 N Y
Society of Plastic Engrs 34 E Putnam Ave Greenwich Conn
Standards Engineers Society P O Box 281 Camden 1 N J
Veteran Wireless Operators Ass'n 149 President St Lynbrook L I N Y
West Coast Electronic Mfrs Ass'n 339 S Robertson Blvd Beverly Hills Calif

ELECTRONIC INDUSTRIES DIRECTORY

Consulting Engineers

An alphabetical listing of individual engineers and engineering companies specializing in consulting services for the radio-TV-electronic and allied fields. The particular specialty of each engineer is indicated by a code letter following his name and address.

- Broadcast**A
- Communications**B
- Component Manufacturing**C
- Electronic Control Systems**D
- Equipment Manufacturing**E
- Industrial Electronics**F
- Recording, Audio**H

Adair G P 1610 1 St N W Washington 6 D C EX 3-1230 A,B,D,F
 Adler Comm Labs 1 LeFevre Lane New Rochelle 1 N Y 6-1620 A,B,H
 Alford A 299 Atlantic Ave Boston 10 Mass HA 6-2338 A,B,C,E
 Alvarado TV Co 122 Tulane S E Albuquerque New Mex A
 Amoo L R Granger Hill Valley City N D 136 A
 Amy Aceves & King 11 W 42 St New York N Y LO 5-6622 A,B
 Anderson-Nichols 150 Causeway St Boston 14 Mass RI 2-3400 B,D,E
 Andrews Inc L W 1927 College Ave Davenport Iowa 2-8683 A,B,E
 Antin Joseph 137-21 85 Ave Jamaica 55 N Y L I 4-5810 B,C,D,E,F
 Ark Eng'g Co 431 W Tabor Rd Philadelphia 20 Pa Automation Management Inc Adams St Westboro Mass WE 377 D,E,F
 Bacon J W 2001 Bay View Dr Hermosa Beach Calif FR 2-5739 C
 Bailey Corp Arnold B Main St St Francestown N H NE 100 B,E
 Balter Leslie M 880 Bergen Ave Jersey City 6 N J JO 3-2777 B,D,F,H
 Barnes Eng'g Co 30 Commerce Rd Stamford Conn FI 8-5381 C,D,F
 Battison J H 601 N Canal St Carlsbad New Mex TU 5-4101 A,B
 Behar M F 245 Melwood Ave Pittsburgh 13 Pa SC 1-1100
 Bennett S D c/o Linfield Research Institute McMinnville Ore 8712 A
 Bennis Jr W E 3738 Kanawha St N W Washington D C EM 2-8071 A,B
 Bernard Associates 237 E 39 St New York 16 N Y MU 6-7445 A,B,D,F,H
 Bieker H G 12009 Burbank Blvd N Hollywood Calif SU 3-6921
 Bitter A R 3721 Douglas Rd Toledo 13 Ohio KI 5159 A,B,F
 Bixby Assoc H O 238 Main St Cambridge 42 Mass EL 4-0404 B,C,D,E,F
 Bjorksten Research P O Box 265 Madison 1 Wisc 5-7291
 Bolez Recording Co 238 Hamilton St Allentown Pa HE 2-0142 H
 Brennan & Assoc C E 2035 E Tripoli Ave Milwaukee 7 Wisc HU 1-0790 A
 Briggs & Assoc T H 209 N Whitehall Rd Norristown Pa BR 2-7671 D,E,F
 Brown Duncan & Porter P O Box 9296 Raleigh N Car 8892 A
 Brown R A 619 Sugar Creek Dr Joliet Ill JO 2-2201 A,B,D,E,F
 Brubaker P M 100 Essex Ave Glen Ridge N J PI 3-5748 B,D,F,H
 Bumstead R W 624 Maple St Westfield N J WE 2-0628M D,F,H
 Burnett W W L 4814 Idaho St San Diego 16 Calif AT 2-2740 A,B,D,E
 Burwen R S 17 Sheffield Rd Melrose 76 Mass ME 4-4526 D,H

Byrd Eng'g Co P O Box 101 W Memphis Ark 404 B,D,F
 Carney & Assoc Jack 905 Knott Bldg Dayton Ohio FU 3943
 Charo S 39 Maple Ave Upper Darby Pa SU 9-7498 B,D,F
 Cisin Harry G Amagansett N Y AM 7-3852
 Clark & Co Wallace 521 5 Ave New York 17 N Y MU 2-3281 C,D,E,F
 Clarke & Hartman 408 Summit Ave Jersey City 6 N J JO 2-0012 B,F
 Collins Jack 9025 N Pelham Pkwy Milwaukee 17 Wisc FL 2-7520
 Commercial Radio Equip 1319 F St N W Washington D C 7-1319 A
 Consultant's & Designers 650 11 Ave New York 36 N Y PL 7-6700 D,F
 Crain & Assoc P H 1042 Catalonia Ave Coral Gables 34 Fla MI 83-6361 D,F
 Craven Lohnes & Culver 1242 Munsey Bldg Washington 4 D C DI 7-8215 A
 Cresan. McCormick & Paget 342 Madison Ave New York 17 N Y MU 7-5450
 Crosby Labs Box 233 Hicksville N Y WE 1-3191 A,B
 Cullum Jr A Earl Inwood P O Dallas 9 Tex JU 6108 A,B
 Culver L R Box 607 Melbourne Fla 214-W C
 Davis George C 504 Munsey Bldg Washington 4 D C ST 3-0111 A
 Day George 697 Sterling Pl Brooklyn 16 N Y MA 2-0699 H
 Decker Consultants 125 White Rd Mineola N Y PI 2-7084 B,C,E,F
 Delta Electronics 1803 Louisiana Ave New Orleans 15 La TW 5-2091 A,B,D,F,H
 DeMent Labs 5919 SE 72 Ave Portland 6 Ore
 DeRyder H 610 Bloomfield Ave Bloomfield N J BL 2-2665 E
 Designers for Industry 4241 Fulton Pkwy Cleveland 9 Ohio SH 9-0700 A,B,C,D,E,F,H
 Douglas Eng'g Co 28 Taylortown Rd Montville N J DE 4-2430 C
 Draco Inc Box 6648 Washington 9 D C DU 7-2550 B,D,F
 Dunleavy F S 2660 North Ave Bridgeport 4 Conn FO 7-1708 C,D,E,F
 duTreil & Assoc L J N 202 Homedale Ave New Orleans 24 La AU 3525 A
 Edgerton Germeshausen & Grier 160 Brookline Ave Boston 15 Mass CO 7-3520 D,E,F
 Elcar Eng'g 623 Crandell Rd Tiverton R I 4-8553 B
 Electro-Mech Eng'g 1124 E 3 St Minneapolis 15 Minn FE 3-4728 D,E,F,H
 Electronic Equipment Supply 249 N 48 St Lincoln 10 Nebr 6-2444 B,D,E,F
 Electronics Eng'g 6518 N Bouvier St Phila 26 Pa Electronics Research 221 Angelique St Weehauken N J UN 3-5136 D
 Engineering Service 621 Jones Way Sacramento 18 Calif GL 3-1400 D,E
 Engleman C L 2480 16 St N W Washington 9 D C AD 4-6830 A,B,C,D,E,F,H
 Espy Dawkins Box 933 Beverly Hills Calif CR 4-7111 A,B,E,H
 Ewald E R 1202 James St Geneva Ill 2022 C,E,F
 Fein Mitchell 202 Saddlewood Drive Hillsdale N J WE 5-2055 C,D,E
 Foss Wm L Inc 927 15 St N W Washington 5 D C RE 7-3883
 Frazer Co Bob 978 Kent St Altadena Calif SY 4-0512 D,E,F
 Frese G M RT 3 Box 3276 Wenatchee Wash NO 3-5864
 Friedman T B 19 W 44 St New York 36 N Y VA 6-0909 A,B
 Frommer J C 1525 Teakwood Ave Cincinnati 24 Ohio KI 8730 D,F

Gallay Labs 60 Perry St Belleville 9 N J PL 9-4237 B,D
 Gautney & Jones 1052 Warner Bldg Washington 4 D C NA 8-7757 A,B
 General Kinetics Inc 555 23 St S Arlington 2 Va OT 4-7555 B,D,F
 Gerst & Co Paul E 1733 N Milwaukee Ave Chicago 47 Ill HU 9-2160 C,E
 Godley Co Paul P O Box J Upper Montclair N J MO 3-3000 A,B,F
 Goldsmith A N 597 5 Ave New York 17 N Y PL 3-4150 A,D,F
 Gordon H L Warner Bldg Washington 4 D C NA 8-2497 C,D,E,F,H
 Gordon-Obrig Assoc Inc 7 E 48 St New York 17 N Y PL 3-1642
 Gottschalk Eng'g Box 335 Rt 3 Tucson Ariz 4-3288 D,E,F,H
 Graf Rudolph 215 W 92 St New York 25 N Y TR 7-1977 B,E
 Gray C M P O Box 602 Birmingham 1 Ala TR 1-3570 A
 Greer P A Rt 1 White Horse Rd Greenville S C 5-7175 A
 Grimwood Assoc S C 5402 Cabanne St Louis 1 Mo FO 7-5640
 Haigler E D North York Rd Hatboro Pa OS 5-3562 D,E
 Haller Raymond & Brown 124 N Alberton St State College Pa AD 7-7611 B,D,E,F
 Hammett Robert L 821 Market St San Francisco 3 Calif SU 1-7545 A,B
 Hare Co D G C 30 Burtis Ave New Canaan Conn WO 6-9569 E
 Hartman R E Rt 2 Box 189A Tiffin Ohio 4174-W D,F
 Hartong J C Box 465 Beckley W Va 5633 B,D,E,F,H
 Hatfield J B 906 36 Ave Seattle 22 Wash FR 7860 A
 Hayes R R 151 North St San Antonio 5 Tex CA 4-7292 B,C,D,E
 Hecht Bernard 5410 Wilshire Blvd Los Angeles 36 Calif WE 0121 B,C
 Heffelfinger J B 8401 Cherry Kansas City Mo HI 4-7010 A,B
 Hildebrand J G 45 Brighton St Belmont 78 Mass IV 4-3434 C
 Hoberman Max 11 Godwin Ave Fair Lawn N J FA 4-5654 B,C,D,E,F
 Hogan A W Box 1082 Brownsville Tex LI 2-5394 D
 Hoisington D B 150 Ford Rd Carmel Valley Calif LO 9279 B,D,E,F
 Holdaway & Assoc L M 369 Romany Rd Lexington Ky 4-9889 B,D,F
 Holey W J 1146 Briarcliff Pl N E Atlanta Ga AT 3328 A
 Holland Electronics 2133 Central Drive S East Meadow N Y IV 9-0956 A,B,D,E,F
 Hutcheson G C Box 32 Arlington Texas AR 4-8721 A,B
 Industrial Res Products 9400 Belmont Ave Franklin Park Ill GL 5-3600
 Instruments for Industry 150 Glen Cove Rd Mineola N Y PL 2-5300 B,E
 Irco Corp 16 Hudson St New York 13 N Y RE 2-2996 D,E,F
 Isberg R A 2001 Barbara Drive Palo Alto Calif DA 3-1237 A,B,D,E,F,H
 Jacker E W 860 Lincoln Blvd Manitowoc Wisc MU 2-5358 A,B,F,H
 Jansky & Bailey Inc 1339 Wisconsin Ave N W Washington 7 D C AD 4-2414 A,B,D,E
 Johnson J K 184 South Ave New Canaan Conn WO 6-2827 A,B,C,D,E,F
 Kahn Research Labs 22 Pine St Freeport N Y B
 Kalbfell Electronix 3434 Midway Dr San Diego 6 Calif AC 3-7156 D
 Kallmann H E 417 Riverside Dr New York 25 N Y AC 2-1713 E,F,H
 Katzin Martin 711 14 St N W Washington 5 D C ME 8-5818 B,C,D,E,F
 Kean Walter F 1 Riverside Rd Riverside Ill RI 7-2153 A
 Kear & Kennedy 1302 18 St N W Washington 6 D C HU 3-9000 A,B
 Keel J J 1121 E Capitol St Washington D C LI 4-5131 A,B
 Kelburn Eng'g Co 3136 Clarence Ave Berwyn Ill ST 8-6485 D,E,F
 Kelson M R 4350 Sherbrooke St W Montreal Canada FI 5442 A,B
 Kinn T P 7007 Lancaster Rd Baltimore Md HU 6-8988 B,C,D,F
 Kip Electronics 29 Holly Pl Stamford Conn DA 3-5116
 Kirk W C 2114 Griffith Pl E Owensboro Ky MU 3-4144 C,D,E
 Kohlhagen Walter 818 Oakley Ave Elgin Ill SH 1-8913 F
 Korn G A & T M General Delivery Sun Valley Calif B,D
 Kunins M K 1730 Popham Ave New York 53 N Y LU 7-0024 D,F
 La Forge Jr L H 764 Marion Ave Palo Alto Calif DA 5-3775 C

CONSULTING ENGINEERS

- Lappas & Lindberg Co 141 W Jackson Blvd Chicago 25 Ill WA 2-4123 A,B
- Lehr O A 643 W Shawnee Dr Montgomery 7 Ala 2-0350 A,B,D,F
- Levey Labs H A 8127 Oleander St New Orleans 18 La GA 1501
- Little Inc A D 30 Memorial Dr Cambridge Mass UN 4-9370 D,F
- Loupee & Co N A 120 Broadway New York 5 N Y RE 2-8515 B,D,F
- Lubcke Harry R 2443 Creston Way Hollywood 28 Calif HO 9-3266 A,B,D,F
- Lyon H H 4004 Jefferson St Hyattsville Md WA 7-2044 A,B
- Magnuson Engr's 509 Emory St San Jose Calif CY 2-3657 E,F
- Marchand Electronic Labs 311 Riversville Rd Greenwich Conn
- Mast Development Co 2212 E 12 St Davenport Iowa 3-9729 F
- Mathematical Computing Service 67-24 211 St Bay-side 64 N Y BA 4-6184 B,C,D,E,F,H
- May Eng'g Co 6055 Lankershim Blvd N Hollywood Calif
- May Russell P 411 14 St N W Washington 5 D C RE 7-3984 A,B
- McCachren & Assoc W S 2404 Columbia Pike Arlington Va JA 8-8300 A
- McIntosh F H 777 14 St N W Washington 5 D C ME 8-4477 A,B,F
- McNary J C 906 National Press Bldg Washington D C DI 7-1205 A,B
- McNeal J D 794 Quinpiac Ave New Haven Conn HO 7-7012 D,E,F
- Meyers J G 1056 Sheridan Ave New York 56 N Y WY 2-0138 H
- Metro-Goldwyn-Mayer Culver City Calif TE 0-3311 H
- Midwest Eng'g Co 5437 N Santa Monica Blvd Milwaukee 17 Wisc W0 2-5172 A
- Mills J V Rm 1065 National Press Bldg Washington 4 D C ST 3-1065 B,C,D,E
- Mittelman Eugene 549 W Washington Blvd Chicago 6 Ill ST 2-3171 D,F
- Morecroft J M 2637 Pickens St Montrose Calif CH 9-6418 A,B,D,E,F,H
- Mnreffield John A 441 N 25 St Camp Hill Pa RE 7-3416 B,D,F,H
- Morris Jr F W 11600 Fairway Dr Los Altos Calif WH 8-3928 B,D
- Morrissey T G 5700 W 28 Ave Denver 14 Colo BE 3-5320 A,B,D
- Moulic Specialties 1005 W Washington St Bloomington Ill 6-1235 D,F
- MSI Communications 1475 Broadway New York 36 N Y BR 9-8517 B,D,F
- Mullaney John H 2000 P St N W Washington 6 D C AD 4-6393 A,B,D
- Murray A F 4900 Hillbrook Lane Washington 16 D C EM 2-4841 A,B
- Myse & Assoc D A 1411 Pennsylvania Ave N W Washington 4 D C RE 7-7040 A,B
- Nat'l Scientific Labs 2010 Mass Ave N W Washington 6 D C HU 3-4030 B,D,F
- Nicholson Emmett 256 Scotland St Dunedin Fla 81-3191 F
- North Hills Electric 203-18 35 Ave Bayside 61 N Y BA 4-0540 C,E
- Norton Electronics 10 Addison Rd Fairfax Va CR 3-0850 O,F
- Page Cruetz Garrison & Waldschmitt 710 14 St N W Washington 5 D C EX 3-5670 A
- Pfeiffer G S 4529 W Parker Ave Chicago 39 Ill BE 5-9377 F
- Pickles Sidney P O Box 1126 Tonopah Nev
- Plotts Ellery L 209 Jason St Arlington 74 Mass MI 3-8220 A,B
- Polydoroff W J 927 15 St N W Washington 5 D C NA 7-6724 C,E
- Polytechnical Consultants 425 W 263 St Riverdale 71 N Y KI 9-7394
- Pooley R R 3153 N E 83 Ave Portland 20 Ore AL 3-7450 A,B
- Preisman A 616 St Andrews Lane Silver Spring Md JU 5-6307 A,B,H
- Pressman Assoc 7803 Farnsworth St Philadelphia 15 Pa DE 3-8064 D,E,F
- Prestwood F H 342 Lincoln Ave Val Paraiso Fla 2547 A,D
- Rabinow Eng'g Co 7212 New Hampshire Ave Washington 12 D C JU 9-3555 C,D,F
- Radio Eng'g Co 1355 Market St San Francisco Calif MA 1-8171 A,H
- Raesler J L 93 Philips Rd Manchester Conn MI 9-0949 D,E,F
- Richardson William E 1935 S W Moss St Portland 19 Ore CH 4-4070 B
- Ring & Co A D 1032 Pennsylvania Bldg Washington 4 D C RE 7-2347 A,B
- Rochester Electrical & Radio 462 Plymouth Ave N Rochester 6 N Y LO 6696 A,B,D
- Rosen Co Milton 43 Winthrop Rd Hillsdale N J WE 5-0961 C,D,E,F
- Rosenberg Assoc P 100 Stevens Ave Mt Vernon N Y MO 7-8040 B,C,D,E,F
- Rountree J G 5622 Dyer St Dallas 6 Texas EM 3266 A,B
- Saxon Merl P O Box 575 Lufkin Texas 3-4242 A
- Schultz Co 503 N Pine St Indianapolis 2 Ind ME 6-5461 D,F
- Selby H E 619 68 St Brooklyn 20 N Y SH 5-5332 C,E,H
- Sheikofsyk C I Rt 1 Foley Ala L 297R A,B
- Shepard Labs 480 Morris Ave Summit N J CR 3-5255 D,F
- Silliman & Assoc R M 1405 G St N W Washington 5 D C RE 7-6646 A,B,D,F
- Singleton Harold C 4488 S W Council Crest Dr Portland 1 Ore CA 3-1201 A
- Smeby L 4806 Montgomery Lane Washington 14 D C OL 2-8520 A
- Smith Carl E 4900 Euclid Ave Cleveland 3 Ohio HE 2-3177 A,B,D,F
- Smith G D 136 Liberty St New York 6 N Y RE 2-6688 F
- Snow W B 1011 Georgia Ave Santa Monica Calif EX 4-8345 B
- Spencer M C 28 Green St Lebanon N H LE 457 D,F
- Stone C G 304 S 1 Ave Mt Vernon N Y MO 8-8167 E,F
- Strain C E 1298 Niles Ave N W Atlanta Ga SY 4-5164 A
- Street C C 610 S San Vicente Blvd Los Angeles 48 Calif WE 1-0055 B,D,E,F,H
- Sunstein Eng'g Co 464 Conshohocken State Rd Bala-Cynwyd Pa
- Swanson E M 15 Cleveland Ave Glen Head N Y GL 4-6324 B,E
- Swantek J J 3132 Glacier Way Ann Arbor Mich NO 2-9608 A,B
- Swarthe Eric P O Box 212 El Segundo Calif FR 4-1757 D,E,F
- Tammen & Denison 650 S Clark St Chicago 5 Ill HA 7-3955 C,D,E,F,H
- Tannenbaum Jerome 5240 S Harper Ave Chicago 15 Ill FA 4-9556 D,F, H
- Town & Hughes Box 112 Station A Ames Iowa CE 2-5754 A,B,D
- T & T Radio Measurements 2557 Atlantic Ave Long Beach 6 Calif GA 4-2015 A
- Uglov Kenneth M 7961 Eastern Ave Silver Spring Md JU 9-2603 B
- Vandivere Cohen & Wearn Evans Bldg Washington 5 D C NA 8-2698 A,B
- Vaughan Assoc C B Box 441 Union City N J D
- Wagner & Assoc G O 931 Groton Dr Burbank Calif TH 4-1692 C,D,F
- Walsh Eng'g 34 DeHart Pl Elizabeth 2 N J EL 4-5120 C,D,E
- Watson Jr R C P O Box 1435 Anniston Ala AD 6-4503 A,F
- Waldon & Carr 1001 Conn Ave N W Washington 6 D C ST 3-2550 A,B,H
- Westlabs Inc P O Box 1111 Palo Alto Calif DA 4-0514 F
- Whalley W B 201-12 28 Ave Bayside 60 N Y BA 9-9049 F
- Wheeler Labs 122 Cutter Mill Rd Great Neck N Y HU 2-7876 B
- Whiteford Lab 587 Washington St Lynn Mass LY 8-9119 B,D,E
- Williams B M 1805 Westway Ave Garland Texas 6-3443 C,D,E,F
- Williams E M 415 Maple Ave Pittsburgh 18 Pa PE 1-8083 B,D,F
- Williams M R 7401 E 14 St Indianapolis 19 Ind FL 6-0388 A,B,F,H
- Williams N 20 Algoma Blvd Oshkosh Wisc RI 885
- Wilmotte Inc R M Gen Delivery Kendall Br Post Office Miami Fla
- Winkler Labs 5225 N 20 St Phoenix Ariz AM 6-5952 E
- Wortman L A 75 Charles St New York 14 N Y WA 9-3622 A,B
- Wrathall G R Apts Calif MU 8-3352 A,E
- Wright Eng'g Co 7941 McNulty Ave Canoga Park Calif DI 7-6843 A,B,D,F,H
- Wright L R Munsey Bldg Washington 4 D C DI 7-1740 A
- Wyeth Eng'g 1336 W 89 St Chicago 20 Ill HI 5-1447 D,F

ELECTRONIC INDUSTRIES DIRECTORY

Distributors

These are the names and addresses of organizations handling the distribution of radio-TV-electronic parts and equipment in the United States. Listings are alphabetical under states and cities. Asterisk (*) indicates membership in National Electronic Distributors Association (NEDA).

Alabama

ANNISTON

Dickert Supply Co 105 W 10 St AD 5-3933
Radio Dist & Supply 125 W 10 St AD 6-0671

BESSEMER

Bessemer Radio Supply 114 N 20 St 5-9573

BIRMINGHAM

Ack Radio Supply 3101 4th Ave SE 4-0588
Air Engineers 1529 2 Ave 54-3431
Auto Service 1916 S 4 Ave 3-4102
*Clary Co J W 1713 2 Ave S 4-2488
Forbes Distr 2600 3 Ave S 3-4105
Graybar Elec 709 1 Ave N BI 4-1861
Lewis Supply Co 1025 N 19 St 7-1148

McDavid & Co R P 1430 2 Ave S 7-7165
*Reid Distributing 1724 S Ave N 4-7357
Steel City Supply 600 N 7 St 4-0433

DECATUR

Radio & Television Supply 415 Bank 2231

DOTHAN

Carmichael Wholesale 140 S Foster St 2-1255
Hand Supply Co 705 S Oates 4-3300
Signal Supply 1505 Montgomery Hwy 4-0360

GADSDEN

Radio Dist & Supply Co Hqrs Anniston
Southeastern Radio Parts Hqrs Atlanta

HUNTSVILLE

Radio & TV Supply Hqrs Decatur

JASPER

Ramco Radio Supply 20 St & 2 Ave 2-5321

MOBILE

Emrich Radio Supply 656 Dauphin St HE 8-2596
Forbes Electronic 57 N Washington HE 2-7661
General Elec 54 Eslava St 8-4571
Graybar Elec Supply 701 N Joachim St HE 2-3511
Harris Supply 10 N Water 2-0541
McDavid Co R P Hqrs Birmingham
McGowin-Lyons Water & St Louis Sts HE 2-8721
*Nelson Radio 451 St Louis 2-0411
Radio Labs 111 N Royal 2-1715

MONTGOMERY

Nolin-McInnis 211 Commerce St 7323
Southeastern Radio Parts 224 N Court St 3-6488
Teague Hardware PO Box 240 2-0541
Walther Bros 2245 W Fairview Ave

SELMA

Reid Distributing Hqrs Birmingham

SHEFFIELD

Radio & TV Supply Hqrs Decatur

SYLACAUGA

Cambell Distributing Co 300 W 1 St 2-4122

TUSCALOOSA

*Allen & Jemison Co 8-2781
Radio Parts 402 20 Ave 8-5585

Arizona

PHOENIX

Electrical Comm 202 E Fillmore AI 2-8248
Electrical Equip 1 Ave at Madison 3-3186
General Electric Sup 1102 N 22 Ave AL 8-6721
Graybar Electric 434 W Madison AL 2-2375
Matthias & Co Albert Hqrs El Paso Tex

DISTRIBUTORS SERVING the ELECTRONIC INDUSTRIES

Midland Specialty 1930 N 22 Hqdrs El Paso Tex
 *Radio Parts of Ariz 214 S 11 Ave AI 8-6476
 Radio Spec & Appl 305 E Roosevelt AL 4-7184
 Southwest Wholesale 2 at Madison AL 2-1743
 Westinghouse Elec 1110 N 21 AL 4-9276

UTCON

Art Electronic Supply 145 S Park 4-4413
 *Elliott Electronics 418 N 4 Ave 4-2473
 General Electric Supply 2 E 6 St 3-4773
 Graybar Electric 212 S Park Ave 2-6439
 *Standard Radio Parts 218 N 1 Ave 3-2545

Arkansas

BLYTHEVILLE

Teague Radio-TV PO 3-4056

FORT SMITH

Carter Electronic 805 N 11 St 3-4129
 *Wise Radio Supply 1001 Towson Ave SU 3-8926

HOT SPRINGS

White Radio Supply David Hqdrs Little Rock

JONESBORO

Martin Wholesale Radio Sup Hqdrs Paragould

LITTLE ROCK

*Carlton Wholesale 606 E Capitol FR 2-0248
 General Electric Supply 601 E Markham 5-5328
 Graybar Electric 417 Byrd St FR 5-1246
 Frank Lyon 214 E Markham St FR 5-5311
 Southern Radio 1419 Main St FR 2-4198
 Thurman Supply 115 W 11 St 7308
 *White Radio Supply 1222 Main FR 6-1391

NORTH LITTLE ROCK

Rye Wholesale 117 W Washington FR 5-2426

PARAGOULD

Martin Wholesale 1207 W Kings Hwy CE 6-4049

PINE BLUFF

White Radio Supply David Hqdrs Little Rock

TEXARKANA

*Lavender Radio Supply 520 E 4 St 2-4195
 McCulloch Whse TV 305 E Front St 22-8411

California

ALHAMBRA

*Coast Electronic Supply 2708 W Main CU 3-4049

BAKERSFIELD

Arbuckle J C 500 E 19 St Hqdrs Fresno
 Dunlap Radio & TV 1134 33 St Hqdrs Stockton
 Radio Specialties Hqdrs Los Angeles
 Valley Radio Supply 716 Baker St FA 7-8831

BERKELEY

Pacific Radio Supply 1940 Ashby Ave TH 3-8900

BURBANK

Dean's Electronics Hqdrs Long Beach
 Pacific Radio Exch Hqdrs Hollywood
 Valley Electronic Supply 1302 N Magnolia Blvd

CATHEDRAL CITY

Wholesale Electronic Specialists PA 8-3302

CHICO

Dunlap Radio & TV Hqdrs Stockton
 Kemp Co E M 815 Main St FI 2-8703
 Radio Television Products Hqdrs Sacramento

CONCORD

Pacific Radio Supply Hqdrs Berkeley

EL CENTRO

Ainza Electronic 540 Broadway EL 2-2528

EL MONTE

Kimball-Stark 713 S Tyler FO 0-2594

EUREKA

Redwood Electronics 711 Summer St HI 2-1301

FRESNO

Arbuckle J C 2349 Kern 4-6555
 Billings Wholesale Radio 817 Broadway
 DeJarnatt Whse B J 223 Fulton 2-2153
 Dooley Harry 725 L St 2-4108
 Dunlap Radio & TV 2617 Tulare St Hqdrs Stockton
 General Elec Supply 1234 O St 4-4746
 Graybar Electric 101 Van Ness Ave FR 2-4175
 Inland Electronic Sup 843 Divisadero St 6-9666
 Kinney & Faust 1740 Van Ness 6-8321
 Ports Mfg Co 3265 Belmont 3-6728
 Westinghouse Elec 2608 Calif 4-5091

FULLERTON

United Radio & Electr Hqdrs Los Angeles

GARDENA

Video Suppliers 14526 Crenshaw DA 9-4053

GLENDALE

Hagerty Radio 6826 San Fernando Rd TH 8-2453
 *Weatherford Co R V 6921 San Fernando RO 9-2281

HOLLYWOOD

Hollywood Radio 5606 Hollywood HO 4-8321
 Pacific Radio Exch 1407 Cahuenga HW 2-1393
 Western States Elec 1509 N Western HO 5-7185
 Yale Radio Elec 6616 Sunset Blvd GL 4169

INGLEWOOD

Cook Electronics 210 E Hardy St OR 8-7644
 Inglewood Electronics 836 S LaBrea OR 4-2366
 Newark Electric Hqdrs Chicago

LONG BEACH

Cal-Tenna Electronic 363 South St NE 6-1239
 Dean's Electronics 2310 American Ave GA 7-0955
 Electronic Supply 3363 Lime St Hqdrs Pasadena
 General Electric Supply 840 W 12 St 3-5311

Gough Industries 838 W 12 Hqdrs Los Angeles
 Graybar Electric 800 W 16 St HE 2-2911
 Kierulff & Co 1760 Pacific Ave Hqdrs Maywood
 Lynde Electronics 1526 E 4 St 7-4807
 *Scott Radio Supply 266 Alamitos 7-8629

LOS ANGELES

American Electronic 567 S Fairfax Ave WE 6-5181
 Bell Radio Supply 1311 W Florence Ave PL 2-7191
 Calif Sound Prods 7264 Melrose WE 1-1557
 Ceazan J N Co 3535 S Broadway AD 1-9133
 *Federated Purchasers 11275 W Olympia BR 2-0831
 Figart's Radio 6320 Comm Sloat Dr YO 6218
 Fredkin Co M S 1012 S Hill St RI 9-9705
 General Elec Supply 700 Turner St MA 5-7141
 G L Electronics 1632 Venice Blvd RI 9-8188
 Gough Industries 560 S Mission Rd MA 6-2474
 Graybar Electric 210 Anderson AN 3-7282
 Henderson Co 628 N Alvarado DU 2-8301
 Henry Radio 11240 W Olympic Blvd GR 7-6701
 Hollywood Electronics 7460 Melrose Ave WE 3-8208
 Kerwin Co J J 1525 S Flower St PR 5323
 Kierulff Electronics 820 W Olympic RI 7-0271
 K & L Radio Parts 1406 Venice Blvd RI 9-0553
 Los Angeles Radio 10217 Venice TE 0-5862
 Pacific Television 4032 S Figueroa AD 3-8058
 *Papel Bros 2605 E 4 St AN 2-5151
 Quality Dist 1715 W 8 St
 Radio Doc 721 S Main St VA 3104
 *Radio Equip Dist 1340 S Olive St PR 9151
 Radio Parts Sales 5220 S Vermont PL 9-9178
 Radio Prod Sales 1501 S Hill RI 9-7471
 Radio Spec 1956 S Figueroa St RI 9-7271
 Radio TV Sup 341 W 18 St RI 8-7131
 Shelley Radio 2008 Westwood GR 7-6741
 United Radio & Elec 1924 S Grand RI 9-5241
 *Univ Radio Sup 1729 S Los Angeles PR 5241
 Warsco Sales Co 4301 S Figueroa St AD 3-8171
 Westinghouse Elec Sup 905 E 2 MA 9-4161

MARYSVILLE

Dunlap Whse Radio Hqdrs Stockton

MAYWOOD

Kierulff & Co 6058 Walker Ave LO 8-1192

MENLO PARK

Peninsula TV & Radio Supply Hqdrs San Jose

MERCED

Dunlap Radio & TV Hqdrs Stockton

MODESTO

Dunlap Whse Radio Hqdrs Stockton
 Inland Electronic Suppliers Hqdrs Fresno
 Pacific Teletronic & Radio Sup 417 7 St 3-7751

MONTEREY

Peninsula TV & Radio Supply Hqdrs San Jose
 Wholesale Electronics 229 Alvarado ST 2-7642

NORTH HOLLYWOOD

N Hollywood Radio 4212 Lankershim ST 7-3063

OAKLAND

Brill Co W D 198 10 St TE 2-6100
 Cass Altschuler Co 6038 Telegraph UL 3-7557
 *Elmar Electronics 140 11 St HI 4-7011
 General Electric Sup 5400 Hollis St OL 3-4433
 Graybar Elec 1911 Union St GL 1-5451
 *Millers Radio & TV 336 E 8 St TW 3-3848
 Wenter Co E C 1450 Harrison GL 1-1020
 Westinghouse Elec 711 E 8 TE 4-9900

OXNARD

Kierulff & Co Hqdrs Maywood

PALO ALTO

Associated Radio Distr Hqdrs San Francisco
 White & Co 788 Mayview Ave DA 3-4455
 Zack Radio Supply Hqdrs San Francisco

PARAMOUNT

Lev Co E W 16514 S Garfield ME 3-5108

PASADENA

Dow Radio 1759 E Colorado SY 3-1196
 Electronic Supply 2685 E Foothill SY 5-5901
 Empire Electronic Dis 37 E Union St RY 1-7671

PITTSBURG

Dunlap Radio & TV Hqdrs Stockton

POMONA

Anderson-Maqs 1095 E Third LY 9-9669

REDWOOD CITY

Electronic Supply 1740 Broadway EM 8-4093
 TV-Radio Supply 415 Lathrop Hqdrs San Francisco

RICHMOND

Millers Radio & TV Supply Hqdrs Oakland

RIVERSIDE

Electronic Supply Hqdrs Pasadena

SACRAMENTO

Broili-Parks 2225 19 St GI 2-2983
 Capitol Electronics 1714 10 St GI 3-5931
 *Dunlap Whse Hqdrs Stockton
 General Elec Supply 1131 "S" St GI 3-9001
 Graybar Electric 1900 14 St GI 2-8976
 *Kemo Co E M 1115 R St GI 3-4668
 Meyberg Co Leo J Hqdrs San Francisco
 Radio Television Prod 2012 19 St GI 2-7691
 *Sacramento Electronics 1219 "S" St HU 1-4821
 Westinghouse Elec 1730 14 St GI 3-6525

SALINAS

Peninsula TV & Radio Hqdrs San Jose

SAN BERNARDINO

Featherstone Radio & TV 1010 E St 81-1306
 General Elec Supply 485 S "I" St 5135

Gough Industries PO Box 222 Hqdrs Los Angeles
 Graybar Electric 655 S "H" St ST 9-1051
 *Inland Electronic Supply 843 Colton Ave 6-5571
 Kierulff & Co Hqdrs Maywood

SAN DIEGO

Electric Supplies Dist 435 2 Ave
 Electronic Equip Dist 1228 2 Ave BE 2-3155
 General Elec Supply 450 2 Ave BE 9-0271
 Gough Industries 3255 5 Ave Hqdrs Los Angeles
 Graybar Electric 720 State St BE 3-1361
 Radio Parts Co 2060 India BE 9-9361
 Radio Specialties Hqdrs Los Angeles
 Shanks & Wright 2045 Kettner BE 9-0176
 Western Radio & TV 1415 India St BE 9-0361

SAN FRANCISCO

*Assoc Radio Distr 1929 Market St HE 1-0212
 Basford Co H R 235 15 St MA 1-8545
 *Brown Co C C 61 9 St MA 1-7000
 Edwards Co Frank 382 6 St MA 1-9700
 Ets-Hokin & Galvan 551 Mission St EX 2-0432
 General Electric Supply 1201 Bryant St UN 3-4000
 Graybar Electric 1750 Alameda St MA 1-5131
 Hauer Radio Parts Karl 281 9 St MA 1-0552
 Kaemper & Barrett 1850 Miss UN 3-3080
 *Meyberg Co L J 33 Gough St MA 1-3400
 Offenbach & Remus 1564 Market St KL 2-2100
 *Pacific Whse 1850 Mission St UN 1-4843
 *San Francisco Radio 1284 Market UN 3-6000
 *Smith & Crawford 789 Stevenson St UN 3-2045
 *Television Radio Supply 326 Market St EX 2-2898
 Westinghouse Elec 201 Potrero UN 1-5051
 *Wholesale Radio 140 9 St HE 1-3680
 *Zack Radio Supply 1424 Market MA 1-1424

SAN JOSE

Peninsula TV & Radio 881 S 1 St CY 4-8781
 *Quement Frank 161 W San Fernando St CY 4-0464
 San Jose TV Supply 999 S 1 St CY 4-7900
 Schad Electronic 256 W San Fernando CY 7-5858

SAN LEANDRO

Millers Radio & TV Supply Hqdrs Oakland
 Styles & Engleman 2255 Bancroft Ave LO 9-9433

SAN MATEO

Associated Radio Distrs Hqdrs San Francisco

SAN RAFAEL

Abbett Co E B 345 Francisco GL 3-1130

SANTA ANA

Electronic Supply Hqdrs Pasadena
 Graybar Electric 301 French St KI 3-8309
 Hurley Electronics 1434 S Main KI 3-9237
 Radio & TV 207 Oak KI 2-6741

SANTA BARBARA

Channel Radio Supply 523 Anacapa WO 2-3429
 Dealers Wholesale 209 W Canon Perdido Hqdrs
 Ventura

SANTA MARIA

Dealers Wholesale Supply Hqdrs Ventura

SANTA MONICA

Santa Mnnica Radio 117 Santa Monica EX 3-8231

SANTA ROSA

Santa Rosa Electro 1066 Santa Rosa Ave 7708

SOUTH GATE

Mac's Radio Supply 8320 Long Beach LU 8-4111

STOCKTON

DeJarnatt Whse B J 515 N Hunter Hqdrs Fresno
 *Dunlap Radio & TV 27 N Grant HO 6-7907
 General Electric Supply 24 N Aurora St HO 5-7231
 Kemp Co E M 50 N Wilson Way Hqdrs Sacramento
 Radio TV Products Hqdrs Sacramento
 Sacramento Elect Supply Hqdrs Sacramento
 *Stockton Electronics 710 E Main St HO 5-2691

TEMPLE CITY

Radio Specialties Hqdrs Los Angeles

VALLEJO

Associated Radio Distr Hqdrs San Francisco

Walker Co R Lyman 1219 Monterey St VA 3-5675

VAN NUYS

Kierulff & Co Hqdrs Maywood
 Taas Radio & TV Supply 14530 Calvert St ST
 5-3123

VENTURA

Dealer's Whse Supply 265 S Laurel MI 3-6147

WALNUT CREEK

Millers Radio Hqdrs Oakland

WEST LOS ANGELES

California Electronics 11801 W Pico BR 2-2126

Colorado

BOULDER

Boulder Distri Co 1633 18 St HI 2-8750

COLORADO SPRINGS

D & M Electr Supply 717 N Weber St ME 3-0902
 Murray Radio Co 9 E Vermijo ME 3-8248
 Walker Radio Co L B Hqdrs Pueblo

DENVER

Electric Accessories 1959 Stout St
 Electronic Parts Co 1322 Lincoln St TA 5-2661
 Fistells Radio 1085 Lincoln St MA 3-3197
 General Electric Supply 1429 18 St KE 4-6301
 Graybar Elec 104 Wazee Market TA 5-7116
 Hasso Inc 1745 Wazee Keystone 4-8151
 Inter-State Radio 1200 Stout St TA 5-5347
 Niles Phono & Radio 1254 Arapahoe AM 6-1671

DISTRIBUTORS SERVING the ELECTRONIC INDUSTRIES

Radio Products Sales 1237 16 St CH 4-6591
Ward Terry 70 Rio Grande Blvd AC 2-1871
Walker Radio L B 620 Broadway Hqdrs Pueblo
GRAND JUNCTION
Radio & Elec Supply 511 Ute Ave 486
Walker Radio Co L B Hqdrs Pueblo
PUEBLO
Pueblo Radio TV Supply 211 Polk 8515
*Walker Radio L B 100 N Victoria Ave LI 2-1924

Connecticut

BRIDGEPORT
Coastal Radio 1106 Barnum Ave 5-7441
D'Elia Dists 1330 Fairfield Ave ED 3-0195
General Elec Supply 1899 Seaview Ave FO 8-1621
*Hatry of Bridgeport Hqdrs Waterbury
Kaufman Electronics 1710 Main St ED 3-1842
Sprague Electrical Supplies 347 RR Ave ED 6-2535
Waldhaus L N 1132 Nnrman St FA 5-7985
Westconn Electronics 195 Colorado Ave FO 7-7747
DANBURY
Pilgrim Electronics 11 Spring St 3-4617
EAST HAVEN
J V Electronics 690 Main St HO 7-3034
HARTFORD
Del Padre Assoc LL 374 Main St
Emerson Radio 20 Chestnut St JA 5-1476
General Elec Supply 2964 Main St JA 2-4111
Graybar Electric 453 New Park Ave AD 3-2631
*Hatry of Hartford Hqdrs Waterbury
*Moses Radio & Elec 54 Flower St 7-7247
Sceli & Co R G 78 Maple Ave JA 2-1144
Signal Center 21 New Britain Ave JA 2-8116
Sprague Electrical Hqdrs Bridgeport
Wood-Alexander Co 100 Lucust St
Yale Radio Electronics 1215 Main JA 2-9300
KENSINGTON
*Modern Radio 1224 Farmington Ave VA 8-3544
NEW BRITAIN
United Electronic Sunoly 49 E Main BA 3-3641
Universal Radio Co 61 E Main St
NEW HAVEN
Amerlinn 203 Henry St SP 7-7383
American Distr 76 Franklin UN 5-0861
American TV 84 Commerce St LO 2-6122
Ammrad Co 843 Grand Ave UN 5-4508
*Brown Co T H 15 Whiting St SP 7-7695
Congress Radio 207 Congress UN 5-6365
Connecticut Appl Dists 140 Ferry St LO 2-9941
Dale Electr Div Dale-Conn 150 James SP 7-5555
General Elec Supply 74 Forbes St HO 7-6331
Graybar Electric 25 Union St IJN 5-4163
*Hatry of New Haven Hqdrs Waterbury
Plymouth Electric Co 393 Chanel St ST 7-0291
Radio Shack Corn 230 Crown St Hqdrs Boston
Tower Distr H M 48 County St SP 7-5320
NORWICH
Aikins Electronic Supplies 98 Water St TU 9-8427
STAMFORD
Freed Electronics 255 Bedford St
Stamford Radio Supply 562 Atlantic St
Westchester Elec Sup 181 Stillwater Ave FI 8-5397
WATERBURY
*Bond Radio Supply 439 W Main St 3-2149
General Elec Supply 23 Nichols Dr PL 4-2143
*Hatry of Waterbury 89 Cherry 5-1181
Mac's Radio & Electronic 200 Bank St

Delaware

WILMINGTON
Almo Radio 1122 French St Hqdrs Philadelphia
Dela Electronics Supply 220 W 4 St OL 4-7932
D & M Radio & Electronics 215 W 4 St OL 6-2222
General Electric Supply 310 S Market St 5-5561
Graybar Electric 1005 W 4 St ST 6-7761
Radio Electric 3 & Tatnall Sts 6-8664
Westinghouse Electric 400 S Market 5-9611
Wholesale Electronic 3rd & Monroe Sts 6-1144
Wilmington Elec Supply 405 Delaware Ave 5-4321

District of Columbia

WASHINGTON
*Capitol Radio 2120 14 St N W HO 2-0800
*Electronic Wholes 2345 Sherman N W HU 5200
General Electric Sup 705 Edgewood N E HU 3-6800
Graybar Elect 60 Fla Ave N E AD 4-4800
Kenyon Radio Supply 2020 14th St N W DE 2-5800
*Rucker Electronic 1312 14 St N W AD 2-8554
*Silberne Radio 3400 Georgia Ave N W TU 2-7800
*Southern Electronics 3405 Georgia N W TV 2-5000
Southern Whislers 707 Edgewood N E HU 3-3422.
Sun Parts Distr 514 10 St N W ME 8-2697
Westinghouse Elec 1216 K St N W NA 8-9700

Florida

DAYTONA BEACH
Hammond Electronics Hqdrs Orlando
FORT LAUDERDALE
Certified Radio TV 2606 S Federal Hwy JA 3-6451
Graybar Electric 845 N W 6th Ave JA 3-9672
FORT PIERCE
McNees Radio Supply 900 S Dixie Hwy 2728
GAINESVILLE
Baird Hardware Co 1 SE 1st 2-8531
HIALEAH
Herman Radio Supply Hqdrs Miami
JACKSONVILLE
Acme Electronics Distr 811 Main St 6-0485
General Elec Supply 530 E Forsyth St EL 3-9011
Graybar Electric 12 & Main Sts EL 6-7611
Kinkade Radio 1402 Laura Hqdrs Tampa
Peard Electronic Sup 535 Washington EL 5-3473
Puthuff Co G F 2231 W Beaver EL 6-1591
Southeast Audio Co 930 W Adams St 4-6372
Southern Hardware 11 S Newman St
*Thurow Distributors 15 E Church St 5-3727
Westinghouse Elec 545 E 4 St 3-7431
LAKELAND
Hammond Electronics Hqdrs Orlando
Radio Accessories Hqdrs Orlando
LAKE WORTH
McNees Radio Supply Hqdrs Ft Pierce
MIAMI
Certified Radio TV 675 NW 11 St 82-1637
East Coast Radio 1932 NW Miami Ct 82-4636
Electronic Supply 61 NE 9 St 9-4512
Emerson Radio of Fla 131 NE 10th St
Flagler Radio Co 1068 W Flagler St
Graybar Electric 2111 NW 22 Ave MI 65-1411
*Herman Radio Supply 1365 NW 23 St NE 4-6591
Radio-TV Parts 2611 NW 21 Terrace NE 5-0626
Sanders Electronics Co 3408 NW 7 Ave 65-1389
Sea Coast Aoo Dist 1481 NW 22 St ST 9-1761
*Thurow Distributors 2207 NE 2 Ave 9-6571
*Walder Radio & Apol 1809 NE 2 Ave 9-4794
Westinghouse Electric 11 NE 6 St 82-3691
ORLANDO
General Electric Supply 523 N Garland 3-6407
Goddard-Orlando 631 W Central Ave 5-5531
Graybar Electric 400 Pittman St OR 5-4551
Hammond Electronics 533 W Central Ave 5-2688
Radio Accessories Co 2305 McRae St 5-2677
*Thurow Distributors 625 W Central Ave
PANAMA CITY
Electronic Supply 316 Luerne Ave SU 5-4821
PENSACOLA
Grice Radio & Elec 300 E Wright St HE 3-4616
Gulf Elec & Hdwe 115 E Greory St 6146
Hundley Distributing 1110 N 13 Ave HE 2-5457
SARASOTA
Radio Accessories Hqdrs Orlando
ST PETERSBURG
Cooper Radio Co 648 2 Ave S 7-7120
Graybar Electric 1900 1 Ave S ST 7-4161
Southern Electronic Lhns 938 9 St S 75-2911
TeeVee Parts 702 3 St S 7-0533
*Thurow Distr 342 3 Ave S Hqdrs Tampa
Welch Radio Supply 408 9 St S 7-8655
TALLAHASSEE
General Elec Supply 705 S Woodard St 3-0520
Radio-Television Supplies 1320 S Adams St 3-2337
*Thurow Distributors 739 Monroe Hqdrs Tampa
TAMPA
Elec Supply Co 106 S Franklin St 2-3745
Emerson Radio of Fla 209 S Franklin St
General Electric Supply 514 S Morgan 2-1805
Goddard Distr 1502 Grand Central Ave 8-3117
Graybar Electric 416 Ellamae Ave TA 2-4621
Kinkade Radio Supply 1707 Grand Central 8-6043
Radio Accessories Co Hqdrs Orlando
*Thurow Distributors 134 S Tampa St 2-1885
Westinghouse Electric 417 Ellamae Ave 2-5595
WEST PALM BEACH
Goddard Distributors 1309 N Dixie 3-5701
*Thurow Distr 327 Okeechohee Rd

Georgia

ALBANY
General Electric Supply 410 Hodges Ave HE 5-5631
Specialty Distributing Hqdrs Atlanta
Stewart's Radin 212 N Washinton 2-1072
Westinghouse Elec 610 N Washinton 667
ATLANTA
Atlanta Phonograph 27 Pryor SW WA 3380
Garvin Electric 69 Forsyth St WA 2290
General Electric Supply 172 Haynes St SW MA 3811
Graybar Electric 333 North Ave NW CY 1751
Jackson Electronic Sup 840 Marietta St NW EL 5808
Southeastern Radio Parts 400 W Peachtree 6-9761
Specialty Distributing 425 Peachtree EL 5815
Thomas Electronics H 331 Luckie St NW LA 8477
Westinghouse Elec 1299 Northside Dr NW AT 2721
Yancey Co 1500 Northside Dr NW EL 8843

AUGUSTA

General Elec Supply 1547 15 St 6-8422
*Prestwood Electronics 1445 Greene St 4-5444
Specialty Distributing Hqdrs Atlanta

COLUMBUS

Radio Sales 2000 12 Ave 7-3296
Westad 1047 13th St

MACON

*Electronic Distr 995 Riverside Dr 3-9379
Hatcher Co A S 586 3 St 3-5464
Specialty Distributing P O Box 102 Hqdrs Atlanta

ROME

Electronic Supply 217 E 1st St 7842

SAVANNAH

General Electric Supply 301 E Bay St 4-2231
Graybar Electric 2601 Whitaker St SA 2-1121
Southeastern Radio Parts 38 Montgomery St 7565
Specialty Distg Hqdrs Atlanta
Tuten & Long 1508 E 50 St
Westinghouse Elec 580 Indian 3-9682
Yancey Co 666 Indian St 4-1611 Hqdrs Atlanta

Idaho

BOISE

*Craddock Radio Sup PO Box 297 2-6471
General Electric Supply 618 S 8 St 4343
Graybar Electric 1325 Idaho St BO 2-4501
*Kopke Electronics 3113 Rosehill 2-2371
Robbies Radio 4001 Hill Rd 2-8892
Strevell-Paterson Hqdrs Salt Lake City
Westinghouse Electric 318 S Capital Blvd 2-3531
IDAHO FALLS
Schwendiman Distributing Co 380 E St 4393
POCATELLO
Ballard-Carter Hqdrs Ogdan
Billmeyer's Wholesalers 625 S 1st 698
TWIN FALLS
United Electronic 328 3 St E 2355

Illinois

ALTON

Radnics Alton Inc Hqdrs St Louis

AURORA

Pioneer Radio Supply 103 S La Salle St

BELLEVILLE

*Lurtz Electric 219 N Illinois St AD 3-0942

BENTON

*Lamoley Radio 802 N McLeansboro 5111

BLOOMINGTON

Alverson Sales Co 217 E Front St 2-8380

Arco Electric Supply 908 S Lee St 2-5145

Suter TV Supply Hqdrs Springfield

CALUMET CITY

Chaunceys Inc 136 Pulaski Ave Hqdrs Chicago

CENTRALIA

Centralia Elec Supply 108 S Chestnut 7111

CHAMPAIGN

Electronic Parts Co 905 S Nell St 6-1896

CHICAGO

*Allied Radio 100 N Western Ave HA 1-6800

Arplo Sales 4305 Lincoln St WE 5-7781

Ashbach Leonard 743 N LaSalle St WH 4-0077

Atronic Sales 6566 Sheridan RO 1-2424

*Bowman & Co J G 515 E 75 St TR 4-8070

Broadway TV & Radio 5004 Broadway UP 8-6060

*Chaunceys Inc 4740 W Chicago Ave ES 8-0830

Chicago Radio Apparatus 415 S Dearborn HA 7-2276

Clayton Radio 3202 N Pulaski AV 3-2570

*Electronic Expeditors 2909 W Devon Ave RO 4-8640

General Elec Supply 845 S Clinton WA 2-5656

Graybar Electric 850 W Jackson Blvd CA 6-4100

Green Mill Radio Supply 145 W 111 St PU 5-9840

Grove Electronic Sup 4103 W Belmont KI 5-6806

Howard Electr 4140 Archer Ave CI 4-1777

Lukko Sales Corp 5024 Irving Park Rd AV 3-4800

Merquip Co 5904 W Roosevelt Rd AU 7-6274

Mid-States Electronic 5028 N Bdwy LO 1-2894

*Midwest Electr 6907 N Western Ave RO 1-1160

Newark Electric 223 W Madison St 2-2950

Olson Radio 623 W Randolph DE 2-5226

Pilgrim Distributing 1230 E 53 St FA 4-6043

Pioneer Radio Supply 5243 W Diversey Ave BE 7-5754

Premier TV Radio 3239 W North St AR 6-5550

*Radio Parts Co 4645 W Madison St

Radio-TV Supply 4345 W Armitage Ave HU 9-3311

RCA Victor Distr 5000 S Kedzie PR 8-3000

"RPD" Arthur Nagel Inc 918 E 55 St BU 8-5050

(see advertisement page 327)

Star Electronic 7736 S Halsted HU 3-8440

Stolz-Wicks 8110 S Western RE 7-3363

Triangle Industries 600 W Adams AN 3-5060

U S Radio & TV 4346 S Ashland WA 5-4111

*Walker-Jimieson 311 S Western Ave CA 6-2525

Westinghouse Elec 113 N May St TA 9-5000

DANVILLE

Bud Electronic 118 E Van Buren St E 925

Westinghouse Electric 603 N Gilbert 1901

DISTRIBUTORS SERVING the ELECTRONIC INDUSTRIES

DECATUR
Crum Dist 704 N Monroe 3-7776
Loughname & Co 802 N Water St 2-4187
York Radio & TV 518 E Prairie St 3-3484

DIXON
Illinois Appliance 407 W 1 St 4-0091

EAST ST LOUIS
Electronic Part Supply 3619 State St UP 4-1212

ELGIN
Elgin Electronic 157 Brook St SH 2-7635

ELMHURST
Malone Electronics 123 Addison St TE 4-5110

EVANSTON
Chaunceys Inc 1908 Central St Hdqrs Chicago

HARRISBURG
Standard Distrs 432 W Poplar St 640

JACKSONVILLE
Baptist Radio & TV 419 S Mauvalsterre CH 5-4109

JOLIET
Joliet Radio Supply 460 N Chicago 3-9328

KANKAKEE
Radio Doctors 892 W Station St 2-4726
York Radio & TV Hdqrs Decatur

LA SALLE
Warren Radio Co Hdqrs Peoria

MACOMB
Baptist Radio TV Hdqrs Jacksonville

MATTOON
Mattoon Radio & TV 212 N 20 St 5457

MOLINE
*Lofgren Dist Co 1202 4 Ave MO 4-7436

MT CARMEL
Wabash Electronics 700 Plum St 728

OAK PARK
*Melvin Electronics 541 Madison VI 8-3960

PEORIA
Graybar Electric 704 S Adams PE 6-0765
Griffin Distributing Co 400 Franklin St
Hardware Prod Co 3408 N Adams Hdqrs Sterling
*Herberger Radio Supply 136 I St
Klaus Radio & Electric 707 Main St
Ross Radio 1915 Main St 3-3721
Electronic Supplies 803 S Adams Hdqrs Toledo
Warren Radio 308 Oak St 4-5998
Westinghouse Electric 2800 N Adams St 2-5456
Williams Inc 828 S Adams St 3-4446
Yeomans Distributing 3302 N Adams 5-7631

QUINCY
*Cooper Supply 419 S 10 St 237

ROCK FALLS
Hardware Products Co Hdqrs Sterling

ROCKFORD
General Electric Supply 810 20 St 5-0551
H & H Electronic Sup 510 Kishwaukee St 5-4625
Johnson Sales Art A 1117 Charles St
J & M Radio & Telev 1133 Railroad Ave
Mid-West Associated 506 Walnut St 4-5843
State-Wide Wholesale 922 North Ave
Superior-Rockford Hdqrs Racine Wisc
Westinghouse Elec Supply 323 S Main St 5-0577

ROCK ISLAND
*Cameron Co 1714 S Ave 8-7457
*Tri-City Radio Supply 1919 4 Ave 8-5681

ST JACOB
Michael's Electrical Supply 4th & Douglas 3200

SPRINGFIELD
*Bruce Harold 1120 E Capitol Ave 8-7523
General Electric Supply 1007 E Jefferson 3-4509
Graybar Elec Co 405 N MacArthur Blvd SP 8-0484
Sasco United Tel 217 E Washington 2-6837
Suter TV Supply 1500 E Sangamon Ave 8-7369
*Wilson Supply 106 W Jefferson 7845
York Radio & TV Hdqrs Decatur

STERLING
Hardware Products 201 Locust ST 70

TUSCOLA
Moulden Distributing 106 W N Central Ave 163

WAVERLY
Waverly Wholesale 7471

Indiana

ANDERSON
Seyberts Radio Supply 1331 Main St 3-5431

ANGOLA
Lakeland Radio Supply 525 S West St 70
Shaw Electronic Supply 200 S Darling St 291

BEDFORD
Electronic Supply Co 1718 K St 2350

BLOOMINGTON
Stansifer Radio 1805 S Walnut St

COLUMBUS
Williams Co H A 1003 Washington St 7646

CROWN POINT
*Hub Distributors 106 N Main St 1110

ELKHART
Electronics Parts Inc 725 S Main St 2-1208

EVANSVILLE
Castrup's Supplies 1014 W Franklin HA 2-7618
General Electric Supply 2000 N New York Ave
5-2655
Graybar Electric 1709 E Columbia St EV 6-1357
Hatch & Son 919 Vine St HA 4-6731

Ohio Valley Sound 20 E Sycamore 5-6173
Wesco Radio Parts 428 Penn St HA 2-2141
Westinghouse Electric 201 N W 1 St 5-7276

FORT WAYNE
Bohn Sound Eng'g Lincoln Hwy East EA 1202
Fort Wayne Electronics 3606 Maumee EA 3431
General Electric Supply 1609 S Calhoun HA 3243
Midwest Electronics 2016 S Webster St K-5330
Pemberton Labs 236 E Columbia E-1812
Protective Electronics 130 W Columbia A-9331
Radio Equip 1815 E Wayne Hdqrs South Bend
Van Sickle Radio 1320 S Calhoun E-4136
Wall Distributing 241 Pearl St E-2027
*Warren Radio 1716 S Harrison Hdqrs Toledo
Wayne Hardware 254 W Main St A-7153
Westinghouse Elec Supply 610 S Harrison AN 3421

FRANKFORT
Dosselt Co M H 355 N Columbia 5394

GARY
Cosmopolitan Radio 524 Washington TU 5-0551
R-B Distr 3763 Broadway GA 4-8824
Walker-Jimieson 615 W 11 Ave Hdqrs Chicago

HAMMOND
Broadway Radio-TV 6547 Kennedy Ave TI 4-7200
General Elec Supply 506 Fayette St SH 5155
Graybar Electric 6445 Indianapolis Blvd TI 4-7800
Nationwide Radio 7015 Calumet Ave DE 2-6843
Westinghouse Electric 6341 Ind Blvd RU 9400

HUNTINGTON
Colfax Co 67 E State St 3610

INDIANAPOLIS
Associated Distrs 210 S Meridian St LI 2593
General Electric Supply 1250 Stadium Dr ME
4-8445
*Graham Electronics 102 S Penna St ME 4-8487
Graybar Electric 1300 W 16 St AT 2351
Hoosier Radio Supply 132 W 13 St ME 4-5579
Meunier Radio Supply 524 N Illinois St LI 8884
Moore Electronic Parts 320 Virginia ME 4-4346

INDIANAPOLIS
Peerless Electric 122 S Meridian PI 2361
Radio Distributing 103 N Capital Ave ME 5-8311
Radio Equipment Co 1010 Central Ave PL 6453
Rodefild Co 614 N Capital Hdqrs Richmond
Warren Radio 908 N II St Hdqrs Toledo
Westinghouse Elec Supply 139 S Penna St MA 3301

JEFFERSONVILLE
Moakler Electronic 500 E Chestnut 2-4311

KOKOMO
George's Electronic 125 N Buckeye 6771
Radio TV Distr 507 N Washington 2-5651
RPD-Arthur Nagel Inc Hdqrs Chicago

LAFAYETTE
Holmes Radio State Rd 25 Box 559 2-6845
Lafayette Radio Supply 408 E North St 2-5217

LOGANSPORT
Conrad Co A E RFD 4 5-6466
Television-Radio Dist Hdqrs Peru

MARION
Mobile Radio Supply 507 N Washington NO 2-2981
Myers Radio Supply 115 W 22 St 1357

MICHIGAN CITY
Tri-State Electrical 216 E Michigan St

MUNCIE
General Electric Supply 904 Burlington Dr MU 6614
Muncie Electronics 305 N Madison 8837
Standard Radio Parts 1104 S Walnut 5525

PERU
Television-Radio Distr 812 W Main 2005

RICHMOND
Fnx Electronics 711 S 9 St 2-4676
Radio & TV Dist Hdqrs South Bend
Rinehart Inc 511 Main 2-2581
Rodefild Co 96 W Main St 2-4088

SOUTH BEND
Colfax Co 802 S Main St AT 9-5548
General Elec Supply 422 E Monroe St 6-3411
Radio Distributing 1212 High St AT 8-4666
Radio Equipment Co 1202 S Lafayette AT 9-2471
Radio & TV Distr 116 N Hill St 3-9394
Wayne Hdw 1630 Lincolnway Hdqrs Ft Wayne

TERRE HAUTE
Eviner Co C T 1216 Wabash Ave CR 7757
General Elec Supply 801 Poplar St GR 9695
Terre Haute Radio PO Box 804 LI 2-6025

VALPARAISO
*Bowman & Associates Jess Hdqrs Chicago

Iowa

BURLINGTON
Union Supply Co 409 Washington PL 2-5444

CEDAR RAPIDS
*Gifford-Brown 726 5 St Hdqrs Des Moines
Iowa Radio Supply 508 3 Ave SE 4-5346
Ken-Elis Radio Sup 67 16 Ave SW Hdqrs Ft Dodge
Midwest Specialty 614 I St SW

COUNCIL BLUFFS
*World Radio Labs 3415 W Broadway 2-0277

CRESTON
Mid State Distr Hdqrs Des Moines

DAVENPORT
Crescent Elec Supply 511 Pershing Ave 3-9973
Graybar Electric 206 E 5 St DA 3-2768

*Midwest-Timmerman 114 Western Ave 7-5288
RCA Victor Distr 1235 W 5 St 4-9847
*TCR Distrs 1205 E River Dr 3-8051
Union Supply Co 320 E 4 St 2-3531
Westinghouse Electric 402 E 4 St 3-9966

DES MOINES
General Electric Supply 108 E 4 St 8-7401
*Gifford-Brown Inc 14 & Walnut St 3-1257
Graybar Electric 24 11 St DE 3-8614
*Iowa Radio Corp 1212 Grand 2-8197
*Mid-State Distr 1201 Grand 8-7231
*Midwest-Timmerman Hdqrs Davenport
Onthank Co G W 10 & Mulberry 3-8166
*Radio Trade Supply 1224 Grand AT 8-7237
Schneiderhahn Co A A 319 SW 5th St
Westinghouse Elec Supply 1400 Walnut 2-0244

DUBUQUE
*Boe Distributing 1605 Rockdale Rd 3-5795
Crescent Electric Supply Hdqrs Davenport

FORT DODGE
*Ken-Elis Radio Supply 501 1st Ave WA 3880

MASON CITY
*Ray-Mac Supply Co 307 9 St 5900

OTTUMWA
*Friday-Lynch Radio 429 W 2 St MU 2-5407
Mid State Dist Hdqrs Des Moines

STOUCX CITY
Burhardt Radio 611 E 5th St 5-8023
Crescent Electric Sup 308 Iowa St Hdqrs Davenport
*Duke's Radio 209 6 St 5-5056
Graybar Elec Co 510 Pearl St SI 8-7507
*Power City Radio 410 Jones Hdqrs Sioux Falls SD
*Warren Radio Supply Hdqrs Sioux Falls SD
Westinghouse Electric 1005 Dace St 5-7634

WATERLOO
Farnsworth Radio & TV 201 E Mullan Ave AD
4-6682
*McDermott Electric D A 200 Ballou St AD 3-5296
Westinghouse Electric 300 W 3 St 4679

Kansas

ATCHISON
Blish Mize & Silliman 223 S 5th St

COFFEYVILLE
Four State Radio Hdqrs Joplin Mo
GREAT BEND
*Radio Supply Co of Great Bend 1109 Main 9491

HUTCHINSON
Acme Radio & Television Hdqrs Tnpeka
*Interstate Electronic Supply 325 W 4 St 2-7941

KANSAS CITY
Henshaw Radio Hdqrs Kansas City Mo
RCA Victor Fairfax & Funston Rd AT 3075

MANHATTAN
Acme Radio Supply Hdqrs Topeka

PITTSBURG
Pittsburg Radio Supply 212 S Broadway 356

SALINA
*Radio Supply Co 533 N Santa Fe 7-3841
*Western Dist 227 Santa Fe N 7-0561

TOPEKA
*Acme Radio Supply 412 E 10 St 5-1363
General Elec Supply 115 Jackson 5-4474
*Overton Electric 522 Jackson St 3-3261

WICHITA
*Amateur Radio 1203 E Douglas HO 4-3579
*Excel Distributors 118 W 2 4-4783

Kentucky

ASHLAND
Ashland Radio Supply 2125 Winchester 3125

BOWLING GREEN
Crescent Radio Supply 212 W 10 St VI 2-2444

COVINGTON
United Radio Inc Hdqrs Cincinnati

HARLAN
General Electric Supply Hoskins St 815

HOPKINSVILLE
Randolph & Hale Hdqrs Nashville

LEXINGTON
Electronic Distr 134 W 3 St 2-7414
General Electric Supply 309 N Ashland Ave 2-1887
Ky Radio Supply 376 E Main St 2-3373
Lex-Tronics 810 E 3rd St 4-3470
Miller's Barney 232 E Main 2-9622
*Radio Equip Co 480 Skain Ave 3-1577

LOUISVILLE
Arby Electronics Hancock & Gray WA 8851
Burks Co P I 911 W Broadway JU 4-0254
Ewald Distributing 309 S 9 St JA 8227
Falls City Supply 315 Roland WA 7447
Fulmer Inc Arthur 118 W Chestnut Hdqrs Memphis
General Electric Supply 2311 S Brook St CA 3651
Graybar Electric 614 Myrtle ME 7-5411
*Peerless Elec Equip 2210 S 7 St CA 7678
R-K Distr 801 W St Catherine JA 5-5349
Universal Radio Supply 533 S 7 St JU 4-4166

MADISONVILLE
Hutch & Son Hdqrs Evansville

NEWPORT
Aoex Distributing 506 York St AX 1949
Holub & Hogg Co Hdqrs Cincinnati

DISTRIBUTORS SERVING the ELECTRONIC INDUSTRIES

OWENSBORO

Centronics Inc 600 W 3 St 3-6727
Peerless Elec Equip Hdqrs Louisville
PADUCAH
Warren Radio 455 S 31st St 2-4367

Louisiana

ALEXANDRIA

Brown-Roberts Hdw Supply 1810 3rd St
*Central Radio Supply 601 N 3 St 3-4517

BATON ROUGE

Electronic Supply 1753 N 21 St 2-0517
Gautreaux's 1370 Government St Hdqrs New Orleans
General Electric Supply 5575 Adams Ave 7-7586
Graybar Electric 2442 T Dunham Ave BA 3-3427
La Radio TV Distr 1645 Plank Rd 8-1456
Ole Miss Supply 1801 N Boulevard 3-4035
*Ralph's Radio Electronic Supply 812 Main St

BOGALUSA

Gautreaux's Hdqrs New Orleans

HOUMA

Crescent Radio & Sup Hdqrs New Orleans

LAFAYETTE

*Ralph Radio & Electronic 1419 Cameron St
Wholesale Radio Hdqrs Lake Charles

LAKE CHARLES

Graybar Electric 206 W 11 St HE 3-4229
Wholesale Radio Equip 324 Ryan St HE 9-9017

MONROE

C & O Electronics 500 N 3 St 3-5732
*Hale & McNeil 421 Walnut St 2-5136
Poulans Electrical Co 501 Morris Ave 3-7701

NEW ORLEANS

Allen Supply Co W B 1601 Orleans Ave RA 8222
Audiotronics Supply 1834 N Claiborne VI 5579
Bell Radio Supply 2625 Tulane Ave TU 0644
*Columbia Radio & Supply 3940 3 St TW 5-4893
*Crescent Radio & Supply 1600 Baronne St CA 3112
Electrical Supply Co 201 Magazine St
Electronic Dists 1526 Magazine MA 6700
Gautreaux's Elec Supply 2746 Orleans Ave AU 1619
General Elec Supply 4221 Blenville GA 5771
Graybar Electric 1116 Magnolia St CA 6263
Industries Sales 2927 Jackson Ave
Interstate Electric 1001 S Peters CA 8541
Pee-Jay Radio 2306 Tulane Ave AU 0807
Pelican Radio Supply 120 N Broad St
Radio Parts Inc 807 Howard Ave CA 0217
Radio Specialty 3119 S Carrollton Ave
Shuler Supply 2508 Tulane Ave RA 2166
*Southern Radio Supply 1909 Tulane TU 2345
Stratton-Baldwin PO Box 253
Telev & Appl Dists 500 N Carrollton AU 8701
Walther Bros 1722 Poydras St CA 7731
Westinghouse Elec 2538 Poydras TU 5411

OPALOUSAS

Wholesale Radio Equip Hdqrs Lake Charles

SHREVEPORT

Bangett Radio & TV 872 Texas Ave 2-5137
Dunckelman Distributing Co 119 Beech St 2-8452
General Electric Supply 1430 Dalzell St 5-8631
Graybar Electric 90 Fannin St SH 5-3271
Interstate Electric Co 1410 Culpepper St 3-6131
*Koelemay Sales Co 2530 Linwood Ave 3-4256
*Lavender Radio & TV 936 Milan St 3-7161
Ports Electronics Parts 309 Airport Dr 2-2193
Westinghouse Electric 120 Caddo St 3-0583

Maine

AUBURN

*Radio Supply Co 26 Cross St 4-5486

AUGUSTA

Westinghouse Electric 98 Water St 2040

BANGOR

Commercial Dists 135 Exchange St
General Elec Supply 840 Hammond St 7331
*Maine Electronic Hdqrs Portland
Radio Serv Lab 16 Salem St Hdqrs Manchester N.H.
Radio Supply Co Hdqrs Auburn
Westinghouse Elec Supply 175 Broad St 6487

HALLOWELL

*Powell Radio 115 Water St 3-3839

PORTLAND

Brown Co F M 12 Free St 3-4791
Commercial Distributors 35 Commercial St
General Electric Supply 170 Anderson St 2-3721
Graybar Electric Center & Commercial SP 3-1766
*Maine Electronic Supply 148 Anderson 4-0301
Radio Serv Lab 1004 Congress Hdqrs Manchester

Maryland

BALTIMORE

American Distr Co 1200 N Fulton LO 6-8930
Berman H O Co 12 E Lombard LE 9-7002
D & H Distr Co 2025 Worcester St SA 7-5100
General Elec Supply 1500 Barclay LE 9-3565
Graybar Electric 100 South St SA 7-5050
*Kann-Ellert Electronics 9 S Howard SA 4242
Lytton Distr Co 1338 W North Ave LA 3-8880
*Radio Elec Serv 5 N Howard LE 9-3835
Spartana Ca A R 239 Gay St SA 7-0484

Valley Electronics Inc 1735 E Joppa Rd VA 5-7820
Video Electronics 5617 Belair Rd HA 6-7913
Westinghouse Electric 2415 W Franklin LO 6-4400
*Wholesale Radio Parts 308 W Redwood St MU 5-2134

CUMBERLAND

Altoona TV Supply Hdqrs Altoona Pa
*Zimmerman Wholesalers 162 Bedford 920

FREDERICK

Hankey's Radio & TV 404 Elm St MO 2-1381

HAGERSTOWN

General Elec Supply 1095 Jefferson Blvd 6216
Stoddard Supply Co 354 S Cannon 6342
York Radio 67 W Franklin Hdqrs York Pa
*Zimmerman Wholesalers 114 E Washington St 408

SALISBURY

Almo Radio Co Hdqrs Philadelphia Pa
Standard Electronics 301 Snow Hill Rd 7593

SILVER SPRING

Rucker Electronics 8049 13 St Hdqrs Washington
Silver Spring Electronic 948 Sligo JU 8-3567

Massachusetts

BOSTON

Arvedon Distributors 73 Portland CA 7-4034
Commerical Radio 36 Brattle Rd RI 2-1241
*Cramer Electronics 811 Boylston CO 7-4700
*DeMambro Radio 1111 Commonwealth St 2-7870
Electro Sales Co 50 Eastern Ave CA 7-3456
General Electric Supply 145 N Beacon AL 4-5300
*Gerber Radio Supply 1900 Columbus GA 7-1144
Globe Electronics Co 200 Washington St AL 3-3117
Graybar Electric 287 Columbus KE 6-4567
Herman Co L M 885 Boylston St CO 7-5620
*Mayer Co A W 895 Boylston CO 7-5530
*Radio Shack 167 Washington LA 3-3700
Radio Wire TV 110 Federal St Hdqrs NYC
Sater Elec Supply 201 Congress St LI 2-2281
Tee-Vee Supply 3211 Washington JA 2-9380
Westinghouse Elec 95 Brookline Ave CO 7-3100
Yankee Electronics 257 Huntington Ave CO 6-0212

BROCKTON

*Ware Radio Supply 913 Centre St 8-0810

CAMBRIDGE

Eastern Co 620 Memorial TR 6-4720
*Electrical Supply 1739 Mass Ave UN 4-6300
Hi-Fi Lab 89 Mt Auburn St TR 6-2666
Northeastern Dists 304 Vassar St
Selden Distr Co 800 Mass Ave KI 7-0920

FALL RIVER

Ross & Co E A 341 Columbia St 3-0921

FITCHBURG

*Young & Young 372 Water St 3-3078

HOLYOKE

Springfield Radio 93 High Hdqrs Springfield

LAWRENCE

*Young & Young 262 Lowell St 7171

LOWELL

McCartin Co F P 181 Market St GL 9-9750

LYNN

Des Roberts Elec 24 Mt Vernon St LY 5-0015

MEDFORD

Durrell Distr 222 Mystic Ave MY 6-8780

MELROSE

*Melrose Sales Co 60 Essex St ME 4-3821

NATICK

Willett Radio Supply 11 Court 1313

NEW BEDFORD

*Beckman Co C E 11 Commercial WY 6-8201
Ross & Co E A 1663 Purchase St Hdqrs Fall River

NEWTON

Delta Distr 314 Washington BI 4-1560

NORTHAMPTON

C & I Distributors 228 Pleasant St JU 4-4164

NORWOOD

Herman Co Louis M Hdqrs Boston

PEABODY

TeeVee Supply 39 Main St Hdqrs Boston

PITTSFIELD

Del Padre Supply 111 West St

*Pittsfield Radio 41 West St

Young & Young Hdqrs Springfield

QUINCY

Gerber Radio Supply 1153 Hancock St MA 9-4300

SPRINGFIELD

*Cushing T F 349 Worthington St ST 8-7341
*Del Padre Assoc L L 236 Chestnut 9-5658
General Electric Supply 484 Worthington RE 4-8255
Graybar Electric 32 Patton ST 8-7331
Radio & TV Supply 906 State St RE 6-5641
Reent Sales 236 Chestnut St
*Soundco Electronic 147 Dwight RE 9-3847
Soinney Co B H 153 Plainfield ST RE 4-8284
*Springfield Radio 405 Dwight St RE 2-3411
Western Mass Distr 1 Belmont Ave RE 6-6374
Westinghouse Elec 46 Hampden 4-3101
*Young & Young 169 Spring St RE 4-1138

TAUNTON

*Dean & Co D B 85 Cohannet St TA 4-4117

WORCESTER

*DeMambro Radio Supply Hdqrs Boston
General Elec Supply 163 Mechanic WO 6-4351
Graybar Electric 108 Grove PL 6-4311

Johnson Electronic 12 E Worcester PL 6-7136
*Radio Electronic Sales 52 Chandler PL 7-5671
*Radio Maint Supply 80 Thomas St PL 6-8311
Westinghouse Elec 107 Thomas St 7-5641

Michigan

ADRIAN

Wedemeyer Electronic Supply Hdqrs Ann Arbor

ALBION

Matteson Electronics Hdqrs Jackson

ANN ARBOR

Purchase Radio 605 Church 8-8696
*Wedemeyer Electronic 214 N 4 Ave 2-4457

BATTLE CREEK

*Electronic Supply 94 Hamblin 2-9515

BAY CITY

Klnde Distr Co 504 Washington St 7461

BENTON HARBOR

Benton Electronic 643 W Main 5-1373
Radio & TV Distr Co 1331 M-139 WA 5-3301

CHEBOYGAN

*Straits Distributors 412 N Main St 960

DEARBORN

*Westside Radio 7521 Wyoming WE 3-6972

DETROIT

Audio Equip Co 15749 Wyoming UN 4-1884
Detroit Electronic 8000 Grand River TY 6-9500
Duffy & Co M N 2040 Grand River WO 3-2270
*Ferguson Radio 2306 Puritan Ave UN 1-6700
*General Elec Supply 680 Antoinette St TR 5-9400
*Glendale Supply 12866 Woodward Ave TU 3-1500
Graybar Electric 15045 Hamilton Ave TO 8-5550
Hi-Park Dists 632 Harper
*Kia Labs 7422 Woodward TR 4-1100
Nor-West TV & Radio 20926 Schulcraft
RCA Victor Distr 7400 Intervale TE 4-3500
Radio Distr 15401 Woodrow Wilson TO 9-7900
Radio Electronic 1112 W Warren TE 2-5611
*Radio Specialties 456 Charlotte TE 2-0800
*Radio Supply 85 Selden TE 1-3171
Reno Radio Co 1314 Broadway WO 2-6851
*Rissi Electronic 14405 Wyoming Ave TE 4-8420
Rizzo Radio Dist 8801 Fenkell Ave WE 3-9829
Westinghouse Electric 2211 Kirby W TY 8-9000

ESCANABA

Electronic Expeditors Hdqrs Milwaukee

Felton Radio 1617 Ludington 2855

FERNDALE

Erickson's Electronic 1201 Woodward Hts LI 5-6710

FLINT

C & S Electronic Sup 758 E Witherbee St CE 8-1739
General Electric Supply 4705 N Oort Hwy SU 9-9101

Graybar Electric 2424 Kansas CE 2-4101

*Lifsey Distr Co 1409 N Saginaw CE-6657

Radio Tube Merch Co 508 Clifford CE 4-3654

*Shand Radio Spec 2608 Leith St CE 2-9714

Westinghouse Electric 2330 N Dort H'way 4-8623

GRAND RAPIDS

Bursma Radio Supply 870 Grandville CH 5-0501

General Electric Supply 305 Fulton St W 9-3243

Graybar Electric 432 Monroe Ave N W GL 1-2561

*Radio Electronic 505 Jefferson S E 9-4611

Radio Equip Co 13 Ionia Ave S W Hdqrs S Bend

Radio Parts Inc 542 S Division 9-0247

Warren Radio 24 Logan St S W GL 6-5385

Westinghouse Elec 511 Monroe Ave N W 9-4664

JACKSON

*Fulton Radio 1208 Greenwood St 4-6106

Matteson Electronic 1617 E Michigan St 2-8286

KALAMAZOO

*Electronic Supply Hdqrs Battle Creek

General Electric Supply 112 Parkway 3-2645

Ralston Co R M 201 N Park St 5-0188

*Warren Radio Hdqrs Toledo

LANSING

*Elec Product Sales 427 E Mich Ave IV 2-4123

Fulton Radio Supply Hdqrs Jackson

General Elec Supply 428 N Grand IV 7-5401

Graybar Elec Supply 421 E Elm St IV 7-5075

*Offenhauer Co 227 W Washtaw 2-9896

*Wedemeyer Electronic Hdqrs Ann Arbor

LAURIUM

*Northwest Radio 435 Tamarack 797

LINCOLN PARK

Glendale Electronic Sup Hdqrs Detroit

MANISTEE

Gardner Radio 258 River St 1653

MARQUETTE

Northwest Radio Hdqrs Laurium

MUSKEGON

Bell-Lourin 1839 Peck St 2-6019

Bursma Radio Hdqrs Grand Rapids

*Fitzpatrick Elec 444 Irwin 2-6621

MUSKEGON HEIGHTS

Western Electronic 1781 5 St 2-7628

PONTIAC

*Electronic Supply 248 E Pike St 2-8341

PORT HURON

Main TV Supply Hdqrs Akron Ohio

DISTRIBUTORS SERVING the ELECTRONIC INDUSTRIES

SAGINAW

Carson Distrs 708 N Washington Ave 5-5301
 General Elec Supply 125 Davenport St 3-6474
 Orem Distributing 401 S Franklin St 5-6571
 *Radio Parts Co 803 S Washington 5-5338
 Saginaw Distributors 1751 E Genesee Ave 3-5444
SAULT STE MARIE
 Straits Distributors Hdqrs Cheboygan
YPSILANTI
 Wedemeyer Electronic Supply Hdqrs Ann Arbor

Minnesota

AUSTIN

Radio Elec Sup Hdqrs Minneapolis

DULUTH

Bonn Co Lew 228 E Superior Hdqrs Minneapolis
 General Electric Supply 246 Lake Ave S 2-0826
 Graybar Electric 320 W 1 St RA 2-6646
 *Northwest Radio 123 E 1 St RA 7-1565
 *Stark Radio 17 N 2 Ave E Hdqrs Minneapolis
 Westinghouse Elec 230 Lake Ave S ME 2-2625

MANKATO

Southern Minn Supply 2 & Maid Sts 4501

MINNEAPOLIS

*Bauman Co 3033 S Lyndale Ave GI 1745
 *Bonn Co Lew 1211 La Salle St FE 9-6351
 Ecklon Radio 114 N Lyndale Ave FE 3-0516
 *Electronic Center 107 3 Ave N LI 8678
 Forster Distr 1122 Harmon Pl FE 3-5471
 General Electric Supply 63 S 13 St BR 3266
 Graybar Electric 824 S 4 St FE 6-1621
 Hayer Co F C 250 3 Ave N AT 1401
 Larson Elec J H 114 Glenwood Ave FE 9-2761
 National Electronics 1215 Nicollet FE 8-8821
 Northwest Radio 52 S 12 St Hdqrs St Paul
 Radio Elec Supply 2451 Nicollet FE 7733
 Radio Maintenance 3016 1/2 27th Ave S DR 7546
 Reinhard Bros 11 S 9 St K GE 2681
 Roycraft Co 1625 Hennepin Ave GE 8881
 Spencer George 444 Stinson Blvd ST 9-7241
 *Stark Radio Supply 71 S 12 St FE 3-1325
 Sterling Electric 33 S 5 Ave PA 4-1460
 Westinghouse Electric 515 S 7 St LI 7001

ROCHESTER

Elliott & Hanson 119 1 Ave N W 2-2778
 S Minn Supply 902 7 St N W 2-7433 Hdqrs Man-
 kato

ST CLOUD

Stark Radio Supply Hdqrs Minneapolis

ST PAUL

Bonn Co Lew 141 W 7 St CA 4-2821
 *Electronic Distr 856 Raymond PR 3911
 General Electric Supply 540 N Fairview Ave PR
 2761
 Germer Supply 173 W 4 St CA 2-5549
 Gopher Electronics 370 Minnesota St CA 4-9666
 Graybar Electric 717 N Prior Ave NE 2631
 *Hall Electric Co 566 N Robert St CA 4-5696
 Northwest Radio & Electronics 194 W 4 St GA
 3801
 *Stark Radio 250 W Kellogg Hdqrs Minneapolis
 Westinghouse Electric 253 E 4 St GA 7441

WADENA

Central Co-op Wholesale Hdqrs Superior Wisc

WORTHINGTON

Radio Elec Sup Hdqrs Minneapolis

Mississippi

BILOXI

Gautreaux's Electronics Hdqrs New Orleans
 Nelson Radio Supply 613 Caillavet St 2-8651

COLUMBUS

Bluff City Distr Hdqrs Memphis

Swan Distr Hdqrs Jackson

GREENVILLE

Bluff City Distr Hdqrs Memphis
 Goyer Supply Co 815 Alexander St 85151

GULFPORT

Crescent Radio Hdqrs New Orleans

HATTIESBURG

Swan Distr Hdqrs Jackson

JACKSON

*Cabell Elec Co 422 S Farish 2-2624
 Ellington Radio 816 S Gallatin St 3-1327
 General Electric Supply 614 Gesco Pl 2-5041
 Graybar Elec 154 E Porter St JA 3-6316
 May & Jackson Dist Co 628 S State St 5-6880
 Southern Distributors 1400 Terry Rd 2-3456
 Swan Distr Co 342 N Gallatin 2-5516
 Television & Radio 323 N West 5-6406
 Westinghouse Elect 325 S Farish 4-8354

LAUREL

Radio & TV Essentials Box 1131 6100

MERIDIAN

Grimm Radio Supply 2511 8 St 2-6174

Missouri

BUTLER

Henry Radio Co 211 N Main St 395

CAPE GIRARDEAU

General Electric Supply 402 S Sprigg 805
 *Suedekum Electronic 2215 Broadway 5-8202

JEFFERSON CITY

*Central Mo Distr Co 324 E Capital Ave 6-3149

JOPLIN

*Brotherson Co M 515 N Byers Ave 3-1596
 Continental Elec Hdqrs Kansas City
 *Four States Radio 201 Main St MA 4-0369
 General Electric Supply 922 Penna Ave MA 4-5622

KANSAS CITY

*Burstein-Applebee 1012 McGee St BA 1-1155
 Continental Electric 1321 W 13 GR 1180
 General Elec Supply 2101 Broadway HA 7447
 Graybar Elec Co 1644 Baltimore Ave BA 1644
 *Henshaw Radio 3617 Troost Ave WE 1-5550
 *Manhattan Radio & Equip 1732 Grand BA 1-9797
 *McGee Radio & Electric 1422 Grand Ave VI 9045
 RCA Victor Distr Corp 2113 Broadway HA 0300
 Radiolab 1612 Grand Ave HA 0171

MOBERLY

Central Missouri Dist Co Clark & Coates St 260

POPLAR BLUFF

*Tri-State Radio 536 E Pine Blvd 2821

ST JOSEPH

*Acme Radio Supply 892 S 10 St 4-4558
 *St Joseph Radio 720 S 9 St 2-8000

ST LOUIS

*Ashe Radio Co Walter 1125 Pine CH 1125
 Brightman Distr 4421 Ridgewood SW 7575
 Brown Radio Co Tom 3924 Washington St JE
 1-2259
 *Ebinger Radio 2501 S Jefferson MO 4-7700
 General Elec Supply 2653 Locust St JE 1-3000
 Graybar Electric 600 S Taylor Ave JE 1-4700
 *Interstate Supply 24 S 10 St CH 2325
 Napper Electronic 6253 Natural Bridge EV 1-8358
 Phone Craft Co 427 N Euclid FO 1-3147
 *Radionics 5040 Easton Ave FO 1-7311
 Toler Radio Ralph 4855 Easton Ave FO 1-9169
 *Van Sickle Radio 1113 Pine St CH 1-1814
 Westinghouse Elec 1011 Spruce St CE 4838

SPRINGFIELD

General Elec Supply 1301 W Webster 2-1722
 Graybar Electric Co 524 St Louis St SP 2-0587
 Norman Electronic 700 E Brower 5-1435
 *Reed Radio Supply Harry 805 Boonville St 4-0752
 Stout Radio Supply 702 Boonville 2-9444

Montana

BILLINGS

American Appliances 2505 Montana St
 Central Distr Co P O Box 1551 8-8447
 Electronic Supply 250 11 St W 2-2197
 General Elec Supply 2710 Montana Ave 9-4550
 Heard Supply 3008 1st St N 5-5141
 Midland Implement 2301 Montana Ave
 Northwestern Auto 420 N Broadway 3-3146
 Smith Supply Hdqrs Butte

BUTTE

General Electric Supply 900 E Front St 2-2314
 Graybar Electric 604 E Aluminum St BU 3233
 Smith Supply 201 E Park St 2-8278
 Westinghouse Electric 949 S Montana St 2374

GREAT FALLS

Bakers Radio & TV Supply 20 2 St S 2-7825
 Lindgren Co Geo 16 4 St N W 8-8721
 Radio Electronic Bor 1376 2-6610
 Smith Supply Co 808 Central Ave Hdqrs Butte
 Valley Motor Sup 512 1 Ave S Hdqrs Havre

HELENA

Latus & Co D N 1531 Nat'l Ave HI 2-3940

MISSOULA

Northwest Distr 509 S Higgins 4-4311

Nebraska

BEATRICE

Central Radio Sup Hdqrs Hastings

GERING

Messersmith-Corr Radio-TV 1345 S St W 625

GRAND ISLAND

Central Radio Sup Hdqrs Hastings

Radio & Equip Co Hdqrs Omaha

HASTINGS

Central Radio Supply 518 W 1 St 2-2139

KEARNEY

Western Radio 1400 W 22 St 2-3521

LINCOLN

General Radio & TV 322 S 12 St 2-6000

*Hicks Radio Co 1422 "O" St 2-7561

*Leuck Radio Supply 243 S 11 St 2-2797

Scott Electronic Supply 2201 O St 2-6558

NEBRASKA CITY

Arbor Radio TV Supply 921 Central 757

NORFOLK

Radio Equip Co Hdqrs Omaha

OMAHA

Alco Radio 4011 Cumming St WA 8461
 General Appliance 1101 Harney WE 4620
 General Elec Supply 914 N 18 St JA 0456
 Graybar Electric 3626 Martha St WE 7676

*JB Distr Co 1616 Cass St AT 5525
 Omaha App'l 18 & St Mary's AT 3440
 *Radio Equip Co 2852 Douglas AT 7700
 *Sidles Co 7302 Pacific St RE 5225
 Westinghouse Elec 117 N 13 HA 8700

SCOTTSDUFF

Joachim Radio 1913 Broadway 109
 Skinner Supply Co 1305 1 Ave 700

YORK

Radio Supply Box 320 1231J

Nevada

LAS VEGAS

Radio & Sound Sup 25 E California Ave DU 2-5585
 Saviers Elec Prod 110 E Charleston Hdqrs Reno

RENO

Osborne & Dermody 300 Valley Rd 2-6957
 Radio Supply 690 Tahoe St 3-4680
 Saviers Elec Prod 640 Sierra St 2-9134

New Hampshire

CONCORD

*Evans Radio PO Box 312 CA 5-3538

DOVER

*American Radio Corp 6 St 404

MANCHESTER

*DeMambo Radio Supply Hdqrs Boston
 General Elec Supply 57 Bedford 5-5418
 Graybar Electric 103 Hampshire Lane MA 4-4341
 *Radio Serv Lab 670 Chestnut 5-5444
 Westinghouse Electric 147 Hanover 5-5456

RYE BEACH

Delta Distributors Hdqrs Newton Mass

New Jersey

ATLANTIC CITY

Almo Radio 4401 Ventnor Ave Hdqrs Phila
 BR Elect Supply 926 Atlantic Ave AT 5-3448
 *Kearns Inc Harrisburg & Atlantic AT 5-3233
 *Radio Elec 452 N Albany Ave Hdqrs Camden

BLOOMFIELD

Berger Electronic 241 Bloomfield BL 2-7900

BRADLEY BEACH

Lippman & Co Aaron Hdqrs Newark

BRIDGETON

*Joe's Radio Shop 67 S Pearl 9-0251

CAMDEN

Almo Radio 1133 Haddon Ave Hdqrs Phila
 General Radio 600 Penn St WO 4-8393
 Radio Elec Service 513 Cooper St WO 4-2830

CLIFFSIDE PARK

Nidisco-Cliffside 658 Anderson Ave CL 6-0510

CLIFTON

Eastern Radio 312 Clifton Ave GR 1-2800

Graybar Electric 1454 Main Ave GR 1-4800

EAST ORANGE

Gross Service 444 William St OR 6-7500

*International Distr 185 Central OR 5-1927

ELIZABETH

Jersey Radio-TV Sup 1068 Elizabeth Ave EL 2-7324
 New Jersey TV Supply 906 E Westfld EL 3-6166

Tubes of N Y 1148 E Grand St Hdqrs Newark

HACKENSACK

American Distr 756 Main St Hdqrs North Bergen
 Nidisco-Hackensack 55 State St Hdqrs Jersey City
 Radio & Elect Supply Co 756 Main St HU 7-1267

HILLSIDE

Trade Radio Sales 14 Essex St HU 7-5512

SHERWOOD

Distr 1255 Liberty Ave EL 2-1126

JERSEY CITY

*Hallmark Electric 592 Communipaw DE 2-9696

Nidisco-Jersey City 713 Newark OL 3-2360

MORRISTOWN

M & M Television 7 Maple Ave MO 4-5274

MORRIS PLAINS

Continental Sales 642 Speedwell Hdqrs Newark

Park Electronics 187 Speedwell MO 4-6922

MOUNTAINSIDE

Federated Purchaser 1021 US Route 22 WE 2-8200

NEWARK

All-State Distr 457 Chancellor WA 3-4900

Anollo Distr Co 15 Shipman MI 2-7266

*Continental Sales 521 Bloomfield HU 8-8223

Electronic Marketeers 25 Hoyt St MA 3-2516

Electronic Supply Corp 357 Avon Ave BI 2-1470

Emerson-New Jersey 985 Broad MA 2-2217

*Federated Purchaser 114 Hudson Hdqrs Mountain-
 side

General Elec Supply 254 Elizabeth Ave BI 2-1600

Graybar Electric 2 Liberty St MA 2-5100

Hudson Radio & TV 35 Market St Hdqrs NYC

Igoe Bros 35 Halsey St MA 4-2000

*Krich-New Jersey 428 Elizabeth BI 8-7408

Leader Electronic Supply Corp 88 Lock St MA
 4-8842

*Lippman & Co Aaron 99 Newark St MA 3-9477

Pyramid Supply 343 W Market MA 3-7800

Radio Wire Television 24 Central Ave Hdqrs NYC

Tubes of New York 944 18 Ave ES 2-2631

Variety Electric 468 Broad MA 2-6760

Westinghouse Elec Supply 528 Ferry MI 2-3450

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NEW BRUNSWICK

Graybar Electric 2762 Livingston Ave CH 9-4300
William Radio Supply 265 Woodbridge CH 7-4908

NORTH BERGEN

American Distr 6335 Hudson Blvd UN 5-5306

PASSAIC

Nidisco-Passaic 294 Passaic St Hqrs Jersey City

PATERSON

General Elec Supply 561 E 31 St LA 5-5100
*Jersey Electronic Distr 524 21st Ave LA 5-3134
Trade Radio Sales 780 E 18 St Hqrs Hackensack

PERTH AMBOY

Bennett's Radio 224 Market St HE 2-1736

PHILLIPSBURG

*Williams Co C B 154 S Main St 5-1245

PLAINFIELD

Radio Wire TV Inc Hqrs NYC
Union TV Parts 403 Watchung Ave PL 4-6930

RED BANK

Monmouth Radio 404 Shrewsbury RB 6-3300

RIDGEFIELD

Nidisco-Ridgefield Inc 480 Bergen Blvd CL 6-0510
Hqrs Jersey City

RIDGEFIELD PARK

NRM Wholesale Radio 284 Teaneck Rd HU 7-0715

SOMERVILLE

Masters TV Supply 96 N Gaston Ave RA 5-3583

TEANECK

Ross Homer M 367 Queen Anne Rd TE 6-5331

TRENTON

Allen & Hurley 23 S Warren St EX 3-0386
Allied Electric 333 S Warren Hqrs Phila
Cooper Sales 508 Hamilton Ave EX 2-8008
Dragon Co 959 Liberty St 4-1479
Fineburg's 547 S Broad TR 4-5125
General Elec Supply Brunswick Circle Ext TR
5-3453
Nidisco-Trenton 126 S Warren St EX 3-4536
Westinghouse Electric 745 E State ST 5-5421

W POINT PLEASANT

Ocean Electronics Co 2108 Lakewood Rd

New Mexico

ALBUQUERQUE

General Electric Supply 820 1 St NW 2-5246
Midland Specialty Hqrs El Paso
Radio Equip Co 523 Central Ave NE 2-5681
Tele-Radio Supply 915 Central NE 2-1141
Walker Radio L B Hqrs Pueblo

LOS ALAMOS

Valley Eng'g Co 601 Cedar St 2-3310

ROSWELL

R & R Supply 605 E 2 St Hqrs Lubbock Tex
Supreme Radio 129 W 2 St MA 2-6320

SANTA FE

A-1 Communications 441 Cerrillos Rd 3-8041

New York

ALBANY

Air Waves Electronic Radio 43 Hudson Ave 4-8119
*Ft Orange Radio 904 Broadway 5-1594
Graybar Electric 40 Van Woert AL 5-1564
R T A Distrs 36 Broadway PR 5-7346
*Taylor Co E E 465 Central 8-8713
Westinghouse Electric 19 R R Ave 8-7801

AMSTERDAM

*Adirondack Radio Supply 185 W Main St VI 2-8350

AUBURN

*Dare Radio 22 Genesee 2-0441
Roberts & O'Brien Hqrs Syracuse

BINGHAMTON

Broome Distr 221 Washington St 2-4273
*Federal Radio 188 State BI 2-2394
Graybar Electric 518 Security Mutual Bldg 2-5296
Morris Distr 195 Water Hqrs Syracuse
Stack Electronics Inc 25 State St 3-7337

BUFFALO

Bergman Co W Oak & Eagle MO 6300
Bison Electrical 1137 Main St LI 8447
Buffalo Radio 219 E Genesee WA 9004
*Dymac Inc 2329 Main PA 2300
Faysan Distrs 506 7th St SU 1300
General Electric Supply 960 Busti EL 5100
*Genesee Radio & Parts 205 E Genesee CL 1970
Graybar Electric 180 Perry WA 3700
*Huron Electronics Supply 324 N Oak St MO 6865
RCA Victor Dist 1209 Broadway FI 1209
Radio Elec Prods 186 E Genesee CL 6454
Radio Equipment 147 E Genesee MA 9676
Scheller Radio 929 Kensington Ave AT 2100
Standard Elect 1501 Main GA 5000
Summit Distrs 916 Main GR 3100

CORTLAND

Winchell Radio 149 Main St SK 3-0868

ELMIRA

*Harrison Co F C 108 W Church 3-5676
LeValley-McLeod 312 State ST 6167

FLUSHING See Long Island

FREDONIA

Barker-Higbee 27 Water 2-8666

FULTON

Roberts & O'Brien Hqrs Syracuse

GLENS FALLS

*Ray Supply Upper Glen St 2-5848

GLOVERSVILLE

Fulton County Dist 16 Bleecker 5-2515

HEMPSTEAD See Long Island

HICKSVILLE See Long Island

HORNELL

Hornell Electr Motor & Equip 286 Main St 2451

ITHACA

*Stallman of Ithaca 714 W Clinton St 4-9918

JACKSON HEIGHTS See Long Island

JAMAICA See Long Island

JAMESTOWN

Johnson Radio & Electr Equip 119 Hunt Rd 8-916

Warren Radio 31 Forest Hqrs Erie Pa

JOHNSON CITY

Westinghouse Elec 419 Grand Ave 9-1561

KINGSTON

*Arace Electronics 25 Henry 6622

Certified Electronics Hqrs Middletown

LOCKPORT

Standard Electronics 8 Elm St 4-3684

MALONE

Pond Electric 123 E Main St 135

Ray Supply 55 W Main St Hqrs Glens Falls

MASSENA

Beacon Electronics Hqrs Utica

MIDDLETOWN

Artec Distr 17 Cottage 3173

*Certified Elect Montgomery Rd 2-1055

Roskin Bros 27 W Main

S & L Electronics 17 Cottage 3175

MINEDLA See Long Island

MONTICELLO

Fleisher Distrs 248 Broadway 1820

MDUNT VERNON

Davis Radio 70 E 3 MD 4-0747

Radelco Inc 246 W 1 MD 8-6173

NEWBURGH

Chief Electronics Hqrs Poughkeepsie

Newburgh Dist 354 Liberty ST 4830

Shapiro Distrs 315 Broadway

Westinghouse Electric 26 Liberty 5420

NEW YORK CITY, BRDNX & STATEN ISLAND

Avnet Electronic 34 N Moore St BE 3-578D

Barry Electronics 512 Broadway WA 5-7000

*Bay Electronics 1736 Jerome Ave LU 3-2384

*B & D Distr 639 Tompkins Ave Rose Bank Staten

Island GI 7-2660

*Bruno-New York 460 W 34 LO 4-1252

Calvert Electronics 536 Broadway CA 6-7400

Center Electronics Co 72 Cortlandt St CO 7-6475

Concord Radio 55 Vesey DI 9-1133

Consolidated Radio 768 Amsterdam AU 2-2678

Dalis Inc H L 175 Varick AL 5-3000

Dorosan Distr 10 W 13 OR 5-6765

Douglas Radio Sup 128 Greenwich St WO 4-0470

Edlie Electronics 154 Greenwich DI 9-3143

Electronic Wholesalers 5047 Broadway LO 9-4906

Electronics Center 118 Duane St BA 7-2241

Emeltone Electronics 71 Broadway RE 2-1696

Emerson-NY Inc 524 W 23 St WA 9-2264

*Federated Purchaser 66 Dey St Hqrs Mountain-

side N J

*Fordham Radio 265 E 149 St LU 5-0330

General Electric Supply 585 Hudson AL 5-3300

Goldman Louis 251 W 42nd St BR 9-8872

Graybar Electric 420 Lexington LE 2-4000

Greylock Electronics 554 W 168 St TO 7-9050

Haas Electronics 862 Southern DA 9-1466

Harrison Radio 225 Greenwich BA 7-7777

Harvey Radio 103 W 43 JU 2-1500

*Hudson Radio & TV 37 W 65 St TR 3-2900

HUGO Radio & TV 1275 Webster LU 8-0991

Lafayette Radio 100 6 Ave RE 2-8600

*Leonard Radio 69 Cortlandt CO 7-0315

Midway Radio 60 W 45 MU 7-5053

*Milo Radio & Electronics 200 Greenwich BE 3-

2980

Moss Electronic Distr 3849 10 Ave WI 2-0292

*National Radio 1165 Southern Blvd DA 8-8800

North Radio 62 Cortlandt St CO 7-1430

O & W Radio 141 Cedar CO 7-2635

*Powell Radio 142 W 169 CY 3-2623

Radio Wire TV Inc 100 6 Ave RE 2-8600

Rand Radio Corp 84 Cortlandt St CO 7-7368

*Sanford Elect 157 Chambers DI 9-0550

*Slate & Co 2755 Webster LU 4-0614

Steve-EI Electronics 61 Reade St CO 7-0086

Sun Radio & Electronics 650 6 Ave OR 5-8600

Swedall Electronics M 258 Broadway WO 2-5485

*Sylvan-Wellington 269 Canal CA 6-5811

TAB Co 111 Liberty St RE 2-6245

*Terminal Radio 85 Cortlandt WO 4-3311

Time Electronic Sales 368 Broadway BA 7-3922

Tri-Par Distr 1403 Bronx River Ave TY 3-7060

*United Electr Sup 181 West End Ave EN 2-9695

Westinghouse Electric 40 Wall St WH 3-4321

Wholesale Electronics 673 Elton Ave LU 5-6705

*Wilco Radio 383 E 138 MO 9-1654

Long Island

BROOKLYN

Acme Electronics 74 Willoughby TR 5-3833
Benray Electronics 485 Coney Island BU 7-9650
*Buchman Radio 492 Atlantic UL 5-5143
Dorosan Dist 1749 MacDonald Hqrs NYC
Federated Television Mart 513 Rogers BU 2-7597
*Green Tele-Radio 472 Sutter HY 5-0200
Laco Electronics 4924 4th Ave HY 2-5920
*National Radio Parts Distr'g 572 Albany PR 8-0800
*Stan Burn Radio 558 Coney Island UL 3-8049
Witmal Electronic 126 Manhattan EV 8-0945

FLUSHING

*Melville Radio 134 Dahlia Ave Hqrs White Plains
Stuart Electronic 149-09 Union Ave OL 8-3553

FOREST HILLS

Berger Distr 109-01 72 Rd

HEMPSTEAD

Arrow Electronics 215 Front St
*Davis Electronics 204 Main St IV 3-9200
*Island Radio 412 Fulton HE 2-1097
*Standard Parts 277 N Franklin IV 1-9010

HICKSVILLE

Gem Electronics Distr 236 Broadway HI 3-3400
General Electric Supply 4 & Bway HI 3-1890

JACKSON HEIGHTS

*National Radio Distr 73-20 Northern Blvd Hqrs NYC

JAMAICA

*Chanrose Radio 170-16 Jamaica OL 8-2900
Electronic Maintenance 172-24 Jamaica Ave JA 3-2870
Harrison Radio 144-24 Hillside Ave Hqrs NYC
*Norman Radio 94-29 Merrick Rd RE 9-4651
Peerless Radio Distr 92-32 Merrick Rd RE 9-6080

LONG ISLAND CITY

Electronic Supply 41-08 Greenpoint Ave ST 6-2730
Mannfred Electronics 21-26 36 Ave EX 2-6000
Philco Distr 47-51 33 St ST 6-8400
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Spera Electronic Supply 37-10 33 St ST 6-2199
Westinghouse Elec 29-50 Northern Blvd HU 6-7700

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RICHMOND HILL
Anchor Electronics 116-01 101 Ave VI 6-2420

ROCKVILLE CENTER
Green Tele-Radio Dist Hqdrs Brooklyn

WOODSIDE
Boro Electronics 69-18 Roosevelt Ave HA 6-9718

New York

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General Electric Supply 11 & Whitney 6921
Niagara Radio & Parts 1518 Main
Radio Equipment Corp 1363 Pierce Ave NI 5531

OLEAN
Radio Equip Corp 449 N Union St OL 8560
Standard Electronics Olean Corp 2-0109
Wanamaker & Redstone 415 N Union St

ONEONTA
Crouch Distr 202 Main 2596
PATCHOEGUE See Long Island

PEEKSKILL
B & B Electronics 1607 Main 7-3150

PLATTSBURG
Ray Distr Hqdrs Glen Falls

PORT CHESTER
Ratec Inc 136 Irving Ave WE 9-3940

POUGHKEEPSIE
Chief Electronics Inc 14 N Bridge St 7300
Mid-Hudson Elec 408 Main St
Victory Specialties 6 Raymond 7247

ROCHESTER
American Electronic Sup 482 St Paul St LO 3010
Beucaire Inc 319 W Main St HA 2830
Case Electronic Supply 82 St Paul St BA 4580
General Electric Supply 67 Mortimer HA 7500
Graybar Electric 186 N Water BA 7700
*HI-C Radio Electronics 109 State St BA 8119
Kemp Equioment 57 Mt Hope HA 8050
Masline Radio 192 Clinton N HA 0790
RCA Victor Distr 120 Portland Ave LO 4180
Radio Parts & Equipt 108 Sylvan Rd MO 5272
*Rochester Radio 600 E Main St LO 9900
Silver Corp M E 120 Portland Ave BA 7300
Westinghouse Electric 1 McKee Rd GE 8880

ROCKVILLE CENTER See Long Island

ROME
Rome Electronic Supply 102 Erie Blvd E 5550

SCHENECTADY
*Electric City Radio 1566 State
Schenectady Electronic Dist 1667 Broadway 4-8520
Schwartz & Son Maurice 710 Broadway DI 6-4717

SYRACUSE
Baldwin-Hall Co 475 Oswego 3-5103
*Berndt Co W E 655 S Warren 2-3385
Broome Distributing 100 Tulley 75-3176
City Electric 514 W Genesee 3-5171
Gordon Dist Co L 935 W Genesee St 74-3338
Graybar Electric 327 N West SY 74-6851
Karl-William Co 404 S Crouse 75-2755
Morris Distr 1153 W Fayette 75-9955
Paul-Jeffrey Co 519 Erie E 75-4126
Penfield Mfg 516 Erie 75-4154
Reliance Distr 343 W Jefferson 75-2157
*Roberts & O'Brien 839 Hiawatha Blvd 2-0421
*Smith Inc S W 325 E Water 2-7768
Stage Roy C 265 Erie Blvd W 2-8686

TROY
Empire State Wholesale 218 Congress St AS 2-6160
Q & Q Electronic Supply 801 Jacob St AS 4-7323
*Trojan Elec Sup 15 Middleburg St AS 4-4481

UTICA
Associated Elect Supply 1427 Sunset Ave 3-1695
*Beacon Electronics 411 Columbia St 5-4411
*Electronic Lab 1415 Oriskany W 4-5168
Miller Electric 11 Hooper St
Vaeth Electric 35 Genesee 2-5177
Westinghouse Elec 112 N Genesee St 4-8116

WOODSIDE See Long Island

WATERTOWN
*Beacon Electronics 680 Mill St Hqdrs Utica
Watertown Electronics 411 W Main 863
Westinghouse Electronic 245 State 6527

WHITE PLAINS
Emerson Radio 285 Mamaroneck WH 6-3816
Hub Electronics 249 Tarrytown Rd WH 6-3121
*Melville Radio 259 Mamaroneck WH 8-6131
*Westchester Elec 602 Mamaroneck WH 9-5765

YONKERS
General Electric Supply 16 Harrison Ave 8-3700
Yonkers Elec 541 Nepperhan YO 9-6044

North Carolina

ASHEVILLE
*Freck Radio Supply 38 Biltmore Ave 3-3633
General Electric 47 Rankin Ave 2-4481
Graybar Electric 221 Patton Ave AS 3-4761
*Longs Distr 12 Biltmore Ave 4-3771

BURLINGTON
Womack Electric Supply 623 Worth St

CHARLOTTE
Allied Electronics Hqdrs Raleigh
Allison Erwin 209 E 5th St
Dixie Radio Sup 1431 Bryant St Hqdrs Columbia S C
General Electric Supply 700 Tuckaseegee FR 5-7321
Glasgow Supply Co 224 S Cedar St FR 6-2457
Graybar Electric 120 W Morehead FR 6-4886
*Radiotronic Distr 208 N College 2-1258
Shaw Distr 205 W First St FR 6-3533
Southern Radio 1625 W Morehead 6-4461
Westinghouse Electric 324 N College 5-3715

CONCORD
Dixie Radio Supply Hqdrs Columbia S C

DURHAM
Graybar Electric 303 S Duke DU 2-1135

FAYETTEVILLE
Eastern Radio 532 Hay 2-7161
General Electric Supply 461 Robeson St 2-5143

GASTONIA
Bryant Supply 605 E Franklin Ave UN 5-3466
Dixie Radio Supply Hqdrs Columbia S C

GOLDSBORO
Signal Radio Kinston Hwy 3234

GREENSBORO
General Electric Supply 1111 Willowbrook 3-8207
*Johannesen Elec 312 N Eugene 3-6906
*Southeastern Radio Hqdrs Raleigh
Westinghouse Elect 1410 Westover Ter 3-8661

GREENVILLE
Carolina Sales Corp 1410 Evans St 3143
General Electric 200 Hooker Rd 5104
Radio Equip Co Hqdrs Norfolk Va

HICKORY
Bryant Supply Co Hqdrs Gastonia
Victor Radio & TV 1058 3 Ave Dr NW 2-6927

MOREHEAD CITY
Machine & Supply Co Box 335 2-5971

RALEIGH
Allied Electronics 413 Hillsboro 3-4627
Electrical Wholesalers PO Box 247 3-5588
General Electric Supply 800 W Poole 3-4691
Nash-Steele-Warren 615 W Hargett St
*Southeastern Radio 414 Hillsboro 3-1936
Walker-Martin PO Box 391 LD 950
Westinghouse Electric 319 W Martin 3-4841

ROCKY MOUNT
Graybar Electric 761 Planters St RO 2-5171
*Womack Electronics 105 Marigold St 2-6153

SALISBURY
Leonard Electronics 316 N Depot St 5280

WASHINGTON
Jowdy Distributing 110 N Respass St 40

WILMINGTON
French Radio 1220 Dock 9878

WINSTON SALEM
*Dalton-Hege 924 W 4 2-5141
Graybar Electric 955 Brookstown WI 4-2461

North Dakota

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Bristol Dist Co Hqdrs Fargo

FARGO
Bonn Co Lew Hqdrs Minneapolis
*Bristol Distr 419 Northern Pacific Ave 2-7493
General Electric Supply 69 1/2 Broadway 2-8131
Hayer Co FC 714 1st Ave N 2-7479
Radio Equipment 624 2nd Ave N 5462
Westinghouse Elec 109 Roberts 2-4446
Wolter Electronics 65 S St N 4886

GRAND FORKS
Bristol Dist 1017 S Washington St Hqdrs Fargo

MINOT
Bristol Dist Co 25 Main Hqdrs Fargo
McFall Radio 5 N Main St

Ohio

AKRON
Akron Electr Supply 107 S Arlington St PO 2-8818
Electronic Engineering 362 W Bowery FR 6-3191
General Electric Supply 225 E Mill FR 6-8195
Graybar Electric 185 Carroll JE 5-4143
Main TV Supply 1013 N Main St WA 8-2117
Olson Radio 73 E Mill St JE 9191
Sacks Electrical 605 S Main St JE 8196
*Sun Radio 110 E Market St HE 2171
*Warren Radio 71 S Broadway Hqdrs Toledo

ASHTABULA
*Morrison's Radio 331 Center St 3-9336

CANTON
Armstrong Electr 1261 Cleveland NW GL 2-6533
*Burroughs Radio 711 2 St NW 5-0273
Fall Radio Supply 410 Arlington Ave NW 5-8451
General Electric Supply 123 6 St S W 4-5187
Sommer Electric 818 3 St NE 5-9454

CINCINNATI
*Chambers Electronic 1669 Central Pkwy MA 1-7616

General Electric Supply 215 W 3 St GA 1750
Graybar Electric 115 W McMicken MA 1-0600
Herrlinger Distr 15 & Vine Sts CH 1-7273
Holub & Hogg 1400 Sycamore St CH 1-7974
*Hughes-Peters 1128 Sycamore Hqdrs Columbus
Lockie & Glenn 2110 Gilbert WO 3396
Mytronic 121 W Central Pkwy GA 2245
Ohio Appl 804 Sycamore St DU 1-5430
Radio/TV & Refr 1129 Walnut MA 1-2940
*Schuster Electric 321 E 8 St CH 1-7610
*Steinbergs 633 Walnut St CH 1-1880
Teletronic Supply 3935 Montgomery Rd
Tri-State Distr 8th & Broadway DU 7400
United Radio 1314 Vine St CH 1-6530
Westinghouse Elect 3011 Stanton CA 1300

CLEVELAND
Broadway Electric 6209 Broadway DI 1-8500
Carnegie Radio Distr 2536 Prospect Ave CH 1-2433
Euclid Radio 16379 Euclid GL 1-1375
Freshman Chas 6610 Euclid Ave EX 1-8723
General Electric Supply 4958 Woodland Ave HE 1-7280
General Radio Supply 1588 Hayden Ave UL 1-0700
Goldamer 2239 E 14 St CH 1-1690
Graybar Electric 1100 E 55 St HE 2-2500
Kane 1666 E 40 St EX 1-4800
Main Line Cleveland 1260 E 38 St EX 1-1800
Northern Ohio Appl 5403 Prospect Ave HE 2-0500
*Northern Ohio Labs 2073 W 85 WO 1-2756
Olson Radio 2020 Euclid MA 1-6187
*Pioneer Electronic 2115 Prospect Ave SU 1-9410
Progress Radio 413 Huron Rd CH 1-5630
*Radio & Electronics 3235 Prospect UT 1-6060
Taylor G W 2157 Fairhill Rd SW 1-5442
Tecca Distr 4501 Prospect HE 2-1040
Westinghouse Elect 1809 E 22 TO 1-5660
*Winteradio 1468 W 25 St MA 9383

COLUMBUS
Bennett Distrs 1051 W Goodale Blvd CA 4-6216
Buckeye Electronics 242 E Long St CA 8-2697
*Electronic Supply 134 E Long St
General Electric Supply 146 N 3 St CA 8-4371
Graybar Electric 3 & Chestnut St CA 8-3811
*Hughes-Peters 111 E Long CA 1-6575
Kane 168 N 3 St Hqdrs Cleveland
Thompson Radio 182 E Long CA 1-7434
Tracy-Wells 175 N Front St
Westinghouse Electric 266 N 4 St MA 5571
*Whitehead Radio 124 E Long St AD 6131

DAYTON
*Allied Supply 359 W Monument MI 9833
General Electric Supply 601 E 3 St MI 0781
Graybar Electric 332 W Monument Ave MI 5665
*Hughes-Peters 300 W 5 St Hqdrs Columbus
Moore Equip Inc 18 Bruen St HE 2841
*Sreco 314 Leo St MI 3874
Stotts-Friedman 135 E 2 St MI 8373
Westinghouse Electric Supply 226 W 5 St MI 0331

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LANCASTER
Bletzacker Electronics 135 W Chestnut St 2137
Snyder Electric 319 Forest Rose 2986

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*Hutch & Son 125 S Elizabeth St 9-8411
*Lima Radio Parts 600 N Main 6-6756
Northwestern Radio 131 S Elizabeth St 4-2878
*Warren Radio Co 222 S Elizabeth St 7-2011

LORAIN
Pioneer Electronic Supply Hqdrs Cleveland

MANSFIELD
*Burroughs Radio 218 E 2 St 1691-6
Wholesaling Inc 775 Springmill 7287-6

MARIETTA
Marietta Radio & Elect 221 2 St FR 3-4987

MARION
Bell Radio 527 N Main St 2-5513
Dillman Radio Supply 389 W Center St 2-8063
Servex Distributing 213 N Main St 2-0031

MASSILLON
Martin M H 1118 Lincoln Way TE 2-7467

PAINESVILLE
Morrison's Radio Hqdrs Ashtabula

PORTSMOUTH
General Electric Supply 1723 10 St 3-2341
Graybar Elec Co 923 Washington St PO 3-1766
King & Irwin 1007 Lawson St
Sound Elec Supply Co 7 & Finley St

SANDUSKY
Barco Electronic Parts 119 E Water 2471
Servex Electronic Dist Hqdrs Marion

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Standard Radio 1300 St Paris Rd FA 5-6431

STEUBENVILLE

D & R Radio Supply 221 S 3 St AT 3-3643
*Hausfeld Radio Supply 116 N 3 St 2-4391

TIFFIN

Hutch & Son Hdqrs Lima

TOLEDO

Benarr Dists 1034 Grand Ave CH 4-6753
General Electric Supply 28 N St Clair's GA 8661
Graybar Elec 1700 Canton Ave CH 1-9166
Harry's Auto-Radio 713 Adams St FA 3447
*Howard's Electronic 135 17 CH 3-2277
Kane Co 1926 Canton St Hdqrs Cleveland
Lifetime Electronics 1501 Adams St CH 1-5643
Main Line Distributors 380 S Erie St CH 4-4996
Electronic Supplies 1320 Madison Ave CH 8-3361
*Toledn Radio Spec 1215 Jackson St AD 5828
*Warren Radio 1002 Adams St Hdqrs Lima
Westinghouse Electric 1225 Indiana AD 6184

WARREN

D & J Electronic 236 Vine Ave SE 3721-6
*Radio Specialties 136 Pine St SE 5-8770
Sommer Electric 2609 Youngstown Rd 7-5055

WASHINGTON COURT HOUSE

*Hutch & Son 209 E Market Hdqrs Lima

YOUNGSTOWN

General Electric Supply 265 W Rayen Ave RI 6-6511
Graybar Elec 602 W Rayen Ave RI 4-0124
Hnod Electric Co 128 W Rayen Ave 4-0255
Kane Co W Rayen Ave Hdqrs Cleveland
Ross Radio 325 W Federal St RI 6-8881
TV Parts Co Hdqrs New Brighton Pa

ZANESVILLE

Thomason Radio 135 S 6 St GL 2-8473

Oklahoma

ADA

Johnson Wholesale Electronics Hdqrs Okla City

ARDMORE

Johnson Wholesale Electronics Hdqrs Okla City

BARTLESVILLE

Four States Supply Hdqrs Joplin Mo

ENICH

Johnson Wholesale Electronics Hdqrs Okla City

LAWTON

*Radio Supply Hdqrs Okla City
*Reynolds Radio 909 1/2 C Ave 1292

McALESTER

McAlester Radio & TV 407 N Main St GA 3-2282

MUSKOGEE

*Muskogee Electronic 211 Callahan St MU 2-9651

OKLAHOMA CITY

Caioit Distr 1017 W Reno St
Nulaney's 100 N W 44 St JA 5-1511
Electronic Supply 212 N W 10 CE 2-5215
General Electric Supply 127 E Calif Ave FO 5-5475
Graybar Electric 12 E California FO 5-9351
Johnson Wholesale 927 N W 1 St FO 5-6388
*Miller-Jackson 121 E Calif St FO 5-8426
Modern Parts Distr 15 E Grand RE 9-1523
*Radio Supply 724 N Hudson St CE 2-6128
Southwest Radio & Equip 3 N E 8 St RE 6-8535
Westinghouse Electric 850 N W 2 St 2-7101

TULSA

General Electric Supply 18 N Guthrie St 3-6121
Graybar Electric 2406 E 12 St TU 6-2121
Industrial Electronic Supply 1124 E 4 St
Midwest Electronic 219 E 1 St CH 2-R086
Oil Capitol Electronics 923 E 4 LU 4-2437
Patterson Radio 211 E 13 S 5-3179
*Radio Inc 1000 S Main 4-9127
*S & S Radio 537 S Kenosha St CH 2-7174
Westinghouse Electric 307 E Brady St 3-7155
Wholesale Radio Supply 538 S Lewis St

VENTA

Pittsburg Radio Sup Hdqrs Pittsburg Kansas

Oregon

EUGENE

*Carlson Hatton & Hay 971 Oak St DI 4-4255
Graybar Electric 2180 6 Ave W EU 4-2224
*United Radio Supply Hdqrs Portland

KLAMATH FALLS

R F Supply 2367 S 6 St 6572

MEDFORD

General Electric Supply 121 W 4 St 3-2423
United Radio Supply Hdqrs Portland
*Walker Co V G 205 W Jackson 2-4558

PORTLAND

Appliance Whole 600 N W 14 AT 6584
*Central Dists 1131 NW Couch CA 8-0146
Connelly Co F & 905 NW 12th Ave CA 1755
Eoff Electric Hdqrs Salem
General Electric Supply 300 NW 14 Ave BR 0651
Graybar Electric Park & Flanders BR 6641
Home Makers Supply 824 S W 18 St CA 9385
H & R Radio Sup 5210 NE Sacramento AT 7-0057
Johnson Co Lou 1506 NW Irving CA 2-9551
North Pacific Supply 2950 NW 29 Ave CA 8-9576

Northwest Radio Supply 110 SE 8 Ave BE 4-9787
*Portland Radio 1234 W Stark St AT 8647
Saelens Radio 1605 NW Everett CA 8-6395
*Stubbs Electric 33 NW Park Ave BR 5404
*Tracey & Co 937 NW Glisan St CA 3-6263
TV & Radio Supply 720 SE Alder BE 2-1104
*United Radio Supply 22 NW 9 Ave CA 3-6323

SALEM

Eoff Electric P O Box 709 3-9251
Johnson Co Lou 935 S Commercial Hdqrs Portland
United Radio Sup 697 S 12 Hdqrs Portland

Pennsylvania

ALLENTOWN

Bell Co Chas L 14 & Gordon HE 5-5101
*Federated Purchaser Hdqrs Mountaineer N J
General Electric Supply 16 & Summer St HE 3-5206
Graybar Electric 1941 Hamilton HE 4-9341
Luckenbach & Johnson 1828 Tighman St HE 4-6235
Peters A A 231 N 7 St HE 4-9361
Steedle Norman D 1005 N 19 HE 5-6753
Westinghouse Elect 745 Union Blvd HE 4-5105

ALTOONA

Altoona TV Supply 1713 Union Ave 4-0827
General Electronics 508 Crescent Hdqrs Wheeling
*Hollenback's Radio Supplies 2221 8th Ave 6171

AMBRIDGE

Barrett Bros 127 Merchant St AM 6-6750

BETHLEHEM

*Buss Radio Electric 431 W Broad St UN 7-3151

BRADDOCK

Marks Parts Co 317 Braddock Ave EL 1-1314

BRADFORD

Johnson Radio Hdqrs Jamestown N Y

BRISTOL

Cooper Sales Co 449 Mill St BR 8-6577

BUTLER

Barron's Radio 333 E Jeff 7-5930

CHESTER

A C Radio Supply Hdqrs Phila
Bell Electronics Supply 1835 W 9 St 4-7161

CLEARFIELD

Altoona TV Supply Hdqrs Altoona

EASTON

*Federated Purchaser Hdqrs Mountaineer N J
Radio Electric Service Hdqrs Philadelphia

ELKINS PARK

A G Radio Parts 939 Township Line TU 6-5100

ERIE

B & D Whole Distr 502 E 10 St
*Duncombe Co J V 1011 W 8 St 4-5278
Erie Electronic Supply 801 W 21 St
General Electric Supply 824 E 9 2-1477
*Jordan Electronic Co 1130 German St 2-2462
*Warren Radio 1315 Peach St 4-5286
Westinghouse Elec 1820 State 4-8191
Young Brothers 1909 Peach St 4-5297

GETTYSBURG

Hartley & Co M A Hdqrs Staunton Va

GREENSBURG

General Electronics Hdqrs Wheeling W Va

HANOVER

York Radio & Refrigeration Parts Hdqrs York

HARRISBURG

Blessing Co John A 48 N Cameron St CE 6-9311
D & H Dstr 2535 N 7 St CE 8-7327
Excelsior Radio 17 & Derry St CE 8-8261
Graybar Electric 1039 S 13 HA 8-7303
Harrisburg Radio 1124 Market St CE 6-2755
Knerr C G 317 S Cameron St
*Radio Distr 915 S 13 4-0139

HAZELTON

Cerullo Electric 39 S Vine 1296

JOHNSTOWN

*Baker Radio Electric 111 John St
*Cambria Equip 17 Johns 6-1291
Dick's Automotive 633 Napoleon St
TV & Radio Parts 226 Main St 7-5345
Westinghouse Electric 75 Hickory St 8-1293

LANCASTER

Barbey Co G D 622 Columbia Hdqrs Reading
Eshelman Supply 110 N Water 4-5625
York Radio 519 W King St Hdqrs York

LEBANON

Barbey Co Geo Hdqrs Reading

LEWISTOWN

Alvo Electronics Hdqrs State College

McKEESPORT

*Barno Radio 321 6 Ave
McKeesport Electronics 1661 5th 8-5111

MEADVILLE

Mansfield Co M V Hdqrs Pittsburgh

MONESSEN

Mon Valley Electric 456 Schoonmaker Ave 1233

NANTICOKE

Modern Electronic Hdqrs Wilkes-Barre

NEW BRIGHTON

Mansfield Co M V Hdqrs Pittsburgh
Television Parts Co 509 S Ave NB 3000

NEW CASTLE

Midwestern Elec 235 W Grant OL 4-9961

NEW KENSINGTON

Bearer Electric 1017 5 Ave ED 5-5801

NORRISTOWN

Almo Radio Co 550 Markley St Hdqrs Phila
General Radio Supply 624 W Airy St NO 8-8115
Kratz Bros Kohn & Oak BR 5-4379

PHILADELPHIA

*A C Radio Sup 1539 W Passyunk HO 2-9379
*A G Radio Parts 3552 N 17 St Hdqrs Elkins Park
*Allied Electric 1320 W Erie Ave BA 9-8800
*Almo Radio 412 N 6 St WA 2-5153
*Barnett Bros 622 Arch St LO 3-9780
*Consolidated Radio 612 Arch St LO 3-7871
*Emerson Radio 223 N Broad LO 4-3350
Everybody's Supply 810 Arch St WA 2-7800
General Elec Sup 401 E Hunting Park GA 6-8800
Graybar Electric 910 Cherry WA 2-5405
*Hiebach & Rademan 1204 Arch LO 7-4309
Electronic Research Lab 715 Arch MA 7-6771
*M & H Sporting Goods 722 Market LO 7-2587
Nadisco 3960 N 16 BA 6-2020
*Nat-Lazar Radio 4231 Lancaster Ave BA 2-5604
Neuber H K 1539 Race St LO 7-2125
*Penn Electronic 5303 Frankford JE 5-1533
*Radio Electric 3412 Germantown BA 9-5900
*Radio Elec Serv 7 & Arch LO 3-5840
*Rosen & Co Raymond 2121 Market St TR 8-2200
*Steinberg & Co 2520 N Broad BA 3-9400
Westinghouse Electric 141 N 11 St WA 2-8950
*Wile Eugene G 218 S 11 St WA 3-1343

PITTSBURGH

Atlantic Dist 1630 Saw Mill Run TU 2-0504
*Cameradio Radio 1121 Penn Ave
Electronic Parts 5744 Baum Blvd MO 1-6413
Fischman Co Max 1141 Penn Ave EX 1-3232
General Electric Supply 200 W River Ave FA 2-1530
Graybar Electric 711 Galveston Ave FA 2-0300
Hamburg Bros 213 Galveston Ave AL 1-2400
Mansfield Co M V 937 Liberty Ave GR 1-4175
Marks Parts 508 E Ohio Hdqrs Braddock
*Marshall Co John 201 Anderson FA 1-5400
*Radio Parts 6339 Penn Ave EM 1-6053
Rogers Co C R 5210 Liberty Ave MA 1-4700
South Hills Electronic 1420 W Liberty Ave FI 1-6200
*Superior Distr 5124 Liberty Ave MU 1-4311
Variety Electronics 605 Bigelow Blvd EX 1-1524
Westinghouse Elect 209 W Gen'l Robinson AL 1-5500

POTTSTOWN

Barbey Co Geo D Hdqrs Reading

POTTSVILLE

Schuylkill Electric 611 Mauch Chunk St 4404

READING

A G Radio Parts Hdqrs Elkins Park
Barbey Geo D 155 Penn St 6-7451
*Barnett Bros 201 S 4 Hdqrs Phila
General Electric Supply 447 N Front RE 4-2169
Graybar Electric 22 S 3 St RE 6-1581
Westinghouse Electric 4 & Elm Sts 6-7236

ROCHESTER

Reliable Radio & TV 402 Adams St

SAINT MARYS

*B & R Electric 26 Railroad St 4-4918

SCRANTON

Consolidated Distr 844 Capouse DI 7-6380
General Electric Supply 204 Monroe Ave DI 4-8563
General Radio & Refr 1129 Wyoming Ave DI 7-5033
Morris Distr 228 Franklin Hdqrs Syracuse
Pursell Fred P 1221 N Washington Ave DI 7-5616
Scott Charles B 119 Franklin Ave 2-8221
*Scranton Radio/TV Supply 419 Poplar St DI 3-1259

SHARON

Shelborne Corp 239 Franklin Ave DI 7-2005

SHARON

Sharon Electronics 1336 E State DI 6-3014

STATE COLLEGE

Alvo Electronics 103 S Pugh St AD 8-6277

SUNBURY

Electronic Sales 734 Market St AT 6-4212

UNIONTOWN

*Zimmerman Wholesalers Hdqrs Hagerstown Md

WILKES-BARRE

General Electric Supply 85 E Union St VA 2-5106
General Radio 396 S Main Hdqrs Scranton
Modern Electronic Supply 245 S Main St VA 3-6872
Radio Service 346 S Main VA 3-7713
Sonoret Tele-Radio Co 36 Woodbury St VA 2-2431
Wall R B 16 E Union St VA 4-2411

WILLIAMSPORT

Alvo Electrs Dists Hdqrs State College
General Radio & Refrig Hdqrs Scranton
Westinghouse Electric 465 Hepburn St 2-6184
*Williamsport Radio 518 W 3 St 7696

YORK

Eshelman Supply 10 Broad St Hdqrs Lancaster
*J R S Distr 645 W Market 2-8624
Westinghouse Elec Ogontz St & 6 Ave WO 5556
*York Radio & Refrig 263 W Market St 8-1586

DISTRIBUTORS SERVING the ELECTRONIC INDUSTRIES

Rhode Island

PROVIDENCE
 Dandreta & Co Wm 129 Regent Ave UN 1-2800
 *DeMambro Radio 90 Broadway
 Eddy & Co 43 Hospital St GA 1-2045
 Edwards & Co W H 94 Broadway GA 1-6158
 General Electric Supply 241 Harris Ave GA 1-6523
 Graybar Electric 194 Richmond DE 1-8100
 Rimaco Sales Co 488 Friendship St DE 1-9199
 Television Access House 41 Broadway JA 1-7515
 Westinghouse Elec 233 Harris GA 1-6484

South Carolina

ANDERSON
 A & S Electronics 205 W River St CA 5-8260
 Dixie Radio Supply Hdqrs Columbia

CHARLESTON
 General Electric Supply 287 E Bay St 2-0220
 Radio Labs 215 King St 3-5328
 Wholesale Radio 78½ Calhoun St

COLUMBIA
 Associated Distr 822 Gervais St
 Carolina Sales Hdqrs Greenville NC
 *Dixie Radio Supply 1700 Laurel St 4-0383
 General Electric Supply 107 Berea Rd
 Graybar Electric 710 Lady St CO 2-2125
 Horlacher & Barrett 1909 Main
 Perry-Mann Electric 901 Taylor St 2-4375
 Southeastern Radio Parts Hdqrs Atlanta
 Westinghouse Electric 915 Lady 8145

CONWAY
 Southern Electronics 208 Elm 9-3621

FLORENCE
 Dixie Radio Supply Hdqrs Columbia
 *Florence Radio Supply 355 N Irby St 2-1446

GREENVILLE
 Carolina Radio 221 W Wash 2-6740
 Dixie Radio Supply Hdqrs Columbia
 General Electric Supply 111 Welborn St 2-2881
 Gillam Radio 802 Buncombe St 5-0438
 Graybar Electric 302 W Washington St 9-1338
 Perry-Mann Electric 400 Rhett St 5-1677
 Westinghouse Electric 205 Airport Rd 3-6201

SPARTANBURG
 Hemcor-McElhenney Co 481 Union St 6308

SUMTER
 Southern Electronics 8 E Hampton Ave SP 3-8060

South Dakota

ABERDEEN
 Burghardt Radio Supply Hdqrs Watertown

RAPID CITY
 Burghardt Radio Supply Hdqrs Watertown
 Power City Radio Hdqrs Sioux Falls

SIoux FALLS
 Graff Motor Supply 122 W 7 St 4-6911
 Graybar Electric 300 N Phillips St SI 4-5621
 Lippert L C 506 Scliff Ave 4-7577
 *Power City Radio 209 S 1 Ave 4-4077
 *Warren Radio Supply 105 S Indiana Ave 8-6051

WATERTOWN
 *Burghardt Radio Supply Box 746 5749

Tennessee

BRISTOL
 Clark Radio Supply 620 Broad St SO 3301
 Graybar Electric 536 Anderson St SO 4415
 *Roden Electrical Supply Hdqrs Knoxville

CHATTANOOGA
 Curle Radio Supply 439 Broad St 6-4720
 General Electric Supply 112 W 13 St 5-4571
 Graybar Electric 210 N Highland Park Ave CH 4-3351

Radio & Appliance Distr 323 W Main St 7-6541
 Radio Sales 401 Broad St 7-4581
 Specialty Distributing Hdqrs Atlanta Ga
 Standard Appliances 618 Broad St

JACKSON
 Carlton Wholesale Radio 312 S Shannon 7-0816
 *Rush L K 425 N Royal St 2-4731

JOHNSON CITY
 General Elec Supply 114 Ashe St 3117

KINGSPORT
 Radio Electric Supply 245 E Market St CI 5-1471

KNOXVILLE
 Chemcity Radio & Elec 12 Emory Pk 4-3641
 General Electric Supply 701 W Jackson Ave 5-2104
 Graybar Elect Henley & Union KN 3-6171
 McClung Appliances 310 Georgia St 4-1811
 *Roden Electrical 808 N Central 3-0491

MEMPHIS
 *Bluff City Distr 234 East St BR 6-4501
 Electronic Supply 1100 Union Ave 7-0366
 Fulmer Co Arthur 296 Monroe Ave JA 3-5711
 General Electric Supply 500 S Front St 37-5531
 Graybar Electric 1474 Lamar Ave ME 7-7150
 *Lavender Radio Supply 180 S Gasper BR 6-2757

McGregor's 1071 Union Ave 36-3301
 Mills-Morris 171 S Dudley 36-3351
 Shobe Inc 1195 Union Ave BR 2-3411
 Uffer Co Frank G 1318 Madison Ave BR 6-4555
 Westinghouse Elect 845 N Main 37-9431
 Woodson & Bozeman 733 S Sommerville 32-2445
 W & W Distr 644 Madison JA 7-4628

MORRISTOWN
 Clark Radio Supply Hdqrs Bristol

NASHVILLE
 Braid Elec 1100 Demonbreum St CH 2-6511
 Currey's 1600 McGavock St AL 5-7331
 Electra Distr 1914 West End Ave 5-8444
 General Elect Supply 90 Peabody St 4-7661
 Graybar Electric 125 16 Ave N NA 4-6501
 Keith Simmons 14 Cummins Sta 4-1761
 Radio & Appliance 4 Cummins Station
 Randolph & Cole 1213 McGavock St CH 2-5426

Texas

ABILENE
 General Electric Supply 190 Locust 2-2827
 Graybar Elec Co 1601 S Treadaway AB 2-2861

AMARILLO
 Alltronic Supply Inc 1401 W 7 Ave DR 4-0031
 General Electric Supply 701 E 5 Ave DR 6-7254
 Graybar Electric 601 E 2 St AM 2-6778
 *R & R Electronic 707 Adam DR 2-3255
 Westinghouse Electric 99 Taylor 2-6536
 *West Texas Radio Supply 1026 W 6 2-3179

AUSTIN
 Electronic Hdqrs 310 Willow St GR 6-6818
 Graybar Electric 214 E 3 St AU 8-5674
 *Hargis Co 410 Baylor St GR 8-6618
 Standard Radio 309 Lavaca St 7-9241

BEAUMONT
 General Electric Supply 1295 Pearl St 4-6435
 Graybar Electric 1070 Fannin St BE 2-8484
 Hall Inc RC & LF Hdqrs Houston
 *Montague Radio 760 Laurel 4-5697
 Reed Co 200 Fannin St 4-7431
 *Sterling Radio Hdqrs Houston
 Westinghouse Electric 265 Cypress 4-8635

BROWNSVILLE
 Electronic Equip Hdqrs Corpus Christi

CORPUS CHRISTI
 *Electronic Equip 805 S Staples 3-9271
 General Electric Supply 1134 E Port Ave TU 2-9237
 Graybar Electric 1311 Agnes TU 4-6374
 Hayes Radio Sup 1116 S Staples St 4-1991
 Westinghouse Elect 110 N Staples St 2-3351
 *Wicks Radio Equip 513 S Staples St TU 4-8285

DALLAS
 Adelta Co 1914 Cedar Springs PR 7576
 *All State Distr 2411 Ross Ave RI 1295
 Budrow Radio Supply 3400 Oakland Ave HA 8-9015
 *Crabtree Whole Radio 2608 Ross St 5361
 Dallas Electric 1800 Magnolia RI 5396
 Engineering Supply 6000 Denton Dr FL 7-2861
 General Electric Supply 1811 N Lamar St RA 2201
 Graybar Elect 717 Latimer RA 6452
 *Industrial Electronic 134 Leslie 3-8122
 *Southern Radio 3137 Ross Ave VI 6396
 *South West Radio 1820 N Harwood RI 6272
 Wanslow & Co 912 N Peak St TA 9836
 Westinghouse Electric 601 Latimer St RA 2401
 Wholesale Electronic 2800 Ross Ave ST 5736
 *Wilkinson Bros 2406 Ross Ave PR 1571

DENISON
 *Denison Radio Supply 310 W Woodard 45

EL PASO
 Elec & Mech Supply 2000 Texas St 2-4614
 General Electric Supply 300 Dallas St 3-3407
 Graybar Electric 3513 Rosa St EL 3-7561
 *McNicol C C 811 N Estrella 5-3992
 Midland Specialty 425 W San Antonio 3-2401
 Mومن-Dunnegan-Ryan 800 E Overland 3-1621
 Reeves Radio Supply 720 N Stanton 3-5752
 Sunland Supply 1200 E Missouri 3-7409
 Walz Co W G 500 San Francisco St 3-1677

FORT WORTH
 *Electronic Equip 917 Florence St ED 5407
 General Electric Supply 409 Jones St FA 5385
 Graybar Electric 1107 Foch St ED 4525
 *H & L Radio Supply 1608 Commerce St ED 2-7311
 *"Scooter's" Radio 509 Commerce St FO 7448
 *Sutton's Electronics 104 S Main St ED 5-9515
 *Swieco Co 1518 E Lancaster ED 2-7157
 *United Electronics 403 Jones ED 9295
 Westinghouse Elec 205 NE 7 FO 5611

GALVESTON
 Hall R C & L F Hdqrs Houston

GRAND PRAIRIE
 All-State Distr Co Hdqrs Dallas

HOUSTON
 Automatic Distr 100 Jackson CA 0261
 Beyer & Co A R 1318 Polk Ave CA 8-7491
 Busacker Electric 1721 Waugh Dr JU 5546

City Radio & TV Parts Co 2321 Milam JA 2-1556
 Covington Distr 34 N Hamilton CA 2-0326
 Crumacker Distr 1200 National CH 9366
 Electrotex Electronics 2401 Taft St JA 9-3211
 Electro-Mechanical Prods 4811 Gulf Freeway WA 6-6411

Electronic Distrs 419 Caroline CA 2-9961
 Frankin Co R E 1905 Chartres St CA 0194
 General Electric Supply 1312 Live Oak FA 3121
 Geophysical Supply 1311 Dallas Ave BL 0561
 Graybar Elect 1701 Cullen AT 4571
 Gulf Coast Electronic 1110 Winbern St JA 8-1551
 *Hall Inc R C & L F 1301 Polk CA 2-9731
 Harrison Equip 1422 San Jacinto AT 6315
 Houston Radio Supply Clay at La Branch CA 6261
 Lenert Co 2213 Congress Ave CA 4-2663
 Moore Bros 3401 Milam St JU 4175
 *Radio Parts 902 Crawford CA 5-0137
 Sound Sales & Engineering 2005 La Branch
 *Sterling Radio P O Box 1746 CA 5-1321
 Straus-Frank 4000 Leeland CA 1201
 Tele-Radio 1721 Waugh Dr JA 3-8151
 Walsh & Co J A 4301 Gulf Freeway CA 3-4281
 Westinghouse Elect 1903 Ruiz CA 7272

LAREDO
 Guarantee Radio 1314 Iturbide St 3-6913
 Pan American Electronic 1015 Iturbide St 3-6242

LONGVIEW
 Wholesale Electronic Hdqrs Dallas

LUBBOCK
 *B & L Radio & TV Supply 2424 Texas Ave PO 5-6352
 General Electric Supply P O Box 1361 PO 3-8271
 Graybar Electric 905 Ave F PO 3-9656
 *R & R Supply 1607 Ave G PO 5-5737
 Westinghouse Electric 605 Main St 3-0425
 West Texas Radio Supply Hdqrs Amarillo

LUFKIN
 Sterling Radio Products Hdqrs Houston

McALLEN
 Guarantee Radio Parts & Equip Hdqrs Laredo
 *Rio Radio Supply 608 S Broadway MU 6-5781

ODESSA
 Midland Specialty 2101 Andrews Hwy Hdqrs EI Paso

PORT ARTHUR
 Diehl Radio & TV Supply 1927 7 St 2-6311
 Radio Parts Co Hdqrs Houston

SAN ANGELO
 Gunter Wholesale Co 606 S Irving St 9182

SAN ANTONIO
 Amateur Headquarters & Supply 828 Brooklyn GA 7388

Electronics Inc 512 Broadway CA 4-8381
 General Electric Supply 1801 Broadway CA 7-1261
 Graybar Elec 1401 N Hackberry FA 6274
 Lamp's Electronics 828 Brooklyn Ave CA 7-7388
 *Mission Radio 1229 S St Marys St CA 7-8323
 Modern Radio Supply 635 Soledad St CA 6-0175
 Olsen Radio Supply 412 Pereida St
 Radio & Television Parts Co 118 7 St CA 6-5329
 Sherman Electronics 722 San Pedro CA 6-0247
 South Texas App'l 641 S Flores St
 Straus-Frank Box 600 CA 6-0101
 Westinghouse Electric 1211 E Houston GA 9271

TEMPLE
 Central Radio & Supply 410 E Ave A

TEXARKANA
 McCulloch Whsle TV Supply 811 W 13 St 32-8411

TYLER
 Bryan Radio Service Sup 110 University 4-4441
 General Electric Supply 416 N Broadway 2-1673
 *Lavender Radio Supply 503 E Oakwood St PH 4-6315

VICTORIA
 L & G Electronic 1412 N Main HI 3-2272

WACO
 Best Electronics 122 N 18 St 4-3100
 General Elec Supply 217 S 4 St 2-1611
 *Hargis Co 1205 Washington Ave 4-5667
 L & M Sales 1307 Austin Ave 2-3391
 Wholesale Electronic Supply Hdqrs Dallas

WICHITA FALLS
 *Clark & Gose Radio 1203 Indiana St
 *Mooney Radio 1300 12 St 2-0731
 Wholesale Electronic Supply Hdqrs Dallas

Utah

OGDEN
 Ballard & Carter 3109 Washington Blvd 3-8604
 Iverson Radio 265 25 St ST 6286
 Tri-State Electronic 2217 Kiesel Ave 4-3438

SALT LAKE CITY
 Ballard & Carter 1486 Major St Hdqrs Ogden
 Central Supply Co 47 E 5th St S 3-2631
 Flint Distr Co Box 1470
 General Electric Supply 312 W 2 S St 3-3911
 Glenn Earl 245 S 1st West 3-7601

DISTRIBUTORS SERVING the ELECTRONIC INDUSTRIES

Graybar Electric 336 N 3 St W SA 9-8771
 Kimball Distr Co 35D Pierpont Ave EM 3-5813
 Lloyd Co W B 51 S 2nd W 3-3825
 Moore Radio Supply 157 Motor Ave
 O'Loughlin's Radio Supply 113 E 3 S St EM
 4-4051
 Rns S R 1212 S State St 6-8607
 Standard Supply 225 E 6 St EL 5-2971
 Stravell-Paterson 126 S W Temple DA 2-5795
 Westinghouse Elec 210 Rio Grande 22-2441

Vermont

BURLINGTON
 General Electric Supply 316 Pine St 3-3424
 Oakman Elec Sup Hdqrs Rutland
 Radio Service Lab Hdqrs Manchester NH
 Vermont Hdw 180 Flynn Ave 4-6835
 Westinghouse Electric 208 Flynn Ave 4-9885

RUTLAND
 Oakman Electric Supply 12 Wales St PR 5-5558

Virginia

ALEXANDRIA
 Certified Radio 1330 Powhatan St KI 8-5115
 Suburban Distr 222 S Henry St KI 9-6804

ARLINGTON
 Rucker Electronic Hdqrs Wash DC

BRISTOL
 Bristol Radio 31 Moore St N-3544

CHARLOTTESVILLE
 Virginia Radio 715 Henry Ave 2-4124

DANVILLE
 *Womack Radio 502 Craghead 4622

HAMPTON
 General Elec Supply 1247 39 St Hwy 3-6526

LYNCHBURG
 Eastern Electric Co 920 Commerce St 2-3497
 Lynchburg Battery 406 5 St 2-1236

NEWPORT NEWS
 General Supply 4215 Huntington 2-4007

NORFOLK
 Crum Co B T Granby & Plume Hdqrs Richmond
 General Electric Supply 709 E 26 St 2-7183
 Graybar Electric 1081 W 35 St NO 5-7441
 *Radio Equip 821 W 21 St MA 7-4534
 *Radio Parts Distr 128 W Olney MA 2-5711
 *Radio Supply 711 Granby St MA 7-9211
 Schultz Inc G J 639 W 24 St PH 2-7985
 Trant Inc R F 924 W 21st St MA 2-2683
 Westinghouse Elec 2600 Hampton 5-0525
 Wyatt-Cornick 919 W 21 St Hdqrs Richmond

PETERSBURG
 Virginia Battery 21 E Bank St RE 2-5051

RICHMOND
 Cottrell Jr W C 408 E Main St 3-2402
 Crump Co Benj T 1332 E Franklin 7-1941
 Duval Distr Co 1221 Admiral St
 General Elect Supply 1505 Sherwood 6-4941
 Graybar Electric 10 S 6 St RI 7-3491
 Johnson Co D R 1315 E Cary St 7-3617
 *Johnston-Gasser Co 3023 W Marshall 6-9405
 Mattson's Electronics 2224 Chamberlayne 6-6719
 Meridian Electronic 1001 W Broad 5-2834
 *Radio Supply 3302 W Broad St 6-5565
 Richmond Electronic Supply 800 W Cary St 7-1082
 Tiller Inc A R 957 Myers St
 Trant Dist R F 1221 Admiral St 2-2805
 Westinghouse Electric 511 E Boyd St 3-0111
 Wyatt-Cornick 1705 Brook Rd Hdqrs Norfolk

ROANOKE
 *Baker Sales HC 19 Franklin Rd 4-9209
 General Elec Supply 515 Norfolk Ave SW 3-1564
 Graybar Elec 601 Salem Ave RO 3-3615
 *Leonard Electronic 131 Center Ave N W 3-9339
 Peoples Radio & TV 1015 Moorman Rd NW
 5-8900
 *Radio Supply Hdqrs Richmond
 Roanoke Electronic 1322 Williamson 4-6612
 Westinghouse Electric 732 1 St SE 7771

STAUNTON
 Hartley & Co 327 N Central 5-2333
 Radio Electric Products 114 N Central 5-3061
 Southern Electric 818 Greenville Ave 5-2313

WHITE STONE
 Channel Electric Products HE 5-5255

Washington

ABERDEEN
 C & G Radio Supply Co Hdqrs Tacoma

BELLINGHAM
 Waitkus Supply 110 Grand Ave 274

BREMERTON
 C & G Radio Supply Co Hdqrs Tacoma

CENTRALIA
 C & G Radio Supply Co Hdqrs Tacoma

ELLENSBURG
 Geiger Radio W A 1101 Columbia 2-7701

EVERETT
 *Pringle Radio Whole 2514 Colby Ave

KENNEWICK
 Wible Radio Supply Hdqrs Tacoma

OLYMPIA
 C & G Radio Supply Co Hdqrs Tacoma

PASCO
 Lay & Nord Hdqrs Yakima

SEATTLE
 Central Electronics 2023 7th Ave
 Coast Radio 110 University St MA 9133
 Connelly Co C F 1015 Republican St SE 4155
 Electronic Supply 5601 Calif Ave AV 4500
 Fidelity Electric 960 Republican St SE 5100
 Garretson Radio Supply 2416 2 Ave MU 4380
 General Elect Supply 1212 1 Ave SE 6400
 *General Radio 100 Wall St EL 4784
 Graybar Elec King & Occidental MU 0123
 Instrument Lab 934 Elliott West AL 5850
 Mutual Electronic Supply 307 3 Ave South
 Pacific Electronic Sales 1201 1 Ave MU 5390
 *Radio Products Sales 1213 1st Ave MA 1035
 Radio TV & App'l 500 Westlake Ave N MA 0787
 *Seattle Radio Supply 2117 2 Ave SE 2345
 *Western Electronic 717 Dexter Ave SE 3200
 Westinghouse Elec 1051 1 Ave S EL 7001
 Westlake Electronic 511 Westlake N MA 6601
 *Zobrist Co H E 2121 Westlake MU 2121

SPOKANE
 Columbia Electric E 3420 Ferry Ave KE 0611
 Frank's Radio Supply 161 S Adams St MA 8108
 General Electric Supply E 1805 Trent Ave KE 0431
 Graybar Electric 1033 W Gardner Ave EM 6611
 Johnson Co E M W 615 1 Ave RI 5432
 *Northwest Elect N 102 Monroe MA 9289
 Prudential Distr 318 W Trent Ave MA 6002
 Spokane Radio Supply 301 W 2 Ave RI 8441
 Standard Sales 1219 W 1 Ave RI 7196
 Taylor Distributing E 206 Augusta EM 3301
 Westinghouse Elec N 1023 Monroe EM 3371

TACOMA
 C & G Radio Supply 2502 Jefferson Ave BR 3181
 General Electric Supply 2316 A St BR 8454
 Graybar Electric 2112 A St MA 0164
 Stewart Co A T 711 Broadway BR 3174
 Westinghouse Elec 1930 Pacific BR 8417
 *Wible Radio Supply 2360 S Fawcett St BR 8395

VANCOUVER
 Saelens Radio Hdqrs Portland

WALLA WALLA
 Kar Radio & Electric 12 & Pine Sts 4572

WENATCHEE
 Mid-State Radio 611 1/2 N Wenatchee Ave 510

YAKIMA
 Lay & Nord 112 S 2 St 3-5591
 Westinghouse Elec 210 W B YA 3-4701
 Yakima Wholesale Radio 506 S 1st 4670

West Virginia

BECKLEY
 *Chemelty Radio & Elec 1708 S Kanawha St 2-5353

BLUEFIELD
 Bluefield Supply 6121
 Dixie Appliance 232 Bluefield Ave
 *Meyers Electronics 813 Bluefield Ave

CHARLESTON
 Charleston Elec 914 Kanawha 6-0321
 *Chemelty Radio & Elec 103 Clendenin ST 2-8151
 Graybar Electric Kanawha & Capitol St 6-0411
 Hicks Radio Supply 10 Virginia St 3-5583
 Mountain Electronics 708 Bigley 3-9582
 Virginian Electric P O Box 2833 6-0631

CLARKSBURG
 Mountain Electronics 433 Clark St 4-5559
 Trenton Radio Co Hdqrs Morgantown
 Westinghouse Electric 315 N 4 4-6311
 White Electric 903 W Pike St 4-5591

HUNTINGTON
 *Electronic Supply 422 11 St 8779
 *King & Irwin 314 11 St 3-8414
 Mountain Electronics 1127 3 Ave 2-0339
 *TV Supply 1226 3 Ave 6639
 VanZandt Supply 1123 4 Ave JA 5-5193

MARTINSBURG
 Plummers Radio 526 W King St 3821

MORGANTOWN
 Trenton Radio 507 Beechurst Ave 5637

PARKERSBURG
 Cox Radio Supplies 554 7 St
 General Electronics Hdqrs Wheeling
 Randle & Hornbrook 536 7 St 8-3391

WHEELING
 General Electric Supply 1818 Eoff St WH 2555
 General Electronics 735 Main St 5738
 Hamburg Bros 360 National Rd 727
 *Radio Parts Co 1312 Main St
 Westinghouse Electric 1803 Eoff St 3980
 Wheeling Radio Supply 924 Market St WH 1077

Wisconsin

APPLETON
 Appleton Radio Supply 1217 N Richmond St 3-3345
 Electronic Expeditors Hdqrs Milwaukee
 General Electric Supply 1307 S Spencer St AP
 4-7155
 Valley Radio Distr 518 N Appleton St 3-6012

CHIPPEWA FALLS
 Bushland Radio Specialties PA 3-6052

EAU CLAIRE
 Bushland Radio Specialties Hdqrs Chippewa Falls
 Larson Electrical J H Hdqrs Minneapolis

FOND DU LAC
 *Harris Radio 289 N Main St 8204

GREEN BAY
 Electronic Expeditors Hdqrs Milwaukee
 Graybar Elec Co 1140 N Irwin Ave HE 7-3284
 Neslo Electronic 308 N Chestnut HE 5-4881
 *Northern Radio & TV 708 S Broadway HE 5-3789
 Westinghouse Electric 619 Main HE 5-3751

HUDSON
 Larson Elec Co J H Hdqrs Minneapolis

JANESVILLE
 Goodenough Radio 111 N Jackson St PL 4-7033

KENOSHA
 Chester Electronic 2012 52nd St OL 2-8607
 Midwest Electronics Hdqrs Chicago

LA CROSSE
 General Electric Supply 222 Pearl St 2-7802
 Lew Bonn Co 115 Pearl St 4-7378
 Southern Minn Supply Hdqrs Mankato Minn
 *Stark Radio Supply Hdqrs Minneapolis

MADISON
 Graybar Elec Co 103 N Park St MA 5-0005
 *Radio Dist 701 E Johnson St AL 6-6801
 *Satterfield Electronics 326 W Gorham AL 6-0267
 Superior Radio Parts Hdqrs Racine
 Westinghouse Elec 1022 E Washington 5-4868

MANTOWOC
 *Harris Radio Corp Hdqrs Fond du Lac

MARINETTE
 Popkey Co G M Main & 9 Sts

MILWAUKEE
 *Ackermann Radio 3861 N 35 HI 5-1860
 *Acme Radio 1009 N Water St BR 1-0641
 *Central Radio 1723 W Fond du Lac Ave WE
 3-2982
 DyKro Distrs 340 N Milwaukee St BR 6-4400
 Electronic Expeditors 2205 W Vilet WE 3-5804
 Electro-Pliance Distr 2458 W Lisbon Ave DI 2-9240
 General Electric Supply 540 S I BR 6-7730
 Graybar Elec 180 N Jefferson BR 6-8400
 Juneau Radio Sup 3110 W Lisbon Ave DI 4-2266
 *Marsh Radio Supply 838 N 4 St BR 6-1320
 Mid-City Electronic 2327 W Wells WE 3-8304
 Pritzaff John Hdw 333 N Plankinton Ave BR 1-1965
 *Radio Parts Co 940 N 27 St WE 31-5131
 Roth App'l 647 W Virginia BR 1-1111
 Seemuth Distr 2406 W Lisbon St DI 2-9240
 State Distr Co 3500 W Pierce St EV 3-6200
 Stolz-Wicks 4120 W Fond du Lac Hdqrs Chicago
 Taylor Elec 4080 N Pt Wash RD WO 4-4321
 Television Parts 714 W State BR 2-6111
 Westinghouse Elec 546 N Bway DA 8-1800

OSHKOSH
 Electronic Expeditors Hdqrs Milwaukee
 Neslo Electronic Dist Hdqrs Green Bay

RACINE
 Allen's Merchandising 1206 N Wisconsin St 3-8589
 Badger Electronic 856 Washington 3-4024
 *Standard Radio Parts 1244 State St 4-3634
 Superior Racine 908 State St ME 2-5142

SHEBOYGAN
 Koessell Co J J 1010 S 9 St GL 7-3646
 Nitz's 1129 N 8 St GL 7-9531

STEVENS POINT
 AMCO Electronics N 2nd & Franklin 3351

WAUSAU
 *Radio Service & Supply 615 3 St 3272

Wyoming

CASPER
 Fleming Supply 328 1/2 East A St 3-6056
 General Electric Supply 428 S Elm St 2-7333

CHEYENNE
 *Hogue Radio & Supply 4012 Central 2-6474

SHERIDAN
 Barton Battery & Electric Co 102 Grinnell St 59

Alaska

ANCHORAGE
 Alaskan Electronic Supply 815 C St
 Yukon Radio Supply Box 406 2-7964

Hawaii

HONOLULU
 Radio-TV Corp 777 Ala Moana Rd 50-2901
 Radio Wholesale & Supply 817 Alakea St 6-3996

ELECTRONIC INDUSTRIES DIRECTORY of

Representatives ("Reps")

This section of the 1956 Electronic Industries Directory lists those representatives operating as independent "reps" who handle two or more lines. They do not include factory staff salesmen. "Reps" are listed alphabetically under states and cities. Asterisks (*) indicate membership in "The Representatives" of Electronic Product Manufacturers, Inc. Telephone numbers are given to speed contacts.

Alabama

BIRMINGHAM

Hayden Associates Paul Hqrs E Point Ga
Smith Co Maitland K Hqrs Atlanta Ga

Arizona

PHOENIX

Moore Sales Co Harry A Box 7245 AM 5-4662
Neely Enterprises Hqrs N Hollywood
Sheffer Co H George Box 1587 AL 8-7893

TUCSON

Marshall Co G S Hqrs Pasadena

California

LOS ANGELES AREA

Alderson Co Wes 10422 National Blvd TE 0-1030
*Appleton Co Harry 136 San Fernando CA 5-5513
*Barron-Jur Co 817 S Hoover St DU 3-5248
*Barstow & Doran 1406 S Grand Ave RI 6191
Baughman E J 1914 N Cogswell (El Monte) FO 0-7586
*Becker Co Herb 1140 Grenshaw Blvd WE 1-1257
Berman Co J 1141 La Cienega St OL 5-8921
*Brazan P L 3257 W Pico Blvd RE 1-2186
Carlton Eng'g 1102 S Western RE 2-8103
*Cochrane-Barron Co 408 S Alvarado St DU 5-1715
Cohn S H 1769 S Holt Ave TE 0-4398
*Costello J D 1917 S Bronson Ave RE 3-6322
Craig Ralph P 715 N Harper Ave WE 0468
Davidson & Assoc J 2803 Los Flores (Lynwood) NE 6-2245
*Davis Sales Co George 5259 E Beverly Blvd UN 3-3594

Detsch & Co Hqrs San Francisco
Dudek & Co R C 407 N Maple Dr (Beverly Hills) BR 2-8097
*Ealy Co M D 633 S La Brea WE 5-0771
Eastman-Pacific Co 2320 E 8 St TR 6317
*Edwards & Co Jackson 6047 Hollywood Blvd HO 5-1141

Elecnair Co 3903 Warner Blvd (Burbank) VI 9-2874
*Emmett F A 2837 W Pico Blvd RE 1-8211
Engineering Sales 406 S Main St MA 6-9159
Erlanger Sales 4217 W Jefferson Blvd RE 1-2238
*Feldman Co Henry 1244 S Grand RI 9-8803
Fox Associates 5401 Santa Monica Blvd HO 3-7194
Geist Co W K 3177 Glendale Blvd NO 5-8910
Gilbert & Co M B 6214 W Manchester Ave OR 8-5767
Graham Sales 1200 Sycamore Ave (Hollywood) HO 2-3552

Hansen C A 1406 S Grand Ave RI 8-6191
Hardie Co R M 901 S Manhattan Pl RE 4-2752
*Harmon Co W S 121 N Robertson Blvd (Beverly Hills) BR 2-3321
*Harris A W PO Box 1116 (Gardena) OR 8-4817
Hast Nate 301 S Reeves Dr (Beverly Hills) CR 5-2652
*Hastings Sales Co 4942 Vineland Ave (N Hollywood)

Heeger Inc 1011 Venice Blvd DU 9-6775
*Hill Sales Co J T 420 S Pine St (San Gabriel) AT 7-9633
Jewett S O 13537 Addison St (Sherman Oaks) ST 9-6027
King-Moon Co 15044 Ventura (Sherman Oaks) ST 4-5404

*Kittleson Co 416 N La Brea WE 3-7371
*Knight Co W Bert 10373 W Pico Blvd BR 2-5647
*Koessler Sales 6907 Melrose Ave WE 6-6271
La Moree G D 1325 San Julian RI 8-7341
Larshan Inc 1409 Wilshire (Santa Monica) TE 0-8489
*Lasure Co Harry 12045 Magnolia (N Hollywood)

*Loukota Co Douglas 1052 W 6 St MA 6-4505
Lynch & Son C R 3307 Glendale Blvd NO 3-8236
Lynn & Brooks 3055 Wilshire Blvd DU 2-2255
Mann Associates Martin 14751 Keswick St (Van Nuys)
McCarthy Assoc 16 N Marengo Ave (Pasadena) SY 2-8272
*Marsh Co J W 4216 W Jefferson RE 2-0145
*Marshall Co G S 40 S Los Robles (Pasadena) SY 5-2022
*Marshank Sales 7422 Melrose Ave WE 8-2591
Maynard Sales Co 6214 W Manchester OR 8-3150
*Miller G B 1550 N Highland (Hollywood) HO 2-1195

Mitchell C H 256 S LaPeer (Beverly Hills) BR 2-0183
*Neely Enterprises 3939 Lankershim Blvd (N Hollywood) ST 7-0721

*Olander & Co Roland 7225 Beverly Blvd WE 5-1211
Osborne R E 1757 Garfield (S Pasadena)

*Owens Co Lee H 2331 W Washington RE 5-0230
Perlmuth Electronic Assoc 2419 S Grand Ave RI 7-4321
Possner Co 1223 Venice Blvd DU 8-0508

*Power Ralph L 767 Castelar St MU 5277
Renz Roy E 1406 S Grand Ave RI 7-3893
*Rissi Al J 2724 S Peck Rd (Monrovia) DO 6-2135
*Roberts & Assoc E V 5068 W Washington WE 8-2541
*Rupp Co V T 2230 W 11 St DU 3-4197

Rush & Assoc C B 3757 Wilshire Blvd DU 8-7585
*Saul & Assoc H M 5015 San Vicente Blvd WE 8-3591
*Schoenduve H W 7407 Melrose Ave WE 3-7276

*Seigel Co Samuel 1133 S LaCienega Blvd OL 5-8870
Siewers Edward S 1662 Hillhurst Ave NO 2-1105
Skahill Ed A 933 N Kenmore Ave NO 3-4453

Smedley A B Box 67-C (Pasadena) SY 8-1174
Snitzer T Louis 5777 W Pico Blvd WE 8-2074
Snyder L G 1418 N Highland (Hollywood) HO 9-6278
Starr Edwin E 4101 Rhodes Ave (N Hollywood) ST 7-5879
Stern & Co I R 4109 Burbank Blvd (Burbank) VI 9-1195
Sodaro Co J F 3895 Main St (Culver City) TE 0-3213

*Stolaroff Co M A 4622 W Slauson Ave AX 3-6219
*Stone Assoc Carl A 1102 S Western Ave Br 2-8103
*Stone Sales Co R L 9548 W Pico Blvd BR 2-4916
*Strassner Co Conrad R 1865 N Western Ave HO 7-7086
Tivy George S 1148 S Grand Ave RI 7-7553

*Tubergen Assoc 2234 W 11 St DU 9-3173
Uecke E H 4938 Neola Pl CL 7-9611
Van Groos Co 14515 Dickens St (Sherman Oaks) ST 7-9615
*Wallace & Wallace 1206 Maple Ave RI 7-0401
*Weber Co Wedge 1712 Venice Blvd DU 7-2111
*Weightman H G 4104 Burbank Blvd (Burbank) VI 9-2435

Western Control Equip 14615 Ventura Blvd (Sherman Oaks) ST 7-0447
*Western Electronic Enterprises 3348 W Compton Blvd (Gardena) OR 8-4817
*Wiley Paul F 1632 Silverlake Blvd NO 3-8028
*Wood Co A M Box 150 (Elmonte) CU 3-1201

SACRAMENTO

Neely Enterprises Hqrs N Hollywood

SAN DIEGO

Neely Enterprises Hqrs N Hollywood

SAN FRANCISCO AREA

*Ault C E 906 Willow Rd (Menlo Park)
*Barstow & Doran 248 9 St UN 3-2079
*Belchamber P A 1401 Middle Harbor Rd (Oakland) GL 1-4460
Beilove Co 420 Market St YU 2-3713
*Berman Co E L 780 Natoma St UN 3-0317
Brainard W V 1010 Grosevor Pl (Oakland)

*Brandt E W 1355 Market St UN 1-2367
Cochrane-Barron (Palo Alto) Hqrs Los Angeles
Detsch & Co 341 10 St MA 1-2788
Eichorn & Melchior 749 Bryant St
*French S P 721 Garland Dr (Palo Alto) DA 3-0597
Harriss Sales Co L H 383 Brannan St YU 6-1084
Held Herman E 147 10 St UN 3-4250

*Hodges Elmer 921 Bryant St UN 1-2367
Kittleson Co 2166 Market St HE 1-5304
*Lebell Frank 195 2 Ave SK 1-7298
*Lewis Assoc Dean 219 9 St UN 3-1414
*Logan Sales Co 15D 8 St HE 1-0692
Marshall Co G S (Redwood City) Hqrs Pasadena
Marshall Harry E 104 Olive St OR 3-2173
*Melchior Wm 749 Bryant St DO 2-1038
*Meyer & Ross 113 10 St HE 1-0652

*Moulthrop Co F W 1234 Folsom St UN 3-0445
*Moulthrop & Hunter 165 11 St HE 1-2624
Moxon Sales G E 422 Lajolla Ave (San Mateo) FI 5-2866
*Neely Enterprises 2830 Geary Blvd Hqrs N Hollywood

*Newman H L 420 Market St YU 6-3897
*Nickerson & Rudak 381 Brannan St YU 2-2982
*Nott & Co L A 1061 Howard St HE 1-4738
Peninsula Assoc 2857 El Camina Real (Redwood City) EM 9-1226
Pfieger Co 28 37 Ave (San Mateo) FI 5-1134
*Purdy Co W J 312 7 St UN 3-4321
*Ross Co D H 534 El Camino Real (San Carlos) LY 3-8224
*Sinai Arnold A 65 9 St UN 1-6259
*Striker Co J E 1369 Laurel St (San Carlos) LY 1-0736
*Tompkins & Co W W 941 Newell Rd (Palo Alto) DA 3-3270
*Vermilya R H 1258 Fitzgerald Ave VA 4-6714

STOCKTON

Detsch & Co Hqrs San Francisco

Colorado

BOULDER

*Gollmer W B 1003 Grandview Ave HI 2-7899

COLORADO SPRINGS

*Peyser & Co 1501 N Weber St ME 4-3401

DENVER

*Bowen Co Ronald G 446 Broadway SH 4-2501
Bower Co C R 2759 W 33 Ave GR 7292
Cluph. & Assoc Stan 7825 W Colfax Ave BE 3-6025
*Connors Co W H 375 Birch St DE 3-7628
Halliday Gail 2576 S Milwaukee St PE 2650
*Hyde Sales Co 3250 S Dexter SK 6-7151
Koether-Cox Co 120 W 13 Ave MA 3-3544
*McLoud & Raymond 5528 E Colfax FR 3067
*Mel-Pearson & Co 1011 S Josephine St SP 7-7878
Mueller Mark G 1644 Blake St AC 2-3515
*Nelson Co A J Box 5502 KE 6751
O'Brien Sales A J Box 1681 BE 3-4845
*Williams Co Allen I 124 W 12 Ave MA 3-0343

FT COLLINS

*Leeper & Assoc Wilson 123 Fishback St 3-0444J

GREELEY

*Moss Gordon G Box 428 Phone 770

Connecticut

ANDOVER

*Seyd Ernest K Long Hill Rd PI 2-6604

BRIDGEPORT AREA

Hannigan Co W T 1115 Main St ED 3-2772
Perron & Co Ray (Trumbull) Hqrs Boston
Reynolds Co Harrison 211 State St BR 5-9634
Sales Eng'g Co 211 State St ED 5-9634

CANAAN

Holliday-Hathaway Co Hqrs Cambridge

DARIEN

Jacobson Leo 3 Bellevue Rd ST 3-0828

HARTFORD AREA

Akeroyd Co A E (Kensington) Hqrs Boston
Coldwell M S 289 Fairfield Ave JA 2-5832
Gates A W 46 1/2 Summer St (Manchester) MI 9-7761
Gibson Engineering Co 141 Washington St CH 7-6919
Hatton A T 1000 Farmington (W Hartford) AD 3-3613
Pettigrew R S 62 La Salle Rd (W Hartford) HA 3-8533
White Sales Co (Berlin) Hqrs Needham Mass

NEW HAVEN AREA

Abbott & Hustis Hqrs Boston
Feldman & Co George 525 Norton Pkwy SP 6-9823
Gerber Sales Co Hqrs Brookline
Hasco Sales 880 Elm St UN 5-2806
*Lavin Assoc Henry Box 196 (Meriden) BE 7-4555
MERIDEN CONN—Beverly 7-4555
Electronic Component Representatives
NEEDHAM MASS—3-3446

"Service is our business"
Steele Assoc J R 22 Green Garden (E Haven) HO 7-5864
Sturgeon Inc Paul R (Milford) Hqrs Boston

STAMFORD

Electronic Associates 200 S St DA 4-7300

WESTPORT

Nief Assoc P W 15 Oak St CA 7-3834

District of Columbia

WASHINGTON

Burlingame Assoc Hqrs New York City
Henry & Co 3741 Jocelyn St NW KE 7-1448
Jodon Inc F R 8510 Beechtree Rd OL 2-4406
Massey Associates Hqrs Narberth Pa
*Shilt N C 3308 14 St NW CO 5-3938

Florida

BRADENTON

Hayden Assoc Paul Hqrs E Point Ga

CLEARWATER

Wimberly Co W Ben 39 Pine Circle 32-0431

FORT LAUDERDALE

Rogers & Assoc C B Hqrs Atlanta

FORT MYERS

Lynch Arthur H & Assoc Box 466 ED 4-4431

JACKSONVILLE

*Cole Harry A 534 10 Ave 5-2971

LUTZ

*Wallace Assoc Stanley K PO Box 767 TA 99-3241

REPRESENTATIVES ("REPS")

MIAMI BEACH
Gaertner Co Jack 823 86 St UN 6-6664

ORLANDO
McCorvey Co V Avis Hqrs Decatur Ga

ORMOND BEACH
*Smith Co Maitland K Hqrs Atlanta

SARASOTA
Hasemeier & Assoc W L 236 S Washington Dr RI 8-4321

TAMPA
Cartwright & Bean Hqrs Memphis
Minthorn Co L L Hqrs Portland Ore
*Wallace Assoc Stanley K Hqrs Lutz

WINTER HAVEN
Taylor Co Morris F Hqrs Silver Spring Md
*Van Dusen R H 940 Lake Elbert Dr 4-6671

Georgia

ATLANTA
*Adair Clark 1426 High Point PL NE VE 3053
Bivins & Coldwell Hqrs High Point NC
*Burwell Co Henry W 1025 Ponce de Leon Ave AT 2127
*Cartwright & Bean Hqrs Memphis
*Duckett Sales Co Grady 26 E Andrews Dr NE CH 5308
*Faussett & Son F 777 Pinehurst Ter SW RA 3104
Hart Engrg & Sales Co 132 Walker St SW AL 9854
*Hollingsworth & Still 508 Whitehead Bldg MA 5878
*Hutto V 1036 Peachtree St NE AT 6858
*Joyner J E PO Box 341 Station A PL 8-4910
*Millar Assoc James 1036 Peachtree NE EL 0919
*Murphy & Cota 1409 Peachtree St NE EL 3020
*Nickerson Co Frank C 1150 Zonolite Rd NE EM 8908
*Pepper & Assoc John B PO Box 7036 Sta C AT 8266
Rogers & Assoc C B 1000 Peachtree St NE EL 1733
*Smith Co Maitland K 317 Forrest Ave NE WA 6094
Southeastern Industrial Instruments 309 Pharr Rd NE EX 7801
Taylor Co Morris F Hqrs Silver Spring Md
Thornwell Inc E A Howell Mill & Berkeley WA 3548
Wallace Assoc Stanley K Hqrs Lutz Fla

DECATUR
*McCorvey Co V Avis 215 Church St CR 6167

EAST POINT
*Hayden Assoc Paul Box 331 PO 7-9646

Illinois

CHICAGO AREA
American Mfrs Agency 2215 W Wilson Ave RA 8-5153
*Anuel & Co J C 2743 W Peterson Ave UP 8-0653
*Arnold Co A W 1321 Rosedale Ave ED 4-6457
*Bauman Robt 6025 N Keystone KE 9-3108
*Beler Co Leroy W 6518 W North Ave BE 7-2420
*Bierhaus J J 4814 W Madison AU 7-2089
*Bluzat Co Rene 2842 N Cicero Ave PE 6-2238
*Booth Claude R 400 W North Ave CA 7-2810
*Brouillette & Assoc 5049 Quincy St MA 6-0499
*Bruning Co A H 2215 W Wilson Ave ED 4-0989
*Burdoyme Wm E 7001 N Clark St HO 5-2112
*Caine Sales Co 3020 N Cicero Ave SP 7-4022
Cappels & Assoc J L 1214 W Madison TA 9-1818
Chambers Co Larry A 5906 North Ave TU 9-4884
Champion Earl T 6459 N Sheridan Rd AM 2-3565
*Cole Co G McL 6514 W Higgins Rd Sp 4-3535
Cozzens W B 845 Chicago Ave (Evanston) DA 8-4800
*Crossley & Assoc 4501 N Ravenswood UP 8-1141
*Cumming & Assoc B 6029 W Belmont Ave ME 7-3770
Cushini Co L G 5832 N Rockwell St
*Diethert Co Russ 2030 W Montrose St LO 1-6831
*Dolin Sales D 3353 Peterson
*Ooyle Co W J 7002 N Western Ave RO 1-3130
*Ellinger Sales Co 6540 Northwest Hwy RO 3-1570
Ellis Co Arthur J 1607 Howard St AM 2-2708
*Engle Co Karl D 4724 N Sheridan Rd UP 8-6363
Everett Associates 6744 N California AM 2-3702
Farnsworth Assoc 228 N LaSalle St SU 7-9628
*Felleisen & Assoc 5839 W Montrose Ave WH 4-4822
*Fitzsimmons J J 6124 Milwaukee Ave NE 1-7660
*Gassner & Clark Co 6644 N Western Ave RO 4-6121
*Gebhard Co Harry W 5129 W Devon Ave RO 3-3636
*Gianaras Sales Co 2345 W Devon Ave AM 2-2100
*Golten Co Jerry 2750 W North EV 4-5959
*Green & Assoc L F 5218 W Diversey Ave PA 5-6824
Haines R E 959 Lake St (Oak Park) EU 6-4476
*Halinton Co Harry 5500 W Devon Ave RO 3-2132
Haskell Assoc 1033 Ontario St (Oak Park) EU 6-5741
*Higgins Co Royal J 10105 S Western Ave CE 3-7388
*Hill-Gray 411/2 Harrison St (Oak Park) ES 8-7050
*Hitchcock Material Sales 2949 W Diversey SP 2-3410
Horlacher Sales W A 1605 W Devon Ave RO 4-9487
Hower & Pretat 4 N Cicero Ave CO 1-3146
*Hunter Assoc T B 4441 W Irving Park SP 7-2500
*Hutmacher Assoc R R 6647 N Oliphant NE 1-3248
*Jones Mel M 2800 N Milwaukee Ave EV 4-2646
*Kadell Sales Assoc 5875 N Lincoln Ave
*Karet-Margolin Inc 13 W Hubbard St WH 4-6345

Kelburn Eng'g 3136 Clarence Ave (Berwyn) ST 8-6485
*Kleker Co H J 177 Sunset (Glen Ellyn) GL 2297
*Langhuas-Levy Assoc 2215 S St Louis RO 2-6321
Levin & Assoc Sol 2823 W Chase Ave RO 4-7082
Lewis & Trimble 5420 W Fullerton Ave NA 2-0706
*Lomb Co W M 7115 N Mobile Ave RO 3-3326
Lombard Co V Box 355 (Grayslake) KI 6-1760
*Lund-Hansen Co 1900 Montrose Ave LO 1-2551
*McBride Sales J J 328 E Burlington (Riverside) 7-8131
*McCarthy Co L C 5933 Addison St KI 5-7976
*Magnuson Associates 3347 W Irving Park Rd KE 9-7555
Memac Sales Co 4740 N Austin Ave KI 5-1033
*Monson Corp 6957 N Keating (Lincolnwood) DR 3-9361
*Mulay Sales 400 W North Ave BE 5-7411
*Necker E J 6514 W Higgins Rd SP 4-3535
*Newman-Krause Co 5306 W Lawrence Ave PE 6-6776
*Pettit Co G 349 Ashland (River Forest) CO 1-0342
*Pivan Eng'g Co 2871 N Lincoln Ave DI 8-6885
Quackenbush Al 2629 N 77 Ct GL 3-3446
*Ridley Assoc 1551 N Austin Blvd TU 9-2940
Ridway Eng'g Assoc 6100 W North Ave TU 9-5715
*Ritter Sales Co 5839 W Montrose Ave MU 5-7440
*Rose & Co J K 2323 W Devon Ave AM 2-5584
*Rothschild P A 221 W Huron SU 7-7919
Ryan Co Gerald G 549 Washington Blvd ST 2-7665
*Saffro-Gettleman Co 227 W Chicago Ave DE 7-5092
*Sarkis & Co Henry 5608 N Western Ave AR 1-3774
*Sparf W H 3592 Milwaukee Ave PE 6-0555
*Stemm R Edward 5681 W Lake St ES 9-2700
*Stemm Royal A 21 E Van Buren St WE 9-4840
Strauss-Whitmore Chestnut & Riedle Sts (Homewood)
*Sullivan Ralph T 1551 N Austin Blvd NA 2-4074
*Swinke & Co W F 541 Diversey Pkwy BI 8-4343
*Tatro & Assoc F B 6022 N Rogers Ave JU 8-0333
*Taylor & Co R F 308 W Washington St AN 3-1808
*Twintronic Sales Co 2114 W Carroll CH 3-5242
*Twist Co J G 2800 N Milwaukee Ave HU 9-2550
*Victoria Sales Co 1413 Howard St BR 4-5400
*Voltassociates Ltd 2154 N Halsted St LA 5-7755
*Warner Co D L 15423 Honore Ave (Harvey) ED 1-6247
*West Jack 6747 N Octavia Ave RO 3-3500
Whitmore & Assoc R C (Homewood) WA 8-2225
Wiley Co S J 2629 W Fitch Ave SH 3-6548
*Wilson Sales Agency 2750 W North Ave CA 7-7600
*Withers & Ropak 5439 W Division St AU 7-7292

Indiana

ANGOLA
*Clancy & Co Joe P O Box 267 793

FORT WAYNE
*Bieberich W W 2817 Plaza Dr KE 2928
*Central Sales 255 Central Bldg EA 4635
*Fisch & Assoc Bud 419 W Sherwood Terr HA 1089
*Hoemig Sales Co Butler Ct AN 2083
*Homsher B F 2018 Jessie Ave EA 4920
*Southern Sales 1605 Lincoln Tower AN 5278
*Valentine F C 511 Ft Wayne Bk Bldg AN 9122
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INDIANAPOLIS
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Clancy & Co Joe Hqrs Angola
Crandall & Assoc R M 6220 E 56 St LI 6-8373
*Cunningham Assoc Quinn 6101 College Ave GL 3222
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*Macnabb V C 909 Westfield Blvd BR 6770
*MacPherson-Thomas 5226 N Keystone Ave GL 6915
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*Wilkinson R L 707 Stevenson Lane VA 3-7800

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*Waelterman L F 3938 Lindell Blvd OL 2-6455
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***McFadden William E 150 E Broad St CA 1-3363**
***Pugh Co C L 2144 Riverside Dr HU 8-4855**
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***Burcham Co Don H 510 NW 19 Ave CA 7-3830**
Carlson Co Fred W Hqrs Seattle Wash
Eckersley James W 3150 SW Hamilton St CA 8-0308
Hawthorne Electronics 700 SE Hawthorne Blvd FI 9375
Lee Co D M Hqrs Seattle Wash
***Legg Co Richard 3834 SE Milwaukee Ave BE 6-8918**
***Minthorne Co L L 7521 NE Glisan St KE 3-0010**
Strom Co S N Hqrs Seattle Wash
***Weber Co Dale 234 Sherlock Bldg AT 5403**
- Pennsylvania**
- PHILADELPHIA AREA**
***Andco Sales Eng'g 5823 Greene St VI 4-9100**
***Benge J R 25 S Easton Rd (Glenside) TU 7-1325**
***Biggs & Co J Alan Box 450 (Doylestown) 9457**
Blumenstein Assoc 14 Trent Rd MI 9-9523
***Boenecke Assoc 638 Penn St (Camden NJ) WO 4-8650**
Braddock Edward (Haddonfield NJ) HA 9-0087
Brautigam E H 4141 Stirling St
***Brookfield R F 55 Cricket Ave (Ardmore) MI 2-6911**
Burlingame Assoc (Upper Darby) Hqrs New York City
***Cooper Richard 3507 Wellington MA 4-5486**
***Cordray W Henry 18 W Chelton Ave VI 8-0447**
***Danco Corp (Fairview Village) BR 5-2600**
Densham Harry W 250 S 17 Kl 5-1947
Dienes Co H L 1505 Papermill Rd (Erdenheim) CH 7-3454
Doull Co Harry A 2342 Cheltenham Ave WA 4-7625
Drew & Co Wm 104 Essex Ave (Narberth) MO 4-8331
Duncan & Assoc William I 5452 Charles St CU 9-7525
Egan M J 237 Kenilworth Ave LI 8-8491
***Edmunds E J 102 N Lexington (Havertown) 6286**
- *Estersohn Harry 395 E Cliveden St VI 8-2836**
***Fairbanks H J 1615 Darby Rd (Havertown) GR 2-2467**
***Foley Andrew A 640 Federal St (Camden NJ) WO 6-2550**
***Friedman Martin 1006 Western Sav Fund Bldg PE 5-4778**
***Fryburg Charles H 111 S 22 St RI 6-5699**
Gatty Sidney 11 N Clermont Ave (Margate NJ) 2-1361
Gawler-Knoop (Wyncote) Hqrs Roseland NJ
Girard Co W E 715 Fairfield Rd (Glenside) TU 7-4411
Hile Co Charles R Hillview Rd Box 144 (Paoli) EL 6-2266
Hilliard Assoc 1125 Old York Rd (Abington) TU 4-6100
***Humes Jr David 7416 Shisler Ave FI 2-5348**
***Jeffries S A 105 Forrest Ave (Narberth) MO 4-8500**
***Keefe Electronic Sales 228 E Kings Hwy (Haddonfield NJ) 9-4650**
Kriegner Sales 300 S Broadway (Camden NJ) WO 3-5951
***Leban & Graham 1412 Manoa Rd MI 9-9822**
Lewis Herman 1622 68 Ave LI 8-1281
***Lowery Inc L D 50 E Wynnewood Rd (Wynnewood) MI 2-9100**
***Macdonald Inc S K 1531 Spruce St KI 5-1205**
***Maguire & Co J A 116 N 7 St (Camden NJ) WO 6-3118**
Massey Assoc 529 Brookhurst Ave (Narberth) MO 4-4200
***Moyer H A PO Box 14 (Haddonfield NJ) 9-6347**
***Muckenfuss T F 8 Tanner St (Haddonfield NJ) 9-8533**
***Muggelworth J C 324 Haddon Ave (Collingswood NJ) 5-7200**
***Naudain L Parker Suburban Sta Bldg RI 6-3185**
***Newson Jr C H 150 Terminal Ave CH 8-0282**
***Notan J J 314 W Sparks St WA 4-1595**
Oral Co John F Box 346 (Bryn Mawr) LA 5-6212
***Paragon Sales Co 111 S 22 St RI 6-5699**
Pearl Eng'g & Tool Co 8056 Rodney St LI 8-4103
Pearson Sales Rt 1125 Old York Rd (Abington)
***Perna Co Frank J 2015 Chestnut St LO 4-3954**
***Quinlan D G 4700 Frankford Ave JE 3-0650**
***Randall Co Ken 121 N Broad St LO 4-2151**
Relinger Co A R 3617 N 8 St SA 2-0500
Robinson J E 7404 W Chester Pike (Upper Darby) FL 2-7017
***Shelps George A 1625 Spruce St KI 6-1066**
Slubin & Co Lewis 2305 Fairmount Ave ST 7-2072
***Stinson J T 219 Sagamore Rd (Havertown) HI 7-0922**
***Stobhart A J 56-14 Revere Rd (Drexel Hill) CL 9-3881**
***Stratton Co C H 7852 Montgomery Ave MA 5-2231**
Taylor Co Morris F Hqrs Silver Spring Md
***Tech Representation 25 S Easton (Glenside) TU 7-1325**
***Trinkle Wilmer S PO Box 40A (Hatfield) SO 3-9425**
Weber Linz Assoc 238 Sholmire St CH 3161J
***White H J 1839 W Albanus St MI 4-1880**
***Williams V W 5 Circle Dr (Margate NJ) AT 2-7859**
***Wright Al 33 E Golf View Rd (Ardmore)**
- PITTSBURGH**
Clark Co Russell F 1404 Clark Bldg AT 1-8089
Levine Albert 11 Jonquil Pl LI 1-7027
***Lips E C 1565 McFarland Rd FI 1-5100**
Lowry-Dietrick Co 1404 Swantok St WA 1-2959
Odell Co M P Hqrs Cleveland
Disen Co John O 104 E Lathan Dr CA 2729R
***Podolny James H 4716 Coleridge St HI 1-0800**
Ransford Co H E Grant Bldg GR 1-1880
Squires Co M B 1 Cedar Blvd FI 1-6673
Stover & Co S H 5495 Penn Ave EM 1-7533
***Tanner & Covert 300 Mt Lebanon Blvd LO 1-5067**
Taylor Co Morris F Hqrs Silver Spring Md
- READING**
Beil Thomas H 3623 Jacksonwald Ave Esterly 5-6837
Loose & Co W L 646 Gordon St RE 2-7094
- Tennessee**
- CHATTANOOGA**
Johnson Jesse P 413 Dome Bldg 5-3463
- KNOXVILLE**
Hough Co A R 3601 Chapman Hwy 7-6660
- MEMPHIS**
***Cartwright & Bean 1336 Madison Ave BR 5-1914**
Egelman Co A S 3205 Crump Ave 48-6263
Moody Co Joe 1215 Central Ave BR 5-1067
- Texas**
- DALLAS**
***Anderson Co Geo E 1901 Griffin St RI 5931**
***Antle G M 2154 W Amherst DI 7982**
***Aymond Co Edward F 4312 Maple Ave LO 5233**
Barnes Co Arnold 5526 Dyer St EM 6716
***Berthold Sales Co 4411 Maple Ave LO 8329**
***Branum Co PO Box 10204 RI 4743**
***Campion Sales Co 9002 Chancellor Row FL 7-4095**
Communication Service 3209 Canton St PR 1852
***Crook Co Hal E 6315 Hillcrest Ave JU 9172**
***Crockett-Land & Co 2204 Griffin St RA 5764**
***Delzell-Maynard Sales 3409 Oaklawn Ave JU 2411**
Green Co J A 6815 Oriole Dr DI 9918
***Guenther J B 4533 N Central Expressway JU 6286**
- Heidenreich Co 6115 Denton Dr Dallas Tex**
Phone Dixon 3389
Gulfcoast—Jack Heidenreich
Midsouth—Jerry Alexander
Southwest—Max N Heidenreich
Office Mgr—Georgia Brown
TERRITORY
Tex-Okla-Ark-W Tenn-Miss-La
Warehouses—Dallas Houston & New Orleans
Representing Manufacturers of Associated Electronics
- *McKinney Sales J F 1330 N Industrial Blvd ST 1997**
Packard Jim & Dave 5526 Dyer St FO 8-5051
***Schoonmaker Co J Y 2011 Cedar Springs St 3335**
***Smith Co J Earl 505 N Ervay St RA 2966**
***Smith Wm Jr 7614 Kaywood Dr DI 4519**
***Texport Co 726 Meadows Bldg FO 8-4422**
***Wilks Co Ernest I 1212 Camp St PR 2637**
Wright Industrial Prods 5738 N Central Expressway VI 2571
***Young Jack 1431 Pleasant Dr EX 1-0988**
- FT WORTH**
Harris Co 716 Dan Waggoner Bldg 0738
Speirs Co M PD Box 11033 WA 3-8811
Thomson Eng'g Hqrs St Louis
- HOUSTON**
Anderson Co Geo E Hqrs Dallas
Delzell-Maynard Sales Hqrs Dallas
Industrial Assoc Electronics 5911 E Lancaster Ave LA 2056
***Klicpera Co M F Box 3113 JA 8459**
McKinney Sales Jack E Hqrs Dallas
Packard Jim & Dave Hqrs Dallas
***Smith Co J Earl Hqrs Dallas**
***Willison Co G G 1821 W Alabama JU 1634**
- WACO**
Brockenbrough & Sanders 500 Professional Bldg 4-0441
- Utah**
- SALT LAKE CITY**
Cluph & Assoc Stan Hqrs Denver
***Gates Co 200 S Main St 9-1101**
- Virginia**
- ALEXANDRIA**
American Eng'g Equip P O Box 186 TE 6-1718
Brown & Assoc W A 3610 Mt Vernon Ave OV 3-6100
Martin Ed 102 E Beal St (Highland Springs) FA 2503
- RICHMOND**
Ranson Wallace & Co Hqrs Charlotte
Simpson & Son P M 717 Byrd Park CT 4-0287
- Washington**
- SEATTLE**
Backer Co J J 221 W Galer AL 6470
Burcham Co Don H Hqrs Portland
Carlson Co F W 120 Dexter Ave EL 6630
***Dooley J R 3606 Magnolia Blvd AL 3208**
***Drake Rush 1806 Bush Pl EA 1737**
***Haight Co Fred H 3212 Eastlake EA 1818**
Jensen Co Vernor O 2616 2 Ave MU 2929
Johnston Co Ray 11009 Evanston Ave EM 0956
***Lee Co Dave M 2517 2 Ave MA 5512**
Legg Co Richard Hqrs Portland
Levinson Co Harry 1117 2 Ave MA 5317
***Marsh Agencies 2601 1 Ave MA 8761**
***Merritt Co Ron 120 W Thomas GA 6644**
Norris Co G D 3010 1 Ave EL 1344
***Northwestern Agencies 4130 1 Ave S EL 8882**
***Parsons & Co C B 3028 1 Ave MU 3933**
***Porter Co Burt C 4310 Roosevelt Way ME 6828**
***Stroum Co S N 1612 Broadway FR 7515**
Testco Boeing Field MO 4895
***Wedel Co Frank 3215 Western Ave GA 0222**
***Widdekind Co M K 216 1 Ave N EL 6981**
- SPOKANE**
***Quinn J P P O Box 7051 EM 6621**
- Wisconsin**
- MILWAUKEE**
***Aaron & Assoc I I 829 N Marshall St BR 6-8515**
Dickinson & Assoc E A 744 N 4 St BR 2-0517
Laub Co Nick J Hqrs Minneapolis
Loeb Sales E R 5052 N Shoreland Ave WO 4-2155
- RACINE**
Darnold D H 914 Kentucky St ME 2-9644
- Canada**
- MONTREAL**
***Pound H 5093 Randall Ave WA 3402**
- TORONTO**
***Armstrong Allen Jr 700 Weston Rd RO 2-7535**
***Pointon C G 6 Alcina Ave OL 7984**
- VANCOUVER**
***McLennan Ltd D Eldon 2191 W 1 Ave BA 2888**
- Hawaii**
- HONDLULU**
***Brenna & Browne Inc PO Box 2098 26-5275**
***Piety Gene 2030 Home Rule St 8-3105**
- LANIKAI**
Dougherty Enterprises 149 Kaimi St 26-5275

1956 ELECTRONIC INDUSTRIES DIRECTORY

Alphabetical Listing of Manufacturers

WITH THE EXCLUSIVE

LOCALIZER INDEX

A listing of the names and addresses of manufacturers in the electronic and allied industries. In the LOCALIZER INDEX, many manufacturers have listed home office telephone numbers, executive personnel, brand names, products, branch and regional offices as well as local reps. The LOCALIZER

INDEX provides you with the shortest means of contacting a manufacturer. Symbols show type of representation: BO signifies branch off; D distributor; DS distributor sales; GV government sales; IDS industrial & distributor sales; R rep; SE sales engineer.

Indented listings are advertisements

Abalon Precision 540 Casanova St New York 59 NY
 Abrains Instrument Lansing Mich
 Accurate Eng'g 2005 Blue Island Ave Chicago 8 Ill
 Accurate Insulated wire 25 Fox St New Haven 1 Conn
 Accurate Paper Tube 806 N Peoria St Chicago 22 Ill
 Ace Coil & Electronics 916 Lincoln Metuchen NJ
 Ace Electronics 99 Dover St Somerville 44 Mass
 Ace Eng'g & Machine 3644 N Lawrence St Phila Pa
 Ace Instrument Co 172 Pacific St Brooklyn 2 NY
 ACF Electronics 800 N Pitt St Alexandria Va
 Acheson Colloids 1955 Washington Pt Huron Mich
 Ackerman Engravers 458 Broadway New York 13 NY
 Ackerman-Gould Co 92 Bleeker St New York 12 NY
 Acme Battery Corp Stamford Conn
 Acme Coil & Transformer 1915 N Clybourn Ave
 Chicago 14 Ill
 Acme Electric Corp Water St Cuba NY
 Acme Electric Heating 1217 Washington Boston Mass
 Acme Scientific 1450 W Randolph St Chicago 7 Ill
 Acme Teletronix 1200 W 3 St Cleveland 13 Ohio
 Acme Wire Co New Haven 14 Conn
 Acoustica Assoc 2 Shore Rd Glenwood Landing NY
 Acronark Co 443 Morrell St Elizabeth 4 NJ
 Acro Products 369 Shurs Lane Philadelphia 28 Pa
 Acro Switch Div Acro Mfg Columbus 16 Ohio
 Acro Transformer & Mfg 26-02 4 St L I City 2 NY
 Acton Labs Acton Mass
 A C Transformer 89 Madison St Newark 5 NJ
 Adams & Westlake 1025 N Michigan St Elkhart Ind
 (See page 343 for complete listing)
 Adler Communications 1 Le Fevre New Rochelle NY
 Admiral Corp 3800 Cortland St Chicago 47 Ill
 Admittance Inc 5 Marine St Farmingdale NY
 Advance Electronics Oak Park 37 Mich
 Advance Electronics 451 Highland Passaic NJ
 Advance Instrument Belmar NJ
 Advance Relay 2435 N Naomi St Burbank Calif
 Advanced Electronics Rocky Hill Conn
 Advanced Vacuum Prods 18 Liberty St Stamford Conn
 Aero Instrument 11423 Vanowen N Hollywood Calif
 Aerolite Electronics 507 26 St Union City NJ
 Aerolux Light Corp 653 11 Ave New York 36 NY
 Aeromotive Equip 1632 Central Kansas City 8 Mo
 Aeronautical Comm Equip 3090 S W 37 Miami 33 Fla
 Aeronautical Electric 5656 Northwest Hwy Chicago Ill
 Aeronautical Electronics P O Box 6043 Raleigh NC
 Aeronca Mfg Middletown Ohio
 AeroProjects Inc 310 E Rosedale W Chester Pa
 Aero Research Instru 315 N Aberdeen Chicago 7 Ill
 Aero Specialties Sutton Mass
 Aerovox Corp 740 Belleville New Bedford Mass
 Aetna Supply 15 N Hickory Arlington Hgts Ill
 Affton Industries 8300 FlexOLite St Louis Mo
 A'G'A Div 1027 Newark Ave Elizabeth 3 NJ
 Ahrendt Instrument 4910 Calvert College Park Md
 Ainslie Corp 312 Quincy Ave Quincy 69 Mass
 Air Associates Inc 511 Joyce St Orange NJ
 Airborne Instruments 160 Old Country Rd Mineola NY
 Aircorn Inc Winthrop 52 Mass
 Aircraft Armaments Inc Cockeysville Md
 Aircraft & Electronic Brownsburg Ind
 Aircraft Marine Prods 2100 Paxton St Harrisburg Pa
 Aircraft Radio Corp Boonton NJ
 Airdesign Inc 241 Fairfield Ave Upper Darby Pa
 Aireco Inc 2315 2 Ave Carman Schnectady NY
 Air-Marine Motors 349 Bayview Amityville LI NY
 Air-Maze Corp 25000 Miles Rd Cleveland 28 Ohio
 Airpax Products Middle River Baltimore 20 Md
 Airtron Inc 1101 W Elizabeth Ave Linden NJ
 Airtronix Devel Corp 4902 Church Ave Brooklyn NY
 A-K Mfg 115 S Northwest Hwy Barrington Ill

Aladdin Radio Ind 703 Murfreesboro Rd Nash. Tenn
 Alto Scientific Co Inc 855 Commercial St Palo Alto Calif
 President—Thomas F Turner
 Vice President—David D Cherry
 Representatives—
 SEATTLE 9 Wash—Pacific Instrument Lab 516
 First Ave N MU 5675 Covers Wash-Oregon-
 Mont-Idaho
 WALTHAM 54 Mass—Technical Instruments Inc
 971 Main St TW 3-1400 Covers Maine-NH-
 Vt-Mass-Conn-RI and upstate NY
 EUCLID 23 Ohio—Electro Sales Associates 281
 East 216th St Redwood 2-7444 Covers Ohio-
 Mich-western Pennsylvania-southern Ind-north-
 ern Ken
 SAN FRANCISCO 11 Cal—Frazier & Hansen Ltd
 301 Clay St YU 6-5716 All foreign countries
 LOVELAND Colo—Loveland Electric Co 336
 East Fourth St Loveland 38 Covers N Mex-
 Colo-Utah-Wyo and parts of Idaho
 MONTCLAIR NJ—Louis A Garten & Associates
 25 Valley Road Pl 6-2900 Covers NJ-part of
 Pennsylvania and part of NY
 PASADENA Cal—McCarthy Associates Room
 604 16 North Marengo Ave RY 1-8810 Covers
 Southern Cal-Ariz-Nevada
 PALO ALTO Cal—McCarthy Associates 441 W
 California Ave DA 5-6136 Covers northern
 Calif
 Alcor Instruments 17 Industrial Little Ferry NJ
 Alco Electronics 3 Wolcott Ave Lawrence 1 Mass
 Alco Mfg Co 4011 Cuming St Omaha 31 Nebr
 Alcor Electronics 180 Lafayette New York NY
 Alden Electronic & Impulse Westboro Mass
 Alden Products Co 123A N Main St Brockton Mass
 Alden Systems Washington St Westboro Mass
 Alfax Pacer & Eng'g P O Box 125 Westboro Mass
 Alfred Mfg Co 299 Atlantic Ave Boston 10 Mass
 Alfred Electronics 897 Commercial St Palo Alto Calif
 Algo Inc 251 West St S Hackensack NJ
 All American Tool 8027 Lawndale Ave Skokie Ill
 Allard Instrument 146 E 2 St Mineola LI NY
 All Channel Antenna 47-39 49 St Woodside 77 NY
 Allegany Instrument Co Cumberland Md
 Allegro Electronics 226 N Y Ave Huntington NY
 Allen-Bradley 136 W Greenfield Ave Milwaukee 4 Wisc
 Alliance Mfg Co Alliance Ohio
 Allied Chem & Dye 40 Rector New York
 Allied Control 2 East End Ave New York 21 NY
 Allied Engraving & Stamping 17 Elm St Buffalo 3 NY
 Allied Radio Corp 100 N Western Ave Chicago 25 Ill
 Allied Recording 32-32 Greenpoint L. I. City 1 NY
 Allied Research and Eng 6916 Santa Monica Hollywood
 Allis-Chalmers Mfg Co Milwaukee 1 Wisc
 Allison Labs 14185 Skyline Puente Calif
 All Star Products Squire Ave Defiance Ohio
 All-Tronics Inc 45 Bond St Westbury NY
 Alonge Products 163 W 23 St New York 11 NY
 Aloar Mfg Corp 2910 Spring St Redwood City Calif
 Alphaduct Wire & Cable New Brunswick NJ
 Alpha Metals Inc 56 Water St Jersey City 4 NJ
 Alpha Wire Corp 200 Varick St New York 14 NY
 Alprodcoc Inc Mineral Wells Texas
 A L Products Inc 311 Hickory St Kearny NJ
 Altco Lansing 9356 Santa Monica Beverly Hills Calif
 Alto Scientific 855 Commercial St Palo Alto Calif
 Aluminum Co of America Alcoa Bldg Pittsburgh 19 Pa
 Aluminum Mfg Co 1629 Portland Ave Louisville 3 Ky
 Amelco Inc 2040 Colo Ave Santa Monica Calif
 Amerac Inc Wenham Mass

American Brass Co Waterbury 88 Conn
 American Chronoscooc 316 W 1 St Mount Vernon NY
 American Condenser 4410 N Ravenswood Chicago Ill
 American Ocalcomania 4344 W 5 Ave Chicago Ill
 American Electric Cable 181 Appleton Holyoke Mass
 Amer Elec Motors 2112 N Chico El Monte Calif
 American Electrical Heater Detroit 2 Mich
 American Electronic Labs 641 Arch St Phila 6 Pa
 American Electronics 655 W Washington Los Angeles
 American Electronics 1203 Bryant Ave N. Y. 59 NY
 American Elite Inc 7 Park Ave New York 16 NY
 American Instrument Co Silver Spring Md
 American Lava Corp Chattanooga 5 Tenn
 American Mach & Fdry 1085 Commonwealth Boston
 American Metrix 15 Exchange Pl Jersey City NJ
 American Microphone 370 S Fair Oaks Pasadena Calif
 American Molded Prods 2727 W Chicago Ave Chi. Ill
 American Optical Instrument Div Buffalo NY
 American Photocopy Equip 1920 W Peterson Chi. Ill
 American Printed Circuits Box 282 Metuchen NJ
 American Radio Co 445 Park Ave New York 22 NY
 American Radio Hdw 152 MacQuesten Mt Vernon NY
 American Radionic 51 Austin St Danbury Conn
 American Scientific Devel Ft Atkinson Wisc
 American Silver 36-07 Prince St Flushing 54 NY
 American Solder & Flux 19 & Willard Phila 40 Pa
 American Sound Prods 1303 S Michigan Ave Chi. 5 Ill
 American Speedlight 63-01 Metropolitan Middle VII-
 lage 79 NY
 American Steel Package Co Defiance Ohio
 American Time Prods 580 5 Ave New York 36 NY
 American Tower Co Shelby Ohio
 American TV Inc 5050 N Broadway Chicago 40 Ill
 American TV & Radio 300 E 4 St St Paul 1 Minn
 Ames Mfg 4320 Park Ave New York 57 NY
 Anglo Corp 2037 W Division St Chicago 22 Ill
 AMI Inc 1500 Union Ave S E Grand Rapids 2 Mich
 Amperex Electronic 230 Duffy Ave Hicksville LI NY
 Amperite Co 561 Broadway New York 12 NY
 Amoex Corp 934 Charter St Redwood City Calif
 Emerson 8-1471
 Chairman—A M Poniatoff
 President—George I Long
 Manager Instrumentation Division—Robert Sack-
 man
 Manager Audio Division—Phillip L Gundy
 Amphenol Electronics Corp 1830 So 54th Ave Chi-
 cago 50 Ill
 Phone Bldg 2-1000
 Cable Address AMPHENOL
 President—Arthur J Schmitt
 VP & Director of Sales—William H Rous
 Vice President—Engineering—Rodolfo M Sorio
 Mgr Synthetics Div—Daniel Spiess
 Adv & Sales Pro Mgr—Karl F Boldt
 Chief Engineer—Curt Klostermann
 Purchasing Agent—John Leahy
 Distributor Sales Manager—Robert E Svoboda
 General Sales Manager—Richard E Hall
 Field Office Sales Manager—Roy J Gallogher
 Chicago District Sales Manager—James H
 Schoefer
 Research and Development—Charles F Valach
 ATLANTA 3 GA—Hallingsworth & Still 508
 Whitehead Bldg Murray 8-5878
 BOSTON 15 MASS—Richard Purinton Inc 43 Leon
 Street Garrison 7-6006
 CAMDEN 2 N J—Boenecke Assoc 638 Penn St
 Woodlawn 4-8650

(Listings continued on next page)

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

CHICAGO 50 ILL.—Amphenol Electronics Corp James Schaefer 1830 S 54th Ave Blshop 2-1000
 CLEVELAND 15 Ohio—Amphenol Electronics Corp H P Brontsema 320 Hanna Bldg Cherry 1-7770
 DALLAS 2 TEXAS—J F McKinney Sales Co 1330 N Industrial Blvd Riverside 1368
 DAYTON 2 OHIO—Amphenol Electronics Corp John E Wilkinson 410 West First Street Michigan 3212
 DENVER 3 COLO.—Ronald G Bowen Co 446 Broadway Sherman 4-2501
 DETROIT MICH.—R C Nordstrom & Co 580 N Woodward Ave (Birmingham) Jordan 4-6129
 GREENSBORO N C—Tonkin & Schiffer Inc 1039 Westside Drive Greensboro 3-5578
 INDIANAPOLIS 5 IND.—Leslie M DeVoe Co 4014 Washington Blvd Humboldt 1395
 KANSAS CITY 8 MO.—H A Roes & Co 2601 Cherry Street Baltimore 1-0866
 LOS ANGELES 46 CAL.—Marshall Sales Co 7422 Melrose Ave Webster 8-2591
 MINNEAPOLIS 16 MINN.—Fred B Hill 6110 Excelsior Blvd West 9-6727
 NEW YORK 1 N Y.—Amphenol Electronics Corp Herbert Motz (Industrial Sales) 350 Fifth Ave Longacre 3-6085
 NEW YORK 7 N Y.—D R Bittan Co (Distributor Sales) 53 Park Place Barclay 7-2789
 PITTSBURGH 34 PA.—Tanner and Covert 300 Mt Lebanon Blvd Locust 1-5067
 PORTLAND 9 ORE.—Dan H Burcham Co 510 NW 19th Ave Capital 7-3830
 ST LOUIS 10 MO.—Norman W Kathrinus & Co 4356 Duncan Ave Olive 2-7005
 SAN FRANCISCO 3 CAL.—G B Ellis 3351 El Camino Real (Atherton) Emerson 8-3819
 SEATTLE WASH.—Amphenol Electronics Corp John Koys (Industrial Sales Office) Smith Towers Bldg Seneca 1446
 SYRACUSE 2 N Y.—Amphenol Electronics Corp Walter B Wasson Empire Bldg Syracuse 3-1311
 WASHINGTON 5 D C.—Amphenol Electronics Corp Carl E Palmer 625 Investment Bldg Executive 3-6223

CANADA

CALGARY ALTA.—Radiovision Sales Ltd 325 Tenth Ave W 2-3294
 MONTREAL QUE.—J R Langstaffe Co Ltd 5890 Monkland Ave Fitzroy 3271
 OTTAWA ONTARIO—J R Langstaffe Co Ltd 492 Somerset Street West Phone 6-2113
 TORONTO 9 ONT.—J R Langstaffe Co Ltd 300 Campbell Ave Oliver 7986
 Amplifier Corp of America 398 Bdw New York 13 NY
 Ampro Corp 2835 N Western Ave Chicago 18 III
 Amy Aceves & King 11 W 42 St New York 36 NY
 Anaconda Wire & Cable 25 Bdw New York 4 NY
 Analogue Controls 39 Roselle St Mineola LI NY
 Analytical Measurements 585 Main St Chatham NJ
 Anatron Eng'g 165 E Calif St Pasadena Calif
 Anchor Metal 244 Boerum St Brooklyn 6 NY
 Anchor Plastics 36-36 36 St Long Island City 6 NY
 Anchor Products 2712 W Montrose Chicago 18 III
 Anchor Specialty 300 N Industrial Teterboro NJ
 Anderson Inc W E 2921 Brooklyn Kansas City 9 Mo
 Anderson Labs 39 Talcott Rd W Hartford Conn
 Andrea Radio 27-01 Bridge Plaza N L I City NY
 Andrew Corp 363 E 75 St Chicago 19 III
 Triangle 4-4400
 Chairman of Bd—Dr V J Andrew
 Sales Mgr—Robert P Lamons
 Sales Eng'g Sup—Henry Miller
 Adv Mgr—Ernest Heitsch
 RIDGEWOOD N J—P O Box 416 Robert C Bickel
 WESTWOOD Mass—P O Box 255 Charles R Lane
 CLAREMONT Calif.—ANDREW California Corporation 941 E Maryland Ave Jeff D Montgomery Jr
 CANADA—ANDREW Antenna Corporation Ltd 606 Beech St Whitby Ontario—Mfg & Sales
 Anex Corp 150 Causeway St Boston 14 Mass
 Anemostat Corp P O Box 2128 Hartford 1 Conn
 Anko Mfg 5042 W State St Milwaukee 8 Wisc
 Annis Co R B 1101 N Delaware Indianapolis 2 Ind
 Ansley Mfg Co Arthur New Hope Pa
 Ansonia Wire & Cable Ashton RI
 Antenna Specialists 12435 Euclid Cleveland 6 Ohio
 Antlab 4950 N High St Columbus 14 Ohio
 Anton Electronic Labs 1226 Flushing B'klyn 37 NY
 Apex Coated Fabrics 12 E 22 St New York 10 NY
 Apex Coil & Transformer 1919 S Fairfield Chi. 8 III
 Apex Wire & Cable 237 37 St Brooklyn 32 NY
 Applegate & Co C J 1816 Grove St Boulder Colo
 Applied Electronics 1246 Folsom St San Francisco 3
 Applied Physics 362 W Colorado St Pasadena Calif
 Applied Precision Prods 1431 S La Brea Los Angeles
 Applied Research 163-07 Depot Rd Flushing NY
 Applied Research Labs 3717 Park Pl Glendale 8 Calif
 Applied Science Corp P O Box 44 Princeton NJ
 A P W Co 72 W Main St Rockaway NJ

Arco Transformer & Elec 1602 S Hanna Ft Wayne Ind
 Aremac Assoc 50 S San Gabriel Pasadena 3 Calif
 Arenberg Ultrasonic Lab Jamaica Plain 30 Mass
 Arens Controls 2017 Greenleaf St Evanston III
 ARF Products 7627 Lake St River Forest III
 Arga Div Beckman Instruments S Pasadena Calif
 Aries Labs 270 Park Ave New York 17 NY
 Arkay Co 605 1 Ave S W Rochester Minn
 Arma Corp Roosevelt Field Garden City NY
 Armo Steel 703 Curtis St Middletown Ohio
 Armel Electronics 840 5 Ave Brooklyn 32 NY
 Arnold Engineering Co Marengo III
 Chicago phone: ANdover 3-6300
 Teletype Marengo III 1931
 President—Robert M Arnold
 Ch Engr—Charles S Brand
 Cred Mgr—B M Emerson
 Sales Manager—B Falk
 Asst to President—H H Friend
 BOSTON-BO—J Richard Hansen R Nichols
 Arnold Eng'g Co 200 Berkley St HANcock
 6-8270 Covers New England
 BUFFALO-R—Brace-Mueller-Huntley Inc 1807 Elmwood Ave Phone RI-2620 Covers West N Y State
 CHICAGO-80—R E Arnold and R Bernstein
 Arnold Eng'g Co ANdover 3-6300 Covers
 Mid-West
 CLEVELAND-R—Ernie Kohler Assoc 8905 Lake
 Ave OLYmpic 1-1242 Covers Ohio
 DALLAS-R—Southwest Electronic Industries 4515
 Prentice St Forest 8-8306
 FORT MYERS FLA-R—Arthur H Lynch PO Box
 466 Phone 5-6762 Covers Fla
 LOS ANGELES-BO—T S Trzyna Charles Martin
 Arnold Engr Co 3450 Wilshire Blvd DUnkirk
 8-0361 Covers Calif-N Mex-Ariz
 MILWAUKEE-R—Frank W Ladky Assoc 4028
 North Wilson Drive WOodruff 2-2940 Covers
 Wis
 MINNEAPOLIS-R—Frank B Elam 6525 W Walker
 St Phone West 9-5161 Covers Minnesota
 NEW YORK CITY-80—D P O'Brien A C Brown
 J Kavanaugh 8 Kramer Arnold Eng'g Co 350
 Fifth Ave OXFord 5-1685 Covers Met NY-LI-
 No NJ-Conn
 PHILADELPHIA-R—W R Murphey 620 E Moreland
 Ave WYndmoor CHestnut Hill 7-0831
 Covers So NJ-E Penn-Md
 ROCHESTER-R—Brace-Mueller-Huntley Inc 315
 Hollenbeck St CONgress 6560 Covers Central
 NY State
 SEATTLE-R—National Steel Sales Inc 903 Western
 Ave Seattle 1 Wash MUtual 2450 Covers
 Ore-Wash
 SYRACUSE-R—Brace Mueller Huntley Inc 625
 James St Phone Syracuse 73-3341 Covers East
 NY State
 Export Representative—Sylvan Ginsbury Ltd 8 W
 40 St PENnsylvania 6-8239 New York City
 Arnold Magnetics 5962 Smiley Dr Culver City Calif
 Arnoux Corp 11924 W Washington Los Angeles Calif
 Arntson Electronics 171 Ridgevale Ave Morrisstown NJ
 Artos Eng'g 2753 S 28 St Milwaukee 46 Wisc
 Art Specialty 3245 W Lake St Chicago 24 III
 Artted Co 367 Worthington St Springfield 3 Mass
 Art Wire & Stamping 227 High St Newark 2 NJ
 Arvin Industries Inc Columbus Ind
 Asco Wire & Cable 25 Charlotte Bridgeport Conn
 Askania Regulator 240 E Ontario St Chicago 11 III
 Assembly Products Chesterland 21 Ohio
 Associated Eng'g Corp 65 Kent St Brookline 46 Mass
 Associated Eng'g Mfg Corp Glen Ridge NJ
 Associated Production 162 N Clinton St Chi. 6 III
 Associated Projects Co Willoughby Ohio
 Associated Research 3758 W Belmont Ave Chi. 18 III
 Associated Specialties Orefield Pa
 Associated Valve 1150 W Marquette Chicago III
 Astatic Corp P O Box 120 Comeau Dthio
 Astron Corp 255 Grant Ave E Newark NJ
 Atlantic & Pac Wire 112-01 Northern E Elmhurst NY
 Atlantic Research 901 N Columbus Alexandria Va
 Atlantic Transformer 30 Hynes Ave Groton Conn
 Atlantic Wire & Cable College Point NY
 Atlas Coil Inc 205 Main St Ansonia Conn
 Atlas E-E Corp Bedford Airport Bldg Bedford Mass
 Atlas Electric Products P O Box 1591 Erie Pa
 Atlas Resistor Main & Cotton Sts Philadelphia 27 Pa
 Atlas Sound Corp 1449 39 St Brooklyn 18 NY
 Atomic Instrument 84 Mass Ave Cambridge 39 Mass
 Auburn Mfg Co 110 Stack St Middletown Conn
 Audak Co 500 5 Ave New York 36 NY
 Audio Accessories Amityville NY
 Audio Development 2833 13 Ave S Minneapolis 7 Minn
 Audio Devices 444 Madison Ave New York NY
 Audio Equip Co 15749 Wyoming Ave Detroit 38 Mich
 Audio Equip Co 805 Middle Neck Rd Great Neck NY
 Audiogersh Corp 23 Park Pl New York 7 NY
 Audio Instrument 133 W 14 St New York 11 NY
 Audio-Master Corp 17 E 45 St New York 17 NY
 Audiomat Labs 7230 Clinton Rd Upper Darby 14 Pa
 Audio Products 2265 Westwood Los Angeles 64 Calif
 Audio-Tone Oscillator 12 Edgewood Ave Trumbull Conn
 Augat Bros 31 Perry Ave Attleboro Mass
 Aurex Corp 1117 N Franklin St Chicago 10 III
 Austin 0 225 Flatbush Ave Brooklyn 17 NY

Autel Electronics PO Box 225 Linden NJ
 Autocrat Electronics Co 5024 Elm St Skokie III
 Automatic Electric 1033 W Van Buren Chicago 7 III
 Automatic Metal Prods 315 Berry St Brooklyn 11 NY
 Automatic & Precision 252 Hawthorne Yonkers NY
 Automatic Processing 1335 N Wells St Chicago 10 III
 Automatic Radio Mfg 122 Brookline Boston Mass
 Automatic Switch Co 391 Lakeside Ave Orange NJ
 Automatic Temp Control 5212 Pulaski Phila Pa
 Autotron Co 128 W Main St Danville III
 Avery Adhesive Label Corp Monrovia California
 Western Region: John Watts Regional Supervisor
 LOS ANGELES SALES DISTRICT—Avery Adhesive
 Label Corp 1616 So California Avenue
 Monrovia California Telephone RYan 1-5237
 ELLIott 8-2524
 SAN FRANCISCO SALES DISTRICT—Avery Adhesive
 Label Corp 681 Market Street Room
 378 San Francisco 5 California Telephone
 DOuglas 2-3325
 SEATTLE SALES DISTRICT — Avery Adhesive
 Label Corp Dexter Horton Bldg Seattle 4
 Washington Telephone MAIn 9112
 Midwestern Region
 CHICAGO SALES DISTRICT—Avery Adhesive
 Label Corp 608 So Dearborn Street Chicago
 5 Illinois Telephone HArrison 7-3952
 Avery Adhesive Label Corp 1333 N Pennsylvan
 Street Indianapolis 2 Indiana Teleph
 phone MEIrose 4-4677
 CINCINNATI SALES DISTRICT—Avery Adhesive
 Label Corp 626 Broadway Cincinnati 2 Ohio
 Telephone DUbnar 1-4692
 CLEVELAND SALES DISTRICT—Avery Adhesive
 Label Corp 2123 East Ninth Street Cleveland
 15 Ohio Telephone CHerry 1-0697
 DETROIT SALES DISTRICT — Avery Adhesive
 Label Corp 3049 East Grand Blvd Detroit 2
 Michigan Telephone TRinity 5-7887
 Eastern Region
 NEW YORK SALES DISTRICT—Avery Adhesive
 Label Corp 117 Liberty Street New York 6
 New York Telephone COrlandt 7-6382
 ROCHESTER SALES DISTRICT—Avery Adhesive
 Label Corp 805 Granite Bldg 130 East Main
 Street Rochester 4 New York Telephone
 HAmlilton 4884
 PHILADELPHIA SALES DISTRICT—Avery Adhesive
 Label Corp 729 Commercial Trust Bldg
 Philadelphia 2 Pennsylvania Telephone RI
 ttenhouse 6-6486
 BOSTON SALES DISTRICT — Avery Adhesive
 Label Corp 420 Boylston Street Boston 16
 Massachusetts Telephone COpley 7-1775
 PITTSBURGH SALES DISTRICT—Avery Adhesive
 Label Corp 524 Federal Street Pittsburgh 12
 Pennsylvania Telephone CEdar 1-0261
 Southern Region
 FORT WORTH TERRITORY—R Cunningham Rep
 Ray A Cunningham 3236 University Drive
 Fort Worth 9 Texas Telephone WIlson 7468
 OKLAHOMA CITY TERRITORY—H Lucas Rep
 H V Lucas 834 N W 34th Street Oklahoma
 City 18 Oklahoma Telephone JAckson 5-0392
 NORTH MIAMI TERRITORY—K Miller Pep Ken
 Miller P O Box 859 North Miami Florida
 Telephone 81-6-2783
 SHREVEPORT TERRITORY—M Robbins Rep M M
 Robbins 2601 Claiborne Avenue Shreveport
 Louisiana Telephone 5-1395
 HOUSTON TERRITORY—W Schwarting Pep Wil
 liam F Schwarting P O Box 6635 Houston 5
 Texas Telephone JAckson 2-5034
 CANADA—Avery Adhesive Label Corp (Can
 ada) Ltd 207 Queen's Quay West Toronto 1
 Ontario Canada
 Avien Inc 5815 Northern Blvd Woodside LI NY
 Avion Div ACF Industries Paramus NJ
 Axel Bros 134-20 Jamaica Ave Jamaica NY
 Babcock Radio Eng'g 742 Woodley Van Nuys Calif
 Bache Semon & Co 636 Greenwich St N. Y. 11 NY
 Background Ennrs 7313 Santa Monica Hollywood Calif
 Baer Co N S 1 Montgomery St Hillsdale 5 NJ
 Bailey Meter Co 1050 Ivanhoe Rd Cleveland Ohio
 Baird Associates 33 University Cambridge Mass
 Baker Bros 1014 Post St Toledo 10 Ohio
 Baker & Co 113 Astor St Newark 5 NJ
 Balco Research Labs 49 Edison Pl Newark 2 NJ
 Baldwin Piano Co 1801 Gilbert Cincinnati 2 Ohio
 Ballantine Labs Bonton NJ
 Ballastron Corp 1701 N Calhoun St Fort Wayne Ind
 Barber-Colman 1300 Rock St Rockford III
 Barber Labs A W 32-44 Francis Lewis Flushing NY
 Barker & Williamson Upper Darby Pa
 Barrett Co L J 1614 Grafton Worcester 1 Mass
 Barry Controls 700 Pleasant St Watertown 72 Mass
 Barry Electronics 512 Broadway New York 12 NY
 Bart Mfg 227 Main St Belleville NJ
 Barton Electronics 1000 Farmington Hartford Conn
 Barwood Mfg L J Everett 49 Mass
 Basler Electric Co 605 5 St Highland III
 Bassett Inc Rex 1314 N E 17 Ct Ft Lauderdale Fla
 Batson Electronics J A Waterloo Nebr
 Baughman E J 1914 N Cogswell El Monte Cal
 Bausch & Lomb 628 St Paul St Rochester 2 NY
 Bayside Watch Tool 20-20 Utopia Whitestone 57 NY
 BDN Steel Erecting 82 W Wash Blvd Chicago 2 III

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

- Bead Chain 201 Mountain Grove Bridgeport Conn
 Beam Industries 624 S Michigan Ave Chicago 5 Ill
 Beam Instruments 350 S Ave New York 1 NY
 Bear Mfg Co 2016 S Ave Rock Island Ill
 Beck Co Harold 3640 N 2 St Philadelphia 40 Pa
 Becker Electronics 1091 Rockaway Valley Stream NY
 Beckman Instruments 2500 Fullerton Rd Fullerton Cal
 Beckman & Whitley 985 San Carlos Ave San Carlos Cal
 Becks Inc 298 E 5 St St Paul 1 Minn
 Belden Mfg Co 4647 W Van Buren St Chicago Ill
 Bell Aircraft Corp P O Box 1 Buffalo 5 NY
 Bellaire Electronics 62 White St Red Bank NJ
 Bell & Gossett 8200 N Austin Morton Grove Ill
 Bell & Howell 7100 McCormick Rd Chicago 45 Ill
 Bell Sound Systems 555 Marion Rd Columbus Ohio
 Bell Telephone Labs 463 West St New York NY
 Bendix Aviation Computer Div 5630 Arbor Vitae Los Angeles Calif
 Bendix Aviation Corp Eclipse-Pioneer Div Teterboro NJ
 Bendix Aviation Corp Friez Instr Div Baltimore 4 Md
 Bendix Aviation Pac Div 11600 Sherman N Hollywood
 Bendix Aviation Radio Div Baltimore 4 Md
 Bendix Aviation Red Bank Div Eatontown NJ
 Bendix Aviation Scintilla Div Sidney NY
 Bennett & Co Paul 230 E Ohio St Chicago 11 Ill
 Bennett Labs 2700 Bay Rd Redwood City Calif
 Benrus Watch Co 50 W 44 St New York NY
 Benson Lehner 11930 W Olympic Los Angeles Calif
 Bentley-Harris Mfg Conshohocken 20 Pa
 Berg Mfg Corp New Cumberland Pa
 Bergen Labs 11 Godwin Ave Fairlawn NJ
 Bergen Wire Rope 455 Gregg St Lodi NJ
 Berkeley Div Beckman Instruments Richmond Calif
 Berkshire Transformer New Milford Conn
 Berlant Instruments 4917 W Jefferson Los Angeles
 Berman Labs 112-03 Rockaway Ozone Park NY
 Berndt-Bach 6926 Romaine Hollywood 38 Calif
 Besko Mfg 32-37 Downing Flushing 52 NY
 Best Mfg 1200 Grove St Irvington 11 NJ
 Beta Electric Corp 333 E 103 St New York 29 NY
 Better Coil & Transformer Corp Goodland Ind
 Beva Lab 1640 Olden Ave Ext Trenton NJ
 Biddle Co James G 1316 Arch St Philadelphia 7 Pa
 B-I-F Industries 345 Harris Ave Providence RI
 Bigelow Mfg 225 W Bigelow St Newark 8 NJ
 Bill Jack Scientific Instr Solana Beach Calif
 Biophysical Instr Inc 2194 Bridge St Phila Pa
 Bird & Co R H 1 Spruce St Waltham Mass
 Bird Electronic 1800 E 38 St Cleveland 14 Ohio
 Birnbach Radio Co 145 Hudson St New York 13 NY
 Birtcher Corp 4731 Valley Road Los Angeles 32 Calif
 Bischof Die & Engraving 1405 16 St Racine Wisc
 Bittermann Electric Co Barlow St Canaan Conn
 Biwax Corp 3445 Howard St Skokie Ill
 BJ Electronic 492 E Union St Pasadena 1 Calif
 Black & Decker Mfg Co Towson 4 Md
 Blackburn Electronic Corp Wyoming Pa
 Blaco Mfg Co 6541 Euclid Ave Cleveland 3 Ohio
 Blaw-Knox Co Blawnox Pa
 Blazon Mfg Co Morton Grove Ill
 Bliley Electric Co Union Station Bldg Erie Pa
 Bliss Electronic Corp Box 366 Sussex NJ
 Blonder-Tongue Labs 526 North E Westfield NJ
 Bludworth Marine 92 Gold St New York 38 NY
 Boddie Projector 11541 Bradley San Fernando Calif
 Bodine Electric Ohio St & Oakley Chicago 12 Ill
 Bodnar Industries 19 RR Ave New Rochelle NY
 Boehme Inc H O 915 Broadway New York 10 NY
 Boesch Mfg Co Danbury Conn
 Boetsch Bros 115 Cedar St New Rochelle NY
 Bogart Mfg Corp 315 Siegel St Brooklyn 6 NY
 Bogen Co David 29 9 Ave New York 14 NY
 Bogue Electric Mfg 52 Iowa Ave Paterson 3 NJ
 Bomac Labs Salem Rd Beverly Mass
 Bone Eng'g Corp 701 W Bdwy Glendale 4 Calif
 Boonton Electronics Corp Morris Plains NJ
 Boonton Molding Co Boonton NJ
 Boonton Radio Corp Intervale Rd Boonton NJ
 Booth Co A E 265 S Alexandria Los Angeles Calif
 Borden Eng'g 39 E Hanover Morris Plains NJ
 Borg Corp Geo W Borg Equip Div Janesville Wisc
 Boston Insul Wire & Cable Dorchester 25 Mass
 Bourns Labs 6135 Magnolia Ave Riverside Calif
 Bowen & Co Box 5818 Bethesda Md
 Bowser Tech Ref Div Bowser Inc Terryville Conn
 Bozak Mfg Co R T P O Box 966 Darien Conn
 Brach Mfg 200 Central Newark NJ
 Bracke-Seib X-Ray Co Pelham Manor NY
 Bradford Components 33 Bishop St Bradford Pa
 Bradley Labs 168 Columbus New Haven 11 Conn
 Brady Co W H 727 W Glendale Milwaukee Wisc
 Brailsford & Co 670 Milton Rd Rye NY
 Brainard Electronics 8586 Santa Monica Los Angeles
 Bram Chemical Co 820 65 Ave Philadelphia 26 Pa
 Brand & Co Wm Willimantic Conn
 Branson Corp Boonton NJ
 Branson Instruments 430 Fairfield Stamford Conn
 Brea Instruments 6914 Beck Ave N Hollywood Calif
 Breeze Corporations 700 Liberty Ave Union NJ
 B & R Electronics 1701 Boone Ave New York 60 NY
 Brew & Co Richard D 90 Airport Rd Concord NH
 Bridgeport Brass Co Bridgeport 2 Conn
 Bright Star Industries 600 Getty Ave Clifton NJ
 Brillhart Plastics Corp P O Box 31 Mineola NY
 Brilmayer Labs E W 86 Fulton St New York 38 NY
 Bristol Co P O Box 1790 Waterbury Conn
 Bristol Eng'g Electronics Div Bristol Pa
 British Electronic 23-03 45 Rd L I City 1 NY
 British Industries 80 Shore Rd Port Washington NY
 British Radio Electr 1833 Jefferson Washington DC
- Broadcast Equip Specialties P O Box 149 Beacon NY
 Broadway Coil Co 5638 Broadway Chicago 40 Ill
 Brooke Eng'g 4517 Wayne Ave Philadelphia 44 Pa
 Brown Equipment Co 128 N Main St Milltown NJ
 Browning Labs 750 Main St Winchester Mass
 Brubaker Mfg 9151 Exposition Dr Los Angeles 34
 Bruno-NY Industries 460 W 34 St New York 1 NY
 Brush Electronics 3405 Perkins Cleveland 14 Ohio
 Buchan Co R J P O Box 9 Bricelyn Minn
 Buchanan Electrical Products Dept TT Hillside NJ
 Buck Eng'g Co 37 Marcy St Freehold NJ
 Buckbee Mears Co 4th & Rosabel Sts St Paul 1 Minn
 Budd-Stanley Co 43-01 22 St Long Island City 1 NY
 Budelman Radio Corp 375 Fairfield Stamford Conn
 Bud Radio Inc
- SOUTHERN CALIFORNIA—Jack Berman 1141 S
 La Cienega Los Angeles BRadshaw 2-9138
 Covers S Cal Los Vegas Nev and Ariz
 NORTHERN CALIFORNIA—David Ross 534 El
 Camino Real San Carlos LYtell 3-8225
 Covers N Cal and Rena Nev
 COLORADO—A J Nelson 1639 S Blake Denver
 Keystone 4-6751 Covers Colo Idaho Mont
 N Mex Utah and Wyo
 FLORIDA—Cartwright & Bean 3610 Kensington
 Tampa Phone 63-7364 Cover Florida
 GEORGIA—Cartwright & Bean 3230 Peachtree
 Atlanta Exchange 2273 Cover Ga Ala S Car
 ILLINOIS—Bruce Cumming 6029 W Belmont Chi-
 cago MERRimac 7-3770 Covers Ill and Ky
 LOUISIANA—Cartwright & Bean 821 Pontalba
 New Orleans Audubon 2264 Cover Louisiana
 MASSACHUSETTS—H P Segal 131 Newbury Bos-
 ton Kenmore 6-3012 Covers New England
 MICHIGAN—Jack Thorpe 640 Hidden Lane Det-
 roit Tuxedo 5-4438 Covers Michigan
 MINNESOTA—Clark Gibb 1404 Hennepin Min-
 neapolis Lincoln 2550 Covers Minn ND SD
 MISSOURI—Fred Somers 18th & Grand Kansas
 City Grand 1355 Covers Iowa Kan Mo Neb
 NEW YORK—Willgold Electronics Sales 350 5th
 Ave New York City LOnaacre 4-2525 Covers
 Metropolitan NY & N NJ
 NEW YORK—Wolfe-Marsey 74 Park Ave Roch-
 ester Monroe 6238 Covers N NY excluding
 Metrooolltan NY and Erie Pa
 NORTH CAROLINA—Cartwright & Bean P O
 Box 9203 Charlotte FRanklin 6-8648 Cover
 NC & Va
 OHIO—Mike Roth 13948 Cedar Rd Cleveland
 Yellowstone 2-4262 Covers Ohio W Pa except
 Erie W Va Distributors only
 PENNSYLVANIA—Harold Moyer 1152 Merion
 Haddonfield NJ HAddonfield 9-6347 Covers
 E Pa S NJ Md Del Wash DC
 TENNESSEE—Cartwright & Bean 1336 Madison
 Ave Memphis BRoadway 5-1914 Cover Ala
 Ark Miss Tenn
 TEXAS—Crockett & Lund 2204 Griffin St Dallas
 RAudolph 5764 Cover Okla & Texas
 WASHINGTON—Frank Wedel 3215 Western Ave
 Seattle Garfield 0222 Covers Ore & Wash
 DOMINION OF CANADA—Tenotronics Ltd
 Davis Drive East Newmarket Ont
 EXPORT—Roburn Agencies 391 Warren St New
 York City Export excluding Canada US pos-
 sessions and territories
 Buggie Inc H H P O Box 817 Toledo 1 Ohio
 Buhl Optical Co 1009 Beech Ave Pittsburgh 33 Pa
 Bulova Watch 62-10 Woodside Ave Woodside 77 NY
 Bunnell & Co J H 81 Prospect St Brooklyn 1 NY
 Burgess Battery Co Freeport Ill
 Burke & James 321 S Wabash Ave Chicago Ill
 Burling Instrument 16 River Rd Chatham NJ
 Burlington Instruments Burlington Iowa
 Burndy Eng'g Co Norwalk Conn
 Burnell & Co Inc 45 Warburton Ave Yonkers NY
 Phone: YOnkers 5-6800-01-02-03-04-05
 Administration—Norman Burnell
 Chief Eng—Lewis G Burnell
 Purchaser—Vincent Triwedi
 Sales Mgr—Leo Schwartz
 BUFFALO NY-R—Holliday-Hathaway P O Box
 75 Buffalo NY Phone Spring 6828
 CAMBRIDGE MASS-R—Glenn M Hathaway
 Electronics Inc 238 Main St Elliott 4-1751
 Covers N Eng
 CANAAN CONN-R—Glenn M Hathaway Elec-
 tronics Inc P O Box 797 Covers Conn Taylor
 4-7215
 CHICAGO ILL-R—Caine Sales Co 3020 North
 Cicero Ave SPring 2-4022 Covers Ill-Ind-
 Iowa-Wis-Minn
 CINCINNATI 37 OHIO-R—Sheridan Associates
 Roselown Center Bldg Cincinnati 37 Ohio
 Melrose 1-2460 covers Ohio Western Po-
 sharan
 CLEVELAND OHIO-R—Sheridan Associates 5480
 Queen's Highway Tuxedo 4-8060
 DALLAS TEX-R—Edward F Aymond Ca P O Box
 6595 Logan 5233 Covers Ark-Lo-Tex-Okla
 DAYTON O-R—Myron P Roebuck 1300 E Dorothy
 Lane Dayton Ohio Covers Wright-Patterson
 Air Force Base
 DETROIT MICH—Jim Marrow Sales 85 Louise
 Ave Highland Park Mich Townsend 8-0649
 Covers Mich
- FORT MONMOUTH N J—Philip Treston 1114
 Pamere Ave Wanamassa N J Phone Dunkirk
 9-3054
 FORT MYERS FLA-R—Arthur H Lynch & Assa-
 ciates P O Box 466 Edison 4-4431 Covers
 Florida
 KANSAS CITY MO-R—Engineering Services Co
 4550 Main St Jefferson 1-7765 Covers Western
 Mo-Kansas
 LONG ISLAND-R—Holliday-Hathaway Co Inc
 11 Northern Blvd Great Neck LI Hunter
 2-6750
 NEW YORK CITY-R—Halliday-Hathaway Inc 270
 Park Ave Suite 61-A MURray Hill 8-5858
 Covers Met NY
 NORTHERN CALIFORNIA-R—C R Dalton 108
 Ware Rd Redwood Ulmar 1-7129 Covers
 Northern Calif
 NORTHERN NJ-R—Holliday-Hathaway Co Inc
 4808 Bergenline Ave Union City NJ Web-
 ster 9-7217
 PASADENA CALIF-R—Arvin Bell Co 385 E
 Green St RYan 1-5492 Covers Southern Calif
 PHILADELPHIA PA-R—Massey Assoc Inc 529
 Brookhurst Ave Narberth Pa Mohawk 4-4200
 ST LOUIS MO—Engineering Services Company
 6635 Teldar Blvd Covers So Ill-E Mo
 SCHENECTADY NY-R—Holliday-Hathaway Co
 Inc P O Box 1172 Loudonville NY Union
 9-7551
 SYRACUSE 6 NY—Holliday-Hathaway Co Inc
 P O Box 156-Eastwood Station Syracuse
 73-0006 Covers Syracuse Ithaca Elmira
 UTICA NY-R—Holliday-Hathaway Co Inc P O
 Box 296 New Hartford NY covers Utica-
 Poughkeepsie-Rome
 WASHINGTON DC-R—Massey Assoc Inc 1
 Thomas Circle N W NAtional 8-1957 Covers
 Washington-Md-Va
 WINSTON-SALEM NC-R — Holliday-Hathaway
 Co Inc Wachovia Bank & Trust Co Bldg
 Room 831 Winston-Salem 4-7252
- Burnett Radio Lab 4814 Idaho St San Diego Calif
 Burrouns Corp Electronic Instruments Div 1239 Vine
 St Philadelphia 7 Pa Telephone LOcust 7-1401
 General Manager—Lawrence T LaPalka
 ALBUQUERQUE NM-R—Gerald B Miller Co 327
 Wyoming SE Albuquerque 5-8606
 BELMONT CALIF-R—Gerald B Miller Co 1334
 Old County Rd Lytell 3-3438
 DENVER COLORADO—Gerald B Miller Co 47
 E 17th Ave
 FORT MYERS FLA-R—Arthur H Lynch Assoc PO
 Box 466 Phone 5-6762
 HOLLYWOOD CALIF-R—Gerald B Miller Co
 1550 N Highland Ave Hollywood 9-6305
 KANSAS CITY-R—Harris Hanson Ca 7916 Paseo
 Avenue Victor 0610
 PITTSBURGH-R—H E Ransford Co 2601 Grant
 Bldg Grant 1-1880
 SAN DIEGO CALIF-R—Gerald B Miller Co 1263
 Rosecrans Blvd ACOdemy 2-1121
 ST LOUIS MO-R—Harris Hanson Co 2814 S
 Brentwood Blvd Mission 7-4350
 SEATTLE-R—Gerald B Miller Co King County
 Airport Room 101 LAnder 3320
 TUCKAHOE NY-R—Land-C-Air Sales Co 42 Oak
 Ave Tuckahoe 3-5500
 TUCSON ARIZ-R—Gerald B Miller Co P O Box
 11246 44255
- Burton-Rodgers 42 Carleton St Cambridge 42 Mass
 Bussmann Mfg 2536 W University St St Louis 7 Mo
 Butler Mfg Co B B 3150 Randolph St Bellwood Ill
 Byron-Jackson 2010 Lincoln Ave Pasadena 3 Calif
 Cable Electric Prods 234 Daboll Providence 7 RI
 Cable Specialists 474 Prospect Ave Hartford Conn
 Cadre Industries Corp Box 150 Endicott NY
 Calbest Electronics 4801 Exposition Blvd Los Angeles
 Caledonia Electronics & Transformer Caledonia NY
 Calidyne Co 120 Cross St Winchester Mass
 Calif Chassis Co 5445 E Century Blvd Lynwood Calif
 Calif Magnetic Contr 11922 Valerio N Hollywood Calif
 Calif Plasteck 225 E 4 St Los Angeles Calif
 Califone Coro 1041 N Sycamore Hollywood 38 Calif
 Caltron Prods 1310 S Hobart Blvd Los Angeles 6 Calif
 Cal-Tronics Corp 11307 Hindry Los Angeles Calif
 Calvideo Tube 5232 W 104 St Los Angeles 45 Calif
 Cambridge Instrument Grand Central Term N Y 17
 Cambridge Thermionic 445 Concord Cambridge Mass
 Camera Equipment 315 W 43 St New York 36 NY
 Camera Mart 1845 Broadway New York 23 NY
 Campbell Industries Chattanooga 9 Tenn
 Campbell X-Ray 110 Cunningham St Boston 15 Mass
 Canadian Marconi 2442 Trenton Ave Montreal Can
 Canadian Radium & Uranium 630 S Ave N Y 20
 Cannon Co C F Springwater NY
 Cannon Electric 3209 Humbolt St Los Angeles 31
 Canoga Corp 5955 Sepulveda Blvd Van Nuys Calif
 Capehart-Farnsworth Div IT&T Ft Wayne Ind
 Capitol Records 1730 Broadway New York 19 NY
 Capitol Stage Lighting 527 W 45 St New York NY
 Capps & Co 20 Addison Pl Valley Steam LI NY
 Carad Corp 2850 Bay Rd Redwood City Calif
 Carboneau Industries Grand Rapids 4 Mich
 Carborundum Co Globar Div Niagara Falls NY
 Cardwell Electronics A D Plainville Conn

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

- Cargo Packers 3720 14 Ave Brooklyn 18 NY
 Carling Electric 505 New Park W Hartford Conn
 Carol Cable 20 Central Ave Pawtucket RI
 Carol Electronics 315 W Stephen St Martinsburg W Va
 Carrier Case Co 1 W 34 St New York 1 NY
 Carruthers & Fernandez 1501 Color Santa Monica Cal
 Carter Motor 2644 N Maplewood Ave Chicago 47 Ill
 Carter Parts Co 213 W Institute Pl Chicago 10 Ill
 Cascade Research Corp 53 Victory Lane Los Gatos Calif
 Caterpillar Tractor Co Peoria 8 Ill
 Cavitron Oscillator 2921 W Alameda Burbank Calif
 CBC Electronics Co 7601 N Howard St Phila Pa
 CBS-Columbia Inc 3400 47 Ave Long Island City 1 NY
 CBS-Hytron 100 Endicott St Danvers Mass
 Celanese Corp 180 Madison Ave New York 16 NY
 Centralab Div Globe-Union 938Y E Keefe Milwaukee 1 Wis
 President Wm S Parsons
 Sls Mgr—(P. E. C., Ceramics, Switch, Var Resistors)—Walter Peek
 Sls Mgr—(capacitors)—Douglas E Thatcher
 Sls Mgr—Distributor Div—Bruce E Vinkemulder
 Assistant Sls Mgrs—
 Variable Resistors—James A Hannan
 Switches—Wm J Foy
 Capacitors—John Lefebvre
 Steatite Ceramics—Harvey Schmit
 Packaged Electronic Circuits—W G Tuscany
 Export Mgr—Paul B Lamboley
 Adv Mgr—Frank Apple
 CANADA—Centralab Canada Ltd 804 Mt Pleasant Road Toronto
 CALIFORNIA—San Francisco—IDS—Logan Sales Co 154 Eighth St Hemlock 1-5127
 Beverly Hills—IS—Walter S Harmon Co 121 N Robertson Blvd BRadshaw 2-3321 CRestview 6-3027
 Beverly Hills—DS—Richard L Stone Sales Co 9015 Wilshire Blvd BRadshaw 2-4916
 COLOPADO—Denver—IDS—McLoud & Raymond Co 5528 E Colfax Ave FLorida 5-3525
 GEORGIA—Atlanta—IDS—Frank Nickerson 1150 Zenalite Rd NE Emerson 8908
 ILLINOIS—Chicago—BO—IS—F L Tiegs and A A Macdonald 5308 W Diversey Palisade 5-5366
 Chicago—IDS—Earl T Champion 6459 N Sheridan Road Ambassador 2-3565
 INDIANA—Indianapolis—IDS—L M DeVoe Co 4010 Washington Blvd Humboldt 1395
 IOWA—Cedar Rapids—IDS—Jerry Vrbik 621 Guaranty Bldg 4-0833
 MASSACHUSETTS—Needham — IDS — Stanley A Harris Co 317 Chestnut St Needham 3-4780 3-4781
 MICHIGAN—Detroit—IDS—R C Merchant 4829 Woodward Ave Temple 1-1677
 MINNESOTA—Minneapolis—IDS—Merrill K Franklin 338 E Franklin Federal 6-2315—6-1805
 MISSOURI—St Louis—IDS—Theodore R Lowell Box 21 Normandy Evergreen 5-7803 Sterling 1-6290
 NEW JERSEY—Jersey City—IS—D P Galasso 921 Bergen Ave Journal Square 4-7277 Digby 4-1763
 New Brunswick—IS—Jerome Bresson 75 Paterson St Charter 9-8787—9-8788
 NEW YORK—New York City—DS—James M Pickett 205 E 66th St Trafalgar 9-9520
 Dewitt—IS—George P Marron The Kallusch Bldg Syracuse Phone 75-1686-7
 Phelps & Amsterdam—DS—LeRoy & McGuire Inc R D #1 Phelps Kingswood 8-4891 and R D #4 Amsterdam Victor 2-5979
 OHIO—Brecksville—IS—Allen Nace Co 7601 Parkview Road Jackson 6-4323
 Cleveland—R—DS—F A Daugherty & Co 1120 Crayden Road Hillcrest 2-3311
 PENNSYLVANIA—Philadelphia—IDS—Except Phila S K Macdonald Inc 1531 Spruce St Kingsley 5-1205
 Philadelphia—IS—Jerome Bresson—See New Jersey
 TENNESSEE—Memphis—IDS—Al E Engelman 3205 Crump Ave 48-6263
 TEXAS—Dallas—IDS—Robert E Nesbitt 1925 Cedar Springs Prospect 5824
 WASHINGTON—Seattle—IDS—J J Backer Co 221 W Galer P O Box 9077 Alder 6470
 CANADA—Toronto—IS—P J Heenan Co 804 Mt Pleasant Road HUDSON 1-2291
 Toronto—DS—R C Kahner 1908 Avenue Road Redfern 7078
 Vancouver—IDS—D E McLennan 2191 W First Avenue Bayview 2898
 HAWAII—Honolulu—IDS—Brenna & Browne P O Box 2098 Honolulu 5 TH Phone 265275
 Central Coil Co 1720 N Luett St Indianaapolis Ind
 Central Electronics 1247 W Belmont Ave Chicago 13 Ill
 Central Porcelain Co Columbiana Ohio
 Central Research Labs Red Wing Minn
 Central Sales & Mfg 21 Richmond Pl Denville NJ
 Central Scientific 1700 Irving Park Rd Chicago 13 Ill
 Central Transformer 910 W Jackson Blvd Chicago 7 Ill
 Centran Inc PO Box 168 Greensburg Ind
 Century Electric Co 1806 Pine St St Louis 3 Mo
 Century Electronics 1333 N Utica St Tulsa 10 Okla
 Century Lighting 521 W 43 St New York NY
 Cermaseal Inc Box 25 New Lebanon Center NY
 Ceramic Heater Cathode Resistor Keyport NJ
 Certified Radio Labs 5507 13 Ave Brooklyn 19 NY
 CGS Labs 391 Ludlow St Stamford Conn
 Channel Master Corp Ellenville NY
 Channer Corp 1488 Skokie Blvd Highland Park Ill
 Chase Brass & Copper Co Waterbury 20 Conn
 Chase Electronics 2631 Woodlyn Pasadena 8 Calif
 Chase & Sons 19 Highland Ave Randolph Mass
 Chatham Electronics 630 W Mt Pleasant Livingston NJ
 Chatillon & Sons John 85 Cliff St New York 38 NY
 Chemical Electronics Gillespie Airport Santee Calif
 Chemical Electronic Eng'n Matawan NJ
 Chesapeake Instrument Shadyside Md
 Chester Cable Corp Chester NY
 Chester Morton Electronics Chester Pa
 Chicago Condenser 3255 W Armitage Chicago 47 Ill
 Chicago Dial Co 2901 S LaSalle St Chicago 16 Ill
 Chicago Electronic Eng'g 3223 Armitage Chicago 47 Ill
 Chicago Industrial Instr 865 N Sangamon St Chicago
 Chicago Magnetic Control 1616 Damon Ave Chicago Ill
 Chicago Rivet & Mch 9600 W Jackson Bellwood Ill
 Chicago Std Transformer 3501 Addison Chicago Ill
 Chicago Telephone Sup 1142 W Beardsley Elkhart Ind
 Chicago Tool & Eng'n 8383 S Chicago Chicago 17 Ill
 Chromatic TV Labs 1501 Broadway New York 36 NY
 Chr Assoc 634 Waverly St Framingham Mass
 Cinch-Jones Sls Div Cinch Mfg 1026 S Homan Chicago Ill
 President—Lester W Torr
 VP & Gen Mgr—E J Pool
 Gen'l Sls Mgr—S Pfannstiehl
 VP & Dev Engr—S M Del Comp
 Vice Pres—B F Butts
 Credit Mgr—E L Hvale
 Purch Agr—T A Hopkins
 Adv Mgr—C W Nelson
 Export Mgr—Corrington H Stone
 Traffic Mgr—A Hopkins
 Sls Mgr—C W Nelson
 Plastics Engr—G F Mangin
 ATLANTA—Cartwright & Bean 4030 Club Drive NE Cherokee 2483
 BOSTON—Ray Perron & Co 1870 Centre St Fairview 3-1008
 CHICAGO—B F Becker Covers Wis—P G Tomy Covers Iowa-Minn Nevada 2-2000
 CLEVELAND—Scott & Stevan Inc 1836 Euclid Ave TOWER 1-2626
 DETROIT—Cinch-Jones Sales Div 2832 E Grand Blvd Trinity 3-9500
 KALAMAZOO—Cinch-Jones Sales Div 5006 Lake Forest Dr Phone Fireside 5-5686
 LOS ANGELES—Cinch-Jones Sales Div 1709 W Eighth St DUNKIRK 7-5371
 MEMPHIS—Cartwright & Bean 1336 Madison Ave Phone 2-1914
 NEW YORK—M A Sachs 15 E 26th St Murray Hill 3-9356
 PHILADELPHIA—Samuel K Macdonald Inc 1531 Spruce St Kingsley 5-1205
 PITTSBURGH—Samuel K Macdonald Inc 335 Fifth Ave Atlantic 2253
 WASHINGTON DC—Samuel K Macdonald Inc 3308 14th St SW Columbia 3938
 HAMILTON ONT—Cinch-Jones Sales Div Gage Ave & Beach Rd Liberty 4-5791
 Cincinnati Sub Zero Prods 3932 Reading Cincinnati O
 Cincinnati Time Recorder 1733 Central Cincinnati O
 Cinema Eng'g Co Div Aerovox Corp 1100 Chestnut St Burbank Calif
 Cinema-Television Ltd Worsley Bridge Rd Lower Sydenham London SE 26 England
 Circon Component Goleta Calif
 Circuit Instruments 1927 1 Ave S St Petersburg Fla
 Circuitron Inc 155 W Main St Rockville Conn
 Citation Products 233 E 146 St New York 51 NY
 City Marking Devices 12 Spruce St New York 38 NY
 Clairex Corp 50 W 26 St New York 10 NY
 Clare & Co P 3101 Pratt Blvd Chicago 45 Ill
 Claremont Tube 36-02 35 LIC NY
 Clark Controller 1146 E 152 St Cleveland 10 Ohio
 Clarostat Mfg Co Washington St Dover NH
 Clary Corp 408 Junipero St San Gabriel Calif
 Clear Beam TV Antenna Canona Park Calif
 Clegg Labs Ridgedale Ave Morristown NJ
 Cleveland Container 6201 Barberton Cleveland O
 Cleveland Instrument 735 Carnegie Ave Cleveland O
 Cleveland Metal Spec 1783 E 21 St Cleveland O
 Cleveland Wire Cloth 3573 E 78 St Cleveland 5 Ohio
 Clevis Transistor Prods Waltham Mass
 Clifford Mfg Co Grove St Waltham 54 Mass
 Clifton Precision Products Clifton Heights Pa
 Cline Electric Mfg 3405 W 47 St Chicago Ill
 Clippard Instr Lab 7350 Colerain Cincinnati 24 Ohio
 Clough-Bregle Co 6014 Broadway Chicago 40 Ill
 Clum Mfg Co 611 National Ave Milwaukee 4 Wisc
 Coast Coil 5333 W Washington Blvd Los Angeles 16
 Coaxial Connector Co 37 N 2 Ave Mt Vernon NY
 Cobehn Inc Passaic Ave Caldwell NJ
 Cohn Corp Sigmond 121 S Columbus Mt Vernon NY
 Coil Co of America 207 Washington St Northvale NJ
 Coil Eng'g & Mfg 200 Main St Roanoke Ind
 Coilcraft Inc Cary Ill
 Coil Winders Inc New York Ave Westbury NY
 Coil Winding Equip 19 Maxwell Ave Oyster Bay NY
 Coils-Electronics Co 2943 N 2 St Philadelphia Pa
 Cole Instrument Co 1000 N Olive Anaheim Calif
 Cole Radio Works 86 Westville Ave Caldwell NJ
 Coleman Cable & Wire 4515 W Addison Chicago 41 Ill
 Coleman Instruments 318 Madison St Maywood Ill
 Collectron Corp 216 E 45 St New York 17 NY
 Collins Audio Prod Co Route 29 Mountaintide NJ
 Collins Radio Co 855 35 St NE Cedar Rapids Iowa
 Colonial Insulator Co 945 Grant St Akron 11 Ohio
 Color Converter 116 S Chauncey St Columbia City Ind
 Colortone Electronics 200 Frank Rd Hicksville NY
 Color TV Inc 973 E San Carlos Ave San Carlos Calif
 Columbia Records 799 7 Ave New York NY
 Columbia Technical Corp 5 E 57 St New York 22 NY
 Columbia Wire & Supply 2850 Irving Park Chicago 18
 Columbian Carbon 380 Madison Ave New York 17 NY
 Columbus Process State & Mapleton Columbus Ind
 Columbus Research & Devel Columbus Nebr
 Colvin Labs 364 Glenwood Ave E Orange NJ
 Comar Electric Co 3349 Addison St Chicago 18 Ill
 Commercial Optical 118 Bridne Huntingdon W Va
 Commercial Plastics 2806 W North Ave Chicago 47 Ill
 Commercial Radio-Sound 652 1 Ave New York 16 NY
 Commonwealth Wire & Cable Sutton Mass
 Communication Accessories Hickman Mills Mo
 Communication Measurements 350 Leland Plainfield NJ
 Communications Co Coral Gables Fla
 Computer Control 92 Broad Bahson Park 57 Mass
 Computer Instruments 1964 Utica Ave Brooklyn 34 NY
 Computer Measurements 5528 Vineland N Hollywood
 Computing Devices of Can PO Box 508 Ottawa Can
 Conant Labs 6500 "0" St Lincoln Nebr
 Condenser Prods 140 Hamilton St New Haven Conn
 Condar Radio 4068 E Paseo Grande Tucson Ariz
 Conn Hard Rubber Co 407 East St New Haven 9 Conn
 Conn Ltd C G 1101 E Beardsley Ave Elkhart Ind
 Conn Marine Instrument Co Essex Conn
 Conn Telephone & Elec Corp Meriden Conn
 Connector Corp of Amer 3223 Burton Burbank Calif
 Connector Corp 6025 N Keystone Ave Chicago 30 Ill
 Conolite Div Continental Can Co Wilmington 99 Dela
 Conrac Inc 19217 E Foothill Blvd Glendora Calif
 Conrad Inc 141 Jefferson St Holland Mich
 Consolidated Avionics Ludlow & Canal Stamford Conn
 Consolidated Electrodynamics Pasadena Calif
 Consolidated Vacuum 1775 Mt Read Rochester 3 NY
 Constantin & Co L L Route 46 Lodi NJ
 Constantine Eng'g Labs PO Box 555 Mahwah NJ
 Continental Carbon 13900 Lorain Ave Cleveland Ohio
 Continental Communications 452 W Chicago Ave Chicago 10 Ill
 Continental Connector 30-30 Northern Blvd LIC 1 NY
 Continental-Diamond Fibre Newark Dela
 Continental Electric Co 325 Ferry St Newark 5 NJ
 Continental Electronics 302 Oakland St Brooklyn NY
 Continental Electronics 4212 S Burlier Dallas 27 Tex
 Continental Wire Corp Wallingford Conn
 Control Components Co 1 Holden St Brookline 46 Mass
 Control Corp 718 Central Ave S Minneapolis 14 Minn
 Control Products 306 Sussex St Harrison NJ
 Control Specialists 115 E Arbor Vitae Inglewood Cal
 Controls Corp 9555 Soreng Ave Schiller Park Ill
 Cook Co Frank R 600-Mile High Center Denver 2 Colo
 Cook Electric Co 2700 Southport Ave Chicago 14 Ill
 Cook Labs 101 2 St Stamford Conn
 Co-Operative Industries 100 Dakdale Rd Chester NJ
 Cooper Electronics 5637 Tulip Philadelphia 24 Pa
 Copperwell Steel Co Wire & Cable Div Glassport Pa
 Corbin Corp 5419 56 Pl Riverdale Md
 Cords Ltd Div Essex Wire DeKalb Ill
 Cornell-Dubilier Electric 333 Hamilton S Plainfield NJ
 Corning Glass Works Corning NY
 Sls Mgr—Charles Harwood
 Glass Electronic Components
 NEW YORK-SE—M R Berell 718 Fifth Ave Circle 6-8224
 CHICAGO-SE—Jack Beck Merchandise Mart DElaware 7-6600
 SAN MONICA-SE—H B Gumbart, PO Box 887 Santa Monica Calif Phone Gladstone 4-5209
 Cornish Wire Co 50 Church St New York 7 NY
 Cortland Industries 4545 W Cortland St Chicago 39
 Cosmic Radio Corp 853 Whittier St New York 59 NY
 Cosmo Eng'g Labs Mountain Ave Hackettstown NJ
 Cossor (Canada) Ltd 301 Windsor St Halifax Can
 Coto-Coil Co 65 Pavilion Ave Providence 5 RI
 Couch Co S H 3 Arlington St Quincy 71 Mass
 Counter & Control 525 W Electric Milwaukee Wisc
 Courier Products Boyne City Mich
 Cousino Inc 2325 Madison Ave Toledo 2 Ohio
 Cox & Co 115 E 23 St New York 10 NY
 Craig Systems Inc 90 Hotten St Danvers Mass
 Cramer Co R W Centerbrook Conn
 Crane Packing 1801 Belle Plaine Chicago 13 Ill
 Cratex Mfg Co 81 Natoma St San Francisco 5 Calif
 Creative Eng'n 10816 Burbank Blvd N Hollywood Calif
 Crescent Eng'g & Res 11632 McBean St El Monte Calif
 Crescent Industries Inc 5900 W Touhy Ave Chicago
 Crest Transformer 1834 W North Ave Chicago 22 Ill
 Croname Inc 3701 Ravenswood Ave Chicago 13 Ill
 Crosby Enterprises 9028 Sunset Blvd Los Angeles 46
 Crosby Labs Box 233 Robbins Lane Hicksville NY
 Crosby Div Avco Mfg Corp Evendale Cincinnati 15 Ohio
 Cross Co H 15 Beekman New York NY
 Crouse-Hinds Wolf & 7 North Sts Syracuse 1 NY
 Crowley Co Henry L 1 Central Ave W Orange NJ
 Crown Controls 40 S Washington St New Bremen Ohio
 Crown Eng'g Sta B Box 6127 Albuquerque NM
 Crown Industrial Prods Woodstock Ill
 Cryco Inc 1138 Mission St South Pasadena Calif

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

- C-Thru Ruler Co 827 Windsor St Hartford Conn
 Cubic Corp 2841 Canon St San Diego 6 Calif
 Culbertson Co G K Palos Verdes Estates Calif
 Cunningham Son & Co James Rochester 8 NY
 Curtis Assoc 24 Woodland Ave San Rafael Calif
 Curtis Devel & Mfg 3318 N 33 Milwaukee Wis
 Curtiss-Wright Corp Electronics Div Carlstadt NJ
 Custom Components PO Box 248 Caldwell NJ
 Cutler-Hammer 315 N 12 St Milwaukee 1 Wis
 C-W Mfg Co Box 2065 El Monte Calif
 Cycle Transformer 356 Glenwood Ave E Orange NJ
 Cyclohm Motor Corp 209 W Jackson Chicago III
 Dage Electric Co Beech Grove Ind
 Dage TV Div Thompson Products Michigan City Ind
 Dale Products Inc P O Box 136 Columbus Nebr
 PHONE 2139
 President—George Risk
 Sec'y Treas—Raymond Arndt
 Vice Pres—J Matejka
 Sls Mgr—R H Engstrom
 Branches—Albuquerque NM Burbank Calif
 Brand Names—Dale—Dalohm
 PRODUCTS
 Miniature Precision Power Resistors
 Deposited Carbon Resistors Encapsulated
 Resistors Multi-turn Sealed Potentiometers
 Pressurized Potentiometers Trimmer
 Potentiometers Knobs Dials Special Design
 Electronic Components
 Dalmotor Co 1375 Clay St Santa Clara Calif
 Dalmo Victor 1414 El Camino Real San Carlos Calif
 Damp-Chaser Inc 1440 Ridgewood Hendersonville NC
 Danbury-Knudsen Inc Box 170 Danbury Conn
 Daniels Inc C R 75 West St New York 6 NY
 Dano Electric Co Winsted Conn
 Dante Elec Mfg Bantam Conn
 Dataratic Corp Newton Highlands 61 Mass
 Datran Eng'g 3613 Aviation Manhattan Beach Calif
 Davelle Labs 145-68 228 St Springfield Gardens NY
 Daven Co Route 10 Livingston NJ
 Davenport Mfg 1713 N Ashland Ave Chicago 22 III
 Davies Labs 4705 Queensbury Rd Riverdale Md
 Davies Molding Harry 1428 N Wells St Chicago 10 III
 Davis Electric Co Cape Girardeau Mo
 Davis Electronics 4002 W Burbank Burbank Calif
 Daystrom Electric Corp 887 Main St Poughkeepsie NY
 Daystrom Instrument Archibald Pa
 Daystrom Pacific 3039 Nebraska Santa Monica Calif
 Daystrom Potentiometer Div W Los Angeles Calif
 Dayton Aviation & Radio Vandalia Ohio
 Deagan Inc J C 1770 W Berteau Ave Chicago 13 III
 Dearborn Electronics 231 S LaSalle St Chicago 4 III
 Decatur Electronics 203 Orinoco Dr Brightwaters NY
 Decca Records Inc 50 W 57 St New York NY
 Decimeter Products 730 Hooker St Denver 4 Colo
 DeCoursey Eng'g 11828 W Jefferson Culver City Calif
 Defender Instrument 815 Clark Ave St Louis 2 Mo
 Defiance Eng'n & Microwave Wakefield Mass
 Deitz Co S J 9 E Wesley St S Hackensack NJ
 DeJur-Amsco 45-01 Northern Blvd L I City NY
 Delco Radio Div General Motors Kokomo Ind
 Delmhorst Instrument 607 Cedar St Boonton NJ
 Delta Radio Co 115 Worth St New York 13 NY
 Deltron Inc 2905 N Leithgow St Philadelphia 33 Pa
 DeLuxe Coils Inc Wabash Ind
 Demco Products PO Box 5042 Philadelphia 11 Pa
 Deming Indicator 1916 Acorn Dr Dayton 9 Ohio
 DeMornay-Bonardi 780 S Arroyo Pasadena 1 Calif
 Denson Electronics Box 122 Rockville Conn
 Detectolab Inc 6544 N Sheridan Rd Chicago III
 Detection Corp 5578 Vineland N Hollywood Calif
 Detroit Controls 1650 Broadway Redwood City Calif
 Detroit Controls Norwood Unit Norwood Mass
 Deutsch Co 7000 Avalon Blvd Los Angeles 3 Calif
 Deutschmann Corp Topeka Providence Hwy Norwood Mass
 Develop Electronics 4213 S Broadway Los Angeles Calif
 Devenco Inc 117 Liberty St New York 38 NY
 Devol Research Co Brookside Dr Greenwich Conn
 Devtronics Inc 221 N Hermitage Ave Trenton 8 NJ
 DeWald Radio 35-15 37 Ave Long Island City 1 NY
 DeWitt Oevel Co 3008 W 127 St Blue Island III
 Dialight Corp 60 Stewart Ave Brooklyn 37 NY
 Diamond Drill Carbon 244 Madison Ave NY 16 NY
 Diamond Microwave Corp 7 North Ave Wakefield Mass
 Diamond Wire & Cable Sycamore III
 Diamonite Prods 217 4 St Ne Canton Ohio
 Diatron Co 3327 Dixie Dr Houston 21 Texas
 Dice Co J W 1 Enale St Englewood NJ
 Diehl Mfg 1186 Finnerde Ave Somerville NJ
 Dielectric Materials 5315 N Ravenswood Chicago III
 Dielectric Products Eng'g Raymond Me
 Dietz & Co Henry G 12-16 Astoria Blvd L I City 2 NY
 Dietz Design & Mfg Co Grandview 13 Mo
 Dilectron Div 2669 S Myrtle Ave Monrovia Calif
 Dilks Co PO Box 139 Seymour Conn
 Dimco-Gray Co 207 E 6 St Dayton 2 Ohio
 Dimond-Union Stamp 81 Washington Boston Mass
 Diragor Compass & Instr Boeing Field Box 37 Seattle Wash
 Dit-Mco Inc 911 Broadway Kansas City 5 Mo
 Dittmore-Freimuth 2517 E Norwich St Milwaukee Wis
 Doall Co 254 N Laurel Ave Des Plaines III
 Doelcan Corp 1400 Soldiers Field Rd Boston 35 Mass
 Dolinko & Wilkens 1907 Summit Ave Union City NJ
 Dollin Corp 630 S 21 St Irvington 11 NJ
 Dongan Electric 2987 Franklin St Detroit Mich
 Donner Scientific 2829 7 St Berkeley 10 Calif
 Dormeyer Indus 3418 N Milwaukee Ave Chicago 41 III
 Dorne & Margolin 30 Sylvester St Westbury NY
 Douglas Aircraft 3000 Ocean Park Santa Monica Calif
 Douglas Microwave 11 Beechwood Ave New Rochelle NY
 Douglas Radio Labs 176 Norfolk Ave Boston 19 Mass
 Dow-Key Co PO Box 57 Warren Minn
 Downing Crystal Co 191 Shaffer Ave Westminster Md
 D & R Ltd 402 E Gutierrez St Santa Barbara Calif
 Drake Mfg Co 1713 W Hubbard St Chicago 22 III
 Dresen-Barnes 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 Hwy Newark 4 NJ
 Driver-Harris Co 201 Middlesex St Harrison NJ
 Dubrow Development 235 Penn St Burlington NJ
 Du-Co Ceramics Co Box 586 Butler Pa
 Dudek & Bock 4014 W Grand Ave Chicago 51 III
 DuKane Corp St Charles III
 DuMont Airplane & Marine 15 William St NY 5 NY
 DuMont Labs A B CRT Div 750 Bloomfield Clifton NJ
 DuMont Labs A B Inst Div 760 Bloomfield Ave Clifton NJ
 Dunlee Corp 4560 W Congress Chicago 24 III
 Dunn Eng'g Assoc 186 Mass Ave Cambridge 39, Mass
 DuPont Co Lucust St Keyport NJ
 DuPont de Nemours & Co E I Wilmington 98 Del
 Durakool Inc 1010 N Main St Elkhart Ind
 Duralith Corp 1025 Race St Philadelphia 7 Pa
 Duramark Inc 2 Secatoga Ave Port Washington NY
 Durant Mfg Co 1925 N Buffam St Milwaukee 1 Wis
 Durez Plastics Div Electrochemical N Tonawanda NY
 Dwyer Eng'g Co PO Box 452 Nashua NH
 DX Radio Products 2300 W Armitage Chicago 47 III
 Dyna-Empire Inc 1075 Stewart Ave Garden City NY
 Dynamic Electronics 73-39 Woodhaven Blvd Forest Hills NY
 Dynamag Magnetics 21 N 3 St Minneapolis 1 Minn
 Dynavox Corp 40-05 21 St Long Island City 1 NY
 Dymotron Corp 13111 Shaker Sq Cleveland 20 Ohio
 Eagle Electronics 177 Hart St New Britain Conn
 Eagle Picher Co 900 American Bldg Cincinnati 1 O
 Eagle Signal Corp 202 20 St Moline III
 Eastern Air Devices 385 Central Ave Dover NH
 Eastern Industries Inc 100 Skiff St Hamden Conn
 Eastern Mike-Stand 55 Christopher Brooklyn 12 NY
 Eastern Prec Resistor 675 Barby St Brooklyn 7 NY
 Eastern Smeltinn 109 W Brookline Roston Mass
 Eastern Specialty 3617 N 8 St Philadelphia 40 Pa
 Easy-Up Inc 908 State St Racine Wis
 Eaton Associates Moodus Conn
 Eborc Products 87 Merrick Rd Baldwin NY
 Eberline Instrument P O Box 1539 Santa Fe N Mex
 Ebert Electronics Queen Village NY
 Eby Co Hugh H 4701 Germantown Philadelphia Pa
 Eckstein Radio 2601 E Franklin Minneapolis Minn
 Edcliff Instruments 383 N Foothill Pasadena Calif
 Edin Co 207 Main St Worcester 8 Mass
 Edison Inc Thomas A Instr Div 93 Lakeside Ave W Orange NJ
 Edko Electronics Eng'g 202 Grand St Brooklyn NY
 Edmund Scientific Corp Barrington 3 NJ
 Edo Corp College Point 56 NY
 Edu-Craft Sales 150-45 12 Ave Whitestone NY
 Ecco Products 506 E 1 St Santa Ana Calif
 Egan Lab 107-56 113 St Richmond Hill 19 NY
 Ecor Inc 1501 W Congress St Chicago 7 III
 Eidson Electronic Co P O Box 31 Temple Texas
 Eisler Eng'g 750 S 13 St Newark 3 NJ
 Eitel-McCullough Inc 798 San Mateo San Bruno Calif
 Vice Pres—Manufacturing—G F Wunderlich
 Vice Pres—Finance—E E McClaran
 Mgr of Marketing—Frank Mansur
 Dir of Research—John S McCullough
 Personnel Mgr—Roberta McMahon
 Purch Agt—Donald Rogers
 Adv Mgr—Berkley J Baker
 ATLANTA-R—J E Joyner Jr 2524 Jenny Wren Lane SW PO Box 341 Station A Plaza B-4910
 BOSTON-R—Tim Cookley Sales Office 148 Needham St Newton Highlands DEcatur 2-4800
 CHICAGO-R—Royal J Higgins Co 10105 S Western Ave Cedarcrest 3-7388
 DALLAS-R—Jack Yount 1431 Pleasant Drive Express D988
 DENVER-R—McLoud & Raymond Co 5528 E Calfax Ave Florida 5-3525
 JERSEY CITY-R—Adolph Schwartz 15 Exchange Place Room 919 Delaware 3-2424
 KANSAS CITY-R—Clyde H Schryver Sales Co 4550 Main St Room 224 LOqan 4826
 LOS ANGELES-R—Herb Becker 1140 Crenshaw Blvd Webster 1-1257
 SEATTLE-R—Rush Drake 1806 Bush Place East 1737
 CANADA-R—Ahearn & Soper Ltd PO Box 715 Ottawa Ontario Phone 3-4068
 Elco Corp "M" St below Erie Philadelphia 24 Pa
 Elcraft Electronics 32-28 49 St Long Island City NY
 Eldema Corp 9844 Remer St El Monte Calif
 Eldico of NY Inc 72 E 2 St Mineola LI NY
 Electralab Div Farrington Needham Heights Mass
 Electra Mfg Co 4051 Broadway Kansas City 11 Mo
 Electron Mfg Co 1901 Claybourn Ave Chicago 14 III
 Electrend Products St Joseph Mich
 Electric Auto-Lite Wire & Cable Port Huron Mich
 Electric Coil 4911 S Marshfield Ave Chicago 9 III
 Electric Design & Mfg Burlington Iowa
 Electric Eye Equip 1938 E Fairchild Danville III
 Electric Furnace Co Salem Ohio
 Electric Regulator Corp Pearl St Norwalk Conn
 Electric Soldering Iron Co Deep River Conn
 Electric Specialty Co 211 South St Stamford Conn
 Electric Storage Battery 42 S 15 Philadelphia Pa
 Electrical Communica 765 Clementina San Fran Calif
 Electrical Industries 44 Summer Ave Newark 4 NJ
 Electrical & Physical Instr 47-19 27 LI City NY
 Electrical Service 1271 Mission St San Francisco 3
 Electrical Tower Swc 325 S Washington Peoria III
 Electrical Utilities 2425 St Vincent's LaSalle III
 Electri-Wire Assemblies 700 W Va St Milwaukee Wis
 Electro-Ceramics 120 State St New Haven 9 Conn
 Electrochemical Industries Worcester 3 Mass
 Electro Circuits Inc 401 E Green St Pasadena Calif
 Electrocraft Div Hamilton-Pax 3739 N Kedzie Chicago
 Electro-Craft Co 5 Milton Ave Dorchester Mass
 ElectroData 460 Sierra Madre Villa Pasadena Calif
 Electro Develop 14701 Keswick St Van Nuys Calif
 Electro-Devices Inc 4 Godwin Ave Paterson 1 NJ
 Electro Eng'g 401 Preda St San Leandro Calif
 Electrofilm Inc 7116 Laurel Canyon N Hollywood Calif
 Electro-Flex Heat Inc 516 Asylum Hartford 5 Conn
 Electro-Impulse Labs 62 White St Red Bank NJ
 Electro Instruments 3794 Rosecrans San Diego Calif
 Electromath Corp 190 Henry St Stamford Conn
 Electro-Measurements 4312 S E Stark Portland Ore
 Electromec Co 5121 San Fernando Los Angeles 39
 Electro-Mechanical Research Ridgefield Conn
 Electro-Mechanical Spec 6819 Melrose Los Angeles
 Electro Medical Lab S Woodstock 7 Vt
 Electrometric Inc Woodstock III
 Electro Miniatures 1060 Elm Ave Ridgefield NJ
 Electromode Div Comm'l Contr 45 Crouch Rochester NY
 Electr Motive Mfg Co Willimantic Conn
 Electron Enterprises 6917 W Stanley Ave Berwyn III
 Electronic Associates Long Branch NJ
 Electronic Brazing 140 Glenridge Ave Montclair NJ
 Electronic Chemical 813 Communipaw Jersey City NJ
 Electronic Coil Co 2506 N Ontario St Burbank Calif
 Electronic Coils P O Box 1665 Springfield 1 Mass
 Electronic Comm Equip Co 1249 Loyola Ave Chicago
 Electronic Components 2655 W 19 St Chicago 8 III
 Electronic Control 1573 E Forest Ave Detroit 7 Mich
 Electronic Control Sys 2136 Westwood Los Angeles
 Electronic Crafts 74 Cortland St New York 17 NY
 Electronic Creations 1701 Boone Ave New York 60 NY
 Electronic Devel Labs 4468 N Harlem Chicago 31 III
 Electronic Devices Inc 429 12 St Brooklyn 15 NY
 Electronic Eng'g Co 362 W Bowery St Akron 7 Ohio
 Electronic Eng'g 180 S Alvarado St Los Angeles 57
 Electronic Enterprises 65 7 Ave Newark 4 NJ
 Electronic Fabricators 682 Bdwy New York 12 NY
 ARLINGTON Mass-R—John E Boeing Co PO Box 186 Mission 8-2900 Covers New England
 BINGHAMTON-R—James F Newlon 94 Henry St Bl 3-5177 Covers Binghamton NY area
 BUFFALO-R—Richard E Moran PO Box 75 SPring 6828 Covers Buffalo NY area
 CHICAGO-R—R Edward Stemm 5681 W Lake St Estebrook 9-2700 Covers III-Ind-Wis-Iowa-Minn
 CINCINNATI-R—Sheridon Associates Roselawn Center Bldg Melrose 2460 Covers Ohio-Kv Pa-W of Harrisburg
 CORAL GABLES-R—Kimball Electronics, Ltd 209 Alhambra Circle 4-9028 Covers Ala-Fla-Ga
 DALLAS-R—George Weinreich & Associates 1210 Old Gate Lane Fairdale 2800 Covers Tex-La-Ark
 FERNDALE Mich-R—Electro Mec Associates 109 E Nine Mile Rd Lincoln 7-1422 Covers Mich
 GREENVALE LI NY-R—H W Brede Co 75 Glen Cove Rd Roslyn 3-4700 Covers Metrop NY-No NJ-Westchester
 KANSAS CITY Mo-R—Maury E Bettis Co 406 W 34 St Logan 1-0772 Covers Iowa-Nebra-Mo-Kans-Okla
 PASADENA-R—Arvin Bell Co 385 E Green St Ryan 1-5492 Covers So Calif-Nev-New Mex-Ariz
 ROCHESTER-R—Richard E Moran PO Box 75 SPring 6828 Covers Rochester NY area
 SAN FRANCISCO-R—E L Berman Co 780 Natoma St Underhill 3-0317 Covers No Calif-Hawaii
 SCHENECTADY-R—Robert L Gagnon 94 Henry St Bl 3-5177 Covers Schenectady NY area
 SEATTLE-R—Ray Johnston Co 11099 Evanson Ave Emerson 0956 Covers Wash-Ore-W Idaho-W Mont-Alaska
 SYRACUSE-R—David S Launt PO Box 156 Eastwood Sta 74-3802 Covers Syracuse NY area
 TOWSON Md-R—Habco Electronic Sales Co 603 Allegheny Ave Valley 5-9637 Covers Pa-Del-Md-Va-No Car-DC-So NJ
 UTICA-R—Daniel Workman PO Box 296 New Hartford NY Utica 2-1602 Covers Utica NY area
 EASTERN CANADA-R—J B Smyth 380 Craig St W Montreal Que Harbour 0729 Covers East Canada
 Electronic Industries 7649 San Fernando Burbank Cal

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

- Electronic Instrument 84 Withers Brooklyn 11 NY
 Electronic Machine Parts 204 Lafayette St New York
 Electronic Measurements Eatontown NJ
 Electronic Mechanics 101 Clifton Blvd Clifton NJ
 Electronic Mfg 227 W Chestnut Ave Monrovia Calif
 Electronic Parts Mfg 508 25 St Union City NJ
 Electronic Plastic 130 St & 90 Ave Queens 18 NY
 Electronic Processes 2190 Folsom St San Francisco
 Electronic Production 138 Nevada St El Segundo Calif
 Electronic Products 111 E 3 St Mt Vernon NY
 Electronic Protection 452 W Chicago Ave Chicago III
 Electronic Rectifiers 2102 Spann Ave Indianapolis 3 Ind
 Electronic Research Assoc 67 E Centre St Nutley 10 NJ
 Electronic Specialty 5121 San Fernando Los Angeles
 Electronic Test Instr 13224 Livernois Detroit Mich
 Electronic Transformer 70 Washington St B'klyn NY
 Electronic Tube 1200 E Mermaid Lane Philadelphia Pa
 Electronic Utilities 153 W Huron Chicago 10 III
 Electronics Coro of Amer 77 Bdw Cambridge 42 Mass
 Electronics Devel 3743 Cahuena N Hollywood Calif
 Electronics Research P O Box 327 Evansville 4 Ind
 Electron Products 430 N Halstead Pasadena Calif
 Electron-Radar Prods 4806 W Chicago Chicago 51 III
 Electrons Inc 127 Sussex Ave Newark 3 NJ
 Electro-Physics Co 287-P Broadway New York 7 NY
 Electro Products 4501 N Ravenswood Ave Chicago III
 Electro-Pulse Inc 11861 Teale St Culver City Calif
 Electro-Seal Corp 946 North Ave Desplaines III
 Electro-Snap Switch 4218 W Lake St Chicago 24 III
 Electrosonic Specialties Upper Darby 14 Pa
 Electro-Sound Corp 115 Halleck St Boston 20 Mass
 Electro-Switch Controls 5755 Camilla Culver City Cal
 Electro Switch Corp Weymouth 88 Mass
 Electro Tec Corp 4 Romanelli Ave S Hackensack NJ
 Electro-Voice Inc Buchanan Mich
 Electrovox Co 60 Franklin St East Orange NJ
 Elctyme Motor Products Genoa III
 Elgin Electronic Corp Box 13 Bluffton Ind
 Elgin Metalformers Corp 901 N Liberty St Elgin III
 Ellanar Chemical Co 2308 Oakton St Evanston III
 Ellis & Sons G D 4028 N American St Philadelphia Pa
 Ellison Draft Gage 548 W Monroe St Chicago 6 III
 El Mec Labs 730 Boulevard Kenilworth NJ
 El Products Corp Box 41 Kingsbridge New York 63 NY
 El-Rad Mfg 2800 W Cullom Chicago 18 III
 Phone: Irving 8-7300
 Sls Mgr—Part—J A Snow
 Prod Mgr—Part—E Plank
 Chief Eng—John T Clark
 Purch—W Plank
 FORT WAYNE 4 INDIANA-R—Wm Meily 4017
 So Harrison Phone: Ken 2461
 Eltran Corp 109 W Station St St Anne III
 El-Tronics Inc Penn Ave Mavfield 1 Pa
 Elzee Metal Products 775 39 St Brooklyn 32 NY
 Embassy Eng'g 673 Elton Ave New York 51 NY
 EMC Recording Corp 806 E 7 St St Paul Minn
 Emerson & Cuming 869 Washington St Canton Mass
 Emerson Plastics 564 3 Ave New York 16 NY
 Emerson Radio & Phono 14 & Coles Sts Jersey City NJ
 Emmett Mach 445 E Turkeyfoot Lake Rd Akron O
 Emoire Devices 38-15 Bell Blvd Bayside 61 NY
 Emoire Electronics Co 166 River St Paterson 1 NJ
 Emso Corp Box 2098 Term Annex Los Angeles 54
 Endevo Coro 161 E California St Pasadena Calif
 Engelhard Inc Chas 850 Passaic Ave E Newark NJ
 Engineered Magnetics 11818 Teale St Culver City Calif
 Eng'g Associates 434 Patterson Rd Dayton 9 Ohio
 Eng'g Co 27 Wright St Newark 5 NJ
 Eng'g Developments P O Box 149 Newport RI
 Eng'g Research & Devel Addison III
 Enthoven Solders 113 N Water St Rochester 4 NY
 Entron Inc Bladensburg Md
 Environmental Equip 369 Linden St Brooklyn 27 NY
 Epco Electronics Inc 140 Liberty St New York 6 NY
 Epco Products 2500 Atlantic Ave Brooklyn 7 NY
 Epso Inc 588 Commonwealth Ave Boston 15 Mass
 Epsilon Sound Accessories The Barons St Margarets
 Twickenham Middlesex England
 Equipment Crafters Inc River Edge NJ
 Equioto Aurora III
 Eraser Co 1068 S Clinton St Syracuse 4 NY
 Erca Tool Die 19 Ash St Brooklyn 22 NY
 Erco Radio Labs 637 Stewart Ave Garden City NY
 Erdeo Eng'g Corp Addison III
 Erie Resistor Corp 644 W 12 Erie Pa
 President—G R Fryling
 First VP—W H Fryling
 VP-Gen Mgr—B B Minium
 VP & Treas—J E Dieteman
 VP Sales—Allen K Shenk
 VP Res & Eng—J D Heibel
 Sls Mgr Plastics Div—W C Conroy
 Mgr Distributor Sales—R A Elliot
 Mgr Industrial Sales—E S Willis
 Mgr Radio & TV Sales—W R Crotty
 Gov't Sales & Spec—J C Van Arsdell
 Credit Mgr—J Farkas
 BOSTON-IDS—L. Hague—142 Main St. Concord
 Mass (covers some terr.)
 Me-NH-Vt-Conn-Mass-RI
 CAMDEN-BOISGV—M Hollingsworth Broadway-
 Stevens Bldg 300 Broadway Rm 701 Covers
 Phil-S NJ-Md
 CHICAGO-DS—W J Doyle 7002 N Western Ave
 Covers III & Eastern Wis Phone Rogers
 Park 1-3130
 CHICAGO-BOISGV—J T Zuravleff 5809 W
 Diversey Ave National 26080-1-2 Covers III-
 Mich-Wis
 CHICAGO-BOISGV—G K Egelston 5809 W
 Diversey Ave National 26080-1-2 Covers III-
 Mich-Wis
 COLUMBUS-DS—J W Lehner 367 Brynhild Rd
 Ludlow 5260 Covers Ohio-W Pa-W Va
 DALLAS-IDS—J Y Schoonmaker 2011 Cedar
 Springs JJustin 3335 Covers Ark-La-Okla &
 Texas (Less El Paso)
 DENVER-IDS—Allen I Williams & Co 124 W 12
 St Main 3-0343 Covers Colo-N M-Utah &
 Wyo-Western Neb-El Paso County-Texas-
 Arizona
 ERIE-BOISGV—R N Sisson 644 W 12th St Phone
 2-1481 Covers N Ohio-Upper N Y-N W Pa
 FT WAYNE-BOISGV—W J Weryve 4617 Euclid
 Ave HARRISON 9669 Covers Ind-S Ohio
 GREENSBORO-IDS—Atcheson & Adams Inc 601
 N Elm St 2-6838 Covers Ala-Fla-Ga-Miss-
 N C-S C-Tenn-Va
 INDIANAPOLIS-DS—E A Schulz 721 Sherwood
 Dr Broadway 1993 Covers Ind-Ky
 LOS ANGELES-BOISGV—George H Osborn Rm
 208 4433 S Crenshaw Blvd AXminster 5258
 Covers Ariz-S Calif-Nev
 LOS ANGELES-DS—R E Osborne 1044 S Park-
 view DUnkirk 81039 Covers S Calif
 MEXICO-IDS—Kenneth H Jones Apartado 2250
 Rio Elba 32-104 Covers Mexico
 NEWARK-DS—Art Cerf & Co 744 Broad St
 Mitchell 2-6734 Covers N N J-N Y City &
 State
 PALISADES PARK N J-BOISGV—D N Sawtelle
 #6 State Highway #5 MORsemere 65100
 Covers Metropolitan New York
 PALISADES PARK N J-BOISGV—M E Darrin #6
 State Highway #5 MORsemere 65100 Covers
 Metropolitan New York
 PALISADES PARK N J-BOISGV—F J Rich #6
 State Highway #5 MORsemere 65100 Covers
 Met N Y
 ST PAUL-IDS—Edward Hoffman 1641 Scheffer
 Ave Covers Minn-N Dak-S Dak-Western Wis-
 consin EMerson 1979
 SAN CARLOS-IDS—David H Ross Co 534 El
 Camino Real LYtell 3-8224 Covers N Calif-
 Nev
 SEATTLE-IDS—Verner O Jensen 2616 2 Ave
 Mutual 2929 Covers Idaho-Mont-Ore-Wash
 TORONTO-IDS—Fred Eaton 4972 Dundas St West
 Belmont 1-1712 Covers Canada
 WYNNWOOD PA-DS—L D Lowery Inc 50 E
 Wynnwood Rd PO Box 255 Midway 2-9100
 Covers DC-Del-E Pa-Va-S N J-Md
 Ernst & Affiliates W A 825 Hayes Ave Racine Wis
 Erwood Inc 1770 W Berteau Ave Chicago 13 III
 Esc Corp 534 Bergen Blvd Palisades Park NJ
 Esco Mfg Co 6961 Vine St La Grange III
 Esoey Mfg 200 W 57 St New York 19 NY
 Ess Instrum Co 96 S Washington Ave Bergenfield NJ
 Esser Maurice H 113 N Water St Rochester NY
 Essex Electronics 550 Springfield Berkeley Heights NJ
 Essex Wire Corp 1601 Wall St Ft Wayne 6 Ind
 Esterline-Angus Co P O Box 596 Indianapolis 6 Ind
 Etched Products 39-01 Queens Blvd L I City NY
 Eutene Eng'g Co Hyde Park 36 Mass
 Eureka X-Ray Tube 3250 N Kilpatrick Ave Chicago
 Eutectic Welding Alloys 40-40 172 St Flushing 58 NY
 Exact Weight Scale Co 944 W 5 Ave Columbus Ohio
 Executone Inc 415 Lexington Ave New York 17 NY
 E-Z Wav Towers 5901 E Rrnadway Tampa Fla
 Faber Mfg Co Merle 35 Stillman San Francisco Calif
 Factory Enterprises 3431 Butler St Pittsburgh 1 Pa
 Fada Radio & Electric 525 Main St Belleville 9 NJ
 Fafnir Bearing 37 Booth St New Britain Conn
 Fairbanks Wire Co 2287 Hollers Ave New York 69 NY
 Fairchild Camera & Instrument Corp Industrial
 Camera Div 88-06 Van Wyck Blvd Jamaica 1 NY
 Fairchild Controls Corp Components Div 225 Park Ave
 Hicksville L I New York
 Phone Hicksville WE 8-5600
 H E Hale—Vice President & General Mgr
 C J O'Donnell—East Coast Mgr
 A A Budde—Sales Manager
 Los Angeles Plant Fairchild Controls Corp 611
 E Washington Blvd Los Angeles California
 L M Griswold—West Coast Manager
 Fairchild Controls 200 Hudson St New York NY
 Fairchild Guided Electronics 118 E 16 Costa Mesa Calif
 Fairchild Guided Missiles Wyandanch NY
 Fairchild Record'g Equip Whitestone NY
 Falcon Electronics 308 William St Harrison NJ
 Fanon Electric 1550-09 South Rd Jamaica 33 NY
 Fansteel Metallurgical 2200 Sheridan Rd N Chicago III
 Farmer Electric Prods Newton Lower Fall 62 Mass
 Farnsworth Electronic 3702 E Pontiac Ft Wayne Ind
 Farrand Optical 4401 Bronx Blvd New York 70 NY
 Feay Co Neal 427 Olive St Santa Barbara Calif
 Federal Mfg & Eng'g 1055 Stewart Garden City NY
 Federal Sapphire Prods 292 Belmont Paterson 2 NJ
 Federal Screw Prods 3917 N Kedzie Ave Chicago 18
 Federal Shock Mount 1060 Washington New York 56
 Federal Telecommun Labs Nutley NJ
 Federal Telephone & Radio Div IT&T Clifton NJ
 Federal Tool Eng'g Cedar Grove NJ
 Feedback Controls Inc 1332 N Henry St Alexandria Va
 Feller Eng'g 8026 N Monticello Ave Skokie III
 Femco Inc Irwin Pa
 Fenton Co 15 Moore St New York 4 NY
 Fenwal Inc Pleasant St Ashland Mass
 Ferranti Electronic 30 Rockefeller Plaza New York 20
 Ferrara Inc 8106 W 9 Mile Rd Oak Park 37 Mich
 Ferroxcube Corp of America Saugerties NY
 Fidelitone Inc 6415 Ravenswood Ave Chicago 26 III
 Fidelity Amplifier Co 703 W Willow St Chicago 14 III
 Field Electrical Instr 8 N Manheim New Paltz NY
 Fielden Instrument 2920 N 4 St Philadelphia 33 Pa
 Film Capacitors Inc 3400 Park Ave New York 56 NY
 Filters Inc 30 Sagamore Hill Port Washington NY
 Filtron Co 131-05 Fowler Ave Flushing NY
 Finn & Co T R 200 Central Ave Hawthorne NJ
 Finney Co 4612 St Clair Ave Cleveland 3 Ohio
 Fischer & Porter 19 Warminster Rd Hatboro Pa
 Fischer-Smith Inc 164 State St W Englewood NJ
 Fisher Oscar Co 1000 N Division St Peekskill NY
 Fisher-Pierce Co 170 Pearl St S Braintree 85 Mass
 Fisher Radio Corp 21-21 44 Dr Long Island City NY
 Fish-Schurman Corp 70 Portman Rd New Rochelle NY
 Five Star Co 10 W Main St Plantsville Conn
 FKB Opticon Co 202 E Fairview South Bend 14 Ind
 Flahan Co 7517 Pelham Dr Cleveland 29 Ohio
 Fleetwood Corp 1037 Custer Dr Toledo 12 Ohio
 Flett Lab 3711 Marshall Rd Drexel Hill Pa
 Flexo Int'l Corp 3245 W Lake St Chicago 24 III
 Flexo Wire Div Copperweld Steel Oswego NY
 Flight Research Box 1-F Byrd Airport Richmond Va
 Florman & Babb 68 W 45 St New York 36 NY
 Fluke Mfg J 1111 W Nickerson St Seattle Wash
 Flush Wall Radio 1012 Cleveland Clearwater Fla
 Forbes & Wagner 345 Central Ave Silver Creek NY
 Ford Eng'g Co 129 East "A" St Upland Calif
 Fordham Mfg Co 2220 Pearsall Ave New York 69 NY
 Ford Instrument 31-10 Thomson Ave L I City 1 NY
 Forest Electric Co 7216 Circle Ave Forest Park III
 Formica Co 4614 Spring Grove Ave Cincinnati Ohio
 Forter-Teichmann 1210 Clark Bldg Pittsburgh 22 Pa
 Fort Wayne Metals 3211 MacArthur Dr Ft Wayne 6
 Ind
 Foster Transformer 3820 Colerain Ave Cincinnati 23 O
 Foto-Video Labs 25 Amity St Little Falls NJ
 Fox Products 4720 N 18 St Philadelphia 41 Pa
 Franklin Electronics E 4 St Bridgeport Pa
 Franklin Fibre-Lamitex Wilmington 99 Del
 Frederick Tool & Eng'g Frederick Md
 Freed Transformer 1718 Weirfield St Brooklyn 27 NY
 Frenchtown Porcelain Muirhead Ave Trenton NJ
 Frequency Standards P O Box 66 Eatontown NJ
 Fretco Incorporated 406 North Craig St Pittsburgh 13 Pa
 President—Joseph V Fisher
 Vice President—Frank H Robinson
 Sales Manager—C D Hall
 Products: TV antennas & accessories—Open wire
 lead-in—Semi-conductor products
 Brand Names: Super Spectrum — Victoria —
 Fretaray — Spectrum — Customliner — 3-D
 Dimension — Mi-tee-Ray — Silver Arrow —
 Fretline — Sauerline — Bo-Ti — Strato-Ray
 Representatives
 CALIF—David Ellis David Ellis Co 919-D East
 California St Pasadena Ryan 19108 Territory:
 Southern Calif-Ariz-Las Vegas Nevada
 CALIF—F J Marchuk F J Marchuk Co 261 E
 Colorado St Pasadena Sycamore 30240 Territory:
 Northern California
 DC—L H Leiber International Buyer Service 217
 Bond Bldg Washington DC Sterling 30623
 Territory: Cuba
 IND—Paul B Fishman 4440 N Campbell Ave
 Indianapolis Liberty 65477 Territory: Indiana
 & Kentucky
 KAN—C L Omer Inland Associates 6047 Howe
 Dr Mission Territory: Iowa-Neb-Missouri-
 Kansas
 MASS—Ray Bridge The Ray Bridge Co 100
 Memorial Dr Cambridge University 43696
 Territory: Maine-Vt-Mass-Rhode Island-New
 Hampshire-Conn (Represents for Transistors
 only)
 NY—Henry Vitarelli H V Associates 1047 Mc-
 Donald Ave Wantagh LI Territory: New
 York-N Jersey down to Trenton
 NC—Paul E Moore Paul Moore Co PO Box 6003
 Five Points Station Raleigh 37533 Territory:
 North Carolina & South Carolina
 TEXAS—Hal F Carry Hal F Carry Co 6313 Hill-
 crest Ave Dallas Territory: Ark-La-Texas-
 Okla-Miss
 CANADA—Mike Rosen Active Radio & TV Distrs
 58 Spadina Ave Toronto Empire 42755 Terri-
 tory: Canada
 F-R Mch Works 26-12 Borough Pl Woodside NY
 Fugle-Miller Labs Central Ave Clark NJ

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

Furnas Electric Co 1000 McKee St Batavia Ill
 Furst Electronics Inc 3322 W Lawrence Ave Chicago 25 Ill
 Fusite Corp 6000 Fernview Ave Cincinnati 13 Ohio
 Fuzee-On Prods 101 N Hickory St Arlington Hgts Ill
 Gabriel Electronics Needham Hgts Mass
 Gaertner Scientific 1250 Wrightwood Chicago 14 Ill
 Gahagan Inc 11 W 4 St Bethlehem Pa
 Galbraith & Son 450 6 Ave New York 11 NY
 Gamewell Co Newton Upper Falls 64 Mass
 Garde Mfg Co 588 Eddy Providence 3 RI
 ATLANTA GA—D B Buchanan 5130 Powers Ferry Road N W
 CLEVELAND O—George L Herrick Co 15326 Lorain Avenue
 LOS ANGELES 7 CALIF—Perlmuth Electronic Associates 2419 South Grand Avenue
 PHILADELPHIA PA—D G Quinlan Company 4700 Frankford Avenue
 PHOENIX ARIZONA—H Geo Sheffer Company PO Box 1587
 CHICAGO 26 ILL—Arthur J Ellis Company 1607 Howard Street
 ST LOUIS MO—William F Dudzik 110 S Brentwood Blvd St Louis 17 Mo
 BROOKLYN NY—Anthony P Mauceli 81 Irving Avenue
 NEW HARTFORD NY—Arthur F Schultz 96 Oxford Road
 BOSTON 16 MASS—Henry P Segel Company Inc 131 Newbury Street
 TORONTO CANADA—Consolidated Electronic & Equipment Company 1156 Yonge Street
 SAN FRANCISCO 3 CALIF—Wm Belfer 926 Howard Street
 HOUSTON 2 TEXAS—Jim and Dave Packard PO Box 15234
 *DALLAS TEXAS—Jim and Dave Packard 5526 Dyer Street Dallas 6 Texas
 Gar Electrical Instr 92-15 172 St Jamaica 33 NY
 Garfield Wire Div Overlakes Corp Garfield NJ
 Garrard Sales 80 Shore Rd Port Washington NY
 Gates & Co Geo W Franklin Square LI NY
 Gates Radio Co 123 Hampshire St Quincy Ill
 Gavitt Wire & Cable Co Brookfield Mass
 Gee-Lar Mfg 418 S Wyman St Rockford Ill
 Gem Electric Mfg 233 37 St Brooklyn 32 NY
 General Cable Corp 420 Lexington Ave New York 17
 General Cement Mfg 919 Taylor Ave Rockford Ill
 General Ceramics Corp Keasbey NJ
 General Chem Div Allied 40 Rector St New York
 General Communication Co 681 Beacon Boston Mass
 General Communications Ft Atkinson Wis
 General Control 1224 Soldiers Field Rd Boston 34
 General Controls 801 Allen Ave Glendale 1 Calif
 General Crystal Co Burlington Wis
 General Devices Inc Princeton NJ
 General Dry Batteries 13000 Athens Ave Cleveland O
 General Elec Co Electronics Park Syracuse NY
 General Electric Company—Electronics Park—Syracuse New York Broadcast Equipment Division
 1. Complete Monochrome and Color Equipment for UHF and VHF Television
 Manager-Marketing—Frank P Barnes
 Manager-Sales Broadcast Equipment—C J Simon
 Manager-Sales Special Products—A F Wild
 Regional Managers—John Wall C T Haist Jr J H Douglas
 District Managers:
 ATLANTA—T F Bost Jr J M Comer Jr 300 Red Rock Building Cypress 2581
 BOSTON—W G Broughton 701 Washington Street Newtonville 60 Mass DEcator 2-7120
 CHICAGO—G E Webster 1122 Merchandise Mart Whitehall 4-3915
 CINCINNATI—John Wall 215 West Third Street MAin 1-5022
 CLEVELAND—E H Platt 710 Williamson Building Superior 1-6822
 DALLAS—J H Douglas 3200 Maple Avenue PProspect 4296
 HOUSTON—H W Granberry 1100 E Holcombe Boulevard Jackson 8-0657
 LOS ANGELES—F R Walker 3460 Wilshire Blvd Rm 618 Dunkirk 5-2391
 NEW YORK—L F Page 420 Lexington Avenue Plaza 1-1311
 SAN FRANCISCO—C T Haist Jr 235 Montgomery Street Douglas 2-3740
 SEATTLE—V H Russell 705 Second Avenue Rm 1615 Hodge Bldg Seneca 8-300
 ST LOUIS—R E Lauterbach 4227 Lindell Blvd Jefferson 5-8873
 SYRACUSE—W G Broughton 3532 James Street Rm 203 PO Box 1021 Syracuse 73-8511 Broadcast Field Service
 2. TELEVISION RECEIVER TEST EQUIPMENT—Oscilloscope, sweep, marker and color alignment generators—for color and monochrome TV receiver testing by laboratories and service dealers
 3. INDUSTRIAL TELEVISION—Complete line of color and monochrome cameras, large color projectors, and associated closed-cir-

cuit television equipment for all industrial, hospital and related applications
 General Electric Semiconductor Products
 Complete line of Germanium Diodes-Rectifiers-Transistors
 Manager-Marketing—J H Sweeney
 Manager-Sales—W D Hoverman
 District Sales Managers
 CLIFTON NEW JERSEY—200 Main Avenue F J Vanpoppelen Jr New England States C J Goodman Metropolitan New York Area H S Berck Atlantic Coast States
 CHICAGO ILLINOIS—3800 North Milwaukee Avenue A C Oeinck-East Central District H F Hadsdon Central District V J Huntoon-West Central District
 LOS ANGELES—11840 West Olympic Boulevard H W Gebhardt Western District
 General Electric Constr Materials Bridgeport 2 Conn
 General Electric Carboloy Div Detroit 32 Mich
 General Electric Co Components Dept Auburn NY
 General Electric Capacitor Dept Hudson Falls NY
 General Electric Apparatus Div Schenectady NY
 General Electric Comm Equip Syracuse NY
 General Electric Semiconductor Prods Syracuse 1 NY
 General Hermetic Sealing Valley Stream NY
 General Industries Co Olive & Taylor Sts Eyrta Ohio
 General Instrument 65 Gouverneur St Newark 4 NJ
 General Insulated Wire 69 Gordon Providence 5 RI
 General Kinetics 555 23 St S Arlington 2 Va
 General Magnetics 135 Bloomfield Ave Bloomfield NJ
 General Mills 2600 Far Hills Bldg Dayton Ohio
 General Precision Equip 82 Gold St New York 38 NY
 General Precision Lab 63 Bedford Pleasantville NY
 President—H G Place
 Vice Pres & Managing Director—R L Garman
 Vice Pres & General Manager—J W Murray
 Vice Pres & Industrial Products Manager—Blair Foulds
 Manager TV Sales—N M Marshall
 Manager Government Contracts—W C Cooper
 CHICAGO Ill—188 W Randolph St—R H Johnson
 PASADENA Calif—21 N Santa Anita Ave—R K Hunsicker
 JENKINTOWN Pa—The Benson—J W Mullen
 PLEASANTVILLE NY—63 Bedford Road—S L Thomas
 General Products Corp Union Springs NY
 General Radio Co 275 Mass Ave Cambridge 39 Mass
 Chairman of Board—H B Richmond
 President—C C Carey
 V P Engr—D 8 Sinclair
 Treas—F L Tucker
 V P Sits—A E Thiessen
 Sales Mgr—M T Smith
 Publicity Dir—C E Worthen
 Advs Mgr—J M Clayton
 Service Mgr—H H Dawes
 Dir of Purchases—C E Kelly
 CHICAGO-BO—W M Ihde & R E Bard 920 S Michigan Ave Wabash 2-3820 Covers Ohio-Ind-Mich-Ill-Wisc-Iowa-Minn-Mo-Ky
 LOS ANGELES-BO—F Ireland & J G Hussey 1000 N Seward St HOLLYWOOD 9-6201 Covers Cal-Ore-Wash-Ariz-Nev-N Mex-Utah
 NEW ENGLAND-BO—R B Richmond 275 Massachusetts Ave Cambridge Mass TROBRIDGE 6-4400 Covers New England except Conn & NY
 NEW YORK-BO—G G Ross & C W Harrison 90 West St WOrth 4-2722 Covers Greater NY (Incl Westchester County & LI) Southwest Connecticut and Northern New Jersey
 WASHINGTON DC-BO—W R Saylor 8055 13th St Silver Spring Md JUNiper 5-1088 Covers DC-Md-Va-W Va-Tenn-N Carolina-S Carolina-Georgia-Ala-Florida
 PHILADELPHIA-BO—K A Adams 1150 York Road Abington Penn HANcock 4-7419 Covers Penn-Del-So New Jersey
 General Research Grand Rapids 3 Mich
 General RF Fittings 702 Beacon St Boston 15 Mass
 General Riveters 785 Hertel Ave Buffalo 7 NY
 General Time Corp 111 N Canal St Chicago 6 Ill
 General Transformer Homewood Ill
 General Transistor Corp 130-11 90 Ave Richmond Hill 18 NY
 General Ultrasonics 1240 Main Hartford 3 Conn
 Genisco Inc 2233 Federal Ave Los Angeles 64 Calif Georator Corp Manassas Va
 Geotechnical Corp 3712 Haggard Dr Dallas 9 Texas
 Geotronic Labs 1314 Cedar Hill Ave Dallas 8 Texas
 Germanium Products 26 Cornelison Jersey City 4 NJ
 Gertsch Products 11846 Miss Ave Los Angeles 25
 Giannini & Co G M 918 E Green St Pasadena Calif
 Gibbs Mfg & Research Janesville Wis
 Gilbert & Barker W Springfield Mass
 Gilmore Industries 5713 Euclid Ave Cleveland 3 Ohio
 Girard-Hopkins 1000 40 Ave Oakland 1 Calif
 Girdler Co 224 E Broadway Louisville 1 Ky
 Glaser-Steers Corp 20 Main St Belleville 9 N J
 CHICAGO-R—Henry Sarkis 5608 N Western Ave Tel ARdmore 13774
 LOS ANGELES-R—Perlmuth-Electronic Associates 2419 S Grand Ave Tel RI 7-4321

N SYRACUSE-R—Wm A Franklin 3 Holly Rd Tel 54-3383
 TRENTON ONT CANADA—Glaser-Steers of Canada Ltd 99 Wragg St
 Glass Products 6911 S Chicago Ave Chicago 37 Ill
 Glenco Corp 212 Durham Ave Metuchen NJ
 Glens Falls Lab Glens Falls NY
 Globe Industries 1784 Stanley Ave Dayton 4 Ohio
 G & M Equip 7315 Varna Ave N Hollywood Calif
 G-M Labs Inc 4300 N Knox Ave Chicago 41 Ill
 Goat Co Fred 308 Dean St Brooklyn 17 NY
 Godfrey Mfg 2642 S Michigan Ave Chicago 16 Ill
 Goldak Co 1544 W Glenoaks Blvd Glendale 1 Calif
 Golden Co 1054 38 St Brooklyn 19 NY
 Goldsmith Bros 1300 W 59 St Chicago 36 Ill
 Gosnet Co 801 S Main St Burbank Calif
 Good-All Electric Mfg Ogallala Nebr
 Goodrich Co B F Sponge Prods Div Shelton Conn
 Goodyear Aircraft 1210 Massillon Rd Akron 15 Ohio
 Gordon Enterprises 5362 N Cahuenga N Hollywood
 Gorn Electric Co Stamford Conn
 Gorrell & Gorrell 336 Old Hook Rd Westwood NJ
 Goslin Electric & Mfg 2921 W Olive Burbank Calif
 Gotham Audio Devel 2 W 46 St New York 36 NY
 Gotham TV Corp 123 W 64 St New York NY
 Gow-Mac Instrument Co 100 Kings Rd Madison NJ
 Graef Eng'g Co P O Box 416 Paramount Calif
 Gramer-Halldorson 2734 N Pulaski Chicago Ill
 Granco Products 36-07 20 Ave Long Island City NY
 Grand Ra-Tronics 17360 Hayes Grand Haven Mich
 Grand Transformers Grand Haven Mich
 Grant Pulley 31-85 Whitestone Pkwy Flushing NY
 Graphic Recorders Inc 62 Walter St Bridgeport 5 Conn
 Graphik Circuits 221 S Arroyo Pkwy Pasadena 1 Calif
 Graphite Metallizing 1002 Nepperhan Ave Yonkers NY
 Grason Stadler Electronics Park W Concord Mass
 Graybar Electric Co 420 Lexington Ave New York 17
 Grayhill 561 Hillgrove Ave La Grange Ill
 Gray Instrument 200 E Church Lane Philadelphia Pa
 Grayline Eng'g 12243 Ave O Chicago 33 Ill
 Gray Mfg Co 16 Arbor St Hartford 1 Conn
 Gray Pantograph 200 Washington Hoboken NJ
 Gray Radio 501 Forest Hill W Palm Beach Fla
 Gray Research & Devel Manchester Conn
 Great Eastern Mfg 165 Remsen Ave Brooklyn 12 NY
 Great Lakes Electric 17 S Desplaines St Chicago 6 Ill
 Green Henry J 1191 Bedford Ave Brooklyn 16 NY
 Green Instrument 385 Putnam Ave Cambridge Mass
 Greene Co L Charlton Newton 58 Mass
 Greenleaf Mfg 7814 Maplewood Ct St Louis 17 Mo
 Gregg Electric Co 2 S Broadway Lawrence Mass
 Greibach Instruments 212 Durham Ave Metuchen NJ
 Gremar Mfg Co Wright St Lynn Mass
 Gries Reproducer 125 Beechwood New Rochelle NY
 Griev-Hendry 1401 W Carroll Ave Chicago 7 Ill
 Grigsby-Allison 407 N Salem Arlington Heights Ill
 Guardian Electric Mfg 1621 W Walnut Chicago 12 Ill
 Guastavino Co 660 Main St Woburn Mass
 Gudebrod Bros 12 S 12 St Philadelphia 7 Pa
 Gudeman Co 340 W Huron St Chicago 10 Ill
 Phone: DElaware 7-7400

PRODUCTS

Main Plant—Chicago 10—340 W Huron St—Capacitors—fixed-paper dielectric-plastic film dielectric-metalized paper-Filters-Low pass-high pass band pass-noise suppression
 CHELSEA MICH—20401 US 12 W-Capacitors-Dry electrolytic
 TERRYVILLE CONN—Capacitors-Dry-electrolytic
 SUNNYVALE CALIF—190 Commercial St—Capacitors-paper-metalized paper and plastic dielectric
 MONROVIA CALIF—2669 S Myrtle St—Ceramic capacitors-Pulse transformer-delay lines
 REPRESENTATIVES
 Main Office—Chicago 10—340 W Huron St—D A Fillmore Vice President & Sales Manager—Robert G Frederick Assistant Sales Manager Phone DElaware 7-7400
 Upper New England States—Cambridge Mass—Phone University 4-3696 Roy Bridge Apt 825C 100 Memorial Drive
 Lower New England States—Norwalk Connecticut—Phone Temple B-3111 Ray Bridge (Branch Office) Nelson Wells 15 Chatham Drive
 North & South Carolina & Bristol Tenn—Charlotte NC Phone 4-3994 Glenn & Lorson 123 Brevard Court
 Chicago Area & Illinois—340 W Huron St—Philip LaVecchio and Robert Sone—Phone DElaware 7-7400
 Los Angeles Calif Area & Arizona—El Monte Calif Ash M Wood Co Box 150 Phone CUMberland 3-1201
 Indiana & Southern Ohio Area—Indianapolis Ind—Joe Murphy 202 Pam Road Meridian Meadows Phone R-47202
 Mo-Iowa-Kansas Area—Kansas City Mo—W E Fry & Co Porter Bldg Suite 510 406 W 34th St Phone Jefferson 5-236
 Eastern Pennsylvania & Lower N Jersey—W Henry Cordray Co 18 W Chelton Ave Philadelphia Pa Phone Geneva 2111
 (Listings continued on next page)

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

Wash Area—Washington 5 DC Massey Associates #1 Thomas Circle Phone National B-1957

Metropolitan NY & Upper N Jersey—New York City Ed Glass Associates 250 West 57th St Phone Judson 6-8440

New York State—Rochester NY James L Semple 21 Edgewater Lane Phone Charlotte 4555

Northern Ohio Area—Cleveland Ohio—Everett Jones Co 4040 Mayfield Road Phone Evergreen 2-2221

Texas Area—Dallas Texas Tate & Scanlon 3911 Oak Lawn Ave LOgan 8681

Wash & Oregon Area—Seattle Wash—Harry Levinson Co 1117 Second Ave Phone Main 5317

Michigan Area—Chicago 10—340 W Huron St Robert G Frederick Phone DElaware 7-7400

Minnesota Area—Minneapolis Minn—Wood Clemons Co 1645 Hennepin Ave Phone Geneva 2111

Canadian Area—Toronto Ontario—Samuel C Hooker (Canada) Ltd 21 King St East Phone Empire 4-2578

Canadian Area—Montreal PQ—Samuel C Hooker (Canada) Ltd 8025 Decarie Blvd Phone Regent 1-2157

Gull Electronics 388 Broadway New York 13 NY

Gull Radio & TV 460 N Eucalyptus Inglewood Calif

Gulton Mfg Corp 212 Durham Ave Metuchen NJ

Gerry W & L E 514 Fulton St Troy NY

Gustin-Bacon Mfg 210 W 10 St Kansas City 5 Mo

G-V Controls Inc 45 Hollywood Plaza East Orange NJ
Pres & Treas—C D Geer
Sales Mgr—R F Stockton
Chf Engr—W C Broekhuysen
Mgr Appl Eng—J D Marks
Fact Mgr—H L Weinberg

ATLANTA—B S Woodman Inc 1570 Northside Dr Tel: Vernon 5-395

BIRMINGHAM—B S Woodman Inc 1727 Sixth Ave North Birmingham Tel: Birmingham

BOSTON—Arthur T Hutton & Company 246 Walnut St Newtonville Mass Tel: Decatur 2-2021

CHICAGO—Kelburn Engineering Co 3136 Clarence Ave Berwyn Ill Tel: Stanley 8-6485 Bishop 2-1672

CLEVELAND—Thomas Engineering Co Ellendale Rd Chagrin Falls Ohio Tel: Chestnut 7-7786

DALLAS—Wright Industrial Products 5738 N Central Expressway Tel: Taylor 1983

DETROIT—Tant Enterprises 16254 Myers Rd Tel: University 3-2665

GREAT NECK LI—John W. Richardt Co 5 Client Rd Tel: Hunter 2-5212

HARTFORD—Arthur T Hutton & Company 1000 Farmington Ave West Hartford Conn Tel: Adams 3-3613

KANSAS CITY MO—Engineering Services Co 4550 Main St Tel: Jefferson 1-7765

LOS ANGELES—M A Staloroff Co 4622 W Slauson Ave Tel: Axminster 3-6219

MINNEAPOLIS—H M Richardson & Co 9 East 22nd St Tel: Federal 6-4078

NASHVILLE—B S Woodman Inc Parlor D Maxwell House Tel: Nashville 42-5252

NEW YORK CITY—John W Richardt Co Whippany NJ Tel: Orange 6-7719

NEW YORK STATE—Alan E DeCew Agency Sodus NY Tel: Sodus 3261

PHILADELPHIA—L G White & Co 1418 Walnut St Tel: Kingsley 6-4915

ST LOUIS MO—Engineering Services Co 6635 Delmar Blvd Tel: Volunteer 3-3661

SAN FRANCISCO—Win W Tompkins Co 941 Newell Rd Palo Alto Calif Tel: Davenport 3-3270

SEATTLE—Burt C Porter Co 4310 Roosevelt Way Tel: Melrose 6828

TAMPA—B S Woodman Inc PO Box 10096 Tel: Tampa 62-1152

WASHINGTON DC—L G White & Co 8416 Georgia Ave Silver Spring Md Tel: Juniper 5-3141

WINSTON-SALEM—L G White & Co Box 2356 Tel: Winston-Salem 5-3612

Gyre Electronics Co 325 Canal St New York 13 NY

Gyromechanisms Inc Halesite LI NY

Hackensack Cable Corp Hackensack NJ

Hadley Co R M 5112 S Hoover St Los Angeles 37

Haley Electronics 57 William St New York 5 NY

Hal-Hen Co 36-14 11 St Long Island City NY

Manufacturers of Miniature Earphones—connecting earphone cables—flexible wire ear loops and ear inserts to hold earphones—noise suppressor ear inserts—Do-It Yourself Kits for remote Earphone Hook-up of TV or Radio Sets

Hallmore Electronics Anaheim Calif

Haller Raymond and Braun State College Pa

Hallett Mfg 1601 W Florence Ave Inglewood Calif

Hallcrafters Co 4401 S Ave Chicago 24 Ill

Hall Mfg Co 3901 Wesley Terr Schiller Park Ill

Hall-Scott Electronics 2950 N Ontario Burbank Calif

Hall Sonic Eng'g 2402 2 St Peru Ill

Halogen Insulator & Seal Franklin Park Ill

Hamilton Electronics 2726 Pratt Ave Chicago 45 Ill

Hamilton-Hall Mfg 227 N Water St Milwaukee 2 Wis

Hamilton Kent Mfg Co Kent Ohio

Hamilton Watch Co Columbia Ave Lancaster Pa

Hamlin Inc 1316 Sherman Ave Evanston Ill

Hammarlund Mfg 460 W 34 St New York 1 NY

Hammer Electronics Box 531 Princeton NJ

Hanover Devel 401 E 74 St New York 21 NY

Hanovia Chemical 100 Chestnut St Newark 5 NJ

Hansen Co Wm 165 Silverbrook Ave Niles Mich

Hansen Electronics 7117 Santa Monica Los Angeles

Hansen Mfg 1101 S Hart St Princeton Ind

Hanson-Gorrill-Brian 85 Hazel St Glen Cove NY

Harder Co D C 3710 Midway Dr San Diego Calif

Hardwick Hindle Inc 40 Hermon St Newark NJ

Harman-Kardon 520 Main St Westbury NY

Harmon Electronics Co Independence Mo

Harnett Electric Lincoln & Hallett Riverhead NY

Harnischfeger Corp 4400 W National Milwaukee Wis

Harper Electric Furnace 47 River St Buffalo 2 NY

Harrison Labs 45 Industrial Rd Berkeley Heights NJ

Harristahl Labs 474 E 2 St Brooklyn 18 NY

Hart Mfg Co 128 Bartholomew Ave Hartford 1 Conn

Hartford Steel Ball Co W Hartford 6 Conn

Hartley Products 521 E 162 St New York 51 NY

Harvey-Wells Electronics Southbridge Mass

Harwald Co 1216 Chicago Ave Evanston Ill

Harwood Electronics 466 W Superior St Chicago Ill

Harworth Mfg 409 El Camino Real Menlo Park Calif

Hastings Instrument Co Hampton Va

Hathaway Instrument 1315 S Clarkson Denver 10 Colo

Hawley Products 333 N 6 St St Charles Ill

Haydon Co A W 232 N Elm St Waterbury Conn

Haydon Mfg Co 245 E Elm St Torrington Conn

Haydon Switch Inc 536 S Leonard Waterbury Conn

Haydu Bros P O Box 1226 Plainfield NJ

Hays Corp 742 E 8 St Michigan City Ind

Hays Mfg Co 801 W 12 St Erie Pa

H-B Instrument American & Bristol Sts Phila 40 Pa

Healy-Ruff Co 2255 University Ave St Paul 14 Minn

Heath Co Benton Harbor Mich

Hedco Mfg 161 W Huron St Chicago 10 Ill

Hedin Tele Technical 87 Dorsa Ave Livingston NJ

Heiland Div Minn-Honeywell 5200 E Evans Denver

Heinemann Electric Penn & Plum St Trenton 2 NJ

Heinz Mueller Eng'g 1906 N Cicero Ave Chicago 39 Ill

Helco Products 2041 Colorado Santa Monica Calif

Heldor Mfg 238 Lewis St Paterson NJ

Helipot Corp 916 Meridian Ave S Pasadena Calif

Helwig Co 2544 N 30 St Milwaukee 10 Wis

Heppner Mfg Co Box 1207 Round Lake Ill

Herlec Corp Grafton Wis

Hermaseal Co 1101 Lafayette St Elkhart Ind

Hermes Engravers 13 University Pl New York 3 NY

Hermetic Seal Products 29 S 6 St Newark NJ

Hermetic Seal Transformer Garland Texas

Hermetite Corp 702 Beacon St Boston 15 Mass

Hertner Electric 12690 Elmwood Cleveland O

Hetherington Inc Sharon HIII Pa

Hevi-Duty Elec 4212 W Highland Milwaukee Wis

Hewlett-Packard Co 275 Page Mill Rd Palo Alto Calif
Telephone Davenport 5-4451
Sales Manager—W Noel Eldred

PRODUCTS

Electronic test instruments, including:

Amplifiers Attenuators Bolometer Mounts
Carrier Oscillators Coaxial Instruments Detectors
Directional Couplers Distortion Analyzers
Electronic Counters Frequency Counters
Frequency Converters Frequency Meters
Frequency Standards Function Generators
Interpolation Oscillators Low Pass Filters
Microwave Test Equipment Nuclear Scales
Oscillators Oscilloscopes Power Meters
Power Supplies Pulse Generators Signal Generators
Slotted Sections Square Wave Generators
Standing Wave Indicators Time Interval
Meters TV Monitors Vacuum Tube Voltmeters
VHF Bridge Video Test Oscillators
Waveform Analyzers Waveguide Equipment

REPRESENTED BY

ALBUQUERQUE NEW MEXICO—Neely Enterprises 107 Washington St SE Albuquerque 5-5586

ASBURY PARK NEW JERSEY—I E Robinson Co 702 Mattison Ave DUunkirk 9-2404

ATLANTA 5 GA—Bivins & Caldwell 3133 Maple Dr NE Cherokee 7522

BOGOTA NJ—RMC Associates 114 East Main St Diamond 2-5343

BRIDGEPORT 8 CONN—Yewell Associates Inc 1101 East Main St Forest 6-3456

CAMP HILL PENNSYLVANIA—I E Robinson Co 2120 Market St Regent 7-5541

CHICAGO 40 ILL—Alfred Crossley Associates Inc 4501 North Ravenswood Ave Uptown 8-1141

CLEVELAND 21 OHIO—S Sterling Co 4311 Mayfield Rd Evergreen 2-4114

DALLAS 9 TEXAS—Earl Lipscomb Associates PO Box 7084 Elmhurst 5345

DAYTON 9 OHIO—Alfred Crossley Associates Inc 53 Park Ave OXmaor 3594

DENVER 3 Colo—Hytronic Measurements As-

sociates 446 Broadway Sherman 4-2241

DETROIT 35 MICH—S Sterling Co 15310 W McNichols Rd 8 Roadway 3-2900

FORT MYERS FLORIDA—Arthur Lynch & Associates PO Box 466 Edison 4-4431

HIGH POINT NC—Bivins & Caldwell Security Bank Bldg High Point 3672

HOUSTON 5 TEXAS—Earl Lipscomb Associates PO Box 6573 JACKson 4-9303

KANSAS CITY 30 Mo—Harris-Hanson Co 7916 Pasea Blvd Hiland 6744

LAS CRUCES New Mexico—Neely Enterprises 126 S Water St Jackson 6-2486

LOS ANGELES Calif—Neely Enterprises 3939 Lankershim Blvd No Hollywood Calif Stanley 7-0721

NEW YORK 21 N Y—R M C Associates 170 E 80th St Trafalgar 9-2023

PHOENIX Arizona—Neely Enterprises 641 E Missouri Crestwood 4-5431

SACRAMENTO 14 Calif—Neely Enterprises 1317 15th St Gilbert 2-8901

SAN DIEGO 6 Calif—Neely Enterprises 1029 Rosecrans St Academy 3-8106

SAN FRANCISCO 18 Calif—Neely Enterprises 2830 Geary Blvd Walnut 1-2361

SEATTLE 99 Wash—Ron Merritt Co 120 W Thomas St GARfield 6644

ST LOUIS 17 Missouri—Harris-Hanson Co 2814 South Brentwood Blvd Mission 7-4350

ST PAUL 14 Minn—Alfred Crossley Associates Inc 2388 University Ave Midway 5-4955

SYRACUSE 2 N Y—J D Ryerson Associates Inc 412 E Genesee St SYracuse 76-8344

TORONTO 10 Ontario Canada—Atlas Radio Corporation Ltd 50 Wingold Ave RUSsell 1-6174

UPPER DARBY Pa 1 E Robinson Co 7404 W Chester Pike SHERwood 8-1294

WALTHAM 54 Mass—Yewell Associates Inc 751 Main St TWINbrook 3-7420

WASHINGTON 9 D C—Horman Associates Inc 2017 S St NW Decatur 2-5705

Hewson Co 443 Broad St Newark 2 NJ

Hick Electrical Instr 10514 Dunott Cleveland O

Hi-Gain TV Products 249 N 48 St Lincoln Nebr

Hi-Grade Alloy 1236 S Talman Chicago 8 Ill

Highland Eng'g 90 Magnolia St Westbury LI NY

Hillburn Electronic Prods 55 Nassau Brooklyn NY

Hill Electronic Eng'g & Mfg New Kingstown Pa

Hillyer Instrument Co 54 Lafayette St New York 13

Hindle Transformer Co Flemington NJ

Hinners-Galanek 25-14 Bdy Long Island City 6 NY

Hitemp Wires Inc 26 Windsor Ave Mineola NY

Hobart Bros Hobart Square Troy 1 Ohio

Hobson Bros 4940 W Lawrence Ave Chicago 30 Ill

Hoffman Co P R 321 Cherry St Carlisle Pa

Hoffman Electronics 3761 S Hill St Los Angeles 7

Hoffman Labs Inc 3761 S Hill St Los Angeles 7 Calif

Hogan Labs 155 Perry St New York 14 NY

Holland Electronics East Meadow L I NY

Hollingsworth Co P O Box 430 Phenixville Pa

Holmes Projector 1815 Orchard Chicago 14 Ill

Holub Industries 413 De Kalb Sycamore Ill

Holyote Wire & Cable Holyoke Mass

Hoover Electronics 3640 Woodland Baltimore 15 Md

Hopkins Eng'g 2082 Lincoln Ave Altadena Calif

Hoskins Mfg 4445 Lawton Ave Detroit 8 Mich

Houlihan Co T J 2508 W Lawrence Chicago 25 Ill

Houston Fearless 11801 W Olympic Los Angeles 64

Houston Tech Labs 2424 Branard Houston 6 Texas

Howard Crystal Holders 2600 Grand Kansas City Mo

Howard Industries 1760 State St Racine Wis

Hubbell Harvey Bostwick & State Bridgeport Conn

Hudson American Corp 25 W 43 St New York 36 NY

Hudson Assoc 50 Drumm St San Francisco 11 Calif

Hudson Bav Co 3070 W Grand Ave Chicano 22 Ill

Hudson Tool & Die 118 S 14 St Newark NJ

Hudson Wire Co 981 Main St Winsted Conn

Hufco Industries 2815 W Olive Ave Burbank Calif

Huggins Labs 711 Hamilton Ave Menlo Park Calif

Hughes Aircraft Florence & Teale Culver City Calif

Hunhey & Phillips 3300 N San Fernando Blvd Burbank Calif

Telephone Victoria 9-1104

VP & Gen Mgr—John H Ganzenhuber

CHICAGO ILL—R L Lang 6677 Northwest Highway

CHICAGO ILL—M J Cudahy 845 Chicago Ave Evanston Ill

DALLAS TEX—L R Ward Co 3009 Canton Street

DAYTON OHIO—Epps & Fedatin 1434 Vancover Drive

HOUSTON TEX—L R Ward Co 1814 Texas Avenue

LOS ANGELES CALIF—Maydwell & Hartzell Inc 427 W 5th St

PHOENIX ARIZ—Maydwell & Hartzell Inc 324 S 2nd Ave

PORTLAND ORE—Maydwell & Hartzell Inc 2318 Northwest Vaughn St Portland Ore

SAN FRANCISCO CALIF—Maydwell & Hartzell Inc 870 Tennessee St

SEATTLE WASH—Maydwell & Hartzell Inc 306 Dexter Avenue

STAMFORD CONN—Electronics Associates Inc 200 Fifth St

Hunt Corp 453 Lincoln St Carlisle Pa

(Listings continued on next page)

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

- Hupp Electronics Div Hupp Forest Pk III
Hupp Electronics Div Hupp Corp Carlisle Pa
Hupp Instrumentation 2119 Sepulveda Los Angeles
Huse Liberty Mica 171 Camden St Boston 18 Mass
Hycon-Eastern 75 Cambridge Pkwy Cambridge Mass
Hycon Electronics 321 S Arroyo Pkwy Pasadena Calif
HYCOR Division of International Resistance Company
12970 Bradley Ave Sylmar California
Phone: Empire 5-3125
President—William I Elliott
Vice-President—Kenneth T Eckardt
Treasurer—Clarence G Harding Jr
Director of Enorg—Philip R Geffe
Hydraulic Press Mfg Mt Gilead Ohio
Hydro Moldina Co 100 Sharron Ave Plattsburb NY
Ideal Electric & Mfg Mansfield Ohio
Ideal Industries 5127 Park Ave Sycamore III
iE Mfg 325 N Wayne Ave Chicago 12 III
Ilg Electric Ventilating 2880 W Crawford Chicago 41
Illinois Condenser 1616 N Throop St Chicago 22 III
Illinois Testing Labs 420 N La Salle Chicago 10 III
Illinois Transformer 412 S Green St Chicago 7 III
Illumitronic Eng'g Sunnyvale Calif
Ilisco Corp 5742 Mariemont Ave Cincinnati Ohio
Impact-D-G... 1930 Euclid Ave Cleveland O
Impact Register Co P O Box 445 Champaign III
Imperial Radar & Wire 1661 Boone Ave New York
Indiana Steel Products Valparaiso Ind
Indiana Steel & Wire Co Muncie Ind
Induction Motors Corp 570 Main St Westbury LI NY
BROOKLINE—Gerber Sales Co 48 Pearl St
Beacon 2-2425. Covers Mass and New England States
CHICAGO—Memco Sales Co 9 S Clinton St
Andover 3-5728 Covers III-Ind
DALLAS—Southwest Electronic Industries 4515
Prentice St Forest 8-8306 Covers La-Okla-Texas
DAYTON—William Klein 1472 Earlham Dr
Randolph 0943. Covers Ohio
LONG ISLAND CITY—Harold Ellis 23-03 45
Road Exeter 2-6660 Covers Long Island
LOS ANGELES—Conrad R. Strassner Co 1865
N Western Ave Hollywood 7-7086 Covers
Calif-New Mexico-Ariz
NEW YORK CITY—Ben Miller-William Rutt 401
Broadway Walker 5-3964 Covers NY City-NJ
PHILADELPHIA—L D Lowery Inc 50 E Wynne-
wood Rd Wynnewood Pa Midway 2-9100
Covers Pa-Md-Washington D C
ST LOUIS—Wells-White Co 6625 Delmor Blvd
Parkview 7-7622 Covers Kon-Mo
SYRACUSE—Martin P Andrews Inc 10 Mott Rd
Fayetteville N Y Fayetteville 5-8405 Covers
Upper New York State
Industrial Acoustics 341 Jackson Ave New York 54
Industrial Condenser 3243 N Calif Ave Chicago 18 III
Industrial Control Co Wyandanch NY
Industrial Devel Labs 17 Pollock Ave Jersey City 5 NJ
Industrial Devices 982 River Rd Edgewater NJ
Industrial Electronic Controls 2271 E 14 Bklyn NY
Industrial Electronic Controls 11777 Parkership N Hollywood
Industrial Electronics Co Hanover Mass
Industrial Electronics Co 51 Wheeler Detroit Mich
Industrial Engravers 4103 10 Ave Brooklyn 19 NY
Industrial Hdwe Mfg 109 Prince St New York 12 NY
Industrial Instruments Cedar Grove NJ
Industrial Nuclenems 1225 Chesapeake Columbus O
Industrial Products Box 148 Danbury Conn
Industrial Radio Corp 428 N. Parkside Ave Chicago
Industrial Test Equip Co 55 E 11 St New York 3 NY
Industrial Timer 147 M-Carter Hwy Newark 4 NJ
Industrial Transformer Corp Gouldsboro Pa
Industrial Tubes Inc 321 Stevens St Geneva III
Industrial Wire Prod 1196 Carnegie Cleveland O
Industro Inc 649 Broadway New York 12 NY
Industronics P O Box 424 Arlington Hts III
Inst-l-x Sales Co Ardmore Pa
Instron Eng'g 440 Hancock St Quincy 71 Mass
Instrument Corp of America Blacksburg Va
Instrument Devel 163 Highland Needham Hgts 94 Mass
Instrument Labs 315 W Walton Pl Chicago 10 III
Instrument Resistance 106 Commerce Union NJ
Instrument Specialties Co Little Falls NJ
Instrument Wire Co 175 Eastern Pkwy Newark NJ
Instruments for Ind 150 Glen Cove Mineola NY
Insulated Circuits 620 Passaic Ave W Caldwell NJ
Insulation Mfrs 565 W Washington Blvd Chicago 6 III
Insulation & Wires 1534 Swinney Ave Ft Wayne Ind
Insuline Corp of Amer 185 Granite St Manchester NH
Integrated Mica Corp 202 Franklin Pl Woodmere NY
Interelectronics Corp 2432 G Concourse New York 58
Interferenc Measurements 97 E 51 St Bklyn NY
Interlectric Corp Box 239 Warren Pa
Int'l Business Machs 590 Madison Ave New York
Int'l Crystal Mfg 18 N Lee Oklahoma City Okla
Int'l Electronic Res 145 W Magnolia Burbank Calif
Int'l Instruments Co 2954 New Haven Conn
Int'l Projector Corp 55 La France Ave Bloomfield NJ
Int'l Radiant 4 Manhasset Ave Port Washington NY
Int'l Radio & Electronics Box 123 RT 4 Elkhart Ind
International Rectifier 1521 E Grand El Segundo Calif
Phone: ORegon 8-6281
Products: Selenium Rectifiers—Germanium Power
Rectifiers—Silicon Rectifiers—Electrical Current
Rectifiers—Battery Charging Rectifiers
—Selenium Diodes—Germanium Diodes—
Silicon Power Diodes—Photo Electric Cells—
- Selenium Sun Batteries—Selenium Voltage
Regulators etc
Pres—Eric Lidow
V P—Dr Hans A Rudolph
Sec Treas & Gen Mgr—Leon Lidow
Asst Gen Mgr—J T Cataldo
Pur Agt—Claire Behar
REPRESENTATIVES
ALBUQUERQUE N MEX—Allen I Williams (c/o
Hoyt Westcott) 210 Cagua Dr NE
CHICAGO ILL—L W Phinney 205 W Wacker Dr
Franklin 2-3889
CLEVELAND OHIO—Joy Engineering Co 5413
Pearl Rd Tuxedo 4-4080
DALLAS TEXAS—The Texport Co 726 Meadows
Bvld Forest 8-6114
DAYTON OHIO—Joy Engineering Co Station
A PO Box 175 Kenmore 2151
DENVER COLO—Allen I Williams i24 W 12th
Ave MAin 3-0343
FAIRVIEW VILLAGE PA—Danco Corp German-
town Pike & Quarry Hill Rd 8 Roadway 5-
2600
FERNDALE MICH—Haggerty-Ludwig Co 23525
Woodward Ave Lincoln 2-0811
HOUSTON TEX—Rectifier Sales Corp of Texas
6307 S Park Blvd Olive 4-6536
INDIANAPOLIS IND—R O Whitesell & Assoc
6620 Washington St Fleetwood 7-5374
KANSAS CITY MO—E W McGrade Co 4528
Main St Logan 3709
NEW YORK NY—(Branch Office)—Arno Nash
132 East 70th St Trafalger 9-3330
ORLANDO FLA—Dwight F Clexton 2812 N West-
moreland Dr 5-0748
PORTLAND ORE—Dale G Weber 234 Sherlock
Bldg ATwater 5403
SAN FRANCISCO CALIF—Eichorn & Melchior
749 Bryant St Douglas 2-1038
ST LOUIS MO—E W McGrade Co 1110 S Brent-
wood Parkview 5-6550
SOMERVILLE MASS—Jack Goss 99 Highland
Ave Prospect 6-2262
SYRACUSE NY—W H Zimmerman 112 Dewitt St
Phone 74-4880
WILMINGTON NC—Manufacturers Sales
Agency 4924 Oleander Dr Phone 5749
EXPORT REPRESENTATIVES
BOMBAY INDIA—Eastern Electric & Eng Co
129 Mahotma Gandhi Road
TEL-AVIV ISRAEL—Michael Ruzan 2 Prague St
TORONTO ONT—Atlas Radia Corp Ltd 50
Wingold Ave W RU 1-6174
Int'l Research Assoc 2221 Warwick Santa Monica Cal
Int'l Res & Devel 797 Thomas Lane Columbus Ohio
International Resistance 401 N Broad St Philadelphia
8 Pa
Phone Walnut 2-2166
Executive Vice Pres—Harry A Ehle
Vice Pres (Sls)—Charles H Griffith
Indl Sls Mgr—Harold G Beebe
Dist Sls Mgr—Robert D Ferree
Mgr Phila Sales Office—David R Bagenstose
Expt Sls Mgr—Hans Monnhems
ATLANTA-R—Hallingsworth & Still 508 White-
head Bldg Murray 8-5878 covers Ala-Fla-Ga-
N & S Car-E Tenn (incl Nashville & Chot-
anooga)
BOSTON-R—Ray Perron & Co 1870 Centre St
Fairview 3-1008 covers Me-NH-Vt-Mass-RI-
Conn
CHICAGO-BO—International Resistance Co
4300 N California Ave Juniper 8-7100 covers
N III South to & including Henry, Bureau,
La Salle, Grundy, & Kankakee (Excl. Rock
Island Co.) Wis-(incl the 7 Southern coun-
ties)
CLEVELAND-R—Baehr-Greenleaf & Assoc 14700
Detroit Ave Lakewood 1-8468
DALLAS-R—George Anderson 1903 Griffin St
Riverside 5931 covers Tex-Ark-Okla-Miss-
La-Tenn (west of & excl Nashville)
DENVER-R—Ronald G Bowen 446 Broadway
Sherman 4-2501 covers Colo-Id-(E of & excl
Boise) NM-Wyo-Utah-Mont (E of & excl
Judith Basin) & West Texas and West Ne-
braska
DETROIT-R—Koehler-Pasmore 11833 Hamilton
Ave Townsend 8-3322 covers Mich except
northern peninsula
INDIANAPOLIS-R—Vernon C Macnabb 820 E
64th St Broadway 6770 covers Ind-Ky
LOS ANGELES-R—David Marshank 7422 Melrose
Ave Webster 8-2591 covers Cal (S of & excl
Fresno) Ariz-Nev (S of & incl Esmeralda-
Nye & Lincoln cos)
MINNEAPOLIS-R—Jack Heimann 1711 Haw-
thorne Ave MAin 5457 covers E & W Wisc
(except the 7 Southern counties) Ia-III
(Moline-Sterling-Rock Island)-Minn-N & S
Dak-Neb (E of & incl Custer Co) Northern
Mich
NEW YORK-BO—International Resistance Co
165 Broadway Rm 2205 Courtland 7-5020
covers N NJ (excl Trenton)-NYC-NYS
(incl Rockland & Westchester cos)-Long
Island
PHILADELPHIA (Home Office) International
Resistance Co 401 N Broad St Walnut 2-2166
covers Pa (E of Harrisburg) SNJ (incl
Trenton) Md (excl Cumberland) Va-Del-
wash DC
PITTSBURGH-R—Tanner & Covert 300 Mt Leba-
non Blvd LOcust 1-5067 covers Pa (W of
Harrisburg)-W Va-Cumberland Md (only)
SAN FRANCISCO-R—George B Ellis Sales
Co 3351 El Camino Real Atherton Calif
Emerson 8-9100 covers N Cal from Fresna-
Ney (N of & excl Esmeralda-Nye & Lincoln
cos)
SEATTLE-R—David M Lee Co 2517 2nd Ave
MAin 5512 covers Ore-Wash-Mont (W of &
incl Judith Basin)-Id (W of & incl Boise)
ST LOUIS-R—Norman W Kathrinus 4356 Duncan
Ave OLive 7005 covers Mo-Kan-S III South
of counties listed under Chicago
SYRACUSE-BO—International Resistance Co 112
Montgomery St Syracuse 2-0274 covers N
NY (excl Rockland & Westchester cos)
Int'l Scientific Industries Colorado Springs Colo
Int'l Telemeter 2000 Stoner Ave Los Angeles 25 Calif
Interstate Photo Supply 17 W 17 St New York 11
Invar Instrument 1749 N Eastern Los Angeles 32 Calif
Ippolito & Co James 401 Concord Ave Bronx 54 NY
Ircal Industries 2242 S Sepulveda Los Angeles Calif
Iron Firearm 2838 S E 9 Ave Portland 2 Ore
Irvington Div Minn Mining & Mfg Irvington 11 NJ
Irwin Labs 1238 S Gerhart Los Angeles 22 Calif
Isi Corp 3101 E 42 St Minneapolis Minn
Islip Transformer & Metal Bech St Islip LI NY
Isolantite Mfg Corp Stirling NJ
ITE Circuit Breaker 1924 Hamilton Phila Pa
Jack & Heintz 17600 Broadway Cleveland 1 Ohio
Jackson Electrical Instr 18 S Patterson Dayton O
Jacobs Instrument Co Bethesda 14 Md
JaMac Products 8845 NE Sandy Blvd Portland Ore
James Instrument 9110 S 52 Court Oak Lawn III
Janus Vibrapow 4050 N Rockwell Ave Chicago 18 III
Jan Hdwe Mfg Co 75 N 11 St Brooklyn 11 NY
Janco Corp 3111 Winona Ave Burbank Calif
Janette Electrical Mfg Morton Grove III
Jarvis Electronics 6058 W Fullerton Chicago 39 III
Javex P O Box 646 Redlands Calif
JBT Instruments 441 Chapel St New Haven 12 Conn
Jeffers Electronics Div Speer Carbon Dubois Pa
Jefferson Inc Ray 40 E Merrick Rd Freeport NY
Jefferson Products Sutton Mass
Jeffrey Mfg N 4 St & 1 Ave Columbus 16 Ohio
Jennings Radio Mfg 970 McLaughlin San Jose Cal
Jensen Industries 7333 W Harrison St Forest Park III
Jensen Mfg Co 6601 S Laramie Ave Chicago 38 III
Jerrold Electronics 2222 Chestnut Philadelphia 3 Pa
Jet Propulsion Lab 4800 Oak Grove Pasadena Calif
JFD Mfg Co 6101 16 Ave Brooklyn 4 NY
Jobbins Electronic Enterprises Menlo Park Calif
Johns-Manville Dutch Brand Div 7800 Woodlawn
Ave Chicago III
Johnson Co E F Waseca Minn
Johnson Electronics 521 Elwell St Orlando Fla
Johnson & Hoffman Mfg 31 E 2 St Mineola NY
Johnsnn Mfg Co Mt. Vernon 3 Inwa
Johnson-Williams 2625 Park Blvd Palo Alto Calif
Jones Electronics M C 185 N Main St Bristol Conn
Jones & Laughlin 3 Gateway Center Pittsburgh 30 Pa
Jordan Electronic 3025 Mississin Rd Alhambra Calif
Joy Mfg Co 1201 Marlind Ave St Louis 10 Mo
Joyal Products 115 Edison Pl Newark 5 NJ
JVM Enn's 8845 W 47 St Brookfield III
Kaar Eng'g 2995 Middlefield Rd Palo Alto Calif
Kahle Eng'g 1307 7 St North Bergen NJ
Kahn & Co 541 Windsor St Hartford 1 Conn
Kahn Research Labs 27 Pine Freeport NY
Phone—Freeport 9-8800
Services—Research Staff for Communications
and Television
Products—Single-Sideband Transmitter Adapter
allows AM transmitter to operate two
channel single-sideband Phase locked tone
converter provides six channels two tone
keying with peak power savings Aeronauti-
cal single-sideband radio systems
Kaiser Aircraft Electronics Div Toledo Ohio
Kaiser Metal Products Bristol Pa
Kanthal Corp Amelia Pl Stamford Conn
Kartton Inc P O Box 472 Huntington Beach Calif
Kato Eng'g 1415 1 Ave N Mankato Minn
Kay Electric Co 14 Maple Ave Pinebrook NJ
Kay Labs 5725 Kearney Villa Rd San Diego 12 Calif
Kay-Townes Antenna P O Box 593 Rome Ga
Kearfott Co 1378 Main Ave Clinton NJ
Keithley Instruments 3858 Carnegie Ave Cleveland O
Keller Tool Div Gardner-Denver Co Grand Haven Mich
Kellogg Switchboard 79 W Monroe St Chicago III
Kemet Co P O Box 6087 Cleveland 1 Ohio
Kemlite Labs 1819 W Grand Ave Chicago 22 III
Kemtron Electron Products Newburyport Mass
Kendall Co 222 W Adams St Chicago 6 III
Kennedy & Co D S 155 King St Cohasset Mass
Kent Co F C 64 Howard St Irvington NJ
Kenwood Eng'g 265 Colfax Ave Kenilworth NJ
Kenyon Instrument Huntington Station NY
Kenyon Transformer 840 Barry St New York 59 NY
Keppo Labs 131-38 Sanford Ave Flushing 55 NY
Kester Solid Co 421 N Winthrop Ave Chicago III
Keystone Carbon Co 1935 State St St Marys Pa
Keystone Electronics Stamford Conn
Keystone Electronics 423 Broome St New York 13
Keystone Products Co 904 23 St Union City NJ
Keystone Watch Case Riverside NJ
K-F Development 2606 Spring St Redwood City Calif
K-G Electronics 2778 N Sheffield Ave Chicago 14 III
Kidde & Co Walter 1156 Main St Belleville 9 NJ
Kilgen Aircraft 4632 W Florissant St Louis Mo

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

Kimco Towers 11 W 42 St New York 36 NY
 Kine-Lab 325D Kenilworth Ave Berwyn III
 Kinevox Div Electromation Co Burbank Calif
 King Electric Equip 9123 Inman Cleveland O
 King Labs Inc 127 Solar St Syracuse 3 NY
 Kings Electronics Co Microwave Div Tuckahoe NY
 Kinney Co Joseph Locust St Carnegie Pa
 Kip Electronics Corp 29 Holly Pl Stamford Conn
 Kirkland Co H R 8 King St Morristown NJ
 Kleio Electronics 2404 S LaBrea Los Angeles Calif
 Klein & Sons 7200 McCormick Rd Chicago 45 III
 Kleigl Bros 321 W 50 St New York 19 NY
 Klipsch & Associates P O Box 64 Hope Ark
 Knights Co James Sandwich III
 Knopp Inc 4224 Holden St Oakland 8 Calif
 Knowles Electronics 9400 Belmont Franklin Park III
 Kobzy Tool 1539 Dayton St Chicago 22 III
 Koch & Sons H Carte Madera Calif
 Kocour Co 4800 S St Louis Ave Chicago 32 III
 Koiled Kords Inc Box K New Haven 14 Conn
 Kollmorgen Optical 30 Church St New York 7 NY
 Kollsman Instrument 80-08 45 Ave Elmhurst NY
 Kolton Electric 123 N J Railroad Ave Newark 5 NJ
 Korfund Co 48-15 32 Pl Long Island City 1 NY
 Kraft Bros 148-12 94 Ave Jamaica 52 NY
 Krengel Mfg Co 227 Fulton St New York NY
 Krohn-Hite Instr 580 Mass Ave Cambridge Mass
 Kroker Eng'g 3022 77 Ct Elmwood Park III
 Krueger & Hudepohl S E 3 St Cincinnati 2 Ohio
 Kruger Instruments San Gabriel Calif
 Kuehne Mfg Co Mattoon III
 Kulite Tungsten Co 723 Sip St Union City NJ
 Kuljian Corp 1200 N Broad St Philadelphia 21 Pa
 Kulka Electric Mfg 633 S Fulton Ave Mt Vernon NY
 Kupfrian Mfg Corp 395 State St Binghamton NY
 Kurman Electric 35-18 37 St Long Island City 1 NY
 Kurz-Kasch Inc 1421 S Broadway Dayton 1 Ohio
 Kuthe Labs 730 S 13 St Newark 3 NJ
 K-V Transformer Corp Danbury Conn
 K-W Eng'g 3145-A North 48 St Milwaukee 16 Wis
 L A B Corp Skaneateles NY
 Labelon Tape P O Box 1212 Rochester 3 NY
 Lab for Electronics 75 Pitts St Boston 14 Mass
 LaCesa Eng'g 5614 W Grand Ave Chicago 39 III
 Lamaco Inc 9230 W Grand Ave Franklin Park III
 La Magna Mfg 51 Clinton Pl E Rutherford NJ
 Lambda Electronics 11-11 131 St College Point NY
 Lambda-Pacific Eng'g P O Box 105 Van Nuys Calif
 Laminations Co 300 Main St Stamford Conn
 LaMotte Chemical Products Baltimore Md
 Lamokin Labs Inc Bradenton Fla
 Lancaster Lens Co 220 W Main St Lancaster Ohio
 Land-Air Instrument Oakland 14 Calif
 Landis & Gyr 45 W 45 St New York 11 NY
 Landsverk Electrometer 550 W Garfield Glendale Calif
 Lane Electronics Co 7254 Atoll N Hollywood Calif
 Langwin Mfg 47-37 Austell Pl Long Island City NY
 Lansdale Tube Company Division of Philco Corporation
 Church Road Lansdale Pa
 Telephone—Lansdale 5-4681
 Vice President & General Manager—William
 J Peltz
 Manager, Semi-Conductor Sales—C H Warshaw
 Manager Government Sales—W F Maher
 Manager Tube Sales—J J Grabiec
PRODUCTS
 Products—Surface Barrier Transistors Junction
 Transistors Crystal Diodes Receiving Type
 Tubes Cathode Ray Tubes Special Purpose
 Tubes Military Type Tubes Subminiature
 Tubes

Lansing Sound J B 2439 Fletcher Dr Los Angeles 39
 Lapp Insulator Radio Specialties LeRoy NY
 Larson Instrument 24 Orchard St Tarrytown NY
 Lavole Labs Inc Morganville NJ
 Lawn Electronics E Freehold Rd Freehold NJ
 Leach Corp 5915 Avalon Blvd Los Angeles 3 Calif
 Lear Inc 3171 S Bundy Dr Santa Monica Calif
 Lectrohm Inc 5560 Northwest Hwy Chicago 30 III
 Leecraft Mfg Co 60 Greene St New York 12 NY
 Leeds & Northrup 4970 Stenton Philadelphia 44 Pa
 Lee Electric & Mfg 2806 Clearwater Los Angeles 39
 Lehigh Structural Steel 17 Battery Pl New York NY
 Leiman Bros 166 Christie St Newark 1 NJ
 Leitch Eng'g 326 Lincoln St Manchester NH
 Laktra Labs 154 11 Ave New York 11 NY
 Leland Electric 1501 Webster St Dayton 1 Ohio
 Leland Inc G H 123 Webster St Dayton 2 Ohio
 Lel Inc 380 Oak St Copiague NY
 Lemert Eng'g 201 E Jefferson St Plymouth Ind
 Lenkert Electric 1105 Old Countrv Rd Carlos Calif
 Lenox Instrument 2010 Chancellor Philadelphia 3 Pa
 Lenz Electric Mfg 1751 N Western Chicago 47 III
 Leonard Electric Prods 67 34 St Brooklyn 32 NY
 Lepel High Frequency 54-18 37 Ave Woodside NY
 Lercio Electronics 501 S Varney St Burbank Calif
 Leru Labs 827 Black Oak Ridge Rd Paterson 2 NJ
 Lettine Radio Mfg 62 Berkley St Valley Stream NY
 Levinthal Electric 2821 Fair Oaks Redwood City Calif
 Lewis Co E B 11 Bragg St E Hartford Conn
 Lewis Eng'g Naugatuck Conn
 Lewis & Kaufman 50 Drumm St San Francisco Calif
 Librascope Inc 808 Western Ave Glendale 1 Calif

Lieco Inc 147 Ocean Ave Lynbrook NY
 Light Electric Corp 214 Lackawanna Newark 3 NJ
 Lincoln Electric 22801 St Clair Ave Cleveland Ohio
 Lincoln Eng'g 4010 Goodfellow St Louis 20 Mo
 Lindberg Transformer 2540 W Hubbard Chicago III
 Linde Air Products 30 E 42 St New York 17 NY
 Lindgren & Assoc A 4515 N Ravenswood Chicago 40
 Linell Eng'g 447 South Blvd Oak Park III
 Link Aviation Inc Binghamton NY
 Link-Belt Co Prudential Plaza Chicago 1 III
 Link Radio 110 Jericho Turnpike New Hyde Park NY
 Lion Mfg Co 2640 Belmont Chicago 18 III
 Lipps Co E A 5485 W Wash Blvd Los Angeles Calif
 Liquidometer Corp 39-21 Skillman L I City 1 NY
 Liston-Becker 649 Hope St Springdale Conn
 Littelfuse Inc 1865 Miner St Des Plaines III
 Litton Industries 1025 Brittan Ave San Carlos Calif
 Livingston Electronic Corp Livingston NJ
 LM Electronics 5017 Exposition Blvd Los Angeles Calif
 Lockheed Aircraft Missile Systems Van Nuys Calif
 Loge Sound Engrs J M 2171 W Wash Blvd Los Angeles
 LogElectronics Inc 500 E Monroe Ave Alexandria Va
 Logistics Research 141 S Pacific Rodondo Beach Calif
 London Records Inc 539 W 25 St New York 1 NY
 Long Inc T J Carle Place L I City 1 NY
 Loral Electronics 794 E 140 St New York 54 NY
 Lord Mfg Co 1635 W 12 St Erie 6 Pa
 Lord-Taber Co 40 Ontario St Canandaigua NY
 L & O Res & Dev 134 N Wayne Ave Wayne Pa
 Louthan Mfg Co E Liverpool Ohio
 Lowell Mfg 3030 Laclede Station Rd St Louis 17 Mo
 Luhrs & Co C H 297 Hudson St Hackensack NJ
 Luma Electric Equipment P O Box 132 Toledo 1 Ohio
 Lundey Associates 694 Main St Waltham 54 Mass
 Luria-Courmand Inc Havre De Grace Md
 Luther Electronic 5728 W Wash Blvd Los Angeles Calif
 Luxor Lighting Prods 350 S Ave New York 1 NY
 Lynch Carrier Sys 695 Bryant San Francisco Calif
 Lynmar Engrs 1432 N Carlisle Philadelphia 21 Pa
 McAlister J G 1117 N Mcquaden Hollywood Calif
 McClure Talking Pictures 1115 W Wash Chicago 7 III
 McColpin-Christie 3410 W 67 Los Angeles 43 Calif
 McCoy Electronics Co Mt Holly Springs Pa
 McGohan Inc Don 3700 W Roosevelt Rd Chicago 24
 McGregor Electronic Industries McGregor Iowa
 McIntosh Lab 320 Water St Binghamton NY
 McKenna Labs 2503 Main St Santa Monica Calif
 McLaughlin Corp J L A P O Box 529 La Jolla Calif
 McLean Eng'g Labs P O Box 228 Princeton NJ
 McMillan Industrial Brownville Ave Ipswich Mass
 McNeill Eng'g 4057 W Van Buren St Chicago 24 III
 Machine O'Matic 2045 N Hoyne Ave Chicago 47 III
 Machinery Electrification Northboro Mass
 Machlett Labs 1063 Hope St Springdale Conn
 Mackay Inc A D 198 Broadway New York 38 NY
 Mackay Radio & Telegraph Marine Div Clark NJ
 MacKay Research Labs RR 2 Box 401 McHenry III
 Mack Electric Devices 49 Glenside Wyncote Pa
 Macleod & Hancock 10 Roland St Charlestown 29 Mass
 Macon Electronics Warrensburg III
 Magnadyne Co 84 S Water Port Chester NY
 Magna Electronics 9810 Anza Blvd Inglewood Calif
 Magnaflex Corp 7300 W Lawrence Ave Chicago 31 III
 Magnasync Mfg 5546 Satsuma Ave N Hollywood Calif
 Magnatran Inc P O Box 211 Kearny NJ
 Magnavox Co 2131 Bueter Rd Ft Wayne 4 Ind
 Magnacories Box 6960 Washington 20 DC
 Magnecord Inc 1101 S Kilbourn Chicago 24 III
 Magnecraft Electric 3352 W Grand Ave Chicago 51 III
 Magne-Pulse Corp 11 Godwin Ave Fairlawn NJ
 Magnetic Amplifiers 632 Tinton Ave New York 55 NY
 Magnetic Devices Inc 712 East St Frederick Md
 Magnetic Metals 21st & Hayes Ave Camden 1 NJ
 Magnetic Record'g Industries 11 E 16 St New York 3
 Magnetic Research 200 Center St El Segundo Calif
 Magnetics Inc Box 391 Butler Pa
 Mahoney Teletronic Labs 209 16 Ave Newark 3 NJ
 Maida Development 214 Academy St Hampton Va
 Major Electronics 42 Meserole St Brooklyn 6 NY
 Makepeace Co D E Attleboro Mass
 Malayan Tin Bureau 1028 Conn Ave Washington 6 DC
 Malco Tool & Mfg 4025 W Lake St Chicago 24 III
 Malkin-Illion Co 400 Coit St Irvington 11 NJ
 Mallory & Co P R 42 S Gray Indianapolis Ind
 Mandex Mfg Co 2608 W 16 St Chicago 8 III
 Manger Electric Miller St Stamford Conn
 Mann Co Wm I 104 E Foothill Blvd Monrovia Calif
 Manning Maxwell & Moore 250 E Main Stratford Conn
 Mansol Ceramics 140 Little St Belleville 9 NJ
 Manson Labs 207 Greenwich Ave Stamford Conn
 Manufacturers Eng'g & Equip Hatboro Pa
 Manufacturer's Lab Sun Valley Calif
 Marantz Co 44-15 Vernon Blvd Long Island City 1 NY
 Marathon Battery Co 840 Henrietta St Wausau Wisc
 Marathon Electric Mfg Wausau Wisc
 Marchant Calculators 1475 Powell St Oakland Calif
 Marco Industries 207 S Helena St Anaheim Calif
 Marconi Instruments Ltd 44 New St New York 4 NY
 Marconi Electrical Instr Manchester NH
 Mark Electronics 250 Glenwood Ave Bloomfield NJ
 Mark Products 6412 W Lincoln Ave Morton Grove III
 Markel Electric Prods 147 Seneca St Buffalo NY
 Markem Machine Co 150 Congress St Keene NH
 Markite Corp 155 Waverly Pl New York 14 NY
 Mar-Ko TV 441 Summit St Toledo 4 Ohio
 Markwik Mfg Co 147-39 18 Ave Whitestone NY

Marma Electronic Co 703 Willow St Chicago 14 III
 Marshall Assoc John Box 2463 Bridgeport 8 Conn
 Marshalltown Mfg Marshalltown Iowa
 Martin Co Glenn L Baltimore Md
 Martin & Co H S 1916 Greenleaf Ave Evanston III
 Maryland Electronic Mfg College Park Md
 Maryland Lava Co Box 205 Belair Md
 Massa Labs 5 Fottler Rd Hingham Mass
 Master Appliance Mfg 4 & Ontario Sts Racine Wisc
 Master Electric Co 126 Davis Ave Dayton 1 Ohio
 Matchless Electric 1700 Washington Blvd Chicago III
 Mathis Co G E 5745 S Claremont Ave Chicago III
 Mathis Tower & Equip 2200 E Wash E Peoria III
 Matthews & Co J H 3966 Forbes St Pittsburgh Pa
 Mattison TV & Radio 10 W 181 St New York 53 NY
 Mattson Electronics 1487 Lincoln Ave Pasadena Calif
 Maxson Instruments 47-37 Austell Pl L I City 1 NY
 May Eng'g 6055 Lankershim Blvd N Hollywood Calif
 Mayer Eng'g Frank 6442 Santa Monica Los Angeles
 Maymer Corp 1961 W 112 St Cleveland 2 Ohio
 MB Mfg Co 1060 State St New Haven 11 Conn
 Measurement Eng'g Arnprior Ont Can
 Measurements Corp Boonton NJ
 Mechanical Inds Production 217 Ash St Akron 8 Ohio
 Meck Industries John Plymouth Ind
 Medal Mfg Co 194 Silver St Sharon Pa
 Medcraft Electronic Corp Box 464 Babylon NY
 Melco Products 301 S Ave S Minneapolis 15 Minn
 Meltron Corp 950 N Highland Los Angeles 38 Calif
 Melody Master Mfg 2842 N Cicero Ave Chicago 41 III
 Melpar Inc Falls Church Va
 Mel-Rain Corp 2100 Fletcher Indianapolis 3 Ind
 Menlo Research Lab Box 522 Menlo Park Calif
 Mepco Inc 37 Abbott Ave Morristown NJ
 Merco Corp 4201 Belmont Ave Chicago 41 III
 Mercury Contacts Box 615-T Far Hills Br Dayton Ohio
 Mercury Electronic Co Box 450A Red Bank NJ
 Mercury Eng'g 339 E Cottage Pl York Pa
 Mercury Mfg 45 Brown St Buffalo 11 NY
 Meridian Labs Lake Geneva Wisc
 Meridian Metalcraft Whittier Calif
 Merit Coil & Transformer 4427 N Clark Chicago 40 III
 Merix Chemical Co 1021 E 55 St Chicago 15 III
 Merkle-Korff Gear Co 213 N Morgan St Chicago 7 III
 Mesa Plastics 11751 Miss Ave Los Angeles 25 Calif
 Metal Fabricators Corp 73 Pond St Waltham Mass
 Metal Textile Corp 647 E 1 Ave Roselle NJ
 Metals & Controls Co 34 Forest St Attleboro Mass
 Meters Inc 5353 N Keystone Ave Indianapolis 20 Ind
 Methode Mfg 2021 W Churchill St Chicago 47 III
 Metron Instrument Co 432 Lincoln St Denver 3 Colo
 Metronics Inc U S Route 130 Burlington NJ
 Metronix Inc P O Box 549 New London Conn
 Metropolitan Electronics 106 S Ave New York 11 NY
 Metrotype Corp 104 E St Michigan City Ind
 Meyer & Co Hugo 39 W 60 St New York 23 NY
 Meyercord Co 5323 W Lake St Chicago 44 III
 MGM Records 701 7 Ave New York 36 NY
 Mica Corp 4031 Elenda St Culver City Calif
 Mica Fabricating 53 Central Ave Rochelle Park NJ
 Mica Insulator 797 Broadway Schenectady 1 NY
 Micacraft Products 701 McCarter Hwy Newark NJ
 Micamold Electronics 1087 Flushing Ave Bklyn 37 NY
 Michigan Electronics 854 N Rockwell Chicago 22 III
 Mico Instrument 80 Trowbridge St Cambridge 38 Mass
 Micro Balancing Inc Garden City Park NY
 Micro-Circuits Co New Buffalo Mich
 Microdot Inc 1826 Fremont Ave S Pasadena Calif
 Microlab 71 Okner Pkwy Livingston NJ
 Microphase Corp P O Box 1166E Greenwich Conn
 Micro Switch Div Minn-Honeywell Freeport III
 Microtran Co 145 E Mineola Ave Valley Stream NY
 Sales Mgr—Albert Eisenberg Neptune 4-3328
CLEVELAND—J Olsen 16201 Shaker Blvd
COLO SPRINGS—Peyser & Co 1501 N Weber St
DALLAS—Antle-Smith Co P O Box 2131
GLEN ELLYN ILL—J Kleker 177 Sunset Ave
HOLLIS NY—(Upste) Elec-Tech A 187-61 Hollis A
L ANGELES—Perlmuth E Assa 2419 S Grand A
MERIDEN CONN—H Lavin P O Box 196
MINN—E Hagestad 3121 Girard Ave So Apt 5
NYC—E Glass Assoc 250 W 57th St
ROYAL OAK MICH—M Vogt 1328 Maxwell Ave
ST LOUIS—G Fixman 846 Penna Ave
SAN FRANCISCO—F. Lebell Co 195 2nd Ave
 Rm 6
SEATTLE—F Haight Co 3212 Eastlake Ave
WILM NC—Mon Sales Agy 4924 Oleander Dr
 Microwave Assoc 22 Cummington St Boston Mass
 Micro-Wire Stranding 252 Chestnut Passaic NJ
 Mid-Century Instrumentic 611 Broadway New York 12
 Midland Mfg 3151 Fiberglas Rd Kansas City 15 Kan
 Midwest Coil & Transformer 1640 N Halsted Chicago
 Midwest Electric Products Mankato Minn
 Midwestern Instruments P O Box 7186 Tulsa Okla
 Miles Reproducer 812 Broadway New York 3 NY
 Milgo Electronic Corp 7601 NW 37 Ave Miami 47 Fla
 Millen Mfg Co James 150 Exchange St Malden Mass
 Miller Coil Co J W 5917 S Main Los Angeles 3 Calif
 Miller Dial & Nameplate El Monte Calif
 Miller Electronics 2840 Naomi St Burbank Calif
 Miller Electro-Research 5529 S 5 St Milwaukee Wisc
 Miller-Harris Instr 601 E Ogden Ave Milwaukee Wisc
 Miller Instr Wm 325 N Halstead Pasadena 8 Calif
 Miller Labs A E 9226 Hudson Blvd North Bergen NJ
 Miller Mfg Co M A 4 & Church Sts Libertyville III

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

Millivac Instrument Corp 444 2 St Schenectady NY
 Milwaukee Gas Spec 730 N Jackson Milwaukee Wisc
 Milwaukee Record Changer 39 Warren St New York NY
 Milwaukee Resistor 700 W Va St Milwaukee 4 Wisc
 Milwaukee Transf 5231 N Hopkins Milwaukee 9 Wisc
 Minatron Coro Belle Mead NJ
 Mine Safety Appl 201 N Braddock Pittsburgh 8 Pa
 Miniature Precision Bearings Kenne NH
 Minn-Honeywell Regulator 2753 4 Ave S Minn Minn
 Minn-Honeywell Industrial Div 4591 Wayne Phila Pa
 Minn Mining & Mfg 900 Fauquier Ave St Paul Minn
 Miskella Infra-Red E 73 & Grand Cleveland 4 Ohio
 Mitchell Camera 666 W Harvard St Glendale 4 Calif
 Mitchell Industries PO Box 17 Mineral Wells Texas
 Mitchell Mfg Co 2525 Clybourn Ave Chicago 14, Ill
 Mitchell-Rand Insulation 51 Murray New York 7 NY
 Mitronics Inc 232 13 Ave Newark NJ
 Mobil Electronics Anderson Ind
 Model Rectifier 557 Rogers Ave Brooklyn 25 NY
 Modelectric Products 1500 Bangs Ave Ashbury Park NJ
 Modern Adhesives & Electr 402 Garden Garden City NY
 Modern-Aire Mfg 4436 W Roosevelt Rd Chicago 24
 Modern Wire 39-30 Review Long Island City 1 NY
 Moeller Instr 132 St & 89 Ave Richmond Hill 18 NY
 Mohawk Bus Machines 944 Halsey St Brooklyn 33 NY
 Mohawk Electronic Research Amsterdam NY
 Mohawk Wire & Cable 320 River Fitchburg Mass
 Moisture Register 1510 W Chestnut Alhambra Calif
 Molded Insulation 335 E Price St Philadelphia Pa
 Molding Corp of America 40 Church Pawtucket RI
 Mole-Richardson 937 N Sycamore Hollywood 38 Calif
 Moloney Electric 5390 Bircher Blvd St Louis 20 Mo
 Monitoradio Div Idea Inc Indianapolis 26 Ind
 Monitor Products 815 Fremont Ave S Pasadena Calif
 Monroe Calculating Morris Plains NJ
 Monson Corp 6059 W Belmont Ave Chicago 34, Ill
 Montgomery Mfg 204 S Main St Owensville Ind
 Moran Electronic Components Silver Spring Md
 Moran Instrument Pasadena 3 Calif
 Morrow Radio Mfg 2794 Market St Salem Ore
 Morse Co F W 1300 Soldiers Field Rd Boston 35 Mass
 Moseley Co F L 409 N Fair Oaks Pasadena 3 Calif
 Mosley Electronics 8622 St Charles Rock St Louis Mo
 Mossman Inc Donald P PO Box 265 Brewster NY
 Motiograph Inc 4441 W Lake St Chicago 24 Ill
 Motordyne Inc 2661 S Myrtle Ave Monrovia Calif
 Motor Generator Corp Troy Ohio
 Motorsearch Co 1600 Junction Ave Racine Wisc
 Motorola Comm & Electr 4501 W Augusta Chicago Ill
 Moulis Specialties Bloomington Ill
 Mountain Systems 864 Franklin Ave Thornwood NY
 Mount Sopris Instrument Boulder Colo
 MP Eng'g Co Fairfield 3 Conn
 Mucon Corp 9 St Francis St Newark 5 NJ
 Mueller Electric 1583 E 31 St Cleveland 14 Ohio
 Mueller Lab 1052 N Allen Pasadena Calif
 Muirhead Instr 677 S Ave New York 22 NY
 Mullard Overseas Shaftesbury Ave London Eng
 Mullenbach Electric 2100 E 27 St Los Angeles Calif
 Multicore Sales 80 Shore Rd Port Washington NY
 Multi-Products 21470 Coolidge Hwy Oak Park 37 Mich
 Multi-Tron Lab 4624 W Washington St Chicago 44 Ill
 Munsell Color Co 10 E Franklin St Baltimore 2 Md
 Munston Mfg & Service Beech St Islip NY
 Mumtz TV Inc 1000 Grey Ave Evanston Ill
 Murphy & Miller 1318 S Michigan Ave Chicago 5 Ill
 Murray Plastics Co 26 Cottage St Poughkeepsie NY
 Musicolor Inc 3100 Lake Shore Michigan City Ind
 Muter Co 1255 S Michigan Ave Chicago 5 Ill
 Mutual Electronic Industries New Rochelle NY
 Mycalex Corp of America 125 Clifton Blvd Clifton NJ
 Myers & Sons E A 306 Beverly Rd Pittsburgh 16 Pa
 Mystic Transformers 63 Swanton St Winchester Mass
 Mystik Adhesive Prods 2635 N Kildare Chicago 39, Ill
 Nader Mfg 2661 S Myrtle Ave Monrovia Calif
 Narda Corp 160 Herricks Rd Mineola NY
 Nat'l Acme Co 170 E 131 St Cleveland 8 Ohio
 Nat'l Aeronautical Corp 180 S Main St Ambler Pa
 Nat'l Aircraft Corp 3411 Tulare Ave Burbank Calif
 Nat'l Capacitor 18 Webster St Brookline 46 Mass
 Nat'l Carbon Co 30 E 42 St New York 17 NY
 Nat'l Cash Register Co Main and K Sts Dayton 9 Ohio
 Nat'l Ceramic Co 500 Southard St Trenton 2 NJ
 Nat'l Coil Co PO Box 1237 Sheridan Wyo
 Nat'l Company 61 Sherman St Malden 48 Mass
 Nat'l Electric Controller 7070 Glenwood Chicago 26 Ill
 Nat'l Electric Prods 2 Gateway Center Pittsburgh Pa
 Nat'l Electronics Inc 628 North St Geneva Ill
 Nat'l Electronics Labs 1713 Kalorama NW Wash 9 DC
 Nat'l Fabricated Prods 2650 W Belden Chicago 47 Ill
 Nat'l Hollywood 1475 El Mirador Dr Pasadena 3 Calif
 Nat'l Moldite Co 1410 Chestnut Ave Hillside 5 NJ
 Nat'l Radiac 479 Washington St Newark 2 NJ
 Nat'l Research Newton Highlands 6 Mass
 Nat'l Semiconductor Prods 930 Pitner Ave Evanston Ill
 Nat'l Video Corp 4300 W 47 St Chicago 32 Ill
 Nat'l Vulcanized Fibre PO Box 311 Wilmington Dela
 Nat'l Wire Cable 136 San Fernando Los Angeles 31
 Natural Lighting 612 W Elk Ave Glendale 4 Calif
 Natvar Corp 211 Randolph Ave Woodbridge NJ
 Navigation Devices PO Box 668 Binhamton NY
 Nebel Lab R E 1634 E 12 St Brooklyn 29 NY
 Nemeth Inc 2223 S Carmelina Los Angeles Calif
 Nems-Clarke Inc 919 Jesup-Blair Silver Spring Md
 Nesor Alloy Prods 282 Halsey Newark 2 NJ
 Nestor Eng'g Co PO Box 416 Waldwick NJ
 Network Mfg Corp 213 W 5 St Bayonne NJ

Neutronic Assoc 87-16 116 St Richmond Hill NY
 Nevada Air Prods North Valley Rd Reno Nev
 Newark Controls Co 15 Ward St Bloomfield NJ
 Newcomb Audio Prods 6824 Lexington Hollywood Calif
 Newcomb Spring College Hwy Southington Conn
 New England Electrical Works Lisbon NH
 New England Electronics Box 143 New London Conn
 New England Mica 66 Woerd Ave Waltham Mass
 New Hampshire Ball Bearings Peterborough NH
 New Hermes Engravg 13 University New York NY
 New Jersey Wood Finishing Woodbridge NJ
 New Jersey Zinc Co 160 Front St New York 38 NY
 New London Instrument 82 Union St New London Conn
 New Products Co 1071 E 54 St Indianapolis Ind
 New Rochelle Tool Corp 320 Main St New Rochelle NY
 Newton Co 55 Elm St Manchester Conn
 New York Coil Co 40 2 Ave Phoenixville Pa
 New York Mfg 10-38 Jackson Ave LI City 1 NY
 New York Solder Co 684 E 133 St New York 54 NY
 New York Transformer Co Alpha NJ
 Ney Co J M 71 Elm St Hartford Conn
 Niagara Electron Laha PO Box 128 Andover NY
 Nichols Products 325 W Main St Moorestown NJ
 Nichols Wire & Aluminum Davenport Iowa
 Nickel Cadmium Battery Corp Easthampton Mass
 Nilsen Mfg Co 21 N Church St Addison Ill
 Nilsson Electrical Lab 103 Lafayette New York 13 NY
 Nje Corp 345 Carnegie Ave Kenilworth NJ
 Noel Mfg Co 3 W 18 St New York 11 NY
 Non-Linear Systems Del Mar Airport Del Mar Calif
 Nonotuck Mfg Co Holyoke Mass
 Norco Mfg Co 392 Blecker St New York 14 NY
 Norden-Ketay Snow & Union Sts Boston 35 Mass
 Norrman Labs Ernst Williams Bay Wis
 Norsid Mfg Co 33 Prospect St Yonkers NY
 N American Aviation 12214 Lakewood Downey Calif
 N American Instruments 2420 N Lake Altadena Calif
 N American Philips 750 S Fulton Mt Vernon NY
 Northeast Electronics Concord NH
 Northeast Scientific 617 Concord Cambridge 38 Mass
 Northeastern Dev Engrs 21 High St Pawtucket RI
 Northeastern Eng'g Co Manchester NH
 North Electric Mfg Co Galion Ohio
 Northern Eng'g Labs 434 Wilmot Burlington Wisc
 Northern Radio Co 143 W 22 St New York 11 NY
 North Hills Electric 203-18 35 Ave Bayside 61 NY
 North Shore Nameplate 214-27 Northern Blvd Bayside 61 NY
 Norton Assoc PO Box 96 Garden City NY
 Notherfer Winding Labs PO Box 455 Trenton 3 NJ
 NRD Instrument Co 6425 Etzel Ave St Louis 14 Mo
 NRK Mfg & Eng'g 4601 W Addison Chicago 41 Ill
 Phone: SPrina 7-2970
 Products: Design & manufacture of microwave assemblies, radar components & precision instruments
 President—F C Griffiths
 Vice President—Frank Neukirch
 Purchasing Agent—Peter Koppenberger
 Production Manager—L W Skinner
 Chief Engineer—J J Nail
 Sales Engineer—Ed Dervishian
 Nuclear Devel Lab PO Box 7034 Kansas City 13 Mo
 Nuclear-Electronics 2632 W Cumberland Phila Pa
 Nuclear Inst & Chem 223 W Erie St Chicago 10 Ill
 Nuclear Measurements Corp Indianapolis Ind
 Nuclear Research Corp Southampton Pa
 Nucleonic Corp 196 DeGraw St Brooklyn 31 NY
 Nucleonic Prods PO Box 5552 Metro Sta Los Angeles Calif
 Numberall Stamp & Tool 379 Huguenot Staten Is NY
 Nyl Electronics 2979 N Ontario Burbank Calif
 Oak Mfg Co 1260 Clybourn Ave Chicago Ill
 Oberline Inc P O Box 921 Beverly Hills Calif
 Oerlikon Tool P O Box 3049 Asheville N Car
 Offner Electronics 5320 N Kedzie Ave Chicago 25 Ill
 Ogden Coil & Transformer 2124 W Carroll Chicago 12 Ohio
 Ohio Carbon Co 12508 Berea Rd Cleveland 11 Ohio
 Ohio Crankshaft 3800 Harvard Ave Cleveland 5 Ohio
 Ohmart Corp 2236 Bogen St Cincinnati 14 Ohio
 Ohmite Mfg Co 3601 Howard St Skokie Ill
 OK Electronics Corp 7 Hunt Pl Nutley 10 NJ
 Okonite Co 220 Passaic St Passaic NJ
 Olin-Mathieson 275 Winchester Ave New Haven Conn
 Olympic Instrument Labs Cove Wash
 Olympic Plastics 5741 W Jefferson Los Angeles 16
 Olympic Radio & TV 34-01 38 Ave L I City 1 NY
 Omco U S 93 & Las Palomas St Kinnman Ariz
 Omega Labs Inc Haverhill St Rowley Mass
 Onan Sons D W University at 25 Minn 14 Minn
 O'Neil-Irwin Mfg Co Lake City Minn
 Onondaga Pottery 1858 W Fayette Syracuse NY
 Oppenheimer Corp 578 Exchange St Buffalo 10 NY
 Opticon Research 1374 Mass Ave Cambridge 38 Mass
 Optron Mfg 3223 N Sheffield Ave Chicago 13 Ill
 Oregon Electronic 2232 E Burnside St Portland 15 Ore
 Orradio Industries 120 Marwyn Rd Opelika Ala
 Ortho Filter 196 Albion Ave Paterson 2 NJ
 Oryx Co 9015 Wilshire Blvd Beverly Hills Calif
 Osborne Electric 712 S E Hawthorne Portland Ore
 Osborne Transformer 948 E Lafayette Detroit 7 Mich
 Oster Mfg Co John 1 Main St Racine Wisc
 Osterland Co Edmund Mountain Lakes NJ
 Otarian Inc 185 Ashford Ave Dobbs Ferry NY
 Otis Elevator Co 35 Ryerson St Brooklyn 5 NY
 Owen Labs 55 Beacon Pl Pasadena Calif
 Oxford Electric Corp 3911 S Michigan Ave Chicago 15
 Ozalid Div General Aniline & Film Johnson City NY
 Pace Eng'g 6914 Beck Ave N Hollywood Calif

Pacific Electricord 3217 Exposition Los Angeles Calif
 Pacific Industrial Electr 521 5 St San Francisco Calif
 Pacific Mercury 8345 Havenhurst Sepulveda Calif
 Pacific Relays Inc 12027 Vose St N Hollywood Calif
 Pacific Scientific 1430 Grande Vista Los Angeles Calif
 Pacific Semiconductors Culver City Calif
 Pacific Transducer 11836 W Pico Los Angeles 64 Calif
 Pacific Transformers 502 S Ave 17 Los Angeles Calif
 Pacific Universal Prods 168 Vista Ave Pasadena 8 Calif
 Packard-Bell Company 12333 W Olympic Blvd Los Angeles 64 Calif
 Bradshaw 2-2171 GRanite 7-6721
 Western Union Teleprinter, ABL, Los Angeles
 Vice-President in Charge—Richard B Leng
 Chief, Sales and Contracts Administration—Hugh L Vick
 Chief Engineer—Doctor George J Mueller
 Manufacturing Mgr—Theodore G Eddy
 Vice-President—Commodore A J Sprigas
 USN (Ret) Suite 1014 The Ring Building 1200
 Eighteenth Street Northwest Washington 6
 D C Metropolitan 8-0738
 DAYTON and MIDWEST District Engineering
 Liaison—James L Pyle 41 East 1st Street
 Dayton 2 Ohio Adams 7262
 EAST COAST Engineering Liaison—Pierre Mor-
 tin 124 Joliette Street Manchester New
 Hampshire Manchester 2-2973
 NEW YORK Area Representative Albert Leder-
 man 440 Riverside Dr New York 27 NY
 Monument 6-0204
 Paine-Foowell 1311 Riverside Dr Los Angeles 31 Calif
 Palmer Inc 4002 Fruit Valley Rd Vancouver Wash
 Pampa Electronics 7354 Frankford Philadelphia Pa
 Pancon Mirrors 2958 Los Feliz Blvd Los Angeles 39
 Pan-Electronics Box 404 Griffin Ga
 Panellit Inc 7401 N Hamlin Ave Skokie Ill
 Panoramic Radio Prods 10 S 2 Ave Mt Vernon NY
 Pan-Ormond Corp Box 1605 Ormond Beach Fla
 Pantek Co Box 212 El Segundo Calif
 Paragon Electric 1600 12 St Two Rivers Wisc
 Paramount Paper Tube Corp Fort Wayne 2 Ind
 Paraplegics Mfg Franklin Park Ill
 Park Armature Co 883 Boylston St Boston 16 Mass
 Park Nameplate Co 61-07 32 Ave Woodside 77 NY
 Par Products 925 N Citrus Lane Hollywood Calif
 Partrick & Wilkins 51 N 7 St Philadelphia 6 Pa
 Partridge Transformers Tolworth Surrey England
 Patwin Instruments 41 Brown Waterbury 20 Conn
 Paul F H & Stein Bros 235 S Ave New York NY
 PCA Electronics 2180 Colo Ave Santa Monica Calif
 Pearson Electronics Palo Alto Calif
 Pearce-Simpson Inc 3023 Coral Way Miami 34 Fla
 Pearson Industries 4624 N Sheridan Chicago Ill
 Pease Co C F 2601 W Irving Park Rd Chicago 18 Ill
 Peer Inc 1200 Milton St Benton Harbor Mich
 Peerless Electric Co 1501 W Market St Warren Ohio
 Peerless Electrical Prods 9356 Santa Monica Blvd
 Beverly Hills Calif
 Peerless Prods Industries 812 N Putaski Chicago 51
 Pearce Wire Recorder 5900 N Northwest Hwy Chicago
 Penn Controls Inc Goshen Ind
 Penn-East Eng'g Corp Box 240 Kutztown Pa
 Penn Fibre 2030 E Westmoreland St Phila 34 Pa
 Penn Transformer Corp Bellefonte Pa
 Pennwood Numechron 7249 Frankstown Pittsburgh Pa
 Penta Labs 312 N Nopal St Santa Barbara Calif
 Pentron Corp 777 S Tripp Ave Chicago 24 Ill
 Pereny Equipment 893 Chambers Columbus 1 Ohio
 Perfection Electric 2635 S Wabash Ave Chicago 15 Ill
 Perfection Mica 1322 N Elston Ave Chicago 22 Ill
 Perkin-Elmer Corp Norwalk Conn
 Perkin Eng'g 345 Kansas St El Segundo Calif
 Permacel Tape Corp U S Hwy No 1 New Brunswick NJ
 Permaglass Inc Box 195 Sta A Toledo 5 Ohio
 Permanent Label 49 Ackerman St Bloomfield NJ
 Perma-Power Co 4727 N Damen Ave Chicago 25 Ill
 Permoflux Corp 2835 N Kedzie Ave Chicago Ill
 Permo Inc 6415 Ravenswood Ave Chicago 26 Ill
 Permonite Mfg Co 4554 N Broadway Chicago 40 Ill
 Peschel Electronics 13 Garden St New Rochelle NY
 Pesco Products Div Borg-Warner Bedford Ohio
 Pfanstiehl Chemical Corp Waukegan Ill
 Phalo Plastics Corp 25 Foster St Worcester 8 Mass
 Phaostron Instrument and Electronic Company 151
 Pasadena Ave S Pasadena Calif
 ATLANTA—Frank C Nickerson Co 1150 Zenolite
 Road NE Emerson 8908 Covers Fla-Go-No
 Car-So Car
 BOSTON—Henry Lavin Assoc 65 White Rd Meri-
 den Conn Covers New England States
 Beverly 55527
 CHICAGO—G McL Cole Co 6514 West Higgins
 Rd Spring 43355 Covers No Ill Wisc
 COLORADO SPRINGS—Peyser & Co 1501 N
 Weber St MEIrose 43401 Covers Colo-NM-W
 Neb-Utah-Wyo
 DALLAS—Jim & Dave Packard 5526 Dyer St
 (See Houston)
 DAYTON—Neal Bear Corp 136 W 2nd St Ful-
 ton 2555 Covers Ohio-W Penna-W Va
 DETROIT—Grant Shaffer Co 14241 Fenkell Ave
 Broadway 35390 Covers Mich
 HOUSTON—Jim & Dave Packard PO Box 15234
 Wayside 1622 Covers W Ark-Okla-Tex
 INDIANAPOLIS—Quinn Cunningham & Assoc
 6101 College Avenue Bldg Glendale 3222
 Covers Ind-Ky
 (Listings continued on next page)

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

- KANSAS CITY MO—R W Farris Co Inc 406 W 34th St Logan 17495 Covers S Ill-Ia-Kan-Ma-E Neb
- LOS ANGELES—Frank A Emmet Co 2837 W Pico Blvd Republic 18211 Covers S Cal-Ariz-S Nev
- MEMPHIS—Al Engelman Co 3205 Crump Ave 48-6263 Covers Ala-E Ark-La-Miss-Tenn
- MERIDEN CONN—Henry Lavin Assoc (see Boston)
- NEW YORK—Blair-Steinberg Co 45 So Broadway Yonkers (See Yonkers)
- SEATTLE—Burt C Porter Co 4310 Roosevelt Way ME 6828 Covers Alaska-BC-ID—Mont-Ore—Wash
- SAN FRANCISCO—L A Natt Co 1061 Howard St Hemlock 14738 Covers No Calif-No Nevada
- WEST RICHFIELD OHIO—Neal Bear Corp 3435 Streetsboro Rd Oliver 93331 (See Dayton)
- YONKERS—Blair-Steinberg Co 45 So Broadway Yonkers 30150 Covers Dela-Md-NJ-NY-E Penna-Va-D C
- EXPORT—Ad Auriema Inc 89 Broad Street New York 4 New York Bowling Green 97750
- Phelps Dodge Copper Prods 300 Park Ave New York Phen-O-Tron Inc 455 Main St New Rochelle NY Philadelphia Scientific Glass Abington Pa Philamon Labs Inc 90 Hopper St Westbury LI NY Philbrick Researches G A 230 Congress Rnston Mass Philco Corp Tioga & C Sts Philadelphia 34 Pa Philco Corp 4700 Wissahickon Ave Philadelphia 44 Pa Philco Corp "A" & Allegheny Ave Philadelphia 34 Pa Philharmonic Radio 235 Jersey Ave New Brunswick NJ Phillips Control Corp 59 W Washington St Joliet Ill Philmore Mfg Co 113 University Pl New York 3 NY Philson Mfg Co 60 Sackett St Brooklyn 31 NY Phoenix Precision Instr 3803 N 5 St Phila 40 Pa Photobell Co 43 Vesey St New York 7 NY Photo Chemical Prods 479 Walton Ave New York 51 Photo Crystals Inc 15 S 1 St Geneva Ill Photocircuits Corp Sea Cliff Ave Glen Cove NY Photocon Research 421 N Foothill Pasadena 8 Calif Photographic Prods 1000 N Olive Anaheim Calif Photo Research 837 N Cahuenga Hollywood Calif Photovolt Corp 95 Madison Ave New York 16 NY Photon Instrument 6516 Detroit Ave Cleveland 2 Ohio Physics Research W Hemstead NY PIC Design 160 Atlantic Ave Lynbrook LI NY Pickard & Burns 240 Highland Ave Needham 94 Mass Pickering & Co 309 Woods Ave Oceanside NY Piezo Products Whitney St Sherborn Mass Pilot Radio 37-06 36 St Long Island City 1 NY Pioneer Electronics 2235 S Carmelina Los Angeles Pioneer Gen-E-Motor 5841 W Dickens Chicago 43 Ill Pioneer Mch Works 6136 Adam St W New York NJ Piqua Machine & Mfg Co Piqua Ohio Pittsburgh Coil Co Box 700 Carnegie Pa Pittsburgh Lctrodryer PO Box 1766 Pittsburgh 30 Pa Pittsburgh Plate Glass Pittsburgh 22 Pa Pix Mfg Co 75 Hudson St Newark 3 NJ Planet Mfg Corp 225 Belleville Ave Bloomfield NJ Planet Service 88-02-06 102 St Richmond Hill 18 NY Plasteck Inc PO Box 551 Poteau Okla Plastic Capacitors 2511 W Moffat St Chicago 47 Ill Plasticraft Prods 1 Station Pl W Nyack NY Plastoid Corp 42-61 24 St Long Island City 1 NY Platron Corp Overton Neb Plastronics PO Box 96 Winter Hill 45 Mass PM Industries 280 Fairfield Ave Stamford Conn Poinsettia Co 112 Cedar Ave Pitman 15 NJ Polarad Electronics 43-20 34 St L I City 1 NY Polarizing Instrument Co Irvington-on-Hudson NY Polymer Corp of Penna Reading Pa Polyphase Instrument Bryn Mawr Pa Polytechnic Research & Devel 202 Tillary St Bklyn 1 Pomona Electronics 1126 W 5 Ave Pomona Calif Ponder & Best 814 N Cole Ave Hollywood 38 Calif Poole Instruments P O Box 1532 Dallas Tex Popper & Sons 300 4 Ave New York 10 NY Porcelain Products 420 W Sandusky St Findlay Ohio Portchester Instrument 114 Wilkins Port Chester NY Port-O-Matic Co 438 E 91 St New York NY Post Machinery 140 Elliott St Beverly Mass Potter & Brumfield Princeton Ind Potter Co 1950 Sheridan North Chicago Ill President & Sales Mgr—Wayne F Potter Vice Pres—George Zeiler CANADA—D—Aircraft Appliances & Equipment Ltd 71 Kipling Ave So West Toronto 18 Canada INDIANAPOLIS-SE—R O Lewis 58 No Audubon Place Fleetwood 7-2061 Engineering service on Radio Noise Filter problems—no territory restrictions IRVINGTON NJ-R—E F Alber 64 Union Ave Essex 5-7458 Covers New York City—New Jersey LOS ANGELES-SE—A W Nash 2112 So Atlantic Blvd Angelus 9-7304 CONNECTICUT-R—Masten-Wright Corp PO Box 1876 New Haven Conn Atwater B-1638 West Mass—Conn Potter Instrument 115 Cutter Mill Rd Great Neck NY Power Desinns Richmond Hill 18 NY Power Supplies Inc 1007 Olive St Highland Ill Power Transformer 532 Mulberry St Newark 5 NJ Powers Regulator 3400 Dakton St Skokie Ill Practical Electronic 2214 S Michigan Chicago Ill Pratt Albert 114 W Lake View Ave Milwaukee 17 Wis Precision Development Oceanside L I NY Precise Measurements 942 Kings Hwy Brooklyn 23 NY Precision Apparatus 70-31 84 St Glendale 27 LI NY Precision Associates 354 Cumberland St Bklyn NY Precision Crystal 2223 Warwick Santa Monica Calif Precision Electronics Inc Franklin Park Ill Precision Hearing Aids 5157 W Grand Chicago 39 Precision Inc 730 Lyndale Ave N Minneapolis 11 Minn Precision Metal Prods 41 Elm St Stoneham 80 Mass Precision Pacer Tube Co 2057 W Charleston Chicago 47 Ill Phone ARmitage 6-5200 NEW ENGLAND—Hartford Conn JAckson 2-1939 Framington Mass TrInty 3-7091 MET NY will handle also Philadelphia Camden Maryland areas METROPOLITAN NY—Jersey City NJ SWathmore 5-2480 UPSTATE NEW YORK—Syracuse NY Syracuse 4-2141 NORTHERN OHIO & WESTERN PENNA—Cleveland O Atlantic 1-1060 INDIANA & SOUTHERN OHIO—Logansport Ind Logansport 2555 CALIFORNIA—Pasadena Calif SYcamore 8-3919 CANADA—Montreal Quebec Can Walnut 0337 Precision Photomechanical 170 S Van Brunt Englewood NJ Precision Piezo 427 Mayflower St Baton Rouge 2 La Precision Plastic Prods 225 N Racine Chicago 7 Ill Precision Radiation 4223 W Jefferson Los Angeles 16 Precision Resistor 109 U S Hwv 22 Hillside NJ Precision Scientific 3737 W Cortland St Chicago 47 Precision Technology 66 South P St Livermore Calif Precision Thermometer 1434 Brandywine Phila 30 Pa Precision Tube Co North Wales Pa Preis Engraving Machine Hillside 5 NJ Premax Products Niagara Falls NY Premier Instrument 52 W Houston St New York 12 NY Premier Metal Prods 337 Manida St New York 59 NY Premier Research Labs 79 7 Ave New York 11 NY Pres Industrial Prods Box 302 New Paltz NY Prescott TV 7352 Beverly Blvd Los Angeles 36 Calif Press Wireless Labs West Newton 65 Mass Presto Recording Corp PO Box 500 Paramus NJ Prestoseal Mfg 37-27 33 St Long Island City 1 NY Price Electric Corp Frederick Md Printed Circuits Inc 36 Tuxis Ave Bloomfield Conn Printed Electronics Corp 7 North Ave Natick Mass Probescope Co 44-05 30 Ave Long Island City NY Process Instruments 15 Stone Ave Brooklyn 33 NY Prodelin Inc 307 Bergen Ave Kearny NJ Prosound Corp 175 5 Ave New York 10 NY PSP Eng'g Co 8608 Otis St South Gate Calif Pulse Techniques 1411 Palisade Ave W Englewood NJ Pye Corp of America 270 Park Ave New York NY Pyle-National Co 1334 N Kostner Ave Chicago 51 Ill Pyramid Electric Co 1445 Hudson Blvd N Bergen NJ Telephone Union 5-1776 VP-Gen Sls Mgr—Arnold R Andrews Sls Mgr—Jobber Div—Jack K Poff Brand Names—Cartrij-Dry; Glosseal; IMP; Metlcon; Twist-Mount; Tynee-Dry; Kool-Sel Representatives ATLANTA—Frank C Nickerson & Co 1150 Zonahite Road NW Atlanta Ga EMerson 8908 Covers Fla (except Pensacola) Ga-N C (jobbers only)-S C BALTIMORE—R B Barnhill & Assoc 412 Woodbine Ave Valley 5-3431 Covers Md-Del-D C-Va N C CHICAGO—Earl Champion 6459 N Sheridan Road Amherst 2-3565 Covers E Wisc-N Ill Jobbers only CHICAGO—John G Twist & Co 2800 N Milwaukee Ave Humboldt 9-2550 Covers E Wisc & N Ill Ind only CLEVELAND—Mike Roth Sales Co 13947 Cedar Rd Yellowstone 2-4262 Covers Ohio-Western Pa-W Va DALLAS—J Earl Smith 505 N Ervay St Randolph 2966 Covers Ark-La-Okla-Tex (except El Paso) Denver—McCloud & Raymond Co 5528 E Colfax Ave FREemont 7-3067 Covers Colo-N M-El Paso (Tex)-Utah-Wyo-E Montana & S Idaho DETROIT—Tri-Onic Sales Co Inc 13331 Livornois Covers Michigan (except Berrien City) HAVERTOWN (Pa)—Howard Fairbanks 1615 Darby Rd Granite 2-2467 Covers Southern N J-Eastern Pa (industrial only) E PATERSON—Electronics Sales Associates Inc 107 Broadway Covers N New Jersey Ind only FT WAYNE—William Meily 4017 S Garrison Kenmore 2461 Covers Ind-Ky & Berrien City Mich INDIANAPOLIS—Kenneth G Reinhardt R R 10 Box 319L Blackstone 6341 Covers Ind & Ky Jobbers only LOS ANGELES—Jack Berwan Co 1141 S La-Cienega Blvd Broadshw 2-9138 Covers Ariz-Southern Calif-Clark Co (Nev) MEMPHIS—Al Engelman Co 3205 Crump Ave Phone 48-6263 Covers Ala-Miss-Tenn-Pensacola (Fla) MINNEAPOLIS—Don V Hamilton & Co 6516 Normandale Rd West 9-8286 Covers Minn-N D-S D-Western Wis NEEDHAM (Mass)—Masher & Peyser Co 1116 Great Plain Ave NEedham 3-3773 Covers New England NEWARK—Art Cerf & Co 744 Broad St Mitchell 2-6734 Covers D C-Del-Md-N J-N Y-Eastern Pa-Va (jobbers only) NORTH SYRACUSE (N Y)—William A Franklin 3 Holly Rd Syracuse 54-3383 Covers N Y (except Metropolitan NYC) ST LOUIS—Theodore B Lawell PO Box 21 Narmandy Br Evergreen 5-7803 Covers Southern Ill-Kan-Mo SAN FRANCISCO—E L Berman Co 758 Natoma St UNDERhill 3-0317 Covers Northern Calif-Nev (except Clark Co) SEATTLE—Frank Wedel Co 3215 Western Ave Garfield 0222 Covers Ore-Wash-Northern Ida-Western Mont-Alaska-British Columbia SEATTLE—Fred H Haight Co 3212 Eastlake Ave East 1818 Covers Ore-Idaho-Mont-Br Col-Wash HONOLULU (Hawaii)—Brenna & Browne 211 Honolulu Merchandise Mart Covers Hawaii MONTREAL-Que-Canada—William Cohen 7000 Park Ave REgent 7-5944 Covers Canada (except British Columbia) Pyramid Instrument 630 Merrick Rd Lynbrook NY Pyrofilm Resistor 8 Whippany St Morristown NJ Pyrometer Instrument 92 Portland Ave Bergenfield NJ QLC Corp 409 Main St Greenport LI NY QRK Electronic Prods 445 N Circle Dr Fresno 4 Calif Qualitone Co 4318 Upton St Minneapolis 10 Minn Quality Components Inc St Marys Pa Quam-Nichols Co 234 E Marquette Rd Chicago 37 Ill Quantum Electronics Albuquerque N-Mex Quare Associates PO Box 95 Canton Mass Quietrol Co 395 John St Spartanburg S Car Quincy Speaker Mfg Corp 221 Oak St Quincy Ill Quotron Transformer 525 Broadway New York 12 NY QVS Inc 20 N 15 St East Orange NJ Rada Prods 2911 W Carroll Ave Chicago 12 Ill Radex Corp 2076 Elston Ave Chicago 14 Ill Radiant Lamp Co 300 Jelliff Ave Newark 8 NJ Radiart Corp 3455 Vega Ave Cleveland 13 Ohio Radiation Counter Labs 5122 W Grove Skokie Ill Radiation Inc PO Drawer 37 Melbourne Fla Radiation Instr Devel 5737 S Halsted Chicago Ill Radio City Products Centre & Glendale Easton Pa Radioclok 2119 Starling New York 62 NY Radio Condenser Davis & Copewood Sts Camden 3 NJ Radio Cors 9540 S Tulley Ave Oak Lawn Ill Radio Corp of America Camden 2 NJ Radio Corp. of America Semiconductor Div Somerville NJ Humboldt 5-3900 Gen Mgr—A M Glover Mktng Mgr—F F Neuner Gen Sales Mgr—T R Hays Mgr Government Sales—R D Wick NEWARK 2 N J-BO—744 Broad St Humboldt 5-3900 Eastern IS CHICAGO 54-BO—Suite 1181 Merchandise Mart Plaza Whitehall 4-2900 Central IS LOS ANGELES 22-BO—6355 E Washington Blvd Raymond 3-8361 Western IS Radio Corp of America Tube Div Harrison NJ Humboldt 5-3900 VP & Gen Mgr—D Y Smith Gen Comm Mgr—L S Thees Gen Mktng Mgr—L F Holleran Mgr Adv & Sls Promotion—H S Stamm Mgr Distrib Sales—D M Branigan Mgr Gov't Sales—G R Rivers Mgr Tube Ind Sales—H S Gwynne Mgr Equipment Sales—L D Kimmel NEWARK 2 N J-BO—744 Broad St Humboldt 5-3900 J W Kirschner Mgr Eastern IS CHICAGO 54-BO—Suite 1181 Merchandise Mart Plaza Whitehall 4-2900 H B Wilson Mgr Central IS LOS ANGELES 22-BO—6355 E Washington Blvd Raymond 3-8361 C R Klinger Mgr Western IS Radio Eng'g Labs 36-40 37 St Long Island City NY Radio Eng'g Prods 1080 University Montreal Can Radio Frequency Co Medfield Mass Radio Frequency Labs Powerville Rd Bonton NJ Radio Industries 5225 N Ravenswood Chicago 40 Ill Radio Instrument 12-05 Summer Pl Fair Lawn NJ Radiomarine Corp 75 Varick St New York 13 NY Radio Materials Corp 3325 N Calif Ave Chicago 18 Ill Radio Merchandise Sales 2016 Bronxdale New York 62 Radio Music Corp 84 S Water St Port Chester NY Radion Corp 1130 W Wisconsin Ave Chicago 14 Ill Radionics Inc PO Box 186 Cockeysville Md Radio Receptor Co 251 W 19 St New York 11 NY Radio Research 170 Front St Marietta Ohio Radio Specialty Mfg 2023 S E 6 Ave Portland 14 Ore Radio Supply & Eng'g 85 Selden Detroit 1 Mich Radio & TV Products Grass Lake Mich Rae Motor Corp 2009 Kewanee Racine Wisc Railway Communications PO Box 67 Raytown Mo Ramsey Radio & TV 925 St Louis Ave Vandalia Ill Randall Inc Douglas 6 Pawcatuck Ave Westerly RI Rangertone Inc 73 Winthrop St Newark 4 NJ Ransom Research PO Box 382 San Pedro Calif

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

- Rapid Electroplating Process 1414 S Wabash Ave Chicago 5 Ill
- Manufacturers—Portable Plating Equipment for every purpose—repair of commercial platings silver plating electrical contacts etc.
- Ratigan Electronics 3614 Maple Los Angeles 11 Calif
- Rattray & Co 116-08 Myrtle Ave Richmond Hill NY
- Rau Fastener Co 142 S Ave New York NY
- Rauland Corp 4245 N Knox Ave Chicago Ill
- Rauland Borg Corp 3515 W Addison St Chicago 18 Ill
- Rawson Electrical Instr Cambridge 42 Mass
- Ray-O-Vac Co 212 E Washington Madison 10 Wisc
- Rayovox Mfg Co 902 Albemarle Rd Brooklyn 18 NY
- Raypar Inc 7810 W Addison St Chicago 34 Ill
- Raytheon Mfg Co 5921 W Dickens Ave Chicago 39, Ill
- Raytheon Mfg Co Receiving & Cathode Ray Tube Operations 55 Chapel St Newton 58 Mass
- ATLANTA-R—F C Nickerson Co 1150 Zanolite Rd NE Emerson 8908 Covers N & SC-Ga-E Fla
- BIRMINGHAM-R—George O Jesse 919 Palmetto St Tremont 9-6015 Covers Alabama-Tennessee-Mississippi
- BOSTON-HO—Orders C H Morse—Technical Info C W Martel—Raytheon Mfg Co 55 Chapel St Newton 58 Mass Bigelow 4-7500
- BOSTON-R—Arthur E Akeroyd John Hancock Bldg Rm 2311 Hancock 6-2433 Covers ME-NH-Vt-Conn-Mass-RI
- CHICAGO-BO—C R Hammond Raytheon Mfg Co 9501 Grand Ave Franklin Park Ill Tuxedo 9-5400
- CLEVELAND-R—Neal Bear Corp 3435 Streetsboro Rd West Richfield Ohio Oliver 9-3331 Covers Ohio-W Penn-W Va
- Dallas-R—Compan Sales Co 9002 Chancellor Row Fleetwood 7-4095 Covers Tex-La
- DAYTON-Military Sales-SE—McIlrath Suite #205 410 W First St Michigan 6883
- DAYTON-Comm Sales-R—R E Whelan 136 West Second St Fulton 2555 Covers Southern Ohio
- DENVER-R—Ronald G Bowen & Co 446 Broadway SH 4-2501 Covers E Mont-Wyo-Utah-Colo-N Mex
- KANSAS CITY-R—Kay Sales Co 3769 Broadway Kansas City II Mo BAltmore 3800 Covers Neb-Iowa-Mo-Kan-Ark-Okla
- LOS ANGELES-SE—D R Yoder 622 S LaBrea Ave Webster 8-2851
- LOUISVILLE-R—Cobb Sales Co 1629 Portland Ave Clay 9406 Covers Ind-Ky
- MINNEAPOLIS-R—Fred B Hill Co 6110 Excelsior Blvd WEst 9-6727 Covers N & S Dak-Minn-W Wisc
- NEW YORK CITY-SE—J Dorfman Raytheon Mfg Co 589 Fifth Ave NY Plazo 9-3900
- PHILADELPHIA-R—L D Lowery Inc 50 E Wynnewood Rd Wynnewood Midway 2-9100-9101-9102 Covers E Penn-NJ-Md-Dist Col-Del-Va
- PORTLAND-R—Dan H Burcham Co 510 NW 19th Ave CAPITAL 7-3830 Covers Wash-Ore-Idaho-W Mont-Alaska-Br Columbia
- SAN FRANCISCO-R—H L Newman 420 Market St YUkon 6-3897 Covers N Cal-Nev
- SEATTLE-R—R M Loughrey 1327 Norcross Way Seneca 6633 Covers Washington for Dan H Burcham Co
- TORONTO-R—John S Plewes Co 52 Humbercrest Blvd ROger 2051 Covers Ontario-Quebec-Maritime Provinces
- WASHINGTON DC-SE—W H van Alven Raytheon Mfg Co Penn Bldg Suite #452 Thirtieth St NW Republic 7-2330
- Raytheon Mfg Co Ceramic Sales Div Foundry Ave Waltham Mass
- Raytheon Mfg Co Component Products Dept 100 River St Waltham 54 Mass
- Raytheon Mfg Co Equip Marketing Div 190 Willow St Waltham 54 Mass
- Raytheon Mfg Co Microwave & Power Tube Operations Foundry Ave Waltham 54 Mass
- Magnetrons, Klystrons, Traveling Wave Tubes, Storage Tubes, Power Tubes, Special Tubes, Ceramics and Ceramic-Metal Seal Assemblies, Ferrites and Isolators
- Waltham Home Office TWinbrook 3-5860
- Sales Mgr—W Welsh
- Ass't Sales Mgr—R Uhlandorf
- Sales, Ceramics, Ferrites—P J Lozarkis
- LOS ANGELES—Branch Office—R Yoder Raytheon Mfg Co 622 S La Brea Ave Los Angeles 36 Webster 8-2851
- CHICAGO—Branch Office—W Vogel Raytheon Mfg Co 9501 W Grand Ave Franklin Park Illinois—Tuxedo 9-5400
- Raytronic Inc 9701 Reading Rd Cincinnati 15 Ohio
- RBM Div Essex Wire Corp Logansport Ind
- RCL Mfg Co New Jersey Ave Riverside 1 NJ
- Rea Co J B 1723 Cloverfield Blvd Santa Monica Calif
- Rea Magnet Wire Co E Pontiac St Fort Wayne 4 Ind
- Recora Co 6100 S Archer Rd Summit Ill
- Recorder Tape of Month Club 449 W 51 St New York
- Rectifier Eng'g 1803 E 7 St Los Angeles 21 Calif
- Redman Electronics Corp Thompsonville Conn
- Redmond Co Monroe St Owosso Mich
- Red Point Prods 1907 Riverside Dr Glendale 1 Calif
- Red Seal Electric 6321 Detroit Ave Cleveland 2 Ohio
- Reed-Curtis Nuclear Playa del Rey Calif
- Reed Roller Bit PO Box 2119 Houston 1 Texas
- Reeder & Co C M 173 Victor Ave Detroit Mich
- Reeve Electronics Inc 609 W Lake St Chicago 6 Ill
- Reeves-Hoffman Corp Carlisle Pa
- Reeves Instrument Corp 215 E 91 St New York 28 NY
- Reeves Soundcraft Corp 10 E 52 St New York 22 NY
- Regency Div Idea Inc 7900 Pendleton Indianapolis Ind
- Regulator Corp Norwalk Conn
- Regulator Eng'g 11545 W Jefferson Culver City Calif
- Reiter Co F 3340 Bonnie Hill Dr Hollywood 28 Calif
- Relax-O-Kut Co 38-01 Queens Blvd L I City 1 NY
- Relay Sales Inc Box 186 Dept 6 W Chicago Ill
- Reliable Spring & Wire 3167 Fulton Cleveland 9 Ohio
- Reliance Mica Co 341 39 St Brooklyn 32 NY
- Rembar Co 147 Main St Dobbs Ferry NY
- Remington-Rand Univac Div 315 4 Ave New York
- Renbrandt Inc 98 Kirkland St Cambridge 38 Mass
- Reon Resistor Corp 117 Stanley Yonkers NY
- Repath Inc P R 641 E 61 St Los Angeles 1 Calif
- Resdel Eng'g 330 S Fair Oaks Ave Pasadena 1 Calif
- Research Electronics Labs Roslyn Pa
- Research Instrument 233 Broadway New York 7 NY
- Rese Eng'g 731 Arch St Philadelphia Pa
- Resinote Corp 20351 W Charleston St Chicago Ill
- Resistance Products 914 S 13 St Harrisburg Pa
- Resistoflex Corp Belleville NJ
- Resistors Inc 5226 W 26 St Chicago 50 Ill
- Resitron Labs 2908 Nebraska St Santa Monica Calif
- Retron Co 717 N Lake Ave Pasadena 6 Calif
- Revco Inc 1900 Lyndale Ave S Minneapolis 5 Minn
- Revere Camera Co 320 E 21 St Chicago 16 Ill
- Revere Co Wallingford Conn
- Revere Copper & Brass 230 Park Ave New York 17 NY
- Rex Corp W Acton Mass
- Rex Rheostat Co 3 Foxhurst Rd Baldwin L I NY
- Reynolds Electric 3000 River Rd River Grove Ill
- Rheem Mfg Co 9236 E Hall Rd Downey Calif
- Rhein Sound Systems PO Box 112 Marion Ill
- Rhodes Inc M H 30 Bartholomew Ave Hartford 6 Conn
- RHO Eng'g 2240 Sepulveda Blvd Los Angeles Calif
- Richards Co A S Newton Highlands Mass
- Richardson Co 5860 Spring Oak Hollywood 28 Calif
- Richardson Co 2790 Lake St Melrose Park Ill
- Richardson Labs Kenneth 254 Vincent Lynbrook NY
- Rich Electronics Inc 212 NW 8 Ave Miami 36 Fla
- Richmont Inc 922 S Myrtle Ave Monrovia Calif
- Riester & Thesmacher 1526 W 25 Cleveland 0
- Ripley Co 1 Factory St Middletown Conn
- Ristaurat Inc 1216 E Wisc Ave Appleton Wisc
- Riverbank Labs PO Box 65 Geneva Ill
- River Edge Sales 80 Shore Rd Port Washington NY
- Riviera Electronics 6060 SW 114 St Miami 43 Fla
- Rixon Electronics 2414 Reddie Dr Silver Spring Md
- R-J Audio Prods 80 Shore Rd Port Washington NY
- R K Mfg Co PO Box 112 Marion Ill
- Robbins & Myers 1345 Lagonda Ave Springfield Ohio
- Roberts Mfg 412 E Chambers Cleburne Texas
- Robinette Co W C 802 Fair Oaks Ave S Pasadena Calif
- Robins Industries 214-26 41 Ave Bayside 61 NY
- Robinson Aviation Teterboro NJ
- Robinson Inc Edward E 95 Park Ave Nutley 10 NJ
- Robinson Recording Labs 35 S 9 St Philadelphia 7 Pa
- Robotron Corp 21300 W 8 Mile Rd Detroit 19 Mich
- Rochester Electronics Co Penfield NY
- Rockbar Corp 215 E 37 St New York 24 NY
- Rockbestos Products New Haven 4 Conn
- Rockwell Co W S 200 Eliot St Fairfield Conn
- Rockwell Eng'g 4065 N New Jersey Indianapolis Ind
- Rodale Mfg Co Emaus Pa
- Roebliin's Sons J A 640 S Broad Trenton 2 NJ
- Roan Bros 8031 N Monticello Ave Skokie Ill
- Rogers Corp Rogers Conn
- Rogers Electronic 43 Blecker St New York 12 NY
- Rohden Mfg 4739 W Montrose Ave Chicago 41 Ill
- Rohn Mfg 116 Limestone Bellevue Peoria Ill
- Rola Co 2530 Superior Ave Cleveland 14 Ohio
- Roland Radio Corp 716 S Columbus Mt Vernon NY
- Rollan Electric Co 8020 S Park Ave Chicago 19 Ill
- Roller-Smith Corp 1825 W Market St Bethlehem Pa
- Rollins Electronics Corp Lewes Del
- Romar Plastics Inc 1311 E Main St St Charles Ill
- Rome Cable Corp Rome NY
- Ronan & Kunz Marshall Mich
- Ronette Sales Corp 135 Front St New York 5 NY
- Rosen Eng'g Prods 32 & Walnut Philadelphia 19 Pa
- Rostan Corp 56-60 59 St Maspeth LI NY
- Rotron Mfg Co Schoonmaker Lane Woodstock NY
- Rowe Industries 1702 Wayne St Toledo 9 Ohio
- Royal Electric Co 95 Grand Ave Pawtucket RI
- Royal Metal Mfg Co 175 N Michigan Ave Chicago 1 Ill
- Roylyn Inc 1706 Standard Ave Glendale 1 Calif
- RS Electronics 435 Portage Ave Palo Alto Calif
- Rubicon Co Ridge Ave & 35 St Philadelphia 32 Pa
- Ruckelshaus Labs J G Madison NJ
- Rumple Inc 2308 Beloit Ave W Los Angeles 64 Calif
- Runzel Cord & Wire 4723 W Montrose Ave Chicago 41
- Rust Industrial 41 E 42 St New York 17 NY
- Rutherford Electronics Culver City Calif
- Ryan Co S C 1316 Yale Pl Minneapolis Minn
- Ryan Industries 19159 John R St Detroit 3 Mich
- Soft Corp of America 2 Gregg St Lodi NJ
- Sage Electronics 302 N Goodman St Rochester 7 NY
- Sage Labs 30 Guinan St Waltham 54 Mass
- Sag Harbor Industries Sag Harbor NY
- St John X-Ray Lab Caliform NJ
- St Mary Carbon Co St Marys Pa
- Sampson Chemical & Pigment 2830 W Lake Chicago 12
- Sanborn Co 195 Mass Ave Cambridge 39 Mass
- Sanders Associates 95 Canal St Nashua NH
- San Fernando Electric 1509 1 St San Fernando Calif
- Sangamo Electric Co Box 7 Marion Ill
- Sangamo Generators Springfield Ill
- Santa Monica Bay Sheltered Workshop 2521 5 St Santa Monica Calif
- Saratoga Plastics PO Box 490 Bellows Falls Vt
- Sargent-Raymont Co 4926 E 12 St Oakland 1 Calif
- Saxonburg Ceramics Saxonburg Pa
- Saxton Prods 1661 Boone Ave Bronx 60 NY
- Scanco Controls Market St Palmyra NJ
- Schafer Custom Eng'g 235 S 3 St Burbank Calif
- Schauer Mfg 4500 Alpine Cincinnati 36 Ohio
- Scherma Mfg F A 424 Broome St New York 13 NY
- Scherr Co George 200 Lafayette New York 12 NY
- Schmidt Co G T 1804 Belle Plaine Chicago 13 Ill
- Schutter Mfg Carl W Lindenhurst NY
- Sciaky Bros 4915 W 67 St Chicago 38 Ill
- Scientific Assoc 2162 Piedmont Rd NE Atlanta 9 Ga
- Scientific Coil 5619 Broadway Chicago 40 Ill
- Scientific Radio 4301 Sheridan St Hyattsville Md
- Scientific Radio Products 215 S 11 St Omaha Nebr
- Scintilla Division Bendix Aviation Corporation Sidney NY Phone Sidney 9511
- Sis Product Mgr—D W Newcomb
- DALLAS-BO—8401 Cedar Spring Ave Dixon 2150
- DAYTON-BO—1900 Hulman Bldg 120 W Second St Hemlock 1674
- DETROIT-BO—Paterson Bldg 18038 Mack Ave Tuxedo 5-5242
- LOS ANGELES-BO—117 E Providencia Ave Victoria 9-2211 THornwall 4-1571
- MILWAUKEE-BO—5906 N Port Washington Rd Woodruff 4-3450
- NEW YORK CITY-D—Avnet Electronic Supply Co 34-36 N Moore St BEEKman 3-5780
- PHILADELPHIA-BO—512 West Ave Jenkintown Pa Turner 7-2222
- PHILADELPHIA-D—H H Powell Co 2102 Market St Locust 7-5285
- SEATTLE-BO—Box 62 Boeing Field Rainier 2194
- WASHINGTON-BO—1701 "K" St NW Republic 7-3118
- CANADA
- MONTREAL Que—Aviation Electric Ltd 200 Laurentien Blvd Riverside 4-2811
- SC Labs 37 George St Newark 5 NJ
- Scott Inc H H 385 Putnam Ave Cambridge 39 Mass
- Scott Radio Labs Plymouth Ind
- Scovill Mfg Mill St Waterbury 20 Conn
- Scully Machine 62 Water St Bridgeport 8 Conn
- Seager Standard Carbon 291 Church St New York 18
- Sealelectric Switch & Relay 6025 N Keystone Chicago
- Sealectro Corp 186 Union Ave New Rochelle NY
- Seals Ltd 1010 Mission St S Pasadena Calif
- Sears Co M J Roxbury NY
- Seco Mfg Co 5015 Penn Ave So Minneapolis 19 Minn
- Phone: WALnut 6-4545
- Products: Seco GCT-VT Grid Circuit tester
- Seco FB-4 Horizontal Circuit Analyzer
- Seco SL-10 Monitor Signal
- Tracer & Intermittent Localizer
- President—E A Bransen
- Chief Engineer—E A Bransen
- Sales Manager—L P Henoman
- Field Representative—J Warren Basiger
- Seeburg Corp 1500 N Dayton St Chicago 22 Ill
- Seismograph Service PO Box 1590 Tulsa 1 Okla
- Self-Winding Clock 205 Willoughby Ave Brooklyn 5 NY
- Sel-Rex Precious Metals 229 Main Belleville 9 NJ
- Seneca Falls Machine Seneca Falls NY
- Senn Corp New Augusta Ind
- Sensitive Research Instr 310 Main New Rochelle NY
- Sentinel Radio Corp 2100 Dempster St Evanston Ill
- Sequoia Process 871 Willow St Redwood City Calif
- Serdex Inc 91 Cambridge St Boston 14 Mass
- Servo Corp 20-20 Jericho Tpke New Hyde Park LI NY
- Servomechanisms Inc Post & Stewart Aves Westbury NY
- Servonic Instruments 1145 S Fair Oaks Pasadena Calif
- Servo-Tek Prods 1086 Goffe Rd Hawthorne NJ
- Servotrol Co 114 W Illinois St Chicago 10 Ill
- Sessions Clock 61 E Main St Forestville Conn
- Setchell-Carlson New Brighton St Paul 12 Minn
- Sethco Mfg 70 Willoughby St Brooklyn 1 NY
- Seymour Mfg Franklin St Seymour Conn
- Shallcross Mfg Co Collingdale Pa
- Shallite Inc 10 Mill St Paterson NJ
- Shamban Eng'g 11617 W Jefferson Culver City Calif
- Shannon Lum Mat 7356 Santa Mon Hollywood 46 Calif
- Shasta Div Beckman Instr Richmond Calif
- Shaw Insulator 160 Coit St Irvington 11 NJ
- Sheffield Corp 721 Springfield St Dayton 1 Ohio
- Shepard Labs 480 Morris Ave Summit NJ
- Sherman Industrial Electronics 505 Wash Belleville NJ
- Sherman Mfg H B 22 Barney St Battle Creek Mich
- Sherold Crystals 1510 McGeer St Kansas City Mo
- Shielding Inc Dent TT Box 217 Riverside NJ
- Shrader Sound 2803 M St NW Washington 7 DC
- Shura-Tone Prods 440 Adelphi St Brooklyn NY
- Shure Bros 222 Hartrey Ave Evanston Ill
- Shurite Meters 61 Hamilton St New Haven 8 Conn
- Sielier Design Prods 10460 San Pablo El Cerrito Calif
- Sierra Electronic 1050 Britton Ave San Carlos Calif
- Sightmaster Corp 111 Cedar St New Rochelle NY
- Sigma Instruments 170 Pearl St S Braintree Mass
- Signal Eng'g 273 Branchport Long Branch NJ
- Signal Equipment Co 2706 3 Ave Seattle 1 Wash
- Signal Transformer 2518 Coney Island Brooklyn NY
- Silicone Insulation 564 3 Ave New York 16 NY
- Silicone Seals 3125 Milwaukee Chicago 18 Ill

ALPHABETICAL LISTING of MANUFACTURERS with LOCALIZER INDEX

- Sillcocks-Miller 10 W Parker Ave Maplewood NJ
 Simmonds Aerocessories Tarrytown NY
 Simplex Time Recorder Gardner Mass
 Simplex Valve & Meter Lancaster Pa
 Simpson Electric 5208 W Kinzie St Chicago 44 Ill
 Simpson Mfg Mark 32-28 49 St Long Island City NY
 Sittler Corp 18 N Ada St Chicago 7 Ill
 Skatin' Toons Box 264 Smithtown NY
 SKF Industries Front & Erie Philadelphia 32 Pa
 Skiatron Electronics & TV 3 E 10 St New York 3 NY
 Skottie Electronics 204 Bridge St Peckville Pa
 Skysweeper Inc 51 Bridge St McHenry Ill
 Slater Electric & Mfg 56 St & 37 Ave Woodside NY
 Slaughter Co Pique Ohio
 Small Motors Inc 2076 Elston Ave Chicago 14 Ill
 Smith Assoc R 1319 19 St NW Washington 6 DC
 Smith Inc H H 2326 Nostrand Ave Brooklyn 10 NY
 Smith-Meeker Eng'g 157 Chambers St New York 7 NY
 SNC Mfg PO Box 277 Oshkosh Wis
 President—John L Vette Jr
 VP & Ch Engr—William R Daseke
 Dir of Sls & Purch—Vernon H Young
 Chicago-IDS—Henry L Beekman 2644 N Western
 Ave Brunswick 8-4268 Covers N Ill-Wisc-E
 Iowa
 Cleveland-IDS—Midwest Sls Co 3219 W 117th St
 Winton 1-2700 Covers Ky-Ohio-Ind-Mich-W
 Va
 Hoboken-IDS—S W Simberkoff 68 Hudson St
 Hoboken 2-5211 Covers NY-NJ-Pa-Md-Del-
 Va Dist Col
 Export-IDS—John C Hill 549 West Washington
 St Chicago Anderson 3-6420
 Snyder Mfg 22 & Ontario Sts Philadelphia 40 Pa
 Sola Electric Co 4633 W 16 St Chicago 50 Ill
 Solar Mfg E 46 St & Seville Ave Los Angeles 58 Calif
 Solartron Electronic Group Thames Ditton Surrey Eng
 Sonar Radio Corp 3050 W 21 St Brooklyn 24 NY
 Sonex Inc 245 Sansom St Upper Darby Pa
 Sonic Recording Prods 58 Mill Rd Freeport NY
 Sonora Radio & TV 2023 W Carroll Ave Chicago 12
 Sorensen & Co 375 Fairfield Ave Stamford Conn
 Soroban Eng'g Inc Box 338 Melbourne Fla
 SOUNDS Cinema Supply 602 W 52 St New York 19 NY
 Sound Apparatus Co Stirling NJ
 SoundScriber Corp 146 Munson St New Haven 9 Conn
 South Bend Lathe Works South Bend 22 Ind
 Southern Electronics Burbank Calif
 S River Metal Prods 377 Turnpike South River NJ
 Southwest Products San Antonio Texas
 Southwestern Ind Elec Houston 19 Texas
 Spaulding Fibre Co 310 Wheeler St Tonawanda NY
 Spaulding Products 550 W Barnes St Frankfort Ind
 Speak-O-Phone Recording 23 W 60 St New York NY
 Special Instruments 312 W Vine Knoxville Tenn
 Special Products PO Box 188 Rockville 1 Md
 Specialty Automatic Mach Chelsea 50 Mass
 Specialty Eng'g 79 Clifton Pl Brooklyn 38 NY
 Specific Products 14515 Dickens Sherman Oakes Calif
 Spectrol Electr Div Carrier Corp San Gabriel Calif
 Speer Carbon Co Div Speer Resistor St Marys Pa
 Spellman TV Co 3029 Webster Ave Bronx 67 NY
 Spencer-Kennedy 1320 Soldiers Field Boston 35 Mass
 Sperry Gyroscope Co Div Sperry Rand Great Neck NY
 Sperry Products Shelter Rock Rd Danbury Conn
 Spertl Faraday Inc 1322 E Church St Adrian Mich
 Spincraft Inc 4122 W State St Milwaukee 8 Wisc
 Spiraling Products Henrietta & Duffy Ave Hicksville NY
 Sprague Electric Co Marshall St N Adams Mass
 Spruce Pine Mica Co Spruce Pine NC
 Stackpole Carbon Co Tannery St St Marys Pa
 Stainless Inc North Wales Pa
 Statat Mfg Co 47-23 37 St Long Island City 1 NY
 Stancil-Hoffman 921 N Highland Hollywood 38 Calif
 Standard Cabinet Co 54 Washington Ave Carlstadt NJ
 Standard Coil Products Melrose Park Ill
 Standard Condenser 3749 N Clark Chicago Ill
 Standard Crystal Co 1714 Locust Kansas City 8 Mo
 Standard Electric Time 89 Logan St Springfield 2 Mass
 Standard Electrical Prods 2240 E 3 St Dayton Ohio
 Standard Electronics Corp 285 Emmet St Newark NJ
 Standard Electronics Res 2 East End Ave New York 21
 Standard Metals Corp 262 Broad St N Attleboro Mass
 Standard Record 1475 El Mirador Pasadena Calif
 Standard Telephone & Cables London Eng
 Standard TV Tube 706 Dryades St New Orleans La
 Stanford Labs PO Box 252 Menlo Park Calif
 Stanwyck Windinn Co 137 Walsh Ave Newburgh NY
 Star-A Electric Mfg 269 Meserole St Brooklyn 6 NY
 Star-Kimble Motor 200 Bloomfield Ave Bloomfield NJ
 Star Porcelain Co Muirhead Ave Trenton 9 NJ
 Stark Mfg Co PO Box 489 Tuscaloosa Ala
 States Co 19 New Park Ave Hartford 6 Conn
 Staver Co 41-51 N Saxon Ave Bay Shore NY
 Stavid Eng'g US Hwy No 22 Plainfield NJ
 Sta-Warm Electric 1000 N Chestnut Ravenna Ohio
 Steel Co H D Lafayette Bldg Philadelphia 6 Pa
 Steelman Phono & Radio Mt Vernon NY
 Stelma Inc 190 Henry St Stamford Conn
 Stephens Mfg Corp 8538 Warner Dr Culver City Calif
 Sterling Eng'g 54 Mill St Laconia NH
 Sterling Precision Instr Flushing NY
 Sterling Transformer Corp 297 N 7 St Brooklyn 11 NY
 Stevens-Arnold 22 Elkins St S Boston Mass
 Stevens Mfg Co PO Box 1007 Mansfield Ohio
 Stevens Mfg Co Geo 6022 N Rodgers Chicago 30 Ill
 Stevens Products 86 Main St E Orange NJ
 Steward Mfg Co D M PO Box 510 Chattanooga Tenn
 Stewart Eng'g Co PO Box 277 Soquel Calif
 Stewart Instrument 6507 Grand River Detroit 8 Mich
 Stewart & Stevenson 4516 Harrisburg Houston Texas
 Stewart-Warner Electronics 1300 N Kostner Chicago
 Sticht Co Herman H 27 Park Pl New York 7 NY
 Stoddart Aircraft Radio 6644 Santa Monica Hollywood
 Stoelting Co C H 424 N Homan Ave Chicago 24 Ill
 Stokes Machine F J 5500 Tabor Philadelphia 20 Pa
 Stone City Machine PO Box 351 Bedford Ind
 Stonite Coil Corp Route 25 Yardville NJ
 Stonized Products 900 Franklin St NE Washington DC
 Strandberg Eng'g 416 W Market St Greensboro NC
 Stratford TV 2555 W 21 St Chicago 8 Ill
 Stratoseal Mfg 3039 W Fullerton Ave Chicago 47 Ill
 Streeter-Amet 4101 N Ravenswood Ave Chicago 13 Ill
 Strobite Co 75 W 45 St New York 36 NY
 Stromberg-Carlson 1225 Clifford Ave Rochester 21 NY
 Strong Electric Corp 87 City Park Ave Toledo 2 Ohio
 Struthers-Dunn Inc Pitman NJ
 Studio TV Products 11 W 42 St New York 36 NY
 Stupakoff Div Carborundum Co Latrobe Pa
 Sturtevant Co P A Addison Ill
 Suffolk Products Northport LI NY
 Summit Coil Co 4 Claremont Rd Bernardsville NJ
 Sun Chemical 113 E Centre St Nutley NJ
 Sun Electric Corp Harlem & Avondale Chicago 31 Ill
 Sun Tube Corp Route 69 Washington NJ
 Sunrise Products Co PO Box 173 Hawthorne 1 NJ
 Super Ear Products 675 Merrick Rd Lynbrook NY
 Superex Electronics 4 Radford Pl Yonkers NY
 Superior Carbon Prods 9115 George Ave Cleveland 0
 Superior Electric Co 83 Laurel St Bristol Conn
 Superior Electronics 208 Piaset Ave Clifton NJ
 Superior Rectifier Mfg Hammond Ind
 Superior Steatite & Ceramic Englewood NJ
 Superior Tube Co Box 191 Norristown Pa
 Supreme Instruments Greenwood Miss
 Suprenant Mfg 172 Sterling St Clinton Mass
 Sutton Electronic Co 424 W Short St Lexington Ky
 Swift & Sons M 10 Love Lane Hartford 1 Conn
 Swiss Jewel Co 225 Lafayette Bldg Philadelphia 6 Pa
 Switchcraft Inc 1328 N Halsted St Chicago 22 Ill
 Sylvania Electric Radio-TV Div 254 Rano Buffalo NY
 Sylvania Electric Products Inc New York Office 1740
 Broadway New York 19 NY
 Phone JUdson 6-2424
 General Sales Manager—D W Gunn
 Ass't Equipment Sales Manager—W O Spink
 Manager Sales Engineering—B Kievit
 Manager Government Sales—G V Bureau
 EASTERN REGION—1000 Huyler St Teterboro NJ
 -Hasbrouck Heights 8-9484 District Manager
 L S Raynor
 EAST CENTRAL REGION—411 Oak St Cincin-
 nati Ohio PLaza 1-8454 District Manager
 J T Mallen
 CENTRAL REGION—2001 N Cornell Ave Mel-
 rose Park Ill-Esterbrook 9-2525 District Man-
 ager L A Wheelock
 WESTERN REGION—2936 East 46th St Los An-
 geles 58 California-Logan 5-8121 District
 Manager F E Gilbert Jr
 Symphonic Radio 160 Washington St N Boston 8 Mass
 Symphony Radio & TV 925 S Western Ave Los An-
 geles 6 Calif
 Synthase Corp Montgomery Ave Oaks Pa
 Synton Co Homer City Pa
 Syntronic Instruments 100 Industrial Rd Addison Ill
 Taber Instrument 111 Goundry St N Tonawanda NY
 Tabet Mfg 1336 Ballentine Blvd Norfolk 12 Va
 Takk Corp PO Box 346 Newark Ohio
 Talk-A-Phone 1512 S Pulaski Rd Chicago 23 Ill
 Tally & Cooper 75 Front St Brooklyn 1 NY
 Ta-Mar Inc 11571 W Jefferson Blvd Culver City Calif
 Tape Recorders Inc 1501 W Congress St Chicago 7 Ill
 Tarc Electronics 48 Urban Ave Westbury LI NY
 Tarzian Inc Sarkes 415 N College Ave Bloomington Ind
 Tayloreel Corp 3 Rutter St Rochester 6 NY
 Taylor Fibre Co Norristown Pa
 Taylor Instrument 95 Ames St Rochester 1 NY
 Taylor-Winfield 1052 Mahoning NW Warren Ohio
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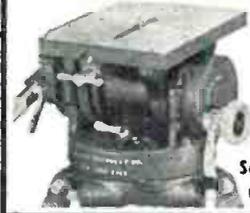
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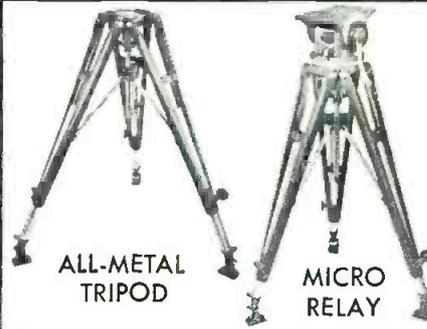
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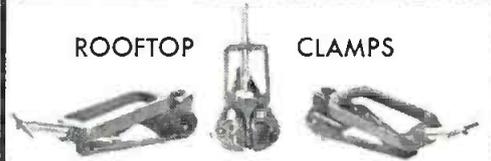
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Equipment Reliability

(Continued from page 97)

tube characteristics with operating time. As an example, consider circuits using type 5840 tubes which will not function properly if the slump of transconductance from zero hours exceeds the percentages

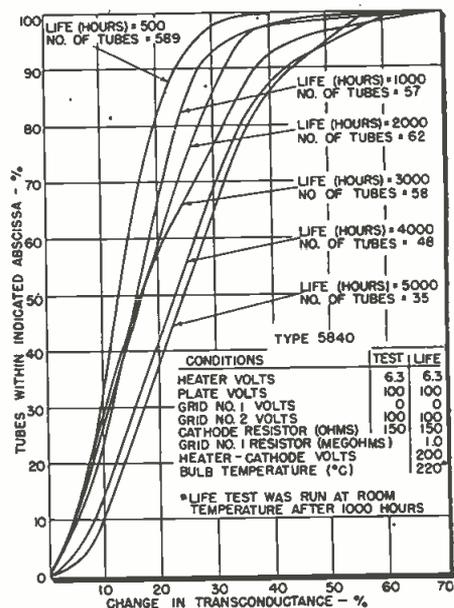
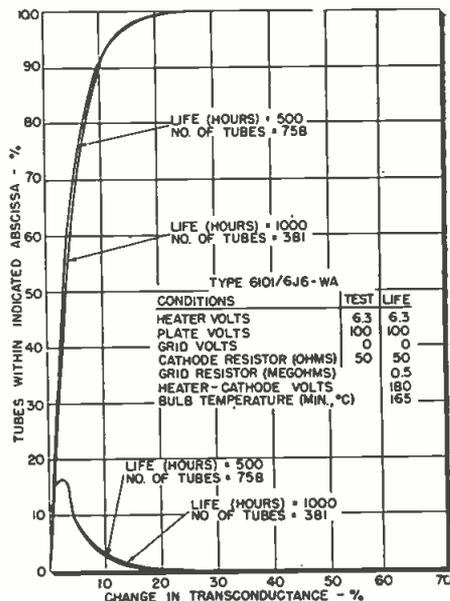


Fig. 7: Reliability of 5840 tubes

Fig. 8: Test—6101/6J6-WA



shown in Table I. The data for the replacement rates given in this table are obtained from the curves shown in Fig. 1. The percentage of change on life is computed on basis of absolute values of change from zero-hour value for each tube.

Many equipments are designed so that circuits require minimum values of certain tube characteristics for proper performance. For example, a circuit using 6101/

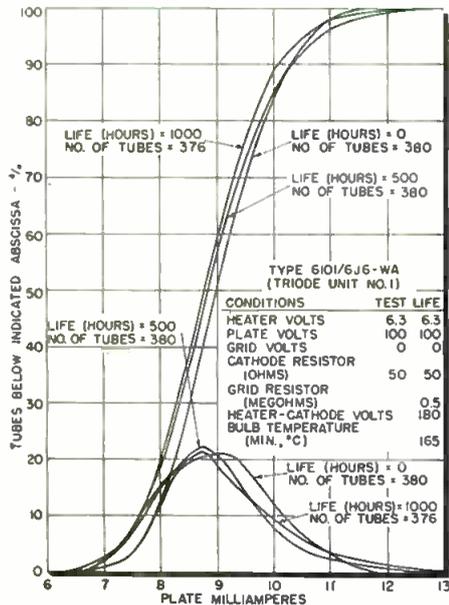
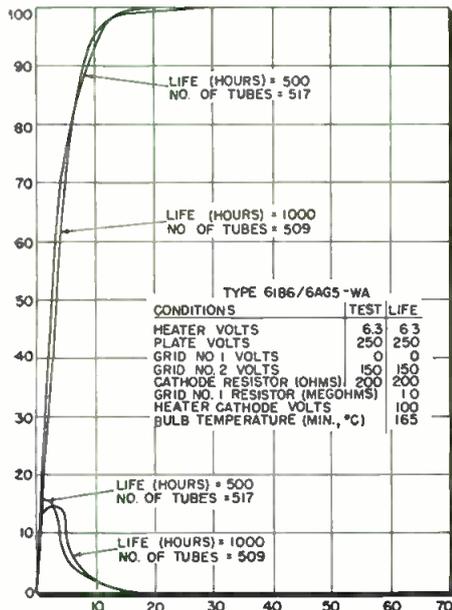


Fig. 9: Reliability of 6101/6J6-WA

Fig. 10: Number of tubes vs. G_m change



6J6WA tubes may require minimum values of plate current as shown in Table II. The data for the replacement rates given in this table are obtained from the curves shown in Fig. 2.

(Continued on page 348)

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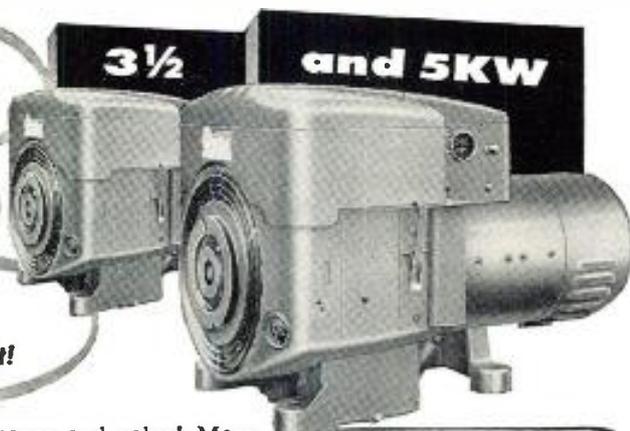
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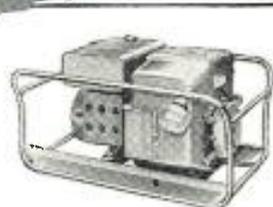
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Equipment Reliability

(Continued from page 347)

It is obvious that circuit reliability is increased when allowances are made for the normal change in tube characteristics with life.

General Considerations

In the interpretation of the life test data presented in this article, the equipment designer must consider the following factors:

1. The data represent only one manufacturer's product at one particular time. Such data will, of course, show variations within MIL-E-1 specifications from batch to batch.

2. The percentage of change indicated for the particular tubes covered in this article is better than that required by the MIL-E-1 specification. This specification gives no limits for the change in individual tubes, but specifies only a limit on average change for the sample during 500-hr. operation.

3. Tubes were operated on life test at maximum-rated dissipation with a bulb temperature of 165°C.

4. Although the conditions for life test included the use of cathode bias, tube characteristics were measured with fixed bias. The percentage of change for individual tubes would be considerably reduced if cathode bias were used during these measurements.

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By action of the company's board of directors, Arthur O. Black has been elected president and William D. Dickey executive vice president of Magnetics, Inc., Butler, Pa. The step was deemed necessary by the company's very rapid growth.

The appointment of Robert F. Schulz as president has been announced by the new Intercontinental Electronics Corp., Garden City, N. Y.



Robert F. Schulz



James M. Skinner, Jr.

James M. Skinner, Jr., of Philco Corporation, Philadelphia, Pa., has been elected president. William Balderston was re-elected chairman of the board of directors. James H. Carmine will continue as active member of the board and finance committee and will serve as special consultant on sales and merchandising.

Thomas B. McFadden, a veteran of the National Broadcasting Company, was promoted recently to vice president in charge of WRCA and WRCA-TV. John H. Reber will succeed Mr. McFadden as director of spot sales.

The Western Electric Company, New York, N. Y., announced at a recent board meeting the election of Harold V. Schmidt, A. Pope Lancaster, and William E. Burke as vice-presidents.

Motorola Communications and Electronics, Inc., Chicago, Ill., appointed six new vice-presidents. Eugene S. Goebel is vice-president for market relations; Lowell E. White, V. P. and eastern sales division manager; Homer L. Marrs, V. P. and central sales division manager; Edward L. Falls, Jr., V. P. and southern sales division manager; and Donald F. Brickley, V. P. and western sales division manager.

Howard C. McMillen has been elected president of the American Society of Tool Engineers, Detroit, Mich. At the same meeting H. E. Collins became first vice-president.

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C 2	6.3	171	.44'
C 22	5.5	184	.44'
C 3	5.4	197	.64'
C 33	4.8	220	.64'
C 4	4.6	229	1.03'
C 44	4.1	252	1.03'

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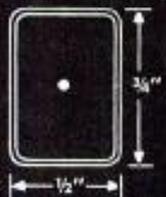
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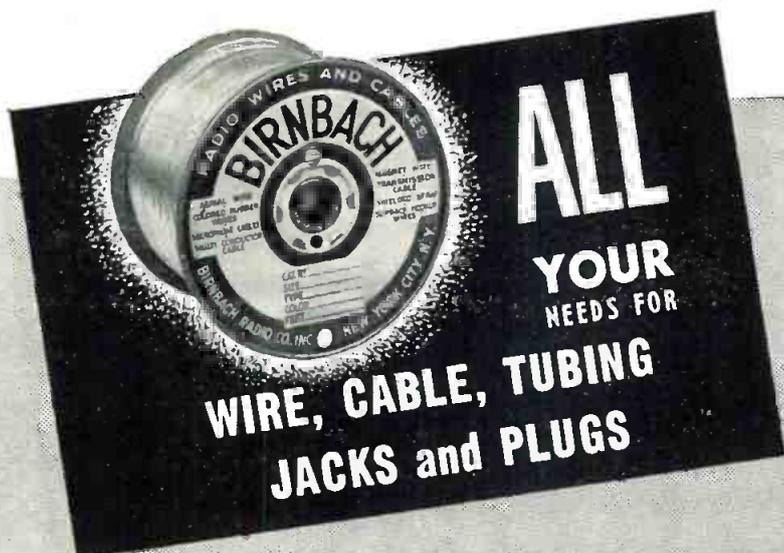
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Single-Gun System

(Continued from page 99)

the chrominance modulation to a second pilot frequency carrier. A pentode oscillator supplies the 38.1 MC unmodulated pilot carrier which is mixed with the 3.58 MC reference signal. The sum frequency of 41.7 MC is selected, amplified, and applied to the CRT pilot signal grid.

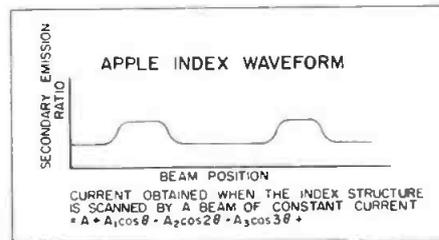


Fig. 6: Index peaks at red position

Pilot oscillator output is also mixed with the receiver chrominance signal and the sum is derived again, forming the chrominance modulated signal of 41.7 MC.

Sideband Amplifier

The side band unit comprises a 3-stage amplifier with a center frequency of 48.1 MC and 2 MC total bandwidth. This amplifier has 2 outputs. One is mixed with the unmodulated 41.7 MC pilot carrier to form a color writing frequency difference signal that is applied to a discriminator to derive the width control signal. The second output is mixed with the chrominance modulated 41.7 MC pilot carrier to form a chrominance modulated writing frequency signal which also includes the positional information of the index signal.

The functions of the video amplifier are normal. The luminance signal from the detector is amplified and applied to the CRT writing grid. The chrominance signal from the sideband unit is amplified by the last 2 stages of the video amplifier, and, with the luminance, makes a composite video signal for the CRT writing grid.

Apple Tube

The Apple color picture tube may be described as an all-glass rectangular picture tube providing 260 sq. in. of useful screen area, having a deflection angle of 74°, and using magnetic focusing and deflection.

It satisfies certain specific requirements as follows: small spot size; 2 electron beams, having a minimum of "crosstalk," that track each other; a screen consisting of a repeated pattern of vertical red, blue, and green phosphors arranged on the face of the tube in a precisely described fashion; and, a secondary emission, index producing structure.

Electron Gun

The electron gun is essentially of magnetic focus triode design. The focused spot size has, as one limitation, the size of the first crossover of the electron beam. The required crossover diameter is secured by close cathode-to-grid spacing, small grid aperture diameter, and a thin grid aperture. Extremely close cathode-to-grid spacing is made possible by using a spacer ceramic which is lapped top and bottom to a specific height. The cathode-support ceramic is also lapped flat on one side, and the dimension from this surface to the top of the uncoated cathode is closely controlled. Cathode-spray thickness is also closely controlled.

The writing grid aperture is 0.020 in. in diameter; the pilot beam aperture is 0.014 in. in diameter. The grid aperture is made electrically thin by countersinking the hole so as to leave the cylindrical portion only 0.001 in. thick. This combination of a small, countersunk grid aperture and close cathode-to-grid spacing is primarily responsible for the small diameter first crossover, which is imaged on the screen by simple optics, resulting in greatly reduced spot size.

In order for the tracking relationship of the 2 beams to be independent of manufacturing variations in deflection yokes, the beams must traverse the same portion of the deflection field at the same time. For the yoke designed for use with this tube, the optimum situation is for the 2 beams to originate as closely together as possible and cross each other at the center of deflection.

Convergence of the 2 beams so as to cause them to cross at the center of deflection is obtained by a "field lens" type of convergence electrode.

(Continued on page 352)

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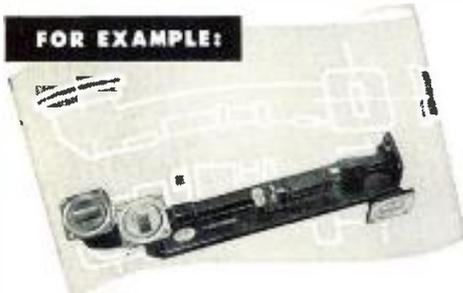
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Single-Gun System

(Continued from page 351)

This lens slightly bends the 2 beams toward each other without any appreciable focusing effect. The convergence electrode is actually part of the beam shield which prevents the control voltage of one beam from affecting the intensity or position of the other beam.

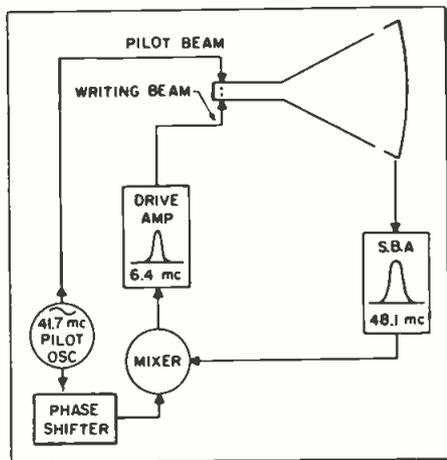


Fig. 7: Basic Apple Index system

The beam shield is a thin, flat disc having 2 small holes with a bridge of metal between them. It is not a conventional accelerating electrode, and every attempt has been made not to have it perform any accelerating function. Reduction of lens action is accomplished by operating the shield at its average free-space potential and by keeping it thin.

Luminescent Screen

The luminescent screen or anode of the Apple tube consists of a repeating array of red, blue, and green vertical stripes. The spaces between the lines are as wide as the phosphor lines themselves, and are filled in with a guard band made of a dark colored, non-luminescent material. The presence of this band improves color saturation and enhances contrast under normal ambient light by reducing the reflectivity of the screen. The guard bands and phosphor lines are placed on inside of tube face by a photoresist technique using dichromate sensitized polyvinyl alcohol.

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Index Structure

The index signal is generated by the difference in secondary emission between an array of magnesium oxide stripes applied to the gun side of the aluminized screen and the bare aluminum between these stripes. There are 2 contact buttons on one side of the tube envelope, and one of these is connected to the screen aluminum coating, making it possible to maintain the screen potential at approximately 27 kv.

The second contact button connects to the bulb coating which is maintained at 30 kv. The 3 kv differential between screen and bulb coating results in collection of the secondary electrons from the screen by the bulb coating.

There is one magnesium oxide stripe per triplet. The index stripes are on a 40% duty cycle, that is, 40% of the triplet width is magnesium oxide, 60% is bare aluminum. This has been found to give the maximum fundamental component index yield.

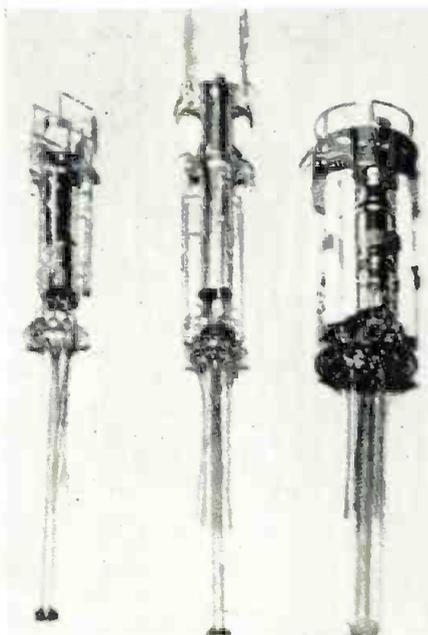
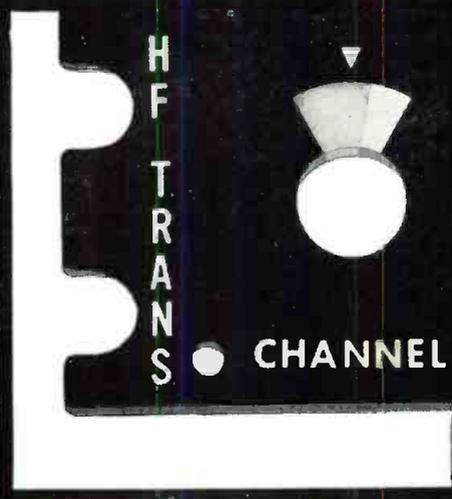


Fig. 8: Apple dual-beam electron gun

A comparison of the Apple tube with a monochrome tube shows the same size envelope for the same size picture. (Fig. 1) Compared to the other color tubes, the Apple tube presents the largest picture size in proportion to the envelope size. The electron gun is more like a monochrome gun than it is like any multiple beam gun used in other types of color reproducing tubes (Fig. 8).

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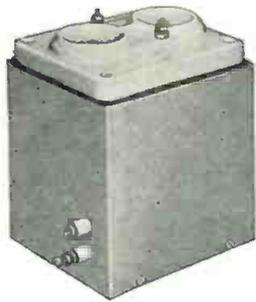
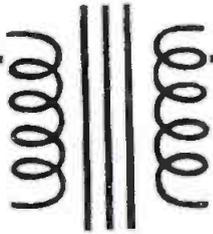
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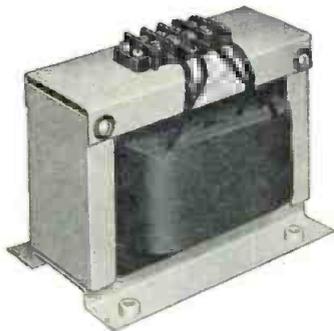
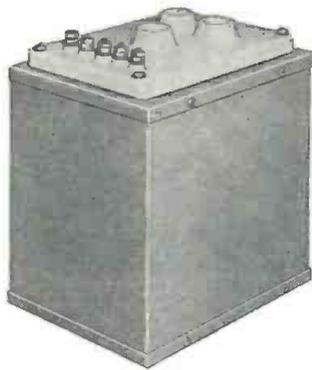
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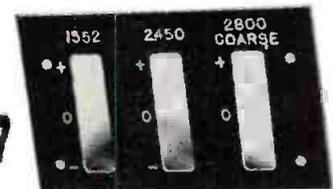
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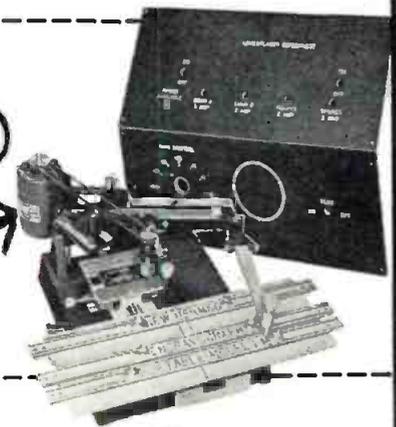
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Power Gain Meter

(Continued from page 105)

At high frequencies, the output impedance may have a phase angle of 45° and higher. When a parallel tuned resonant tank is used, the effective capacitance of the output impedance is in parallel with the condenser of tank circuit. For a given frequency, the effective capacitance of the output impedance determines the maximum value of inductance of the tank circuit.) Two continuously variable resistances are desirable for r_1 and r_2 in Fig. 1, and proper mechanical coupling is required.

Another point which demands attention in the circuit design concerns the dc bias connections. These paths should, if possible, have a high impedance for the ac signal, and low resistance for dc current. The blocking condenser in the ac path should have a capacitance large enough to let the lowest frequency encountered pass through without too much attenuation. This point is especially important on the input side of this instrument.

The circuit described below is a power gain meter which can be used for pnp and npn junction transistors. This equipment in conjunction with a common laboratory signal generator and an ac millivoltmeter covers a frequency range from 10 kc to 3 mc. In order to cover the radio frequencies without introducing too much error, the continuously variable resistances r_1 , r_g , r_2 and r_i described above are replaced by gauged stepped controls. The error introduced will be discussed later. The complete circuit is shown in Fig. 3. In this circuit the switch S_3 is used for changing the bias current when the transistor circuit is changed from the grounded-base to the grounded-emitter connection. The switch S_4 is used to select the polarity of the power supply for either pnp or npn transistors. The center position of S_4 is used to turn off the supply.

The total resistance presented to the signal generator is 50 ohms. When the switch S_1 is at position 1, r_1 is 5 ohms and r_g is 50 ohms. If a signal voltage of 100 mv is applied across the 50 ohms, a V_g of 10 mv appears across the 5 ohm resistor. When a 50 ohms input resistance is connected in series with r_g , a total of 100 ohms is now in shunt with r_1 which is 5 ohms. A slight change of v_g results. Let us neglect this small change of v_g for the time being and

(Continued on page 356)

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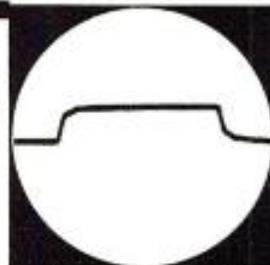
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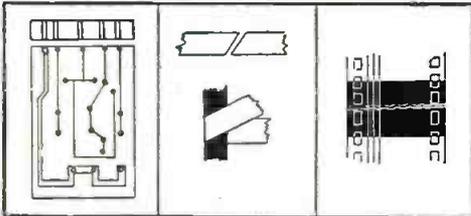


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Power Gain Meter

(Continued from page 355)

discuss this error later. The signal power input to the 50 ohms is the same as the available signal power

$$P_i = \frac{(10 \times 10^{-3})^2}{4 \times 50} \frac{100}{200} + 10^{-4}$$

$$= \frac{1}{2} \mu\text{w}$$

Since r_1 and r_g are so designed that an increase of r_g increases V_g proportionally, the available signal power is always $1/2 \mu\text{w}$ for any switch position.

On the output side of the transistor amplifier, the ac millivoltmeter is connected at the 500 ohm tap when the switch S_2 is at position 1. Since the load at this switch position is 1000 ohms, the actual power in the load is

$$P_o = \frac{(2V)^2}{1000} = 4V^2 \text{ mw.}$$

where V is the ac millivoltmeter reading in volts. The meter tap will change proportionally with the change of load resistance. Therefore, the meter reading remains the same as long as the power in the load is the same. The power gain of the transistor amplifier is then

$$G \text{ in db} = 10 \log \frac{P_o}{P_i} = 10 \log 8V^2 \times 10^4$$

$$= 39 + 20 \log V \text{ db}$$

where V is volts. A chart is made to give the power gain in db vs. V in millivolts as shown in Fig. 4.

Discussion

The error existing in such a power gain meter is contributed by many factors. These are now investigated.

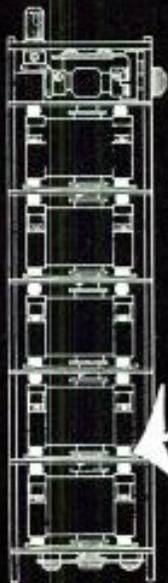
1. The error introduced due to neglecting the change of V_g due to loading of r_1 can be calculated as follows: The maximum ratio of r_1/r_g follows: The maximum ratio of r_1/r_g occurs when switch 1 is at position 1. Therefore, the maximum error is

$$\Delta G_1 = 20 \log \frac{9.55}{10} = -0.4 \text{ db}$$

or the actual input signal power is 0.4 db less than the assumed input power.

2. The error introduced due to mis-match of input impedance by not using the conjugate complex impedance can be studied as follows: Let the actual input impedance be $r + jx$, the total impedance will be

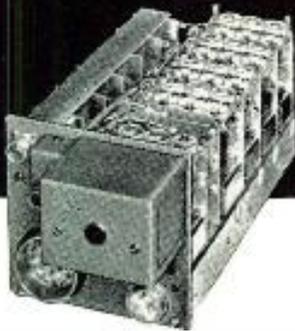
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$r_g + r + jx$. The actual input power is

$$\frac{V_g^2 r}{(r_g + r)^2 + x^2} \quad (2)$$

The assumed input power is

$$\frac{V_g^2}{4 r_g} \quad (3)$$

The experimentally measured variation of input impedance with frequency of junction transistors of either grounded-base or grounded emitter with a resistive load shows a phase angle which attains a maximum value about 50° . Hence for junction transistors the observed maximum value of X relative to r will be about 1.2 r , or

$$X^2 = 1.44 r^2 \quad (4)$$

Let $r_x = |z_i| = \sqrt{r^2 + x^2} = 1.56 r$ (5)

The actual input power will then be

$$\frac{V_g^2 r}{6.55 r^2 + 1.44 r^2} = \frac{V_g^2}{7.99 r} = \frac{V_g^2}{5.13 r_g} \quad (6)$$

The possible error is about

$$\Delta G_2 = -1.08 \text{ db or less}$$

Therefore, under worst conditions, the input power is 1.08 db or less than the assumed value.

3. The error introduced due to the discontinuity of r_g can be studied by investigating the largest possible percentage deviation of the input impedance value from r_g . It is clear that the largest percentage deviation will occur when the input switch is in position 1 or 2 and when the input impedance is 75 ohms. The deviation will be 33.3%. The actual input power will be:

$$\frac{V_g^2 1.333}{(1 + 1.333)^2 r_g} = \frac{V_g^2}{4.1 r_g} \quad (7)$$

Therefore the possible error in this case is

$$\Delta G_3 = -0.11 \text{ db}$$

The actual input power is 0.11 db less than the assumed value.

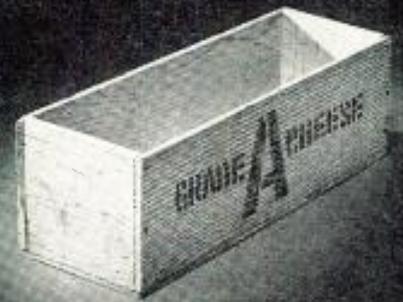
4. The error due to change of r_L in steps is important at low frequency because at these frequencies the output impedance of a junction transistor is fairly large. If the output impedance is larger than the range of resistance provided in this equipment, then the error can be fairly high. However if the output impedance is within the resistance range provided, the maximum possible error will be, the same as for case 3, that is,

$$G_4 = -0.11 \text{ db}$$

when switch 2 is at position 1 or 2. Under this condition, the output power is 0.11 db less than the actual value.

(Continued on page 358)

DON'T BUY A CHEESEBOX



When You Buy a "Do-It-Yourself" Speaker Enclosure Kit

Your speaker enclosure is not just a box. It's an important component of your Hi-Fi system. A "build-it-yourself" enclosure should be as good as the finest factory-assembled enclosure. When you "build your own" don't end up with a cheesebox... make sure that the kit you buy has all these features:

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Providing locked and mitred joints for extreme rigidity and buzz-free performance. Almost all assembly done with a screwdriver.

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KEN-15

Model KEN-15—Similar to EN enclosure series in every respect except that "Kwi-Kit" employs simplified front frame design. Unique mounting board is pre-cut for 15" speakers and supplied with adapter for 12" speakers. Also for most of the popular 2 or 3 way P.S.E. Speaker Systems. Enclosure complete: 37" H, 28" W, 19 1/4" D. Model KEN-15—Net Price \$49.75.



KEN-12

Model KEN-12—Similar to Model KEN-15 except that mounting board is pre-cut for all 12" speakers. Also for most of the popular 2 or 3 way P.S.E. combinations. Completed enclosure measures 30" H x 21 1/2" W x 15 1/4" D. Model KEN-12—Net Price \$39.75.

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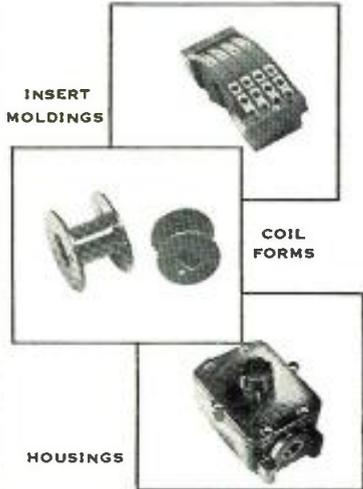
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DEERFIELD 4-4400

Power Gain Meter

(Continued from page 357)

5. The loss in the parallel tuned tank circuit depends entirely upon the Q of the inductance, therefore a high quality coil is required. For instance, let the Q of the inductance be 100, the effective Q of amplifier be 15, then

$$\text{loss} = 20 \log \left(\frac{100 - 15}{100} \right) = 1.4 \text{ db}$$

The operation of this equipment is rather simple. The transistor is first connected in the desired configuration on the three binding posts provided. S₃ is then switched to the corresponding transistor connection. Switch S₄ is switched according to whether the transistor under test is npn or pnp. Adjust r_s and r_b to give proper dc bias current I_b and bias voltage V_c.

Adjust the signal generator to the desired frequency and a signal voltage of 100 mv. Then, set switches S₁ and S₂ until the millivoltmeter on the output side reaches a maximum reading. For frequencies below 100 kc, it is usually not necessary to insert a parallel tuned tank in the collector circuit. For frequencies above 100 kc, if a more accurate power gain reading is desired, insert a high Q tank circuit into the terminals provided. Adjust the variable capacitance to peak the output meter reading. It may be necessary to adjust switches S₁ and S₂ again after the insertion of the tank circuit.

The millivolt meter reading can be converted into power gain in db from the chart.

Fig. 5 shows the variation of the available power gain vs. frequency of a junction transistor measured by the equipment above.

TABLE I

All the resistances listed below are 1/4-watt noninductive precision resistances. The resistance values for switch 1 are:

Switch Position	r ₁ ohms	r ₂ ohms
1	5.0	50
2	7.07	100
3	8.65	150
4	10.0	200
5	11.17	250
6	12.25	300
7	13.23	350
8	14.14	400
9	15.8	500
10	18.7	700
11	22.35	1000
12	27.4	1500
13	31.6	2000
14	38.7	3000

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TABLE II

The resistance values for switch 2 are:

Switch Position	r_2 (k Ω)	r_L (k Ω)
1	500	1
2	707	2
3	1000	4
4	1225	6
5	1414	8
6	1580	10
7	1935	15
8	2230	20
9	2500	25
10	3160	40
11	4180	70
12	5000	100
13	6125	150
14	7070	200

Other components are:

$r_3 = 11.3$ ohm ¼ w. non-inductive precision

$r_4, r_7, r_8, r_9 = 10$ kilohms ½ w. carbon film

$r_{10} = 10k, ½$ w. carbon

$r_5, r_6 = 25$ k pot.

$L_1 = 30$ mh RFC

$L_2 = 5$ henry AFC

$C_2, C_3, C_4 = 0.02$ μ f ceramic in parallel with 2 μ f paper 200 v.

$S_3 =$ DPDT

$S_4 =$ DPDT center open

$F_1, F_2 = 10$ ma fuse

$J_1 =$ normally clsd jack to monitor base current

$m_1, m_2 =$ d.c. milliammeter

References

- (1) R. L. Pritchard: "Frequency Variation of Junction Transistor Parameters" pp. 786-799 Proc. IRE May, 1954.
- (2) R. F. Shea et al., Principles of Transistor Circuits John Wiley and Sons, 1953.

Eddy-Current Bridge

(Continued from page 107)

nearly perfect reflector. Since calibration has been done, as a rule, by the substitution of known samples, the error for any conductor measured is small.

Circuitry

A circuit based on these principles is shown in Fig. 3. The electrostatically shielded driving loop forms a termination for the driving line. The 5687 drives the system at its resonant frequency, adjusted by cable patching. Loop current is 5 amps. The ac plate supply produces a half-sine-wave bursts of r-f. A crystal diode rectifies the stepped up loss signal, which then appears on the scope adjacent to the oscillator pulse from the 6AL5. Adjustment of the potentiometer dial to equalize the heights of loss pulse and oscillator pulse corresponds to a resistive

(Continued on page 360)

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Eddy-Current Bridge

(Continued from page 359)

balancing operation. The potentiometer setting is recorded as the relative surface resistance of the sample.

Good shielding is essential between the driving and the pickup circuits, since the pickup voltage is perhaps five orders of magnitude less than the oscillator voltage. For runs greater than a few feet, doubly shielded coaxial cable is advantageous. Vibration of the head produces a varying reactive unbalance, hence rigid construction of the instrument head is essential.

The crystal diode, although it introduces appreciable nonlinearity into the circuit, is used here because of its simplicity. With this note, Table II is presented. All the data shown were taken with the circuit of Fig. 3. The samples were not cleaned to remove surface films but are in "as received" condition with the exception of the OFHC copper standard.

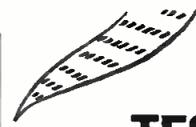
Instrument Heads

Fig. 1 shows the circular loop head described, and also a linear head design. In each case, the driving line is electrostatically shielded. On the circular model, the bucking-loop adjustment handle is visible. The linear model has the equivalent of a fixed bucking loop, and a vernier adjustment is provided remotely. An O-ring seals the linear head to the test surface so that atmospheric pressure may be used to hold it firmly in position. The valve and vacuum connection may be noted extending parallel to the signal lines.

Dimensions are chosen on the bases of area to be scanned, and of maximum frequency. The models shown have active diameter and length respectively of 0.75 in., and perform well from audio frequencies to 100 mc. Upper frequency limits occur where the loop dimensions approach a quarter wave length.

Copper-Clad Steel

Fig. 2 shows some prepared surfaces of copper-clad steel, 0.050 in. OFHC copper on ASTM-A-212 steel 0.450 in. thick. Initial testing showed the stock surface 1.4 times the standard loss. Machining operations, evident in the upper set of samples, were carried out in 0.001 in. steps. All the samples with 0.003 in. or more stock removal show conductivity within a few percent of the



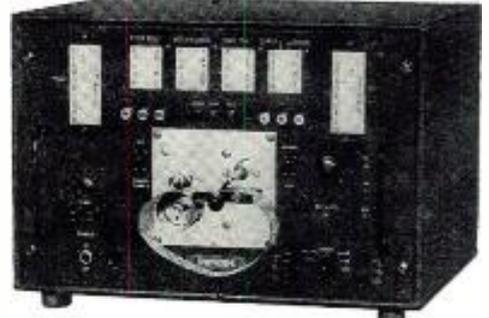
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Number of measurements: Between any two of 240 points, or over 57,000 possible measurements per set-up.
Speed: Approximately 120 measurements per minute.
Dimensions: 20" wide x 13 1/4" high x 18" deep (overall).
Weight: 90 pounds

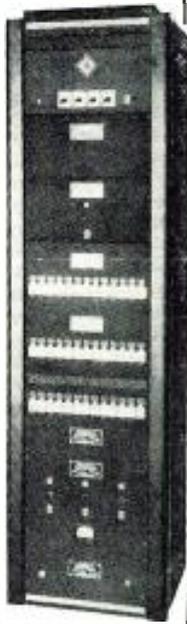


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2	20	kc
2	5	kc
4	1	kc
3	500	cps
2	300	cps
3	250	cps
3	200	cps
3	100	cps
7	60	cps
4	50	cps
2	10	cps
1	1	cps

Model 115

The outputs are through a system of double jacks allowing a selection between balanced and unbalanced output depending on how the jack-plug is connected. All outputs are 5 volts across 600 ohms. Total distortion less than 1%. The jacks are covered with snap covers to prevent dust and moisture from entering the units.

By means of a patch panel 26 lines (two wires) can be run out from the rack (two wires) to remote points. Any frequency of the ones listed can be brought out to anyone of these stations by connecting the proper output to the line desired.

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standard. The center row of samples has been etched with 10% ferric chloride solution for varying periods. Again, about 0.003 in. of copper must be removed to obtain a good conductivity at 40 mc. the test frequency. The optical appearance of the samples is quite unreliable as an indicator of quality in this case. Samples in the bottom row have been treated with nitric acid, sand-blasted, and dipped in aqua regia. Any of the methods of surface-layer removal is satisfactory, but sand-blasting results in a more lossy surface, presumably from increased surface roughness.

Ferric chloride etching following steam cleaning has been adopted as the method of treating the copper and gives a surface with about 99% the conductivity of machined OFHC copper, and an average roughness of 63 to 125 μ n.

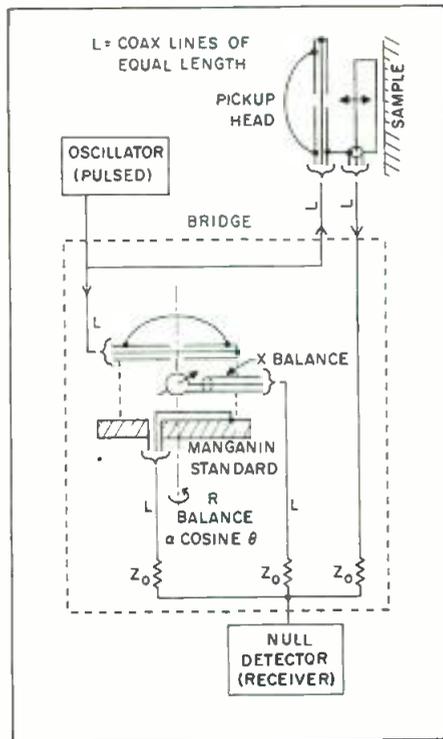


Fig. 4: Eddy-current bridge schematic

Manganin-Standard Bridge

Fig. 4 is a schematic diagram of an eddy-current bridge using a manganin standard for resistance comparison. Two similar linear heads are used, one for the sample and another, internal to the bridge, operating on the manganin. Rotation of the internal pickup loop provides a resistive balance, the dial reading indicating loss relative to manganin. For samples more lossy than manganin, attenuation can be switched into the loss signal from the sample head. Although the major reactive
(Continued on page 362)

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Model 2 Phase
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SPECIFICATIONS

Frequency Response: 0 to 5000 CPS;
Max. Reference Voltage: 120V. RMS;
Max. Output Voltage: \pm 50V. DC;
Dynamic Range: 46 db; **Load:** Max. 200K ohms, — Min. 20K ohms; **Input Impedance:** Approx. 200K ohms with 200K ohms load and 1:1 transformer.
Size: 1" dia. x 3"; **Weight:** 2 ozs.

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(Continued from page 361)

balance is built into the sample head by proper geometry, a vernier adjustment is provided locally.

The stability is such that 5° temperature variations in the sample can be followed. Linear head design permits reading loss along various directions. A particular set of samples of 0.003 in. copper plating on steel showed a loss 3% to 5% higher across grain than along grain. The grain reproduced in the plating was a regular set of parallel furrows produced in a planing operation.

Packaging

(Continued from page 85)

requirements exist almost in the position of objective specifications.

Enclosures of the above category, Fig. 1, 3 (which included non-commercial phonographs, record players, recorders, and similar items) must at minimum protect the individual components against mechanical injury and enclose any current-carrying parts which may involve shock or fire hazards. All fixed capacitors, inductors, power-handling inductors and power-handling transformers are regarded as fire hazards, and must be individually or collectively enclosed in a non-combustible case without such size or number of openings as may permit the propagation of flame. Non-combustibles have been defined by tests as sheet metal not less than .015 in thickness, excepting magnesium alloy which must be over .080, and phenolic not less than 1/8 in. thick, wood thicker than 3/8 in., and only such thermoplastics as have been shown by special investigation to be suitable.

Thermoplastics are of course used for cabinets where capacitors are mounted within the protection of metal chassis and power transformers are metal cased. Metal enclosures are required to be corrosion-protected. Any live part must be protected to the extent that it is not touchable by tiny fingers during operation or such servicing as the user might give the device—either behind a cover requiring tools to open or supplied with a suitable interlock. User servicing means replacing of such batteries, fuses, tubes, pilot lamps, etc., accessible without tools.

Generally a live part is defined as any point where open circuit potential exceeds 25 v., and currents

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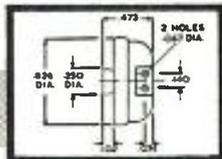
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of more than 5 ma. may be drawn through a 1500 ohm load. In general, the insulation must be able to withstand 900 v. tests, temperatures are restricted to under 90°C at any point on the overall enclosure or 65°C on thermoplastic cabinets. Specifications are somewhat modified by input wattages and voltages, details of which are found in the appropriate specification. Tests are also provided which may be used as guides to materials or constructions not fitting directly the prescribed.

The endurance of radio receivers, even domestic ones, requires a little consideration of the effects of humidity, temperature, and dust. With the introduction of portables having connective circuits printed on plastic decks (see Fig. 4) the problem has become somewhat more acute (the interlock for shock protection of the exposed live printed wiring may be noted). In Fig. 6 is indicated the seriousness of the combined effect of dust and moisture on a printed circuit; the insulation resistance between two parallel conductors being notably decreased, even though a coating of protective varnish has been applied to one sample. This problem has only recently been realized and while several types of coatings are being tried no recommendation can yet be given because of the limited amount of field reports. The results here indicate the inadequacy of MIL fungus varnish for this purpose. Martin¹ and Weinberg have also reported on the inadequacy of some styrene coatings, vinyls, phenolics and epoxies tested under the MIL-E-5272A humidity cycle. When said coatings were below 5 mils thick, all dropped to between 1 and 10 megohms but some hope was expressed for epoxy if 35 mils or heavier.

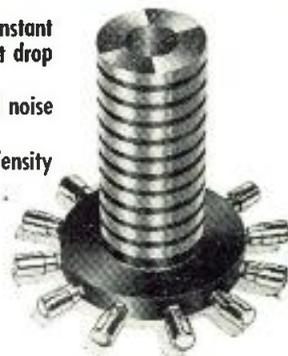
It should be recognized that in the foregoing specifications the demand for protection is based upon presumption not only of deterioration but inadvertent connection to sources higher than intended voltage, or through line surges or lightning. If a printed circuit is to be insulated by an overcoating, presumably this also will have to withstand the 900 v. test.

The problem of protecting printed circuits and general impregnation of wiring is discussed more fully below, except that printed decks, because of low heat conductivity, have frequently been found to have temperature requirement exceeding that of insulated wire and equal only to the problem of bare wire.

(To be continued next month)

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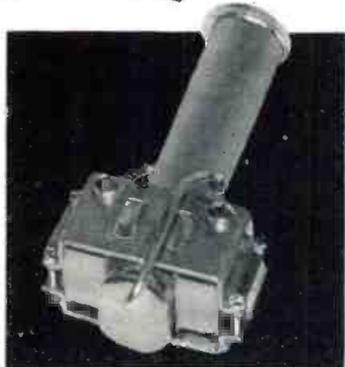
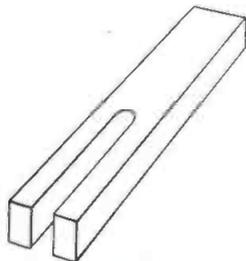
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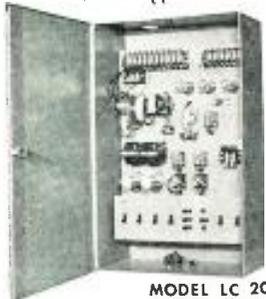
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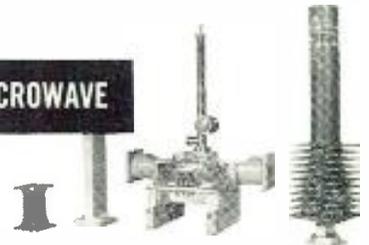
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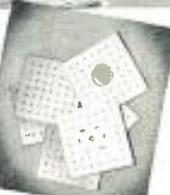
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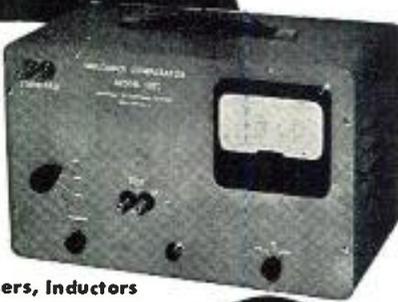


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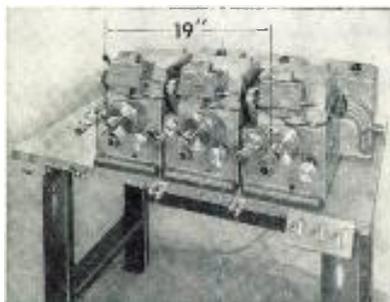
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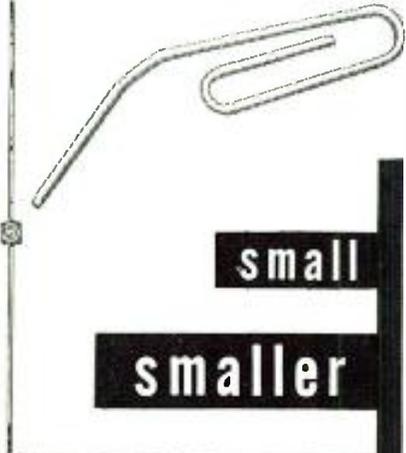
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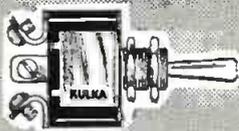


TOGGLE SWITCHES (Below): Aircraft type, Single and Double Pole. Bakelite housing. Screw terminals or soldering lugs. One-hole mounting. DC, or AC up to 1600 cycles.



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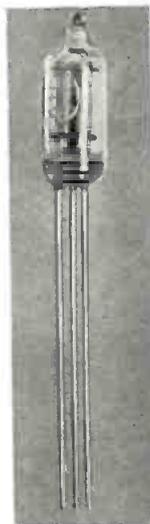
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