

PROGRAM

# ROCHESTER FALL MEETING

*of members of the*

RMA Engineering Department and the  
Institute of Radio Engineers

*Sponsored by the Rochester Fall Meeting Committee*

NOVEMBER 13 and 14, 1944  
THE SHERATON HOTEL  
*(Formerly Sagamore Hotel)*  
ROCHESTER, NEW YORK

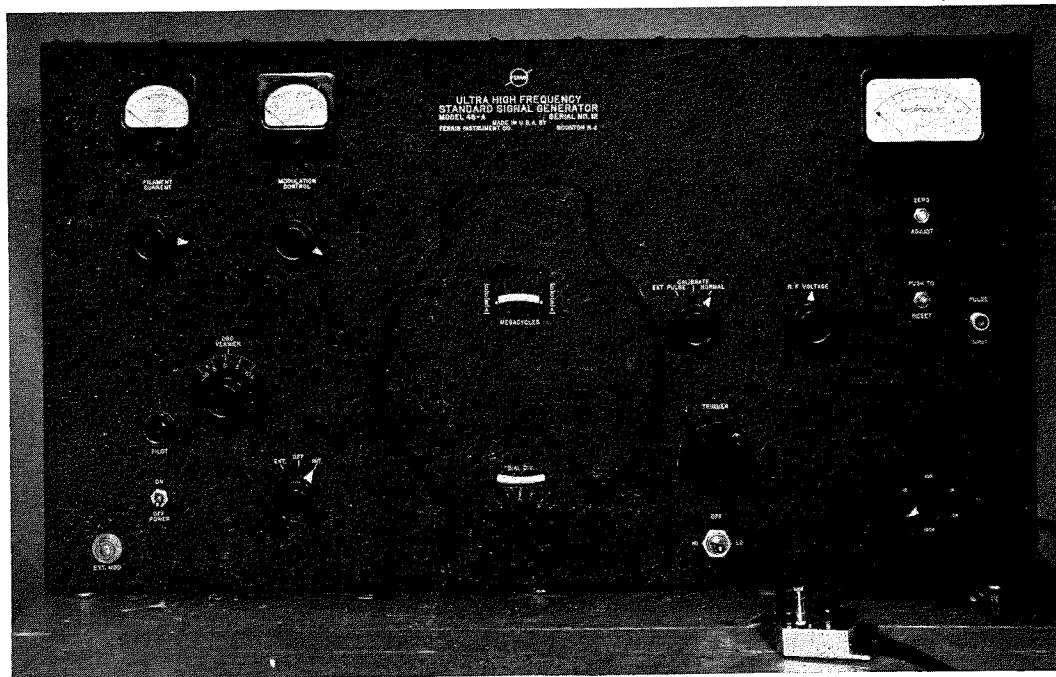
# Acknowledgment

*The encouragement and financial assistance  
of those whose announcements appear  
in the following pages are gratefully  
acknowledged by the . . . . .*

Rochester Fall Meeting Committee



# FERRIS INSTRUMENTS

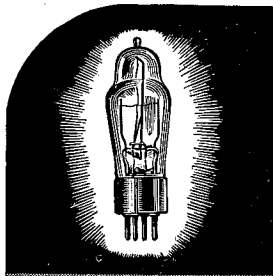


**MODEL 48A U. H. F. SIGNAL GENERATOR**  
Range 200 to 500 mc.

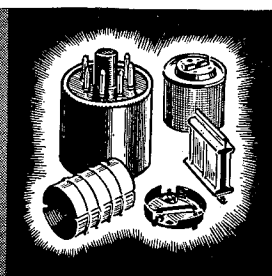
The maintenance of radio frequency standards by the use of Ferris Signal Generators has proven of unquestionable value. New products such as that shown above indicate an extension of this service into new fields.

●  
*Write for Catalog*  
●

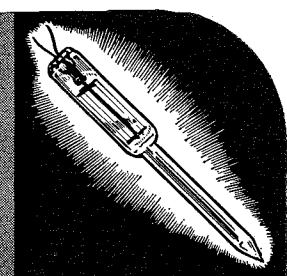
**FERRIS INSTRUMENT COMPANY**  
**BOONTON, N. J.**  
**U. S. A.**



THERMOCOUPLE  
◀ TUBES

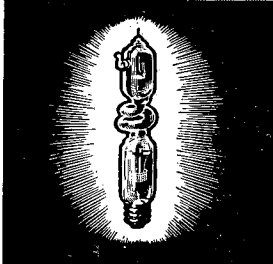


RADIO  
TUBE  
◀ PARTS

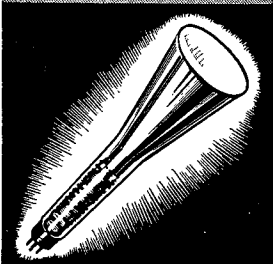


▲ PIRANI  
TUBES

STROBOTRONS ▼



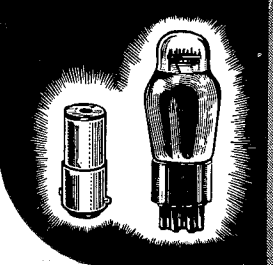
CATHODE RAY  
TUBES ▼



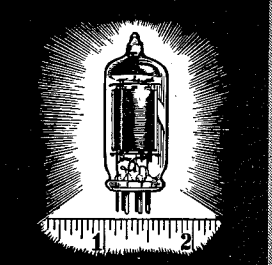
STANDARD TYPE  
RECEIVING TUBES ▼



MINIATURE SIZE  
GAS VOLTAGE  
▼ REGULATOR TUBES

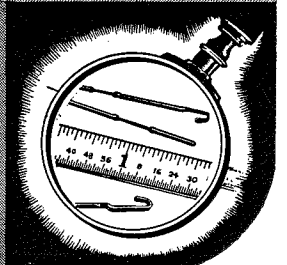


STANDARD SIZE  
◀ GAS VOLTAGE  
REGULATOR TUBES



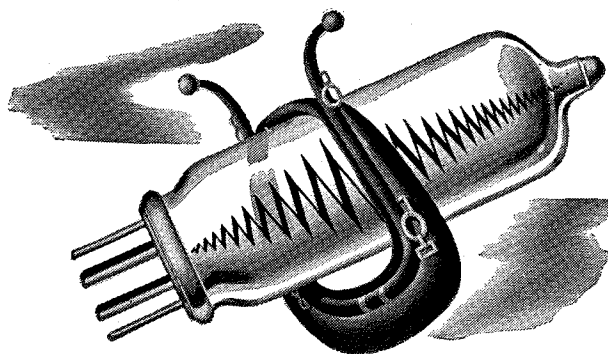
WELDS AND  
LEADS ▶

MINIATURE RADIO  
◀ RECEIVING TUBES



▲ SYLVANIA  
"LOCK-IN" TYPE  
RECEIVING TUBES

## GLASS HARNESS FOR SALE



THE purpose of the electron tube is simply to harness electrons to useful work. What shape the electron tube takes in glass depends upon the type of work to be done. As the result of fulfilling many important wartime electronic assignments, Sylvania now makes a wide variety of electron tubes and now has the experience to design even more. A few of them are shown here. There are many more, some of which are still on the restricted list. For information, write Sylvania Electric Products Inc., 500 Fifth Avenue, New York 18, N. Y.

*one standard—the highest anywhere known*

# SYLVANIA

ELECTRIC PRODUCTS INC.

500 FIFTH AVENUE, NEW YORK 18, N. Y.

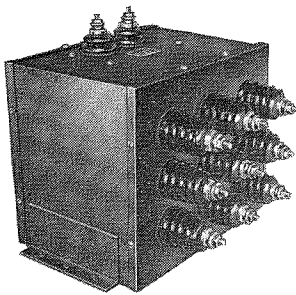




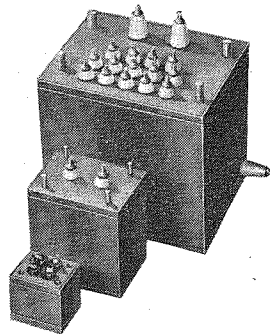
# electronic TRANSFORMERS

Acme Electronic Transformers have been designed for a number of special applications in addition to standard radio broadcasting and receiving applications. Acme Catalog Number 163 gives specifications and engineering details on air cooled and oil insulated plate supply transformers, filament transformers, high-leakage reactance filament transformers, filter reactors, inter-stage transformers, plate modulation transformers. Acme transformers are manufactured in a variety of hermetically sealed, compound filled and air cooled types.

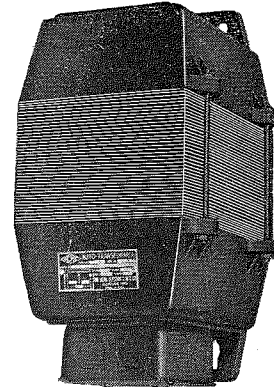
In addition to electronic transformers Acme Electric also manufacture transformers in the following classifications.



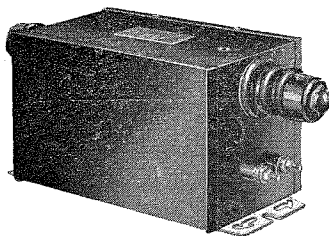
FILAMENT TRANSFORMERS



HERMETICALLY  
SEALED  
TRANSFORMERS

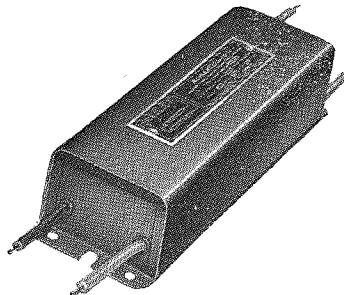


AIR-COOLED TRANSFORMERS

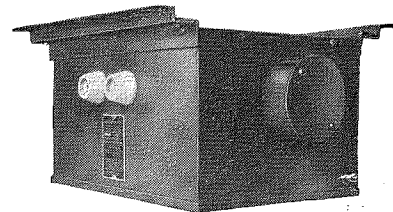


LUMINOUS TUBE TRANSFORMERS

A complete range of capacities, and a variety of designs to meet every conceivable installation requirement. See Bulletin 156.

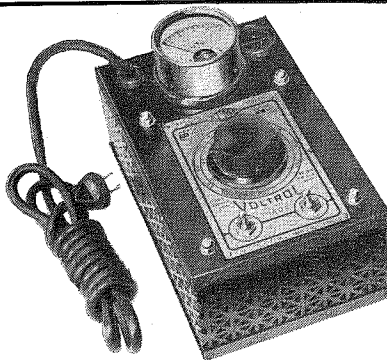


**FLUORESCENT LAMP BALLASTS**  
In addition to "Quick-Start" designs, for use with instant starting fluorescent lamps, Acme manufactures in quantity a complete line of standard ballasts for single, two, three and four lamp units, in ratings from 15 to 100 watts. Bulletin 157 and 164.

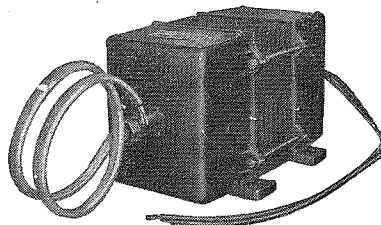


COLD CATHODE LIGHTING  
TRANSFORMERS AND BALLASTS

Cold Cathode often called "the light source of the future" offers many advantages over other forms of lighting. Write for Bulletins 162 and 165.

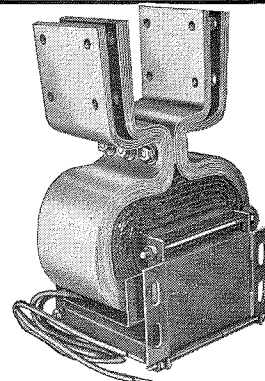


**ACME VOLTROL**  
Stepless voltage control from 0-135 volts. Panel and portable types.



ISOLATING TRANSFORMER

Principally used in test rooms. Eliminates power line interference. Has shielded secondary winding and secondary leads. Provides relatively unaffected constant voltage for testing.



WELDING TRANSFORMERS

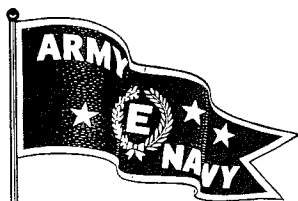
**THE ACME ELECTRIC  
AND MANUFACTURING CO.**  
CUBA, N. Y. CLYDE, N. Y.

**Acme**  **Electric**  
T R A N S F O R M E R S

# THE RESPONSIBILITY OF LEADERSHIP



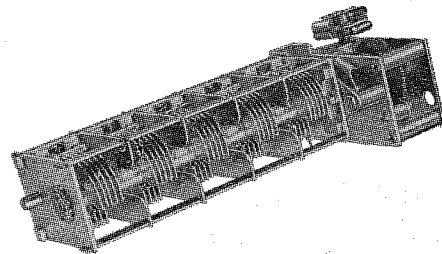
*Constant pioneering . . . the unceasing search for a Better Way . . . this is the responsibility of Leadership. As new miracles of radio and electronics have been achieved, we at American Lava have developed insulation to meet the new requirements. And for your postwar designs we stand ready with the experience and KNOWHOW gained from 42 years of leadership in the ceramic field.*



ALCO has been awarded for the fourth time the Army-Navy "E" Award for "continued excellence in quantity and quality of essential war production."

**AMERICAN LAVA CORPORATION**  
Chattanooga 5, Tennessee

# **R. C. C.**



## **RADIO CONDENSER CO.**

CAMDEN, N. J.

AND

## **RADIO CONDENSER CO., LTD.**

TORONTO ● ONTARIO ● CANADA



**MANUFACTURERS  
OF  
VARIABLE AIR CONDENSERS  
&  
PUSH BUTTON TUNING DEVICES**

# JUST OUT!



## ... GET THIS TIMELY, NEW *Dry Electrolytic Capacitor* CATALOG

Every day finds dry electrolytic capacitors establishing new standards of performance in applications formerly reserved for other types. Small, light and inexpensive, dry electrolytics have been steadily improved to a point where they meet the most exacting specifications. These include salt air, reduced pressure, low and high temperature extremes, trans-

sients, r-f impedance, sealing, "shelf life," and many more. In addition, Sprague Dry Electrolytics are available in unlimited combinations of capacity and voltage ratings, with special electrical characteristics, and in containers for every mechanical requirement. You will find this big new catalog a handy guide to dozens of standard and countless special purpose types.

**SPRAGUE ELECTRIC COMPANY, North Adams, Mass.**

*(Formerly Sprague Specialties Co.)*

# SPRAGUE

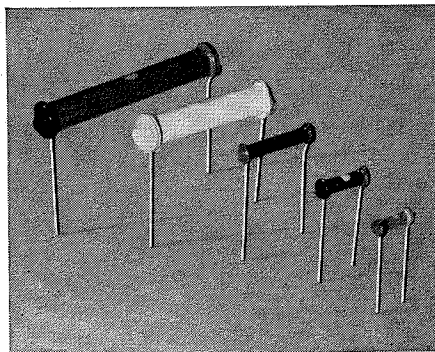
**CAPACITORS • KOOLOHM RESISTORS**



# Global BRAND

TRADE MARK

## SEMI-INSULATED CERAMIC RESISTORS



- Low ohmic values are made in body type "CX" only whereas type "A" body is offered in a wide range of resistance values.

Global Brand Resistors are unusually rugged as your tests will prove. Those illustrated are standardized sizes and resistance values. In case you require resistors having special characteristics we can furnish them. Larger units or special sizes can be provided.

Write us outlining your resistor problem, it will receive prompt and careful consideration.

PHYSICAL AND ELECTRICAL SPECIFICATIONS  
TYPE "A" RESISTORS

PART NUMBER	WATT RATING	RESISTANCE RANGE	OVERALL LENGTH	OVERALL DIAMETER
997-A	1/5	150 Ohms to 4.7 Megohms	2 1/64"	7/64"
763-A	1/4	47 Ohms to 15 Megohms	5/8"	7/32"
759-A	1/2	33 Ohms to 15 Megohms	3/4"	1/4"
766-A	1	47 Ohms to 15 Megohms	1 1/8"	1/4"
792-A	3	22 Ohms to 150,000 Ohms	1 7/8"	15/32"
774-A	5	33 Ohms to 220,000 Ohms	2 5/8"	15/32"

TYPE "CX" RESISTORS

997-CX	1/4	1 to 150 Ohms	2 1/64"	7/64"
763-CX	1/2	1 to 47 Ohms	5/8"	7/32"
759-CX	1	1 to 33 Ohms	3/4"	1/4"
766-CX	2	1 to 47 Ohms	1 1/8"	1/4"
792-CX	4	1 to 22 Ohms	1 7/8"	15/32"
774-CX	6	1 to 33 Ohms	2 5/8"	15/32"

STANDARD RESISTANCE (Tolerances 5% - 10% - 20%)  
ALL RESISTORS COLOR CODED According to R. M. A. Standards.  
ORDER BY PART NUMBER, RESISTANCE VALUE AND TOLERANCE.

Global Division  
**THE CARBORUNDUM COMPANY**  
TRADE MARK

NIAGARA FALLS, N. Y.

[Carborundum and Global are registered trade marks of]  
and indicate manufacture by The Carborundum Co.]

## **GOOD NEWS FOR OUR MANY PRE-WAR CUSTOMERS**

This company is indeed fortunate in that, within a few hours after government control of materials is eased, we will be ready to make those products which we manufactured before the war.

Our tools, fixtures, dies and kindred equipment are in excellent shape, set to go on peace-time production. And . . . this can be done practically overnight!

### **Announcing a new product**

. . . available as quickly as government control is released . . .

### **SPIRALLY-WOUND POLYSTYRENE TUBES**

in diameters  $\frac{1}{4}$ " up, with a wall thickness .006" to .030" in any length desired.

*A war-time development with many war-time uses . . . up to now restricted from commercial use.*

*(This advertisement prepared and released as of Sept. 5, 1944)*

*Address Inquiries to*

## **THE CLEVELAND CONTAINER COMPANY CLEVELAND, OHIO**

*Other Plants:*

Long Island City, N. Y.; New York, N. Y.; Milltown, N. J.; Detroit, Mich.; Philadelphia, Pa.;  
Palmer, Mass.; Chicago, Ill.; Plymouth, Wis.; Ogdensburg, N. Y.

*In Canada: The Canadian Paper Can & Tube Co., Ltd., Prescott, Ontario*



# "Number



# Please"

## The Part You Need May Be a Standard Mallory Item

A telephone call to your nearest Mallory distributor may demonstrate, as it has to hundreds of others, that a part vitally needed for some new electrical or electronic device, and presumably available only on special order, is a standard entry in the Mallory catalog.

The time so spent will bring you more than prices and data. It can, if you wish, bring helpful suggestions about your par-

ticular application. Quite often this specialized experience has simplified a seemingly hopeless problem . . . has eliminated costly design . . . resulted in great improvements in methods of manufacture.

Start with the check list below. It's a great time and money saver. It's especially important now that you're concentrating more than ever on dependable sources for wartime and post-war equipment.

*Call your Mallory Distributor Today!*

### Save Time and Money CHECK THIS LIST!

Attenuators  
Battery Boosters  
Battery Chargers  
Bias Cells, Grid  
Binding Post Strips  
Cable—Multi Conductor  
Cable Connectors  
Condensers, Dry Electrolytic  
Condensers, Paper  
Controls (See Volume Controls)  
Dash Receptacle (for Battery Chargers)  
Dial or Pilot Light Assemblies  
Dial or Pilot Lights

Dial Plates  
Grid Clips  
Ham Band Switches  
"Hamswitch"\* Types 151L & 152L  
Jacks  
Jack Switches  
Knobs  
"L" Pad Attenuators  
Panel Lights  
Plugs  
Portable Power Supplies (Vibrapack\*)  
Potentiometers  
Precision Resistors  
Push Button Switches (Single)  
Push Button Switches (Multiple)  
Rectifiers, Dry Disc

Resistors  
Rheostats  
Screws, Round Head and Set  
Slide Switches  
Solder Lug Strips  
Switches, Circuit Selector  
"T" Pad Attenuators  
Terminal Connector Clips  
Terminal Strips  
Variomh\* Resistors  
Vibrapacks\*  
Vibrators (Auto Radio & Household)  
Vitreous Resistors  
Volume Controls  
Volume Control Accessories  
Washers

\*Registered U. S. Pat. Off.

P. R. MALLORY & CO., Inc., INDIANAPOLIS 6, INDIANA

P. R. MALLORY & CO. Inc.  
**MALLORY**

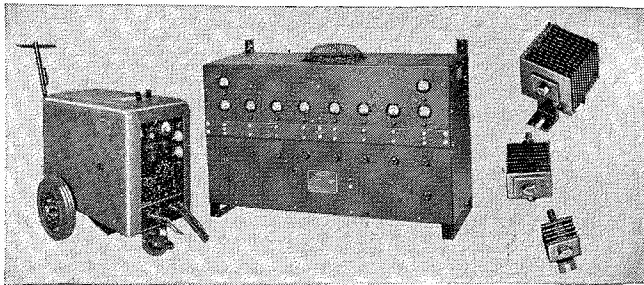


Protect Your Future—  
Buy More War Bonds

## Approved Precision Products

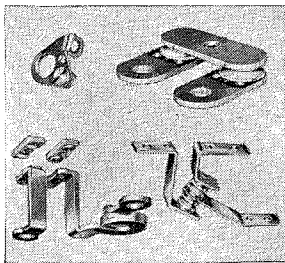
# MALLORY PARTS... Are Precision Parts

Mallory service to radio and electronics has made great strides in recent years. More and more designers and engineers have learned the advantage of consulting Mallory while plans are still on the drafting board. The precision of Mallory component parts makes a vital contribution to efficient, economical manufacture and operation. See your Mallory distributor or write direct.



## Rectifiers and Power Supplies

Mallory Rectostarters\* provide a dependable source of direct current for aircraft starting, testing, battery charging and ground operations. Mallory Multi-Circuit Battery Chargers simultaneously handle from one to ten batteries of 6, 12 or 24 volts. Millions of Mallory rectifiers are now in use in low voltage, medium and high current applications.

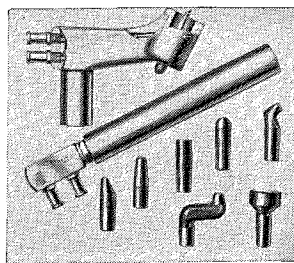


## Contacts and Contact Assemblies

Contacts and contact assemblies made of Mallory-developed alloys, tungsten, silver and pressed powders are used wherever electric circuits must be broken—from the smallest relay to the heaviest circuit breaker.

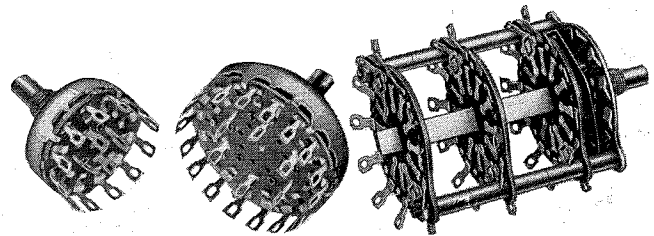
\*Reg. U. S. Pat. Off.

P. R. MALLORY & CO., Inc.  
INDIANAPOLIS 6 INDIANA



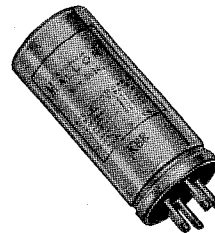
## Resistance Welding Tips and Holders

Mallory spot welding tips and holders—Mallory seam welding wheels, dies for flash or butt welding—provide more welds between dressings... assure fewer replacements, cleaner welds at high speed and lower cost.



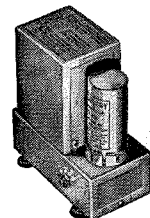
## Circuit Selector Switches

Single and multi-gang units; also special circuit and terminal combinations. Shorting and non-shorting types. Multiple push button switches. Special ceramic types.



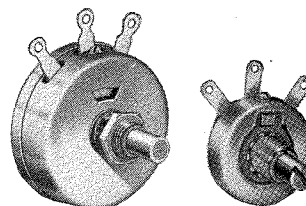
## Vibrators

Trouble-free long life, low mechanical noise, low initial starting voltage maintained during life. Hermetically sealed vibrators also available for operation under abnormal atmospheric conditions. Send for data sheets.



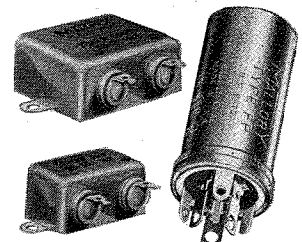
## Vibrapack\*

Flexible, heavy duty vibrator power supplies... the dependable low cost way of obtaining high voltage direct current from low voltage storage batteries. Stock sizes available with outputs up to 60 watts, 300 and 400 volts.



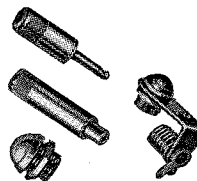
## Rheostats, Potentiometers

Wire-wound rheostats, potentiometers and attenuators. Carbon types in standard and midsize sizes. Vitreous enameled wire-wound resistors in fixed and variable types.



## AC and DC Capacitors

Ideal for extreme conditions of temperature, humidity, varying pressure and corrosive atmosphere. Tubular, "bathtub," FP\* and WP types. Dry electrolytic, film and paper constructions.



## Phone Plugs, Jacks, Push Button and Jack Switches, Dial Lights

2- and 3-way phone plugs. Junior and long frame jacks in 13 circuit arrangements, midsize and Signal Corps type jacks. Single and multiple push button switches. Dial and pilot light brackets, sockets, jewels and panel lights.

P. R. MALLORY & CO. Inc.  
**MALLORY**



Protect Your Future—  
Buy More War Bonds

# Approved Precision Products



# KEN-RAD

## ELECTRON TUBES

**FOR EVERY PURPOSE**

# KEN-RAD

TRANSMITTING TUBES  
CATHODE RAY TUBES  
SPECIAL PURPOSE TUBES

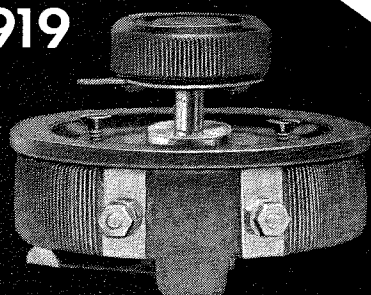
EXECUTIVE OFFICES  
OWENSBORO · KENTUCKY  
EXPORTS 15 MOORE STREET NEW YORK

METAL AND VHF TUBES  
INCANDESCENT LAMPS  
FLUORESCENT LAMPS

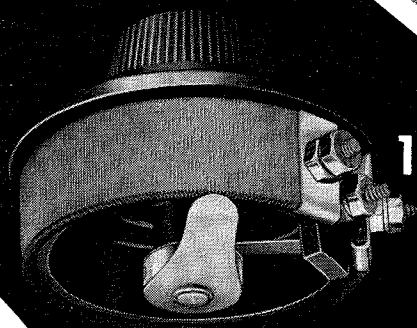


# YOU'VE SEEN THESE BEFORE

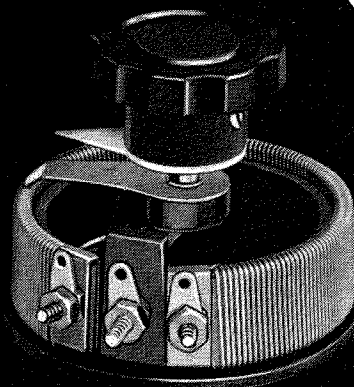
1919



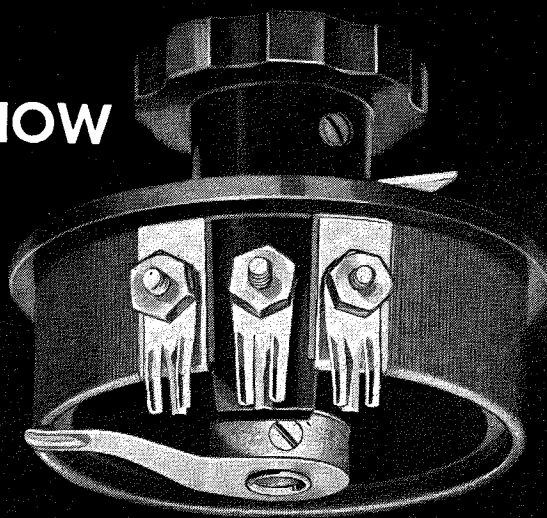
1923



1934



NOW



NO hasty development or Chinese copy of the units of some other manufacturer, the popular Types 214-314 Rheostats have been made by us for many years. The Type 214 was first brought out in its present general form in 1919. As materials improved . . . better wire . . . better insulation . . . more accurate winding methods . . . better mechanical design of molded form, winding cards and contact arms . . . the Type 214 gradually reached its present stage. They are being turned out just as quickly and in just as large volume as we are able. After the war we may have some radical improvements in our entire rheostat line. In the meantime when ordering rheostats that look like G-R, why not *buy* G-R, if our present delivery schedules meet your requirements.

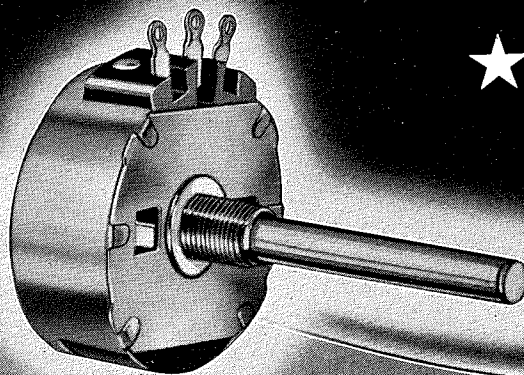


## GENERAL RADIO COMPANY

Cambridge 39, Massachusetts  
NEW YORK CHICAGO LOS ANGELES



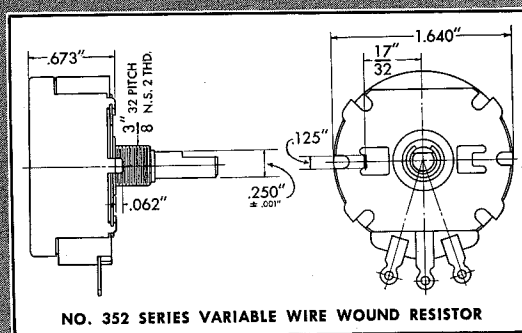
# New VARIABLE RESISTOR



★ Chicago Telephone Supply Company now offers a new 1 3/8" diameter, wire wound variable resistor, 352 Series, with resistance value up to 20,000 ohms linear and with the same bakelite housing and grounded metal construction as the popular 1 1/4" 252 Series. This potentiometer may be used with switches attached and in tandem construction.

This new resistor is another expression of the many years of intensive research and development behind Chicago Telephone Supply Company, a scientific manufacturing

organization devoted to high standards in the mass production of variable resistors, both wire wound and carbon types.



*Manufacturers of Quality Electro*

VARIABLE RESISTORS, PLUGS AND JACKS

*Mechanical Components Since 1896*

SWITCHES, TELEPHONE GENERATORS, RINGERS

REPRESENTATIVES  
R. W. Farris  
2600 Grand Avenue  
Kansas City 8, Missouri  
Phone: Victory 3070  
Frank A. Emmet Co.  
2837 West Pico Boulevard  
Los Angeles 6, California  
Phone: Rochester 9111

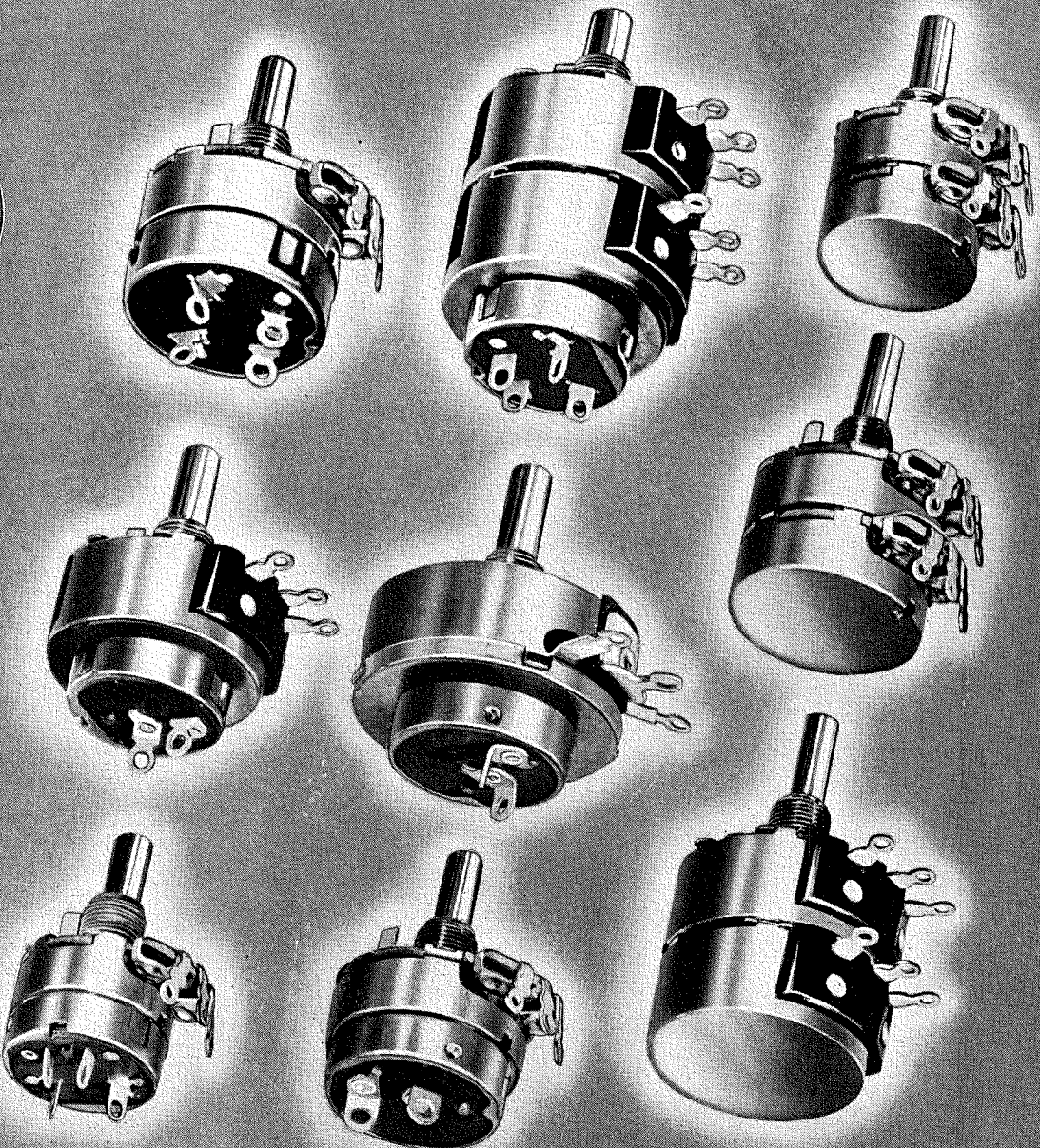
**CHICAGO TELEPHONE SUPPLY**  
*Company*

ELKHART ★ INDIANA

BRANCH OFFICES  
S. J. Hutchinson, Jr.  
401 North Broad Street  
Philadelphia 8, Pennsylvania  
Phone: Walnut 5369

IN CANADA  
C. C. Meredith & Co.  
Stevensville, Ontario





*Manufacturers of Quality  
Electro Mechanical Components  
Since 1896*

VARIABLE RESISTORS, PLUGS AND JACKS

REPRESENTATIVES

R. W. Farris  
2600 Grand Avenue  
Kansas City 8, Missouri  
Phone: Victory 3070  
Frank A. Emmet Co.  
2837 West Pine Boulevard  
Los Angeles 6, California  
Phone: Redstar 9111

SWITCHES, TELEPHONE GENERATORS, RINGERS



**CHICAGO TELEPHONE SUPPLY**  
*Company*

ELKHART \* INDIANA

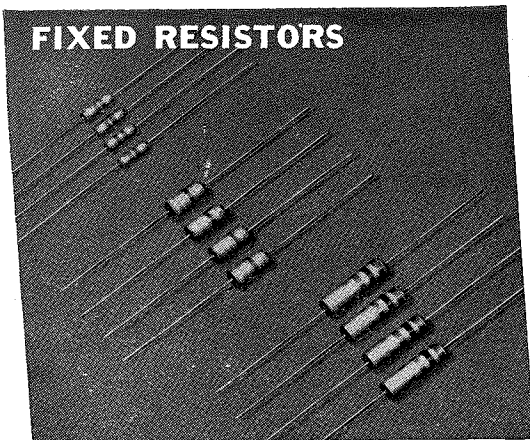
BRANCH OFFICES

S. J. Hutchinson Jr.  
401 North Broad Street  
Philadelphia 8, Pennsylvania  
Phone: Walnut 3569

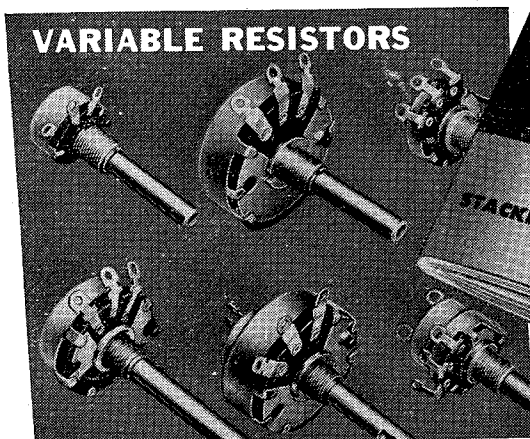
IN CANADA

C. C. Meredith & Co.  
Steelesville, Ontario

## FIXED RESISTORS

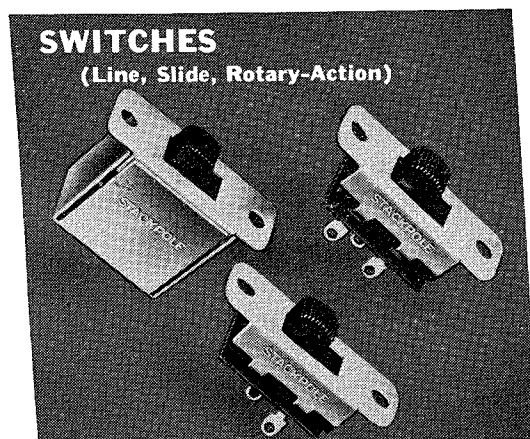


## VARIABLE RESISTORS

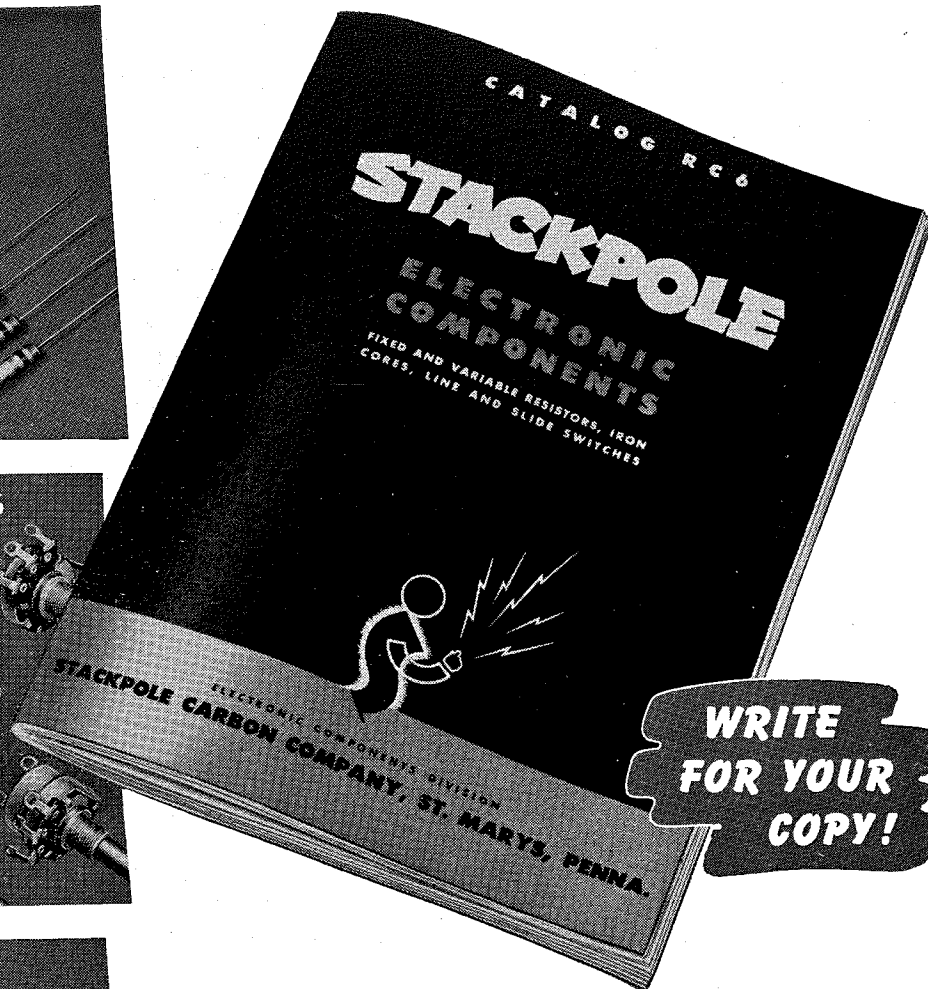


## SWITCHES

(Line, Slide, Rotary-Action)



## IRON CORES



**WRITE  
FOR YOUR  
COPY!**

**...for today's needs  
...for post-war planning**

USE this new 1944 Stackpole Electronic Components catalog as your guide to up-to-the-minute Fixed or Variable Resistors; Iron Cores; and inexpensive line, slide, or rotary-action Switches. In addition to *complete* information and dimension diagrams on the components, you'll find data pages and charts that will prove mighty handy in your daily work. Please ask for Catalog RC6.

**STACKPOLE CARBON COMPANY, ST. MARYS, PA.**

# STACKPOLE

BRUSHES FOR ALL ELECTRICAL ROTATING EQUIPMENT • CONTACTS  
WELDING RODS, ELECTRODES, AND PLATES • CARBON PIPE • BRAZING BLOCKS • RHEOSTAT PLATES & DISCS  
CARBON REGULATOR DISCS • PACKING, PISTON, & SEAL RINGS • SINTERED IRON COMPONENTS, ETC.



# pioneer for tomorrow

The world of tomorrow will be one of electronics. Pioneer for that world is the electronic engineer. His vitally important effort during this wartime period in devising electronic equipment is helping to defeat the enemy. Tomorrow, he devotes his specialized scientific knowledge to aid peacetime industries.

Raytheon is applying its efforts to the development of advanced electronic tubes and equipment for the war effort. When that job is done, the knowledge that has been gained will be used to guarantee that post-war radio, industrial and electronic equipment manufacturers will receive Raytheon tubes and equipment with even greater "Plus-Extra" quality.



ARMY-NAVY "E" WITH STARS

Awarded All Four Divisions of Raytheon for Continued Excellence in Production

## RAYTHEON

Raytheon Manufacturing Company  
ELECTRICAL EQUIPMENT DIVISION  
Waltham and Newton, Massachusetts

DEVOTED TO RESEARCH AND THE MANUFACTURE OF TUBES AND EQUIPMENT FOR THE NEW ERA OF ELECTRONICS

*Ordinarily, the General Electric Company would regard its 50th Anniversary in an industry as being a cause for celebration, but war products must come first and its immediate aims are devoted to furnishing materiel for the allied nations. Since 1894, beginning with the molding of parts for arc lamps from a mixture of clay and lamp black, and other insulating materials consisting of rubber, asbestos and sulfur combinations, General Electric has played an important and active role in what is often referred to in this year of war as a "new industry." The pioneering spirit which began fifty years ago still exists, and the G.E. plastician\* backed by improved methods, sound engineering and newly developed materials, stands ready to help you solve your problems the G.E. way. G.E. plastics means the best in plastics. Write One Plastics Ave., Pittsfield, Mass.*

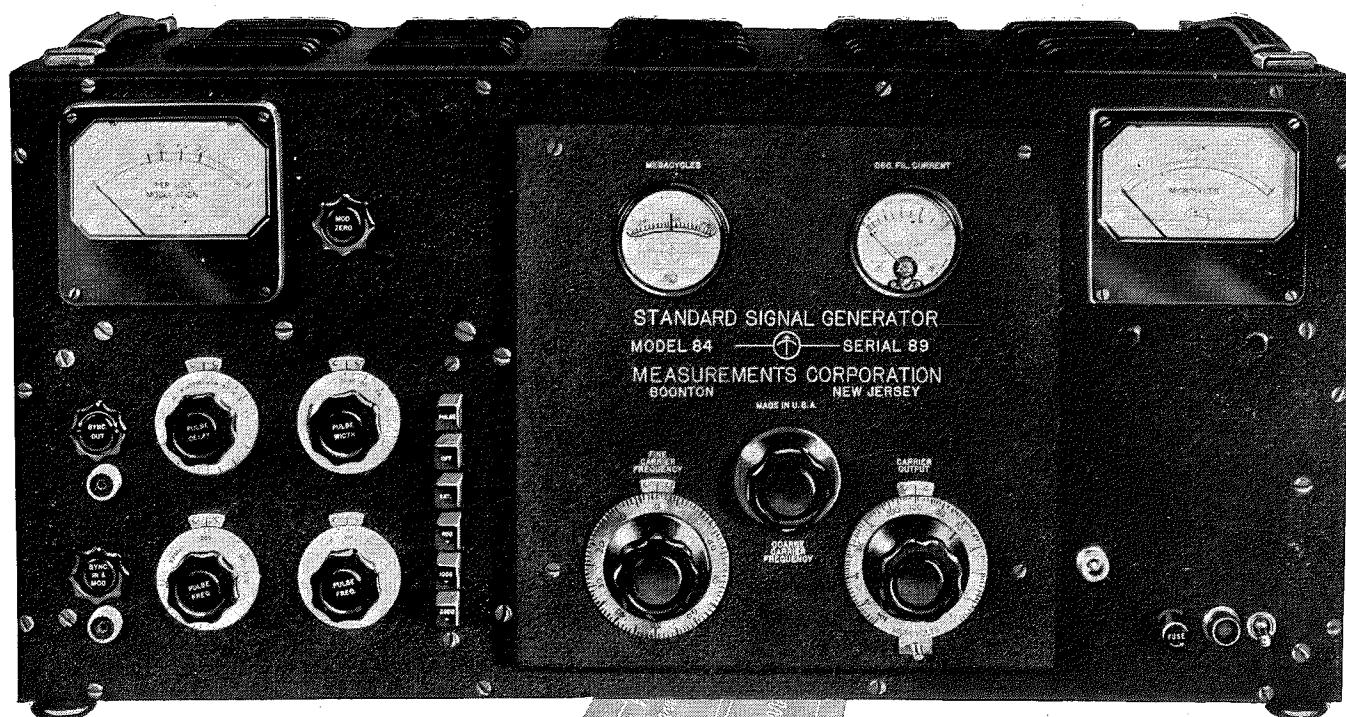
**BUY WAR BONDS**

HEAR THE GENERAL ELECTRIC RADIO PROGRAMS: THE G-E "ALL-GIRL ORCHESTRA" SUNDAY 10 P.M. EWT, NBC. "THE WORLD TODAY" NEWS EVERY WEEKDAY 6:45 P.M. EWT, CBS.

PD-201

\*ONE WHO KNOWS PLASTICS.

**GENERAL  ELECTRIC**



# **MODEL 84**

## **U.H.F. STANDARD SIGNAL GENERATOR**

### **SPECIFICATIONS**

**CARRIER FREQUENCY:** 300 to 1000 megacycles.

**OUTPUT VOLTAGE:** 0.1 to 100,000 microvolts.

**OUTPUT IMPEDANCE:** 50 ohms.

#### **MODULATION:**

**SINEWAVE:** 0—30%, 400, 1000 or 2500 cycles.

**PULSE:** Repetition—60 to 100,000 cycles.

Width—1 to 50 microseconds.

Delay—0 to 50 microseconds.

Sync. input—amplifier and control.

Sync. output—either polarity.

**DIMENSIONS:** Width 26", Height 12", Depth 10".

**WEIGHT:** 125 pounds including external line voltage regulator.

**MEASUREMENTS**

BOONTON,

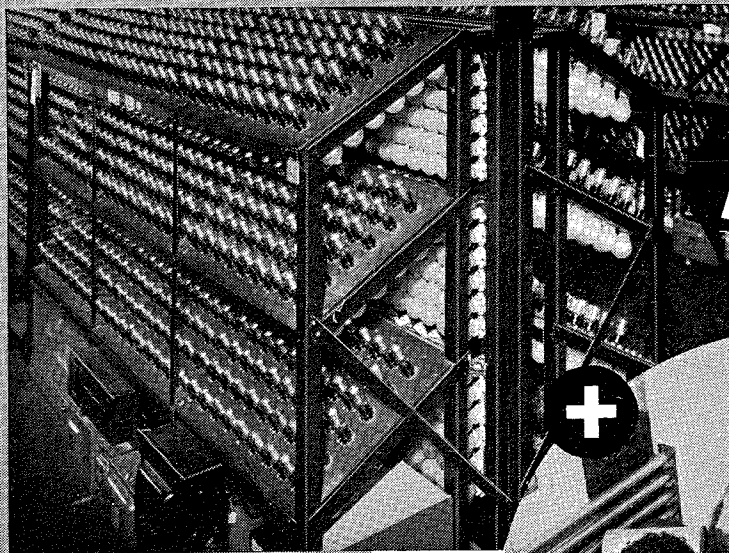


**CORPORATION**

NEW JERSEY



# A + B = X

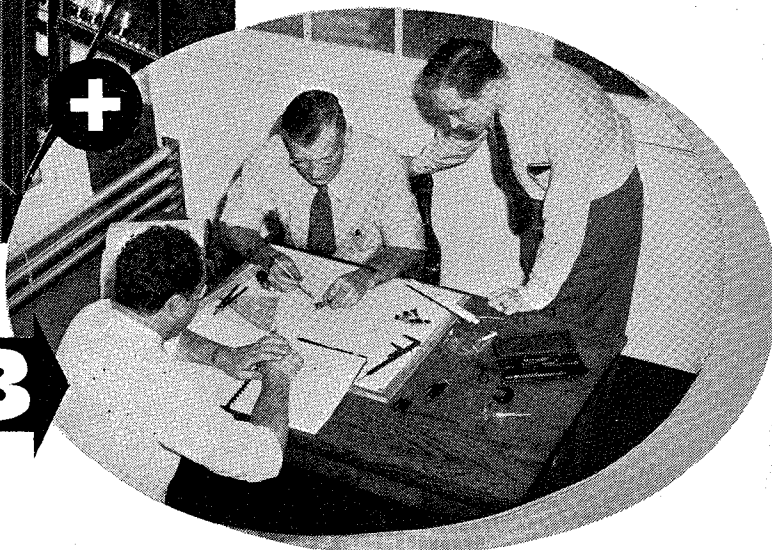


# A

## RECEIVING TUBE TECHNIQUE

Oldest manufacturer specializing on radio receiving tubes — the originator of the now standard BANTAM GT — Hytron has been developing skill in high-speed, soft-glass receiving tube technique since 1921.

# +



# B

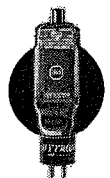
## SPECIAL PURPOSE ENGINEERING

Hytron engineers originated BANTAM JR. hearing-aid tubes — popular U-H-F types HY75, HY114B, HY615 — instant-heating beam tetrodes HY65, HY67, HY69, HY1269 — and numerous other special tubes.

# =X

## THE ANSWER

Add A to B, and you have the answer Hytron is able to give the Services when they demand special purpose and transmitting tubes in staggering quantities and at economical prices.



**1616** Consider a few examples. Substituting soft for hard glass, a mesh for a ribbon filament, Hytron beat the promise by months on requirements for the high-voltage thermionic type 1616 rectifier — through application of mass production methods. Result: The Navy's, "Well done!"



**HY65** Typical of Hytron's instant-heating beam tetrodes for mobile communications, the HY65 combines high-speed techniques with a thoriated tungsten filament and special r.f. design features which gave the Services a rugged, power-conserving, all-purpose beam tetrode. (Cf. JAN-1A spec.)



**OD3/VR-150** Hytron engineering refinements include new starting electrode, lower starting voltage, painstaking processing. Add to these still-increasing high-speed manufacture. Result: "When we think of the OD3/VR-150, we think of Hytron."\*

\*Quotation from expeditor for one of largest electronic equipment manufacturers.



**2C26** Hytron solved a problem for the Services by designing a tube capable of performance and high ratings never before achieved in soft glass. Produced at receiving tube speed and priced at less than a fourth of the cost of tubes replaced, the little 2C26 delivers 2 KW of useful r.f. power under intermittent operating conditions.

**WHAT ABOUT POST-WAR?** Hytron design, development, and production facilities now serving our fighting men, will be yours to command. The A plus B of Hytron's know-how will supply answers to your special tube problems.

OLDEST EXCLUSIVE MANUFACTURER OF RADIO RECEIVING TUBES

# HYTRON

CORPORATION ELECTRONIC AND RADIO TUBES  
SALEM AND NEWBURYPORT, MASS.



**BUY ANOTHER WAR BOND**

*Let us make sure that the postwar world will be built upon a better relationship between men, women and children of all nations—large and small—throughout the world.*

*Music is a universal language and will become more important in the lives of all of us in the rehabilitation of a war-torn world. It is a media of relaxation and entertainment. It is also the basis of spiritual understanding between peoples of different tongues.*

*Automatic phonographs will play an ever increasing part in bringing music to the masses of people throughout all the nations of the world in the years of peace ahead. The energies and resources of our entire organization are dedicated to the development of newer and more efficient music systems for meeting this challenge.*

*H. Marshall Seeburg*

PRESIDENT

BUY WAR BONDS

Awarded to the J. P. Seeburg Corporation  
for outstanding production of war  
materials in each of its four plants



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J. P. SEEBURG CORPORATION • CHICAGO

FINE MUSICAL INSTRUMENTS SINCE 1902