Aerovox oil-filled capacitors for war and for peace—a giant 15,000 volt unit with side terminal and grounded case, to reduce head room; a small "bathtub" unit for use in better-grade radio and electronic assemblies.

TODAY...

Aerovox Capacitors Go to War

TOMORROW...

Aerovox Capacitors Help Build Peacetime Progress

● In countless ways Aerovox capacitors are speeding up the winning of the war. Thousands of skilled workers, carrying out the designs and specifications of engineers long specializing in capacitors, are meeting a large portion of the wartime requirements.

Indeed, Aerovox personnel has expanded threefold since Pearl Harbor. Close to half a million square feet, in two plants, are now devoted exclusively to capacitor production.

Today Aerovox is all-out for the war effort. Winning the war comes first. But tomorrow, when victory shall have been achieved, Aerovox once more will be ready as never before to rebuild for peacetime progress—to meet the requirements of the expanding radio industry and the booming electronic era. Special types of yesterday shall be the commonplace types of tomorrow. New standards of life and performance for your assemblies can be taken for granted.

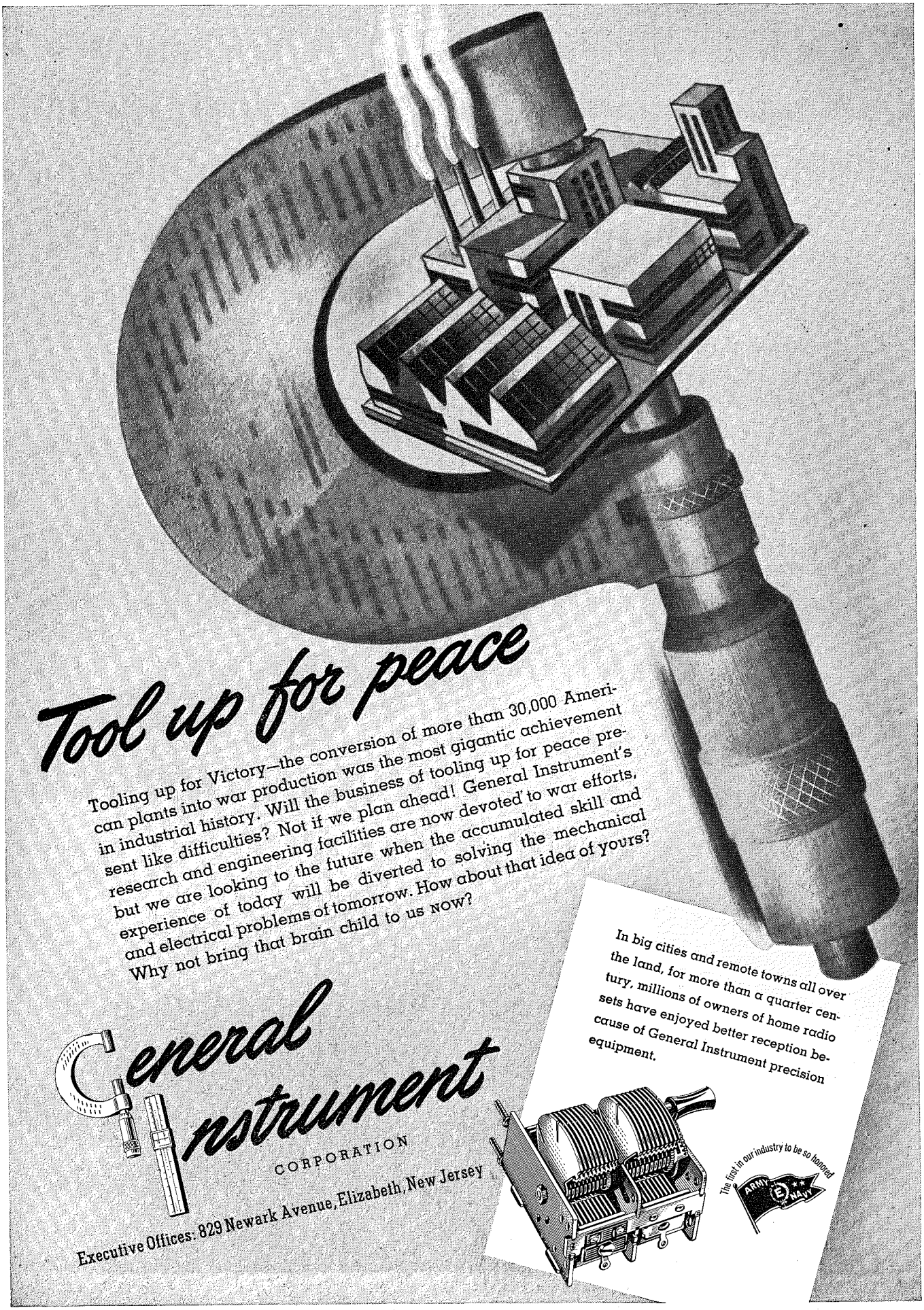
Let us help you now with your wartime needs. And it isn't too early now to be discussing your post-war plans and problems. Submit your capacitance problems or needs.

AEROVOX Capacitors

INDIVIDUALLY TESTED

AEROVOX CORPORATION, NEW BEDFORD, MASS., U. S. A. · SALES OFFICES IN ALL PRINCIPAL CITIES

Export: 13 E. 40 ST., NEW YORK 16, N. Y. · Cable: 'ARLAB' · In Canada: AEROVOX CANADA LTD., HAMILTON, ONT.



Tool up for peace

Tooling up for Victory—the conversion of more than 30,000 American plants into war production was the most gigantic achievement in industrial history. Will the business of tooling up for peace present like difficulties? Not if we plan ahead! General Instrument's research and engineering facilities are now devoted to war efforts, but we are looking to the future when the accumulated skill and experience of today will be diverted to solving the mechanical and electrical problems of tomorrow. How about that idea of yours? Why not bring that brain child to us NOW?

General Instrument

CORPORATION

Executive Offices: 829 Newark Avenue, Elizabeth, New Jersey

In big cities and remote towns all over the land, for more than a quarter century, millions of owners of home radio sets have enjoyed better reception because of General Instrument precision equipment.

The first in our industry to be so Honored

ARMY-NAVY

The editors of **RADIO-ELECTRONIC ENGINEERING AND RADIO NEWS** *extend cordial greetings to their fellow engineers – men who have developed and designed the world's finest equipment for the world's best fighting men.*

May your future accomplishments be even greater than those born of wartime necessity.

The Ziff-Davis Publishing Company

FERROCART

Exclusively IRON CORES

used wherever performance counts

Thousands of FERROCART cores are serving effectively and efficiently wherever performance counts. Used by leading manufacturers of communication and electronic equipment, especially in radio receivers and transmitters, even at ultra high frequencies, particularly for R. F. and I. F. coils, and R. F. filters. Each core is precision-made of the finest materials and rigidly tested. Molded . . . light . . . uniform permeability. Our engineering staff of core specialists and laboratory facilities are available for helping to meet your specific requirements.

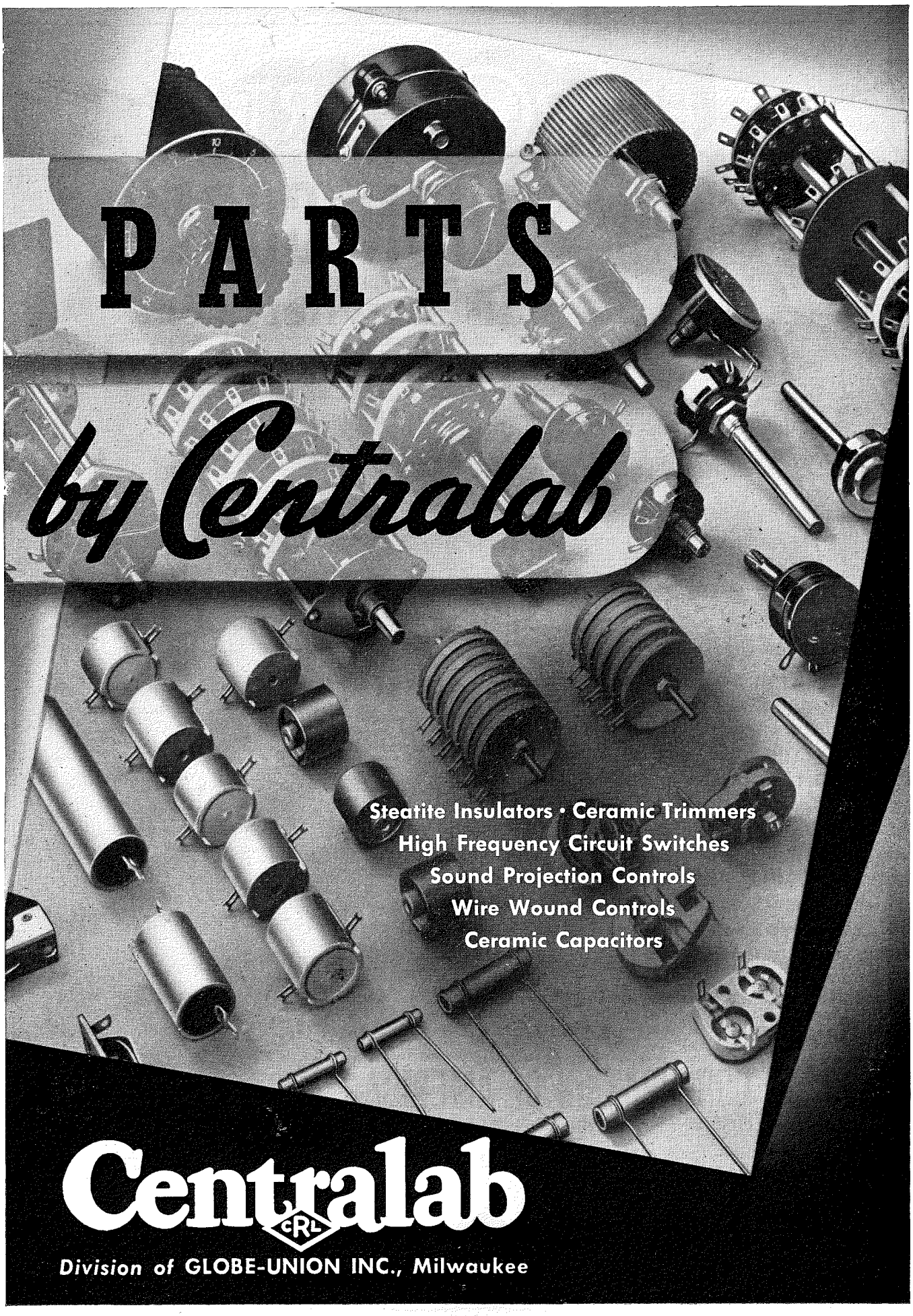
During the convention, you are cordially invited to visit our exhibit in our suite in the Sheraton, Rochester, N.Y. on November 13 and 14.

FERROCART CORPORATION OF AMERICA

Plant and Laboratory: HASTINGS - ON - HUDSON 6, NEW YORK

Indianapolis: 108 E. 9th St., Queisser Bros. Jenkintown, Pa.: P. O. Box 246, D. M. Hilliard; Montreal: 995 St. James St., West, W. T. Hawes.

Specify MICROPERM *Quality*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Ceramic Capacitors
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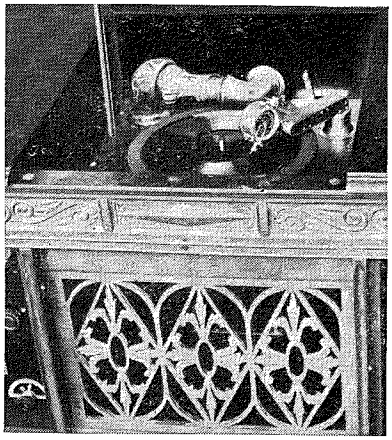
THERE IS NO SUBSTITUTE FOR EXPERIENCE

In 1915 Magnavox engineers produced this "daddy" of all loud speakers—the horn-type electro-dynamic speaker. Today the electro-dynamic loud speaker is the "voice" of modern sound reproduction in radio, sound motion pictures and all other kindred fields.



In 1922 Magnavox engineers developed this historic instrument—the first amplified radio-phonograph. As the forerunner of all present day radio-phonograph combinations, it marked an important advance in the development of sound reproduction.

THESE EXAMPLES serve to remind us how closely the history of radio is interwoven with that of the Magnavox Company.

In 1911 the electro-dynamic reproducer, developed by this company's engineers, completely revolutionized the art of sound reproduction. The same principle is used in all radios today.

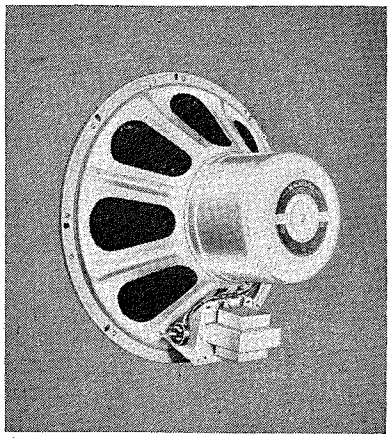
Magnavox for years has been not only the world's largest supplier of loud speakers, but also one of the largest producers of electrolytic condensers. This experience dates from the original "Mershon" to the current Magnavox type.

The experimental work that built the Magnavox reputation is constantly perpetuated—now intensified and broadened by highly diversified war work. Magnavox is your logical source for components and for cooperation in your future projects. The Magnavox Company, Fort Wayne 4, Indiana.

Magnavox

Loud Speakers • Capacitors • Solenoids
Communication and Electronic Equipment

Another important step forward was achieved with this first single-dial radio produced by Magnavox in 1923. Its importance at the time is appreciated when we remember that all previous radio sets required the use of three dials for tuning in a station.



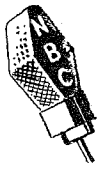
The cone type of electro-dynamic speaker was introduced by Magnavox engineers in 1927. It was the prototype of all electro-dynamic speakers in use today, recognized throughout the world as the most efficient means for the electrical reproduction of sound.

The Magic Brain of all electronic

and the fountain-head of modern

● It's no news to you, or to your customers, that tubes are a crucial factor in your product's performance . . . that your best designed, most skillfully manufactured equipment still depends on the unfailing service of its tubes.

● In metals, miniatures and glass types, RCA tubes offer another feature to help command your customers' respect for your product . . . and engineering support that will become more and more important as you enter the competitive post-war era.



Listen to "THE MUSIC AMERICA LOVES BEST," Sundays, 4:30 P. M., E. W. T., NBC Network

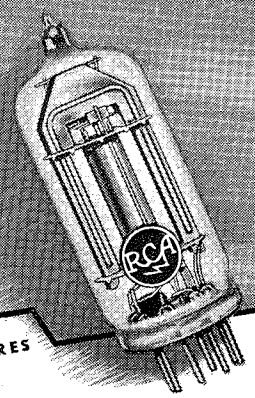
METALS

OVER 130,000,000 METAL TUBES

have been sold by RCA since metal tubes were introduced in 1935. Result? Throughout the industry, "metals" mean "RCA."

equipment is a Tube . . .

Tube development is RCA



MINIATURES

17 OF THE MINIATURES

on the Army/Navy Preferred List of Vacuum Tubes were designed and developed by RCA. In the Armed Forces and on the Home Front, RCA is recognized as "first in miniatures."

GLASS

TWENTY YEARS OF LEADERSHIP

in tube engineering and manufacturing quality have made RCA glass tubes the backbone of the best accepted, most complete line of receiving tubes. And postwar, RCA will have a list of preferred-type tubes which, as in prewar years, will serve your needs with even more uniform quality and at lower cost.

1919
1944

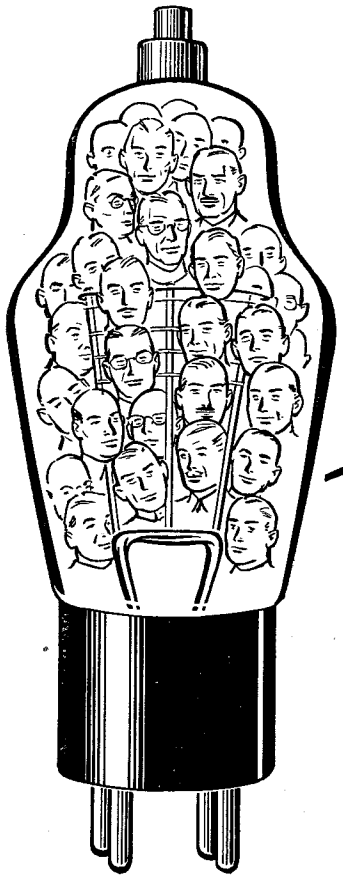
25 Years of Progress
in Radio
and Electronics

RADIO CORPORATION OF AMERICA

RCA VICTOR DIVISION • CAMDEN, N. J.

BUY WAR BONDS

The tube you call "electron" is filled with engineers!



These engineers are of many lores . . . **electrical aero · process · maintenance · industrial control · design · research**

(to mention just a few)

Tune your sales message to the wave-lengths they use!

AS TO the favorite radio programs of readers of ELECTRONICS, your guess is as good as ours.

But this we do know! These technical "brains" read ELECTRONICS for *information.* This inspired industry is changing month by month. The "standard reference" wherein these changes are first recorded is ELECTRONICS. First in the field, its leadership has never been seriously challenged.

It will pay you to make your ads as meaty and informative as are the editorial pages. Forget the conventional advertising devices. Facts come first. Get from your engineering department the technical story about your product or service. Pack your message with data. Use engineer language as much as possible. Keep it up — you'll find that such advertising gets results!

electronics

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ABC *Established 1930* ABP

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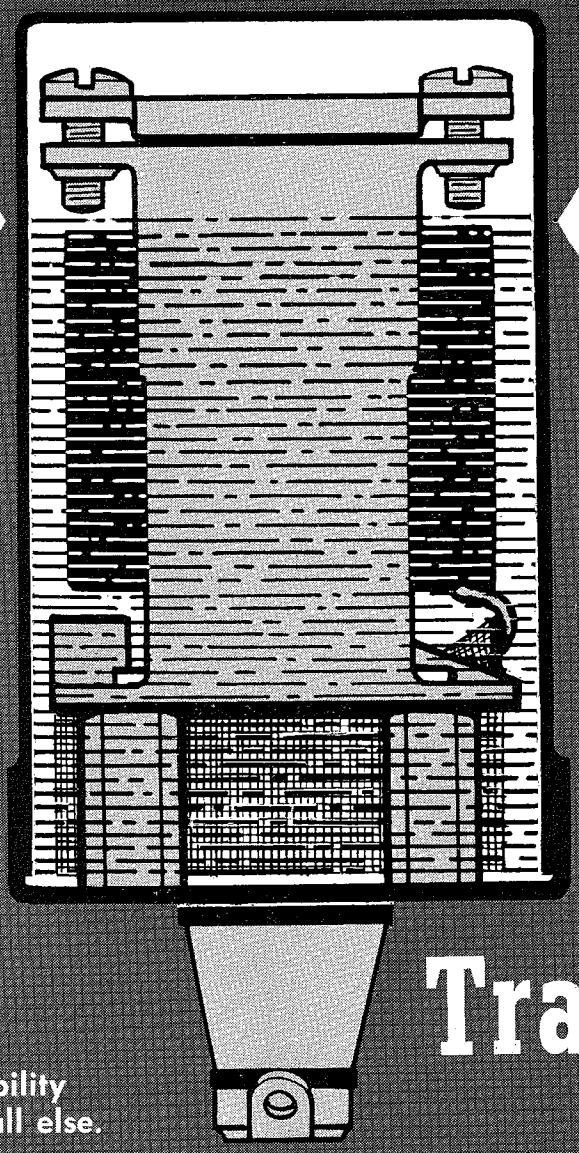
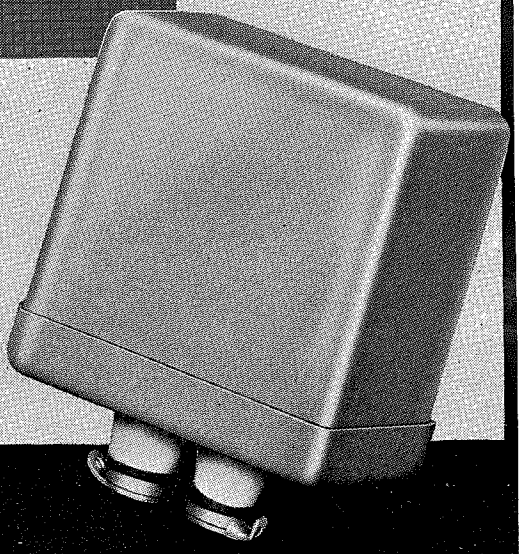


Oil-Filled Transformers

by Dinion

Reliability above all else.



Dinion — pioneer in small oil-filled transformers — leads the field in development of new concepts of design, quality and attainment of new standards of precision workmanship.

RESULT: Smallest, lightest, most efficient transformers available to the Armed Forces of the United Nations.

DINION COIL CO., INC.

CALEDONIA, N. Y.

They Shared! In May 1912 when the Wireless Institute of New York City and the Society of Wireless Telegraph Engineers of Boston joined together to form the Institute of Radio Engineers, the founders and members demonstrated a principle strikingly associated with engineers and scientists—they shared! Shared assets and responsibilities, claims to future greatness. Shared their researches and discoveries.

For in 1913 members freely contributed the product of their brains and toil to each other as papers in the PROCEEDINGS of the INSTITUTE of RADIO ENGINEERS. For three years they published their journal quarterly, then came ten volumes of six numbers each, and since 1926 the PROCEEDINGS has been issued monthly—that all engineers might know what the gifted had discovered; that all could gain in this science of radio-and-electronics.

Accuracy is an engineering tradition. From the start, these men who established radio technology as true engineers, strove to maintain the highest standards of accuracy in their PROCEEDINGS. Methods of painstaking analysis and impartial selection of papers by editorial boards were developed and perfected. Contributions were, and are, rewritten, clarified and perfected to meet a high standard that these engineers freely impose on themselves. Radio engineers agreed that accuracy was more important than speed—for countless time could be wasted by an incomplete formula, or an incomplete or incorrect statement of facts. Thus editorial boards, papers committees, contributors, and in a measure the readers themselves, willingly cooperated to make authoritative the PROCEEDINGS of the I.R.E.

Devotion-unstinting is required if a periodical is truly to be issued by engineers, for engineers! Money could probably not buy the time and labor which makes the PROCEEDINGS possible. Editor, Board of Editors, Papers Committees, Papers Procurement Committee—ninety two men contribute their services to procure, select, verify, and edit the articles which make the PROCEEDINGS the desk manual of radio engineers, the textbook, month by month of a growing electronics science. 166 different authors contributed their best to the 1943 volume. The debt of our industry to authors and editors is beyond measure. Dr. Alfred N. Goldsmith, one of the I.R.E. founders, has given over thirty years of service and experience to the task —a pattern of devotion worth thoughtful appreciation.

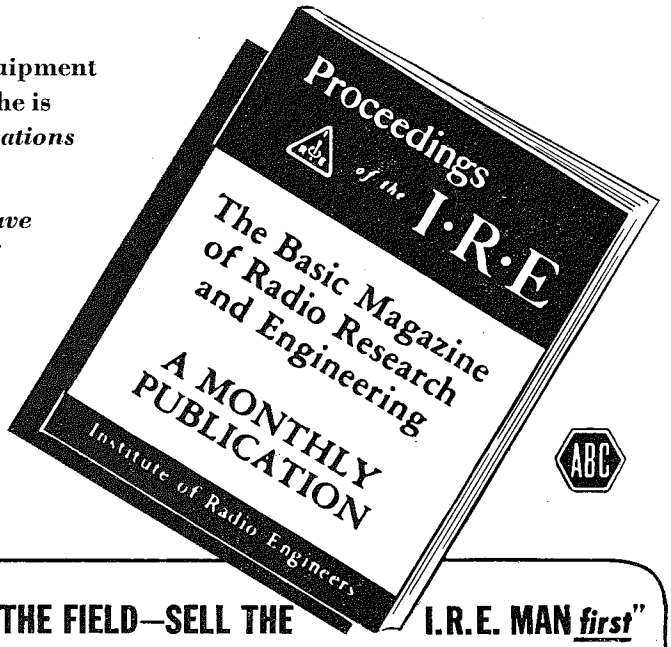
Progress? That is another word for PROCEEDINGS. Research that it publishes today is years ahead of the times, and builds, naturally, the progress of our industry. The engineer requires no bugle blast to announce a paper of pure discovery. The wise understand the full impact and "ahead-of-dateness" of the quiet, factual PROCEEDINGS of the I.R.E.

(An advertisement by William C. Copp,
Advertising Manager of the PROCEEDINGS of the I.R.E.)

THE MEETING GROUND OF RADIO ENGINEER AND MANUFACTURER . . .

Manufacturers of radio-electronic materials and equipment work closely with the radio engineer . . . They know he is *the man who makes the purchase or sets the specifications for the purchasing department . . .*

They know too—*as these 185 leaders in the field have proved*—that the most direct and effective means of selling this key man first, is to talk to him in the language he best understands, thru the pages of his own publication—The Proceedings of the I. R. E. *. . . acknowledged as his daily desk reference book . . . written by and for the engineer himself, and the official organ of the Institute of Radio Engineers . . .*



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✱ Every copy of the Proceedings reaches a man you want to sell in your most vital market . . . there's no waste circulation . . . it represents the rare combination of Highest Quality—Lowest Cost—Greatest Circulation . . .

THE INSTITUTE OF RADIO ENGINEERS

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These Solar Capacitors

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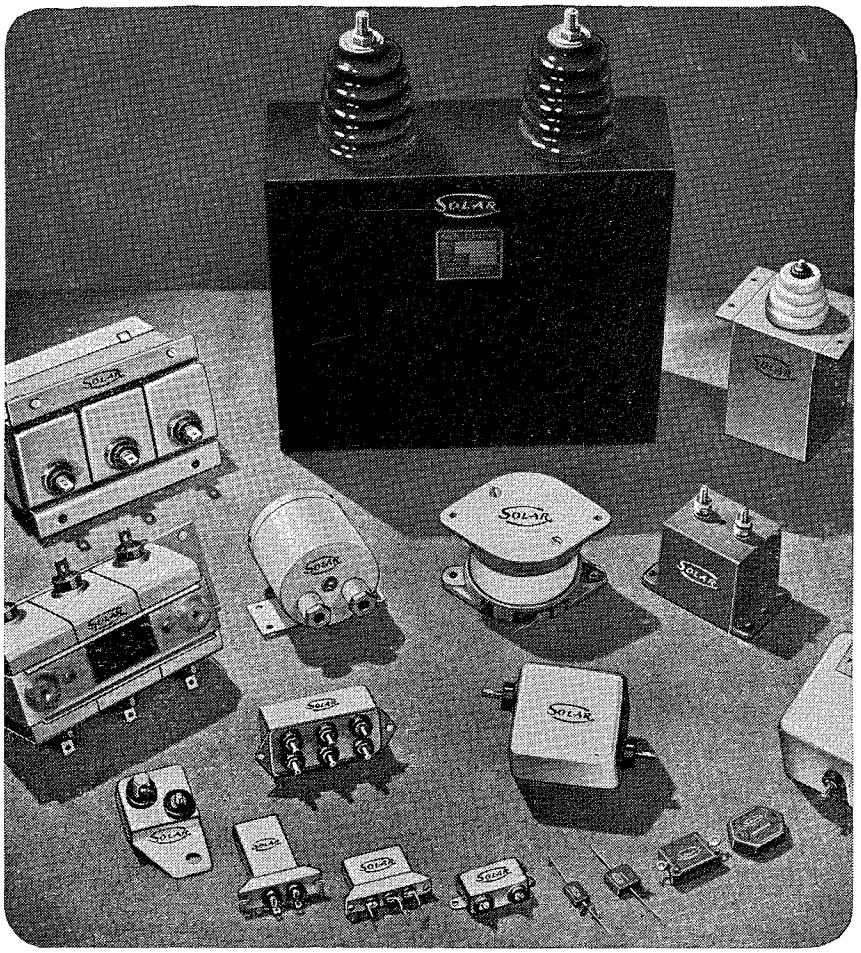

So you can see what they look like, they stopped to have their pictures taken, before going to war. They will serve with the Signal Corps, the Navy, with Ordnance vehicles and tanks; they will enable the Marines to tell it to each other; they will drop with paratroopers; they will visit every climate on the earth and will climb with the Air Force, above climate; they will win many merits even though they never wear them. Principally, they want you to remember, they will render an assist in the saving of many lives,-through reliable communications. *Their story is told in pictures—including many official color photographs of troops in action . . . in a 40-page book "Solar Capacitors . . . in the War . . . in the Peace." Just fill out and mail the coupon.*

SOLAR MANUFACTURING CORP.
285 Madison Avenue, New York 17, N. Y.

Please send me your 40-page booklet
"Solar Capacitors . . . in the War . . . in the Peace"

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Solar
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ARMY E NAVY

The tube with the "Amperextras" for longer life and high efficiency

There are more than 100 different types of Amperex tubes for communications, ultra high frequency transmission, electro-medical apparatus, high voltage rectification and many industrial applications. We'd be mighty happy to talk "Amperextras" with you at your Rochester Fall Meeting.

AMPEREX ELECTRONIC PRODUCTS

79 WASHINGTON STREET BROOKLYN 1, N. Y.

Manufacturers of AMPEREX . . . the high performance tube

Many Armed Servant

The many arms of the FEDERAL organization are the arms of a versatile servant . . . making war goods now and preparing for the new and greater demands of a world at peace.

* * *

For example, FEDERAL INSTRUMENT LANDING AND RADIO RANGE equipment is pioneering new concepts of faster, safer air travel.

FEDERAL'S MEGATHERM dielectric and heat induction units are revolutionizing production processes in the plastics, metal, food, plywood, textile and other industries.

FEDERAL always *has* made better tubes. Today, as the result of continuous scientific development, FEDERAL'S TRANSMITTING, RECTIFYING AND INDUSTRIAL POWER TUBES are proving even more dependable and long lasting.

To fill a vital war need, FEDERAL developed INTELIN ULTRA HIGH FREQUENCY TRANSMISSION LINE — now is the world's largest manufacturer.

FEDERAL'S MARINE RADIO EQUIPMENT, first in serving America's merchant fleet, includes DIRECTION FINDERS, AUTO ALARMS, packaged TRANSMITTING AND RECEIVING UNITS and LIFEBOAT TRANSMITTERS.

Back of every FEDERAL TRANSMITTER are years of engineering and manufacturing experience which assure the ability to produce any type or power of communications equipment from walkie-talkie to 200 K.W. transmitters.

QUARTZ CRYSTALS, precision cut and mass produced at FEDERAL, are performing many secret military jobs.

SELENIUM RECTIFIERS, introduced by FEDERAL, are accepted as standard for converting alternating to direct current. Power equipment and battery chargers, powered by FEDERAL SELENIUM RECTIFIERS, are known for long life, high efficiency and low cost.

* * *

Yes, FEDERAL'S many arms make many things — all to one high standard. Here some of the world's keenest scientific minds combine their talents with three decades of FEDERAL leadership for developing and producing better communications and industrial electronic equipment.

Federal Telephone and Radio Corporation

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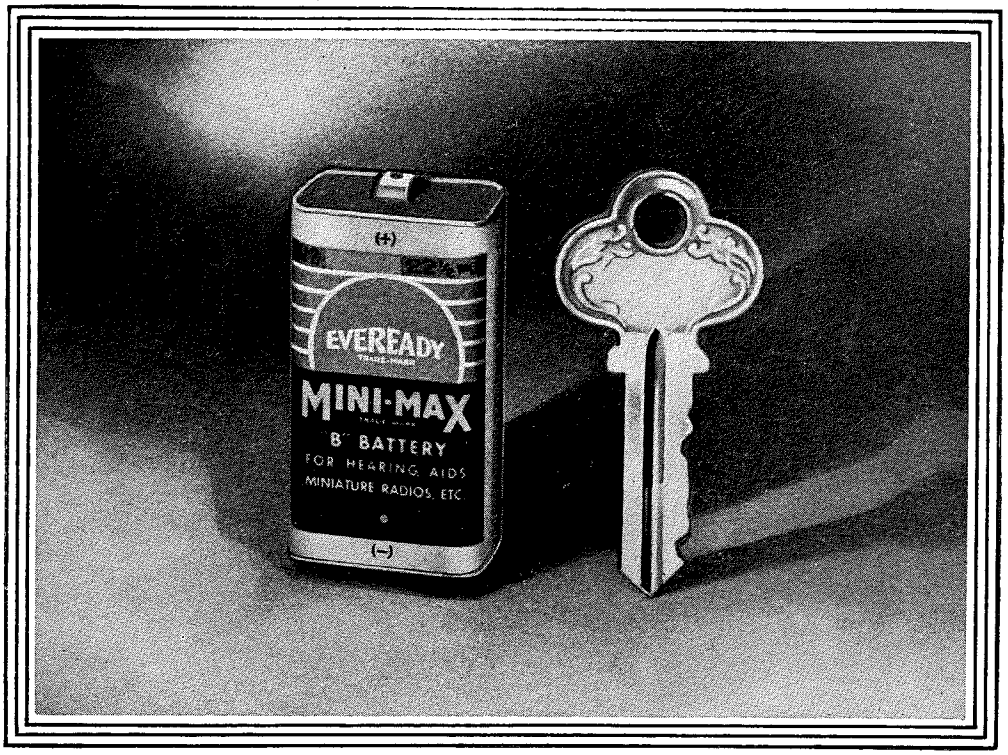

The Door is Open...

This No. 412 "Eveready" "Mini-Max" 22½-volt "B" battery, which measures only 1 1/32" x 23/32" x 2", is the key to the creation of a new field of progress in the development of electronic devices.

Radically new standards of size and efficiency will characterize the hearing aids, pocket radios and other electronic equipment to be built around this battery.

Although not available now, the midget "Mini-Max" battery has been perfected for production immediately after the war. It is a striking example of the potentials for improvement which the plans of today promise for the products of tomorrow.

The words "EVEREADY" *and* "MINI-MAX" *are registered trade-marks identifying products of*

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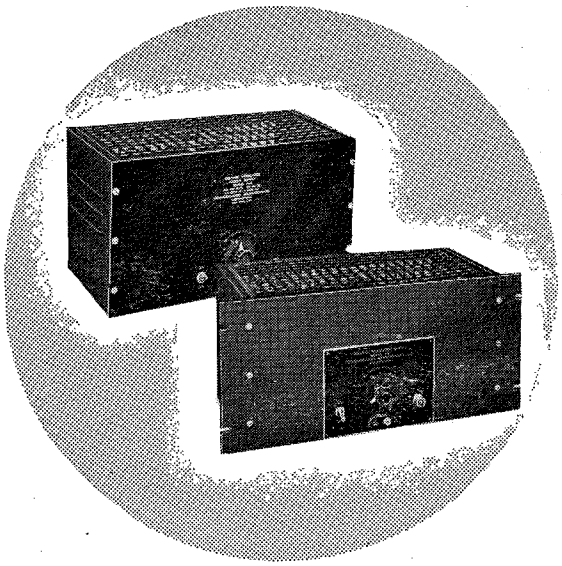
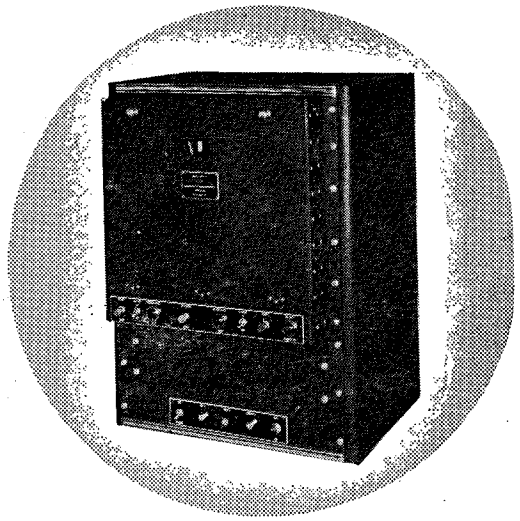
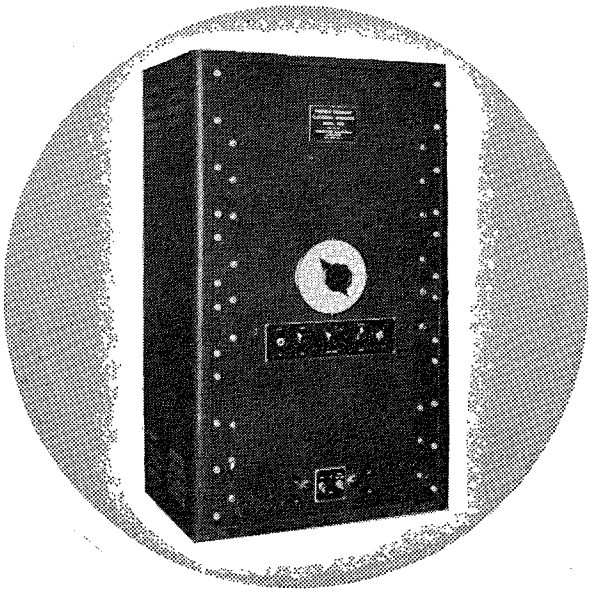
CML SERVES THE ELECTRONIC INDUSTRY



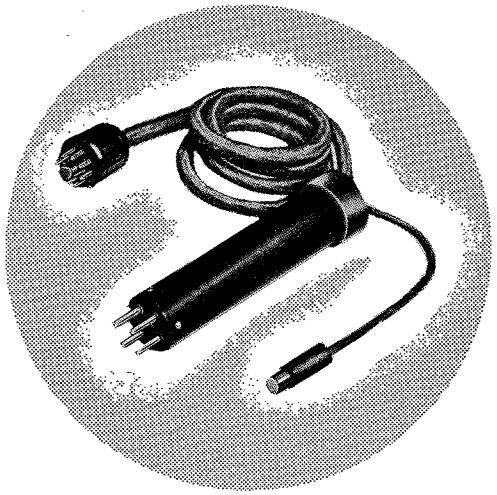
CML 110 AND 1110: Voltage Regulated Power Supply Units.



ROTOBRIDGE: Automatic Tester checks for proper wiring, correct resistance, reactance, capacity and inductance values.



MODEL 1420 GENERATOR: Developed to furnish test power over a wide frequency range.



CML PRODUCTION PLUGS: Especially constructed to withstand thousands of operations.

We take this opportunity to extend our greetings and best wishes to all visiting IRE members gathered together in another successful convention. You will find CML products on display in our room, the number of which is posted on the convention hotel bulletin board. The latchstring will be out during the entire meeting, and we will be glad to have you drop in and talk things over.

COMMUNICATION MEASUREMENTS LABORATORY

120 GREENWICH STREET NEW YORK 6, N. Y.

NEW INSULATOR DESIGN POSSIBILITIES FOR RADIO

General Ceramics' successful surfacing of steatite with thin films of silver, fired at a high temperature and then built up with an electroplated metal (silver, copper or tin), opens up new insulator design possibilities for very high frequency equipment, as well as for certain applications in the lower radio frequency field.

The metallic film can be applied to the surface of insulators to eliminate corona effect. The use of this combination permits improvement in the design of airplane strain and lead-through insulators.

The addition of a thin metallic surface film also permits soldering of metal parts directly to the steatite insulators. Water-tight seals may be made in this manner where temperature ranges encountered in service are limited.

Your inquiry regarding *Silver Surfaced Steatite* is invited.

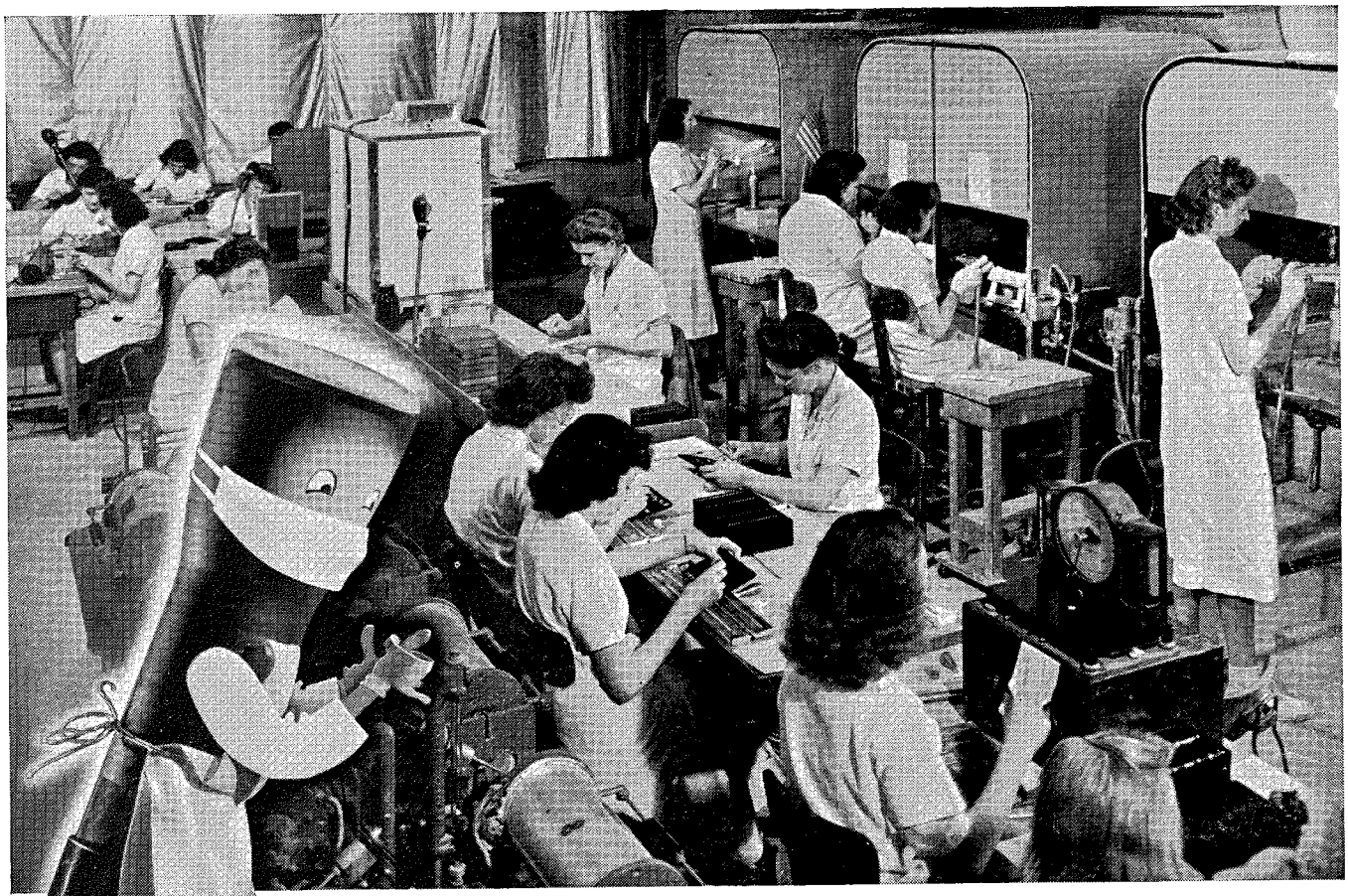
ARMY E NAVY

General Ceramics

AND STEATITE CORP.

GENERAL CERAMICS AND STEATITE CORPORATION STEATITE INSULATORS

KEASBEY NEW JERSEY



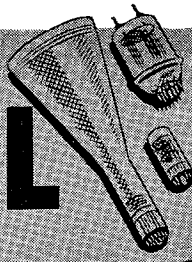
NO SWEATER GIRLS, Please

Electronic tubes are as sensitive to lint, dust and minute particles of foreign matter, as a hay fever sufferer is to pollen. Unless the most stringent precautions are taken to keep tube parts free from impurities, trouble is sure to follow. Trouble—such as noisy receivers . . . discoloration or spots on the screen in cathode-ray tubes . . . power failure in transmitting tubes.

That is why National Union engineers go the limit to assure absolute cleanliness all along the production line. As an example, the model N. U. cathode spray room, pictured above, is not only clean—it's *hospital clean.* No fuzzy sweaters or lint-shedding dresses are worn here. There is no dust, no dirt, because it's air-conditioned. Humidity and temperature are precisely controlled. The whole room is washed from ceiling to floor once a week. Then, to make sure, the individual parts are sterilized—some in boiling water—others in special solvents—still others by hydrogen firing.

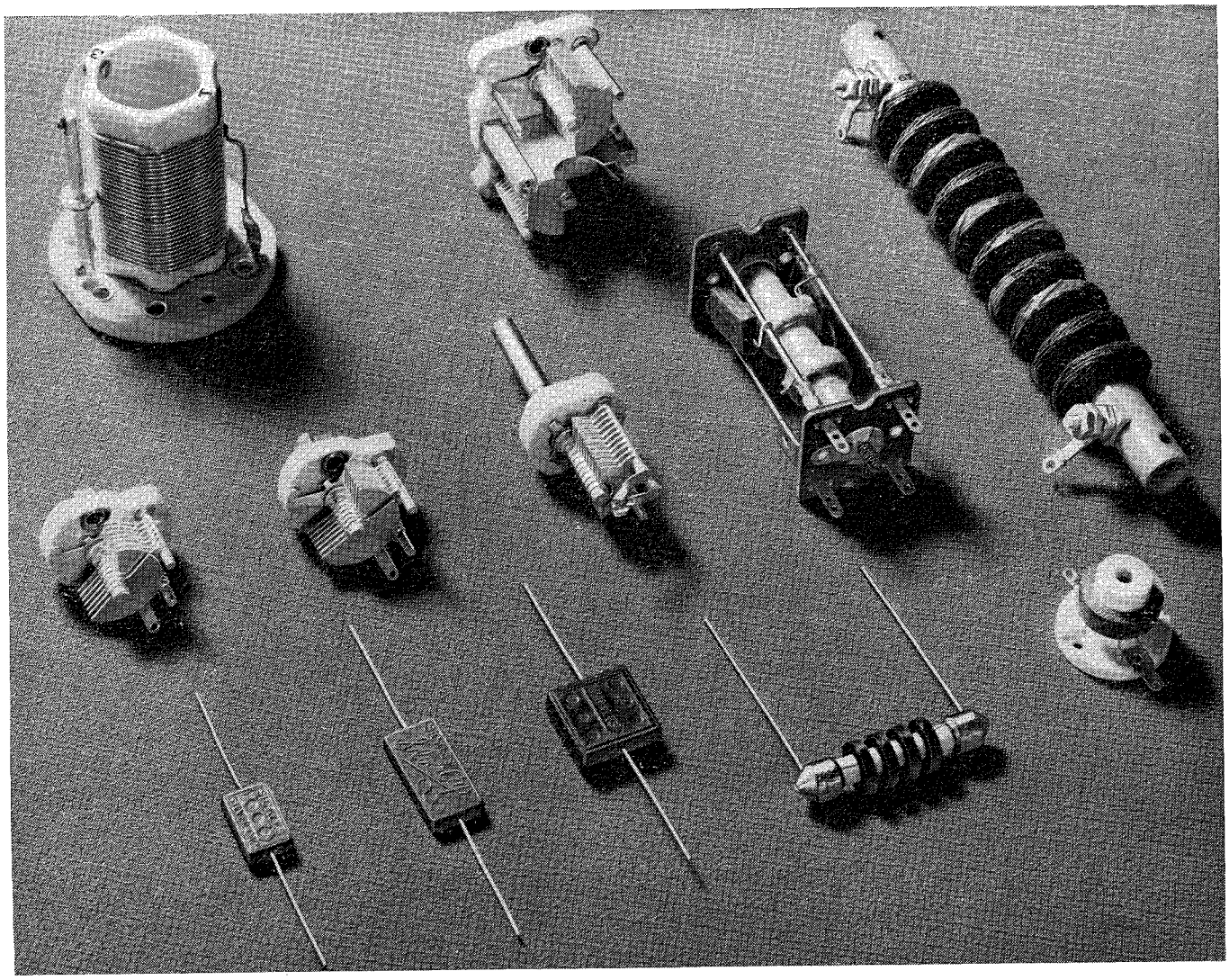
Even should other factors be equal, the cleaner tube is the better tube. Remember this—and *count on* National Union.

NATIONAL UNION RADIO CORPORATION, NEWARK, N. J.
Factories: Newark and Maplewood, N. J.; Lansdale and Robesonia, Pa.



NATIONAL UNION
RADIO AND ELECTRONIC TUBES

Transmitting, Cathode Ray, Receiving, Special Purpose Tubes • Condensers • Volume Controls • Photo Electric Cells • Panel Lamps • Flashlight Bulbs



Jewelry? *In a way, yes . . .*

These are Sickles products — coils and condensers —
as precise and clean-cut as a Swiss watch, as handsome as Florentine silver,
and as scarce, for non-military purposes, as rubies . . . though our production is
up in several departments some 400% over that of pre-war days. They're jewels as
performers, too . . . as you might well judge by our Army-Navy "E."
Superior Sickles specialties of this same high quality will be available
for general use as soon as Victory is won. Meanwhile, please bear us in mind.

The F. W. Sickles Company, Chicopee, Massachusetts.

ARMY ★ E ★ NAVY

SICKLES *Electronic Specialties*

You can depend upon these **DIRECT READING** **INSTRUMENTS**

in development, research, design and production of radio and allied equipment

Q-METER

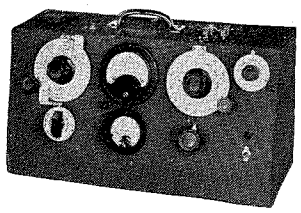
TYPE 160-A

Frequency Range: 50kc. to 75mc. may be extended with external oscillator down to 1 kc.

Range of Q Measurements, Coils: 50 to 625.

Accuracy: In general ± 5%

Range of Q Tuning Condenser: 30-450 mmf. (Vernier Condenser: ± 3 mmf.)



Q-METER

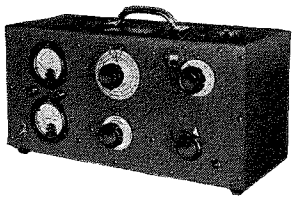
TYPE 170-A

Frequency Range: 30mc. to 200 mc.

Range of Q Measurements, Coils: 100-1200

Accuracy: In general ± 10%

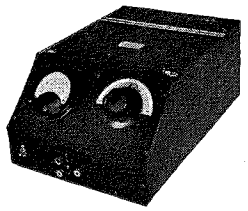
Range of Q Tuning Condenser: 10-60 mmf.



QX CHECKER

TYPE 110-A

The factory counterpart of the Q-Meter. Compares fundamental characteristics of inductance or capacitance and Q under production line conditions with a high degree of accuracy, yet quickly and simply. Insures uniform parts held within close tolerances. Frequency range 100 kc. to 25 mc.



FREQUENCY MODULATED SIGNAL GENERATOR

TYPE 150 SERIES

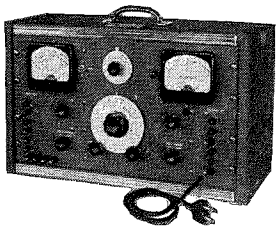
Type 150 A—Frequency 41-50 mc. and 1-10 mc.

Type 151 A—Frequency 30-40 mc. and 1-9 mc.

Type 152 A—Frequency 20-28 mc. and 0.5-5 mc.

Type 154 A—Frequency 27-39 mc. and 1-7 mc.

Developed specifically for use in design of F.M. equipment. Frequency and Amplitude Modulation available separately or simultaneously.



BEAT FREQUENCY GENERATOR

TYPE 140-A

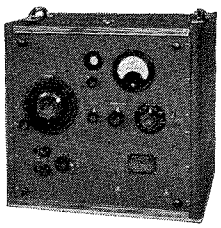
A single compact instrument which provides wide frequency and voltage coverage of generated signals.

Frequency Range: 20 cycles to 5 mc. in two frequency ranges.

Output Voltage Range: 1 millivolt to 32 volts.

Accuracy: ± 3%.

Output Power: One watt into external load.



BOONTON RADIO *Corporation* BOONTON, NEW JERSEY.