

# **RADIO** *Retailing* **TODAY**

**SPEEDING UP THE RADIO-ELECTRONIC SUPPLY LINE  
FOR WAR INDUSTRIES AND CIVILIAN RECEIVERS**



**FEBRUARY**

# "Work Bench Helper" is the Name for It!



Here is the book to have at your fingertips for practical help in Wartime. The latest technical data, in simple, easily-understood text... invaluable aid in making the most of available parts... first aid for every-day receiving set problems.

408 pages, profusely illustrated, hard cloth covers. Every radio serviceman, engineer, amateur and experimenter will find this book a practical blend of theory and practice.

## READ THE TABLE OF CONTENTS

### 1. LOUD SPEAKERS AND THEIR USE

Written by outstanding experts in the design and application of loud speakers. Covers the acoustical properties of various designs. Tells in detail how loud speakers may be selected and installed for greatest economy and best performance. New Information... never before published.

### 2. SUPERHETERODYNE FIRST DETECTORS AND OSCILLATORS

The heart of a superheterodyne is its first detector. Many receiver problems involve more than just voltmeter readings. This chapter makes servicing easier by presenting the basic principles governing first detectors and oscillators. It covers *all* modern conversion systems.

### 3. HALF-WAVE AND VOLTAGE DOUBLER POWER SUPPLIES

Explaining the power supply design in AC-DC and series heater type receivers and amplifiers. Contains facts with which every serviceman should be familiar. Explains the "mystery" breakdowns encountered in actual practice.

### 4. VIBRATORS AND VIBRATOR POWER SUPPLIES

Complete, up-to-date information on the operating conditions and application of both vibrators and vibrator power supplies. Important facts about their design, and the requirements for satisfactory performance of vibrator-operated equipment.

### 5. PHONO-RADIO SERVICE DATA

Understanding of the mechanical and electrical principles involved makes servicing easier, quicker and more profitable. This chapter "tells all"... and has been called priceless by servicemen who have previewed it.

### 6. AUTOMATIC TUNING

In this section is a full description of the various systems of automatic tuning... how they work and how to adjust them. Every serviceman will profit from the information given here, since he'll use it constantly.

### 7. FREQUENCY MODULATION

Clear, concise, easy to read, this chapter provides a simple explanation of the design principles and operating con-

ditions involved in FM circuits. It provides a solid foundation of knowledge for servicemen, radio engineers, amateurs and experimenters... anyone concerned with the practical applications of FM.

### 8. TELEVISION

This section provides the basic information needed to prepare for successful work in the television boom that is sure to follow the war. Understanding television now will pay dividends later.

### 9. CAPACITORS

Wartime servicing depends on making the best use of available components. This article shows how to install condensers for specific applications, without being dependent on duplicate replacements. Reading this article will help you make repairs promptly and assure your customers of satisfactory service.

### 10. PRACTICAL RADIO NOISE SUPPRESSION

You can easily become an expert on radio noise by applying the information provided in this chapter. New, down-to-earth, field-proven methods of solving practically any noise problem... How and where to use noise filters and much other data. Interestingly written, easy to understand.

### 11. VACUUM TUBE VOLTMETERS

This measuring device is proving increasingly useful in both radio work and industrial electronics. Here's a full explanation of how commercial vacuum tube voltmeters operate.

### 12. USEFUL SERVICING INFORMATION

All the general references a serviceman needs... tables, coding data, standards, design charts, etc. *Everyone* interested in radio will have frequent occasion to use this section.

### 13. RECEIVING TUBE CHARACTERISTICS

Complete tables covering all American tube types. Arranged in convenient form to save you time.

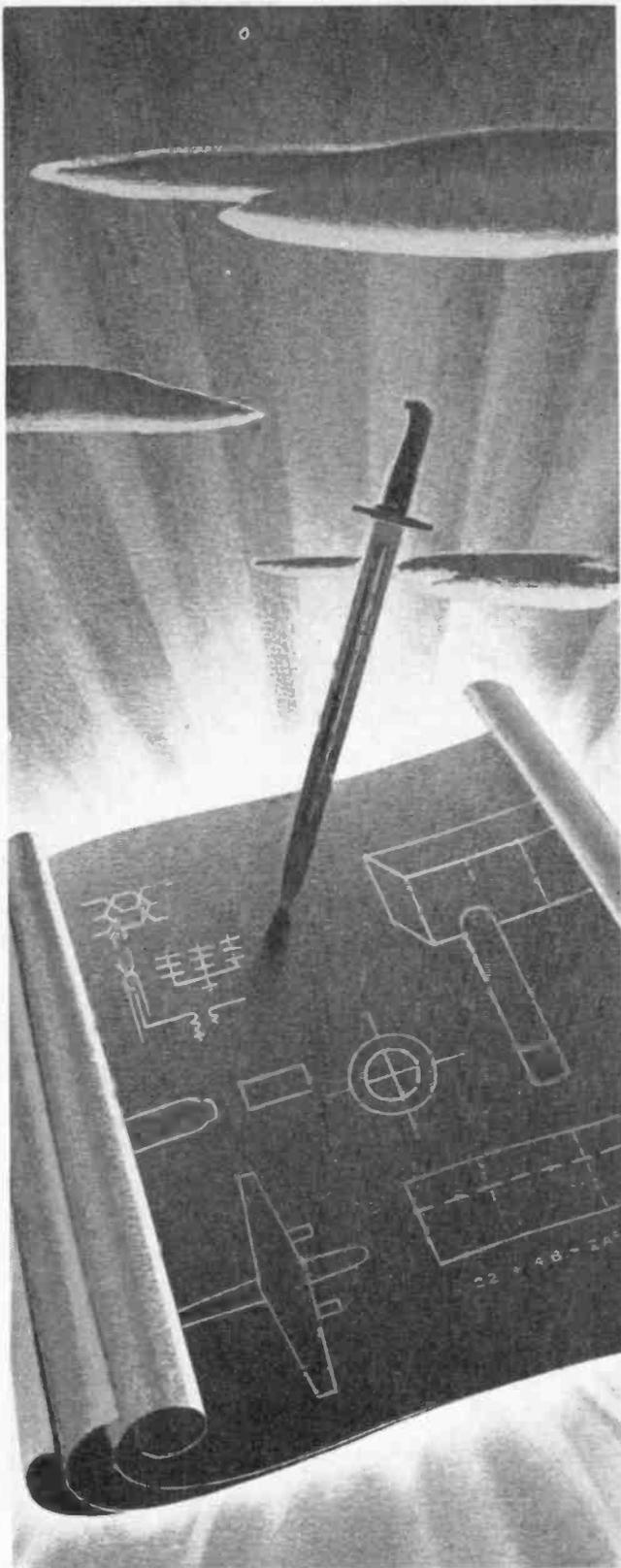
Technical data is the ammunition to win the battle on the home front to "keep 'em listening." Your nearest Mallory distributor can supply you. Serviceman's price—\$2.00.

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## Approved Precision Products



# THE NEW AGE OF ELECTRONICS IS BEING DRAWN ON THE **BLUEPRINTS OF WAR!**

Men of the appliance trades may look with hope and confidence upon the part which the electronic industries have taken in producing the weapons of victory.

Philco, the world's largest radio manufacturer, has taken its proper place in the supply of electronic equipment for our armed forces. Philco's soldiers of industry are doing the work for which they have been fitted by the production of over seventeen million Philco products in electrical fields.

In this, their research laboratories have created miracles of electronic science, their engineering laboratories have developed marvels of ingenuity in production, their production lines have won honors from our fighting forces for the quality and quantity of their output.

Out of this have come new knowledge, new skill, new progress . . . *and new ideas!* When victory is won, the blueprints of war will bring the Age of Electronics, with untold wonders of comfort, convenience and entertainment for the homes of America.

And for the appliance dealers . . . *new opportunities.* For as Philco, before Pearl Harbor, had become the quality name in millions of American homes, it will be ready to carry on after victory to new heights of achievement and opportunity for the Philco dealers of America.

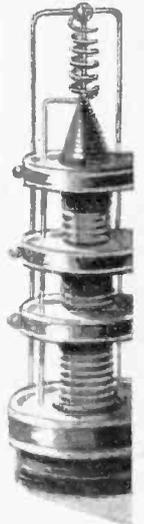
OUR WAR PRODUCTION PLEDGE:

**MORE!  
BETTER!  
SOONER!**

**PHILCO  
CORPORATION**



“...Image is blurred  
on band four”



**S**OME BRIGHT DAY in the world of peace to come, Mr. and Mrs. America may be replacing television tubes as casually as light bulbs. You don't need Alladin's lamp to conjure up a household of new and fascinating electrical appliances to come after the war is won. And of this, too, you can be sure: When television-for-the-many is here, along with other new and brilliantly engineered products of electrical

science, Jackson will be making laboratory and service shop testing instruments to meet tomorrow's needs *in full*. Today, Uncle Sam's needs come first. And while we cannot fill your orders now, just remember that the name Jackson has earned a high reputation wherever fine test equipment is used.

JACKSON ELECTRICAL INSTRUMENT  
COMPANY, DAYTON, OHIO.

All Jackson employees—a full 100%—are buying War Bonds on a payroll deduction plan. Let's *all* go all-out for Victory.

  
**JACKSON**

*Fine Electrical Testing Instruments*





## PRESTO IS HARD AT WAR WORK

★ ★ ★

You may never have thought of a sound recorder as a weapon of war. But in this war, fought alike with guns and propaganda, the Presto recorder is in there working on every front, making records that broadcast news and instructions to military and civilian populations, spreading information that combats enemy propaganda, reproducing short wave broadcasts of radio programs that bring music and voices from home to troops in out-of-the-way places, operating in tough climates where the ordinary record player wouldn't last a week.

In addition to recording equipment, the Presto plant (tripled in size since 1941) is now making a variety of mechanical and electronic equipment for the armed forces, working overtime and booked to capacity for months to come.

Presto is hard at work making its contribution toward winning the war.

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World's Largest Manufacturers of Instantaneous Sound Recording Equipment and Discs

# RADIO *Retailing* TODAY

FEBRUARY  
1943

featuring

Page

11	WAR RADIO REVIEW
12	RADIO AIMS FOR VICTORY
14	WOMEN'S CORPS FOR RADIO
16	MUSIC ON A NIGHT SHIFT
18	JOBBER'S ELECTRONIC ERA
20	VICTORY PARTS LINES
22	WORKING TO WIN
24	500 SETS A DAY
26	NEED FOR RECORD SCRAP
28	RADIO SERVICE FOR OCD
30	PATRIOTIC DISPLAYS
32	WHAT WASHINGTON SAYS
34	NEW PRODUCTS
36	SERVICING METHODS
37	NOISE ELIMINATION

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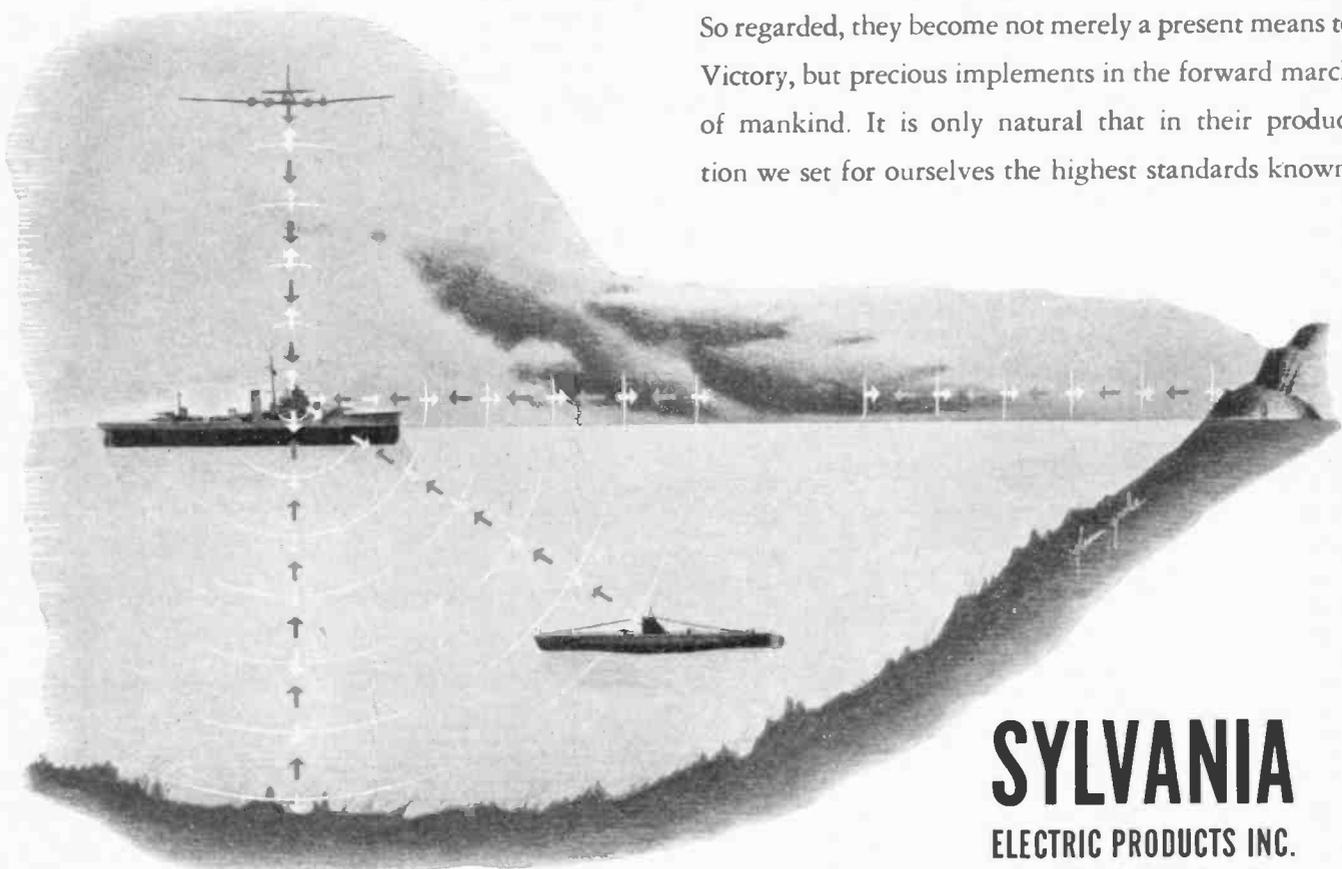
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# Beyond Sight and Transcending Hearing

● Two of the simplest words in the English language make up the phrase, "I see." Yet in that phrase is wrapped up most of the progress man has made. It spells understanding – which, whether gained through eye or ear, is the key to all things good. It is the beginning of knowledge, the source of progress, the interpreter of beauty, the keystone of civilization. That is why the everyday things we build – radio and electronic tubes, incandescent lamps, fluorescent lamps and equipment – are to our mind more than they physically seem. They might be called the Means to the Future, since they enter areas beyond sight and transcending hearing. So regarded, they become not merely a present means to Victory, but precious implements in the forward march of mankind. It is only natural that in their production we set for ourselves the highest standards known.



## SYLVANIA

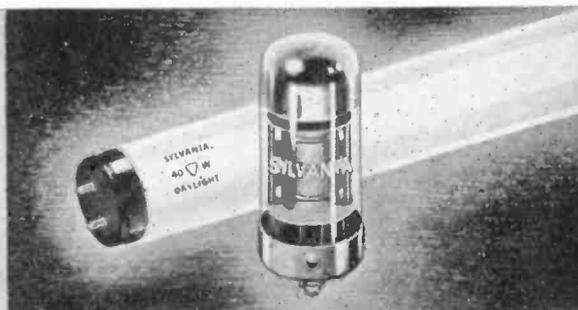
ELECTRIC PRODUCTS INC.

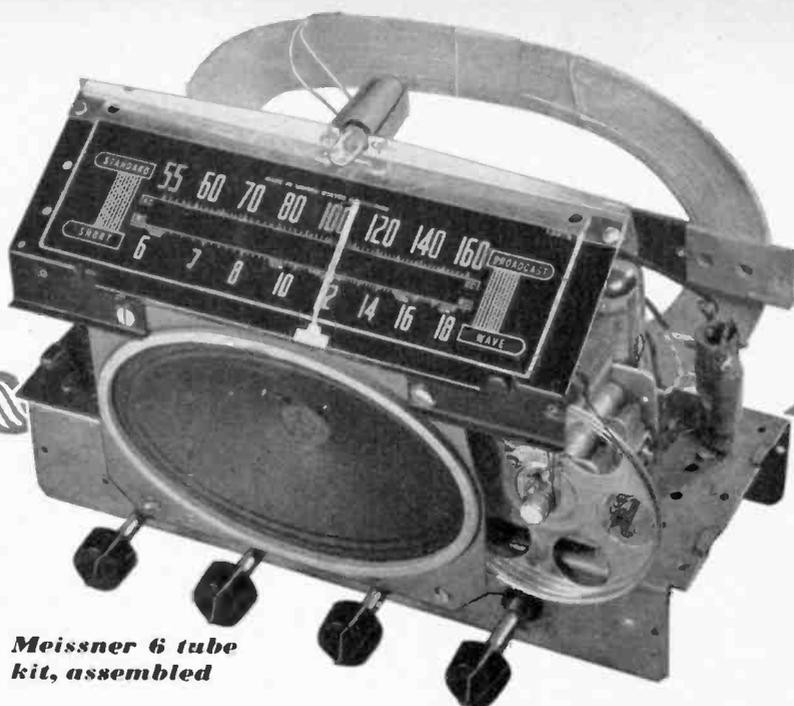
formerly Hygrade Sylvania Corporation

Emporium, Pa.

*Established 1901... Makers of Incandescent Lamps, Fluorescent Lamps, Fixtures and Accessories, Radio Tubes and Electronic Devices*

**GOOD WARES DESERVE GOOD CARE.** Sylvania Radio Tubes, Sylvania Incandescent Lamps and Sylvania Fluorescent Lamps and Equipment are all made to serve you well. But the first need of wartime is to save and conserve, both to free men and material for necessary wartime purposes and because of inescapable shortages. So take good care of your Sylvania products, not because they need coddling, but because they are good tubes and lamps, and deserve good handling. And also because you may find it less easy to lay hands on these top-quality products when replacement finally does become necessary.





**Meissner 6 tube kit, assembled**

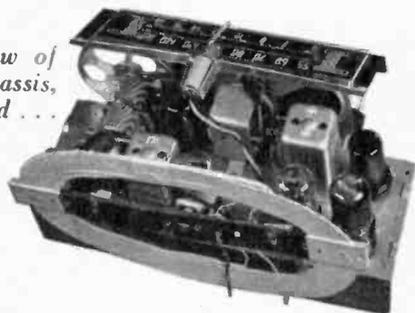
# TRAIN WITH MEISSNER KITS

SIX TUBE student training kit engineered for more complete basic radio training. Two bands cover a tuning range of from 540 kc. to 1620 kc. (53 to 16 meters). Operates on 110-120 volts 50-60 cycle AC, or 110-120 volts DC.

Chassis is equipped with automatic volume control, slide-rule dial, beam power output, six inch oval electro dy-

amic speaker . . . four panel controls: volume and on-off switch, station selector, tone control, band selector switch. Meissner six tube student training kits are shipped complete, including all parts and tubes . . . each kit is supplied with a schematic diagram. Meissner 6 tube kit (Model No. 10-1197) special school net price . . . \$19.10

*Rear view of 6 tube chassis, assembled . . .*



**The name Meissner** on radio training kits is your guarantee that each part represents the finest radio craftsmanship. All Meissner radio kits are precision engineered to give a definite objective value in teaching . . . see your Meissner distributor, or write for complete catalog.



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"PRECISION-BUILT PRODUCTS"



## INTELLIGIBILITY

Built to Civil Aeronautics Administration specifications, CAA-515, the Electro-Voice Model 7-A microphone is widely used for airport landing control and is highly suitable for many other sound pick-up applications.

The smooth frequency curve, rising with frequency, gives extremely high intelligibility even under adverse conditions. Desk mounting incorporates easily accessible switch which can be operated by thumb of either right or left hand. Microphone may be moved without danger of pressing this switch.

## SPECIFICATIONS

**SWITCH:** Push-to-talk Acro-switch, SPDT, for relay operation; positive action; slight pressure required for actuation; 1/16" over-travel; connections terminate on terminal strip in base.

**OUTPUT IMPEDANCE:** 25 ohms.

**CABLE:** Eight feet, 4 conductor, shielded, overall rubber jacket, equipped with MC4M connector.

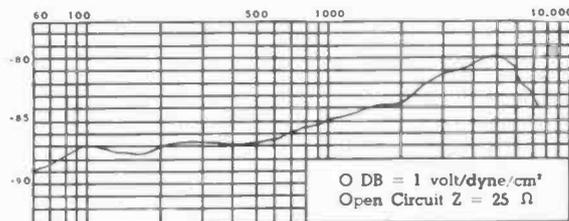
**DISTORTION:** Not exceeding 5% for sinusoidal sound waves from any direction from 100-4000 cps, up to 50 dynes/cm<sup>2</sup>.

**INSULATION:** Leads from the moving coil are insulated from the microphone housing and stand, and are capable of withstanding 500 volts RMS, 60 cps.

**STAND TUBE:** Wear resistant, 1/8" XXM bakelite.

**CORROSION RESISTANCE:** The entire microphone is completely inhibited against corrosion and will successfully withstand a 20% salt spray atmosphere for 100 hours at 95° F.

**NET WEIGHT:** 3 1/2 lbs.; Shipping wt.: 5 lbs.



This Model 7-A Desk Mounting Communication Microphone supersedes our previous Model S-7. Our Engineering Department may be able to assist you with your microphone problem. *Electro-Voice Manufacturing Co., Inc., 1239 South Bend Avenue, South Bend, Indiana.* Export Division: 100 Varick Street, New York, N. Y., U. S. A. — Cable Address: "Arlab"

*Electro-Voice* MICROPHONES



# 4 TIMES OUR PEACETIME PEAK!

**T**HE STRONG POSITION which Crosley will occupy, in the radio, household appliance, and automotive fields when the war ends is clearly foretold by the Crosley war record.

Crosley is now manufacturing forty-two separate fighting products and this is at a rate *four* times its greatest peacetime output.

By the middle of 1943, this rate will be *six* times the highest record in 23 years of Crosley manufacturing.

For more than 21½ years this program has been in progress—ever since Crosley engineers first contacted our Combat forces and our Allies.

The Crosley Organization had been greatly strengthened when the first war order was obtained late in 1940,

and since then an impressive group of engineers, research specialists, manufacturing and planning people have been added. Extensive new facilities have been acquired.

Engineering projects of major importance in unexplored fields have been carried through to completion.

Millions of dollars worth of new machinery, new equipment and new facilities are included in the eight Crosley war plants of today.

Above all, the determination of Management to place the Crosley war contribution on a seemingly impossible scale has simplified itself into a planned and orderly achievement.

Crosley converted 100 per cent to war. Crosley can re-convert to peace with speed, precision and success.

# CROSLEY

THE CROSLEY CORPORATION · CINCINNATI, OHIO AND RICHMOND, IND.  
Peacetime Manufacturers of Radios, Refrigerators, Household Appliances, and the Crosley Car  
HOME OF WLW, "THE NATION'S STATION"

# INSTANT ACTION WITH

# *Raytheon Tubes!*

... when anti-aircraft batteries go into action it must be instant action. There can be no delay! ... communications for firing orders must work and they do with RAYTHEON tubes consistently doing their duty with our armed forces.

When you see a difficult job well done you will usually find that RAYTHEON tubes have been chosen to perform the task.

The unfailing performance qualities embodied in Raytheon tubes are the reason engineers who demand accuracy, stamina, and long life, specify Raytheons.

## RAYTHEON PRODUCTION CORPORATION

NEWTON, MASS.  
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CHICAGO  
ATLANTA



# RAYTHEON RADIO TUBES

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

**"Thank God...that we are not alone!"** *"On January 12, Stromberg-Carlson was awarded the Army-Navy "E"... and I feel swell because I know an inch or so of that flag is for me. Another inch is for the quiet guy next to me who worked extra hours under the night glare of floodlights. There's a piece for every man and woman in the organization... for the girl who's just become a solderer...for the office boy...for the toolmaker...and most certainly for Inspector Matty Butler who designed a machine that cuts inspection time for switchboards from 80 man hours to one. You see, we are all in there pitching...we all have a share... But the thing that strikes me as really great is the fact that we are not unusual... that so many — throughout the country have won*

*plants—some large, some small their "E" the same way.*



*"That makes it American...and big...and that's how it should be! And that's why I feel as if I'd become a member of a tremendous army whose drive and skill are winning this battle of production to enable our fighting men to win more quickly a complete victory in the field.*

*"While we were winning our "E"... some swell fellows in North Africa and Guadalcanal were losing their lives. They're going to keep on dying until victory. All of us can help bring that day closer by buying War Bonds and Stamps...as many as we can possibly afford! Let's buy them today and put another fighting weapon on the production line."*

**STROMBERG-CARLSON**

480 LEXINGTON AVE.  
NEW YORK, N. Y.

# RADIO *Retailing* TODAY

Including Radio and Television Retailing

O. H. CALDWELL, EDITOR  
M. CLEMENTS, PUBLISHER

## Radio Is a Necessity— Now More Than Ever

Several different factors are now combining to put home radios at their peak of usefulness and importance to their owners.

Rationing of gasoline and rubber have cut down visiting, and the later ban on pleasure driving has eliminated movie-going and other amusements requiring motoring. And now the ten per cent cut in paper tonnage imposed on news and magazine publishers by the War Production Board, is beginning to have its effect in reduced contents and reading time of newspapers and magazines.

It is not surprising, as a result of the above forces, that the Hooper survey of broadcast listening now reports the highest listening level in the history of radio. The home radio set is more important than ever. Keep it playing!

## Short Story, Mostly Moral

Recently on one of the big network radio shows, the announcer read a letter from a woman who had written in to say that "I can't get my radio fixed, but I always go over to my neighbor's house to listen to your program." The letter was read, naturally, to indicate that listeners are devoted to the stanza; to the radio trade it meant something else.

Maybe the local serviceman in this case had been called to the colors, or perhaps he didn't have the right replacement parts in stock. Either way, Uncle Sam's demands on the repair shop had come first, which is as it should be. Yet, Uncle Sam would be disappointed if this woman didn't listen to, and act on, some of his war reports and instructions.

Right now the woman probably needs radio help on the new rationing program, the matter of buying U. S. Bonds and Stamps, and the new tax-paying plans. There should be some way to bring her radio to life.

## Two of a Kind

A pair of events in the radio business lately appear to have a curious and interesting tie-up. As a result, the industry picture is splashed with a somewhat brighter color.

First, the official work on "Victory" replacement parts and tubes began to develop into a real assurance of supplies for civilian radio. Then the business of radio repairing was certified as an "essential occupation" and non-

replaceable servicemen were deferred by Selective Service.

Offhand, this might mean that replacement parts will be available for radio and that repairmen will be free to handle this work. Of course these are the outside limits of the picture; war strategy changes from week to week.

However, almost at the same time, Donald Nelson was reporting that war production of radio equipment was in excellent shape, indicating that while the needs of Armed Forces were being filled, the vital civilian radio program was still able to improve itself.

## We Trim Our Page Size— to Save Paper for Uncle Sam

With this issue of RADIO RETAILING TODAY the reader will note that the outer dimensions of our pages have been trimmed down to a new size,—8½ by 11¼ inches.

This reduced page size results from the recent order of the War Production Board curtailing by ten per cent the supply of print paper to all magazines. Caldwell-Clements, Inc., is glad to comply with this order on the part of WPB as it affects both our publications, "Electronic Industries" and "Radio Retailing Today."

Fortunately for our readers, we shall be able to make this contribution to the saving of manpower and raw material in the production and transportation of print paper, without detracting from our news contents in serving the radio field which is playing such a vital part in keeping up civilian morale.



"You'll have to wait awhile, some of the parts haven't come down yet!"



Ray C. Ellis, War Production Board radio head.

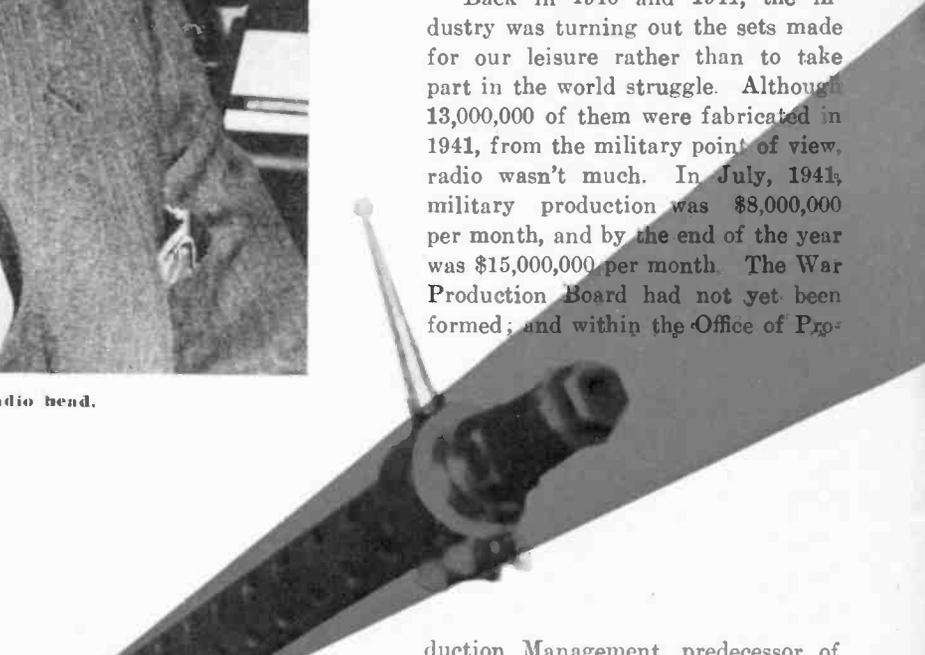
# RADIO

• A commanding review of radio war production, both in the military and civilian fields, was presented by Ray C. Ellis, Director of the Radio and Radar Division of the War Production Board, when he recently addressed a meeting of the Institute of Radio Engineers in New York City.

In this new and vital outline of radio's Victory job, Mr. Ellis interpreted the earlier developments in emergency output, and gave some indication as to the future position of the industry. These parts of his address are presented herewith.

## How It Started

"Back in 1940 and 1941, the industry was turning out the sets made for our leisure rather than to take part in the world struggle. Although 13,000,000 of them were fabricated in 1941, from the military point of view, radio wasn't much. In July, 1941, military production was \$8,000,000 per month, and by the end of the year was \$15,000,000 per month. The War Production Board had not yet been formed; and within the Office of Pro-



duction Management, predecessor of the WPB, radio was an obscure unit of the Fire Control and Optics Branch. The events at Pearl Harbor had not yet fractured our peace. It was not apparent that the munitions program would grow to its present height and that, as part of this program, production of military radio would reach an output of over \$200,000,000 per month. It was not known that in but a few months the United States would be at war and that the facilities of a peace-time industry—among them the plants of some fifty-odd home radio producers—would be placed at the service of our Armed Forces. Because it was not evident



# AIMS FOR VICTORY

## WPB Official Charts Progress in Military and Civilian Supply

in 1941 that virtually all industry soon would go to war, all types of military production were increased, by adding new plants and facilities and by hiring new workers.

### Forward March

"Early in 1942, production of home and automobile sets was cut 40 per cent by General Limitation Order No. L-44. As of April 23, 1942, production of civilian radio sets virtually stopped. Facilities, materials and manpower were released for war work. Military production, which at first had been undertaken by a handful of companies, now was widely divided. Today, about 1,500 concerns participate in production of radio detector equipment for the Army, the Navy and for our Allies.

"As the industry pushed its production figures upward, shortages of materials which, at first, were merely occasional and relatively mild, became more severe. Conservation orders solved part of the problem. A few months ago, for example, use of stea-

tite tin for other than a few designated purposes, including the manufacture of electronic insulators, first was restricted and then prohibited altogether. Recently, restrictions were placed upon deliveries of mica in order, among other things, to insure greater supply for the production of radio condensers. Similar orders were promulgated to cover nickel, zinc and other materials.

### Emergency Orders

"These orders alone do not solve the problem. They do, indeed, stop the use of a host of materials for non-essential purposes. They prevent dissipation of our resources on mere comforts, when there is a war to fight. They eliminate much of the competition of peace-time luxury with the rigors of war production.

"What conservation orders cannot do is equitably to dole out materials to the different war industries, whose needs often conflict. Every material which is needed by a radio manufacturer is also needed by someone else.

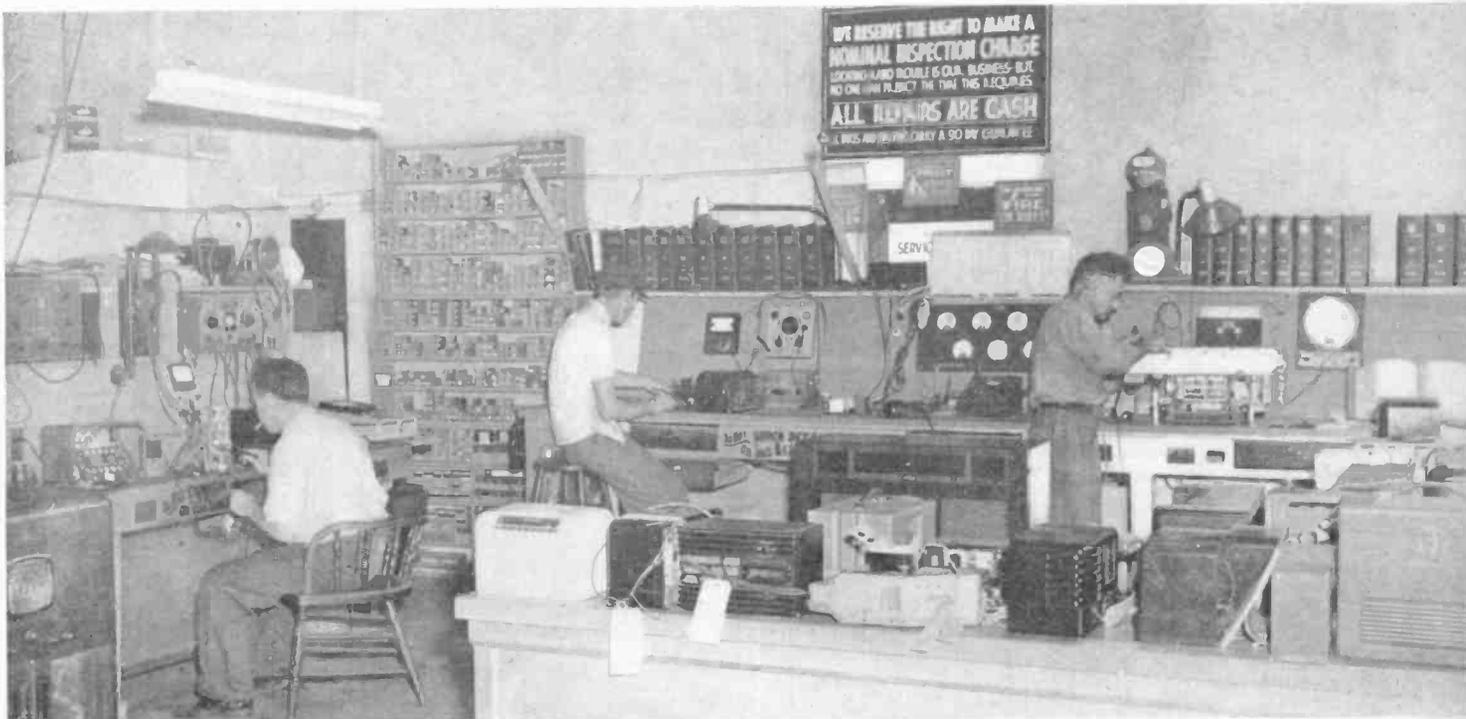
Every ounce of material which goes to one war industry in a sense is taken from another. To distribute the materials in accord with the requirements of each branch of the Armed Services requires a new instrument, notably, the Controlled Materials Plan, which will become more familiar as the months go by.

### Complicated Task

"In our industry, leading components such as electronic tubes, transformers, etc., are on the B-1 list. Just as we must avoid waste of materials by producing some end products in amounts greater than are immediately required, so production of components must be synchronized with that of completed equipment. Seeing to it that component production and shipment is scheduled to the basic radio program is one of the major problems of 1943. It is a problem which a scrupulous care and constant ingenuity will solve.

"For the producers of electronic  
(Continued on page 54)

In the thick of civilian repair work is the Western Radio Service shop, Hot Springs, Ark., where two set-ups of instruments are arranged so that four servicemen can work at once. The report is that "there are no new sets left in Hot Springs—old ones must be kept in repair" and three 15-ft. shelves are usually full of sets-in-waiting.





# Women's Corps

*Everybody from Rosie O'Grady to the Colonel's*

• Some months ago we pointed out a fast increasing number of women working to win the war.

Now, that trend is fast reaching a full flood tide, and is producing some interesting conditions, on which it is our purpose now to report.

To illustrate the general idea, consider what is happening in the armed services.

The Army WAACS are beginning to go into field service, after their training, and are giving a fine account of themselves. It is interesting to note that though there has long been a prejudice in the Army against women, except as Nurses, wherever the WAACS have been assigned the call has immediately gone forth for more.

Likewise, there has long been a prejudice against women in the radio service business. But the radio repairing industry can learn too, and if the use of women expands in radio

as it has in the armed services, there will be a striking change in the industry.

For now, even the Marines have a branch for the women and the Signal Corps will soon have its WIRES.

The armed services have always been *men's* outfits. They have precedence in the call for manpower, and are taking the very flower of our youth. But they have need for women—use them, and like them, too.

And so it is being found to be in radio too.

## **Doing Their Share**

Across the country women are flocking to war plants, to take the place of men, to do their full share to help win the war, by working to produce the munitions without which manpower would be helpless in the field.

Often we think of women as stenographers, clerks, small parts assem-

blers, and light machine operators.

But that is no longer the case. Women are moving into the ranks of engineers, chemists, draftsmen and other technical and professional activities, as well as into any and every other occupation that once was reserved to men.

Where do you find such women? Women who can help you in technical work, if need be? There are various places, depending upon the qualifications required.

They are being trained by various agencies and schools in almost every city throughout the land. Many of the adult training classes have added radio training courses.

Radio jobbers have reported a greatly increasing demand from women, for books, magazines and construction kits dealing with radio fundamentals. A good many of the girls are now coming in and searching for parts and assemblies to use in

their training work. It's a real trend, in 1943.

It is a mistake to think you can train any woman for any job. And a lot of employers have made just that mistake.

### Careful Training

You know the background required for your particular job. Not long experience—but the basic education necessary to assimilate the technical work you require.

In hiring the newcomers, radio servicemen and jobbers are not faced with many of the complicated problems that face the employer who must hire larger groups. The biggest radio outfit will not use more than half a dozen girls in technical work, and it is easy to apply careful supervision to a group of this size.

Any mistakes that the beginners make can be caught promptly and tactfully corrected. It has been found that rivalry, and the petty intrigues which are likely to develop in large groups, are at a minimum in radio. Friendly, personal supervision has

## Hiring Women

Select them carefully according to needs of your particular job.

Don't try to get by without a certain amount of training at the start.

Give them a free hand to exercise their talent for neatness and order.

Give them full credit for Victory effort and their success in other fields.

interest the women, since the Victory idea is the reason for their taking a new job in the first place.

But whatever be their attitude toward their radio job, they are not any more likely to be changing their minds about it than the men are. In fact, the records show that women are generally more permanent than men.

It has been found, too, that women

contribute to the management of radio shops in some unexpected ways. They have a keen sense of order, most of them, and they influence the appearance of the shop by their very presence. They have been known to make some valuable and interesting improvements in radio window displays, and have brought some badly needed "housekeeping" talents to sales and service departments alike.

### Permanent Personnel Policy

Business and industry which does not fortify itself with a sound personnel policy is heading for trouble, and soon.

It is reliably stated, that 11 of every 15 men, between 18 and 38, whether single, married, or fathers, will be called to the colors within a year.

As industry swings into its full production stride it will require another 5 to 7 million workers. And men will not be available.

Competition for men through increasing wages will be keen. Wages have been frozen to prevent runaway

# for the Radio Store

## Lady Is Finding Out About Radio

been the rule and there's little mischief or trouble in this regard.

### New Types Appear

Besides, the type and caliber of women who are working has stepped sharply up since it became the "proper" thing to do.

In fact women from every strata and social position are now doing their "bit" for Victory.

What, or who, they were, is forgotten. It's what they are doing that counts, and makes them sisters all, under the skin.

In this regard, radio men should be sure to point out the wartime importance of their business, and do a kind of a "sales" job on the subject. Radio repairing has been certified as an essential occupation by the War Manpower Commission, and leaders in Washington have said plenty of times that civilian sets should not be allowed to "die." These facts will



An expert in the business of parts supply is Mrs. Rita Hoffman of Major Appliance Co., Omaha, Neb. She took over the job when her husband went to war—he's now with the armed forces somewhere in England. In cases like this where one efficient woman has learned her way around, she will be invaluable in helping to train more newcomers.

wage increases, but this will only intensify the turnover of manpower. Men will shift from job to job, at the invitation of higher pay. Job freezing may come, but it is not in sight yet. The only place that business and industry can find the necessary "manpower" to keep the wheels moving at top speed, is women.

This means the women who have been trained, or partially trained, for their work, and the women who will be trained. But in any event, women who have been carefully selected for the work they are to do.

### Selecting Them

Too much emphasis cannot be placed on the need of careful selection of women for their work, if women are to be expected to measure up to the records they are making.

And you cannot expect to set up a sound personnel selection and train-

(Continued on page 42)

# Music on the MacArthur

• The "MacArthur shift," which runs from midnight to eight A.M., is steadily and surely becoming the most popular shift at the Stromberg-Carlson Tel. Mfg. Company's Rochester, N. Y., war plant. And not the least of the reasons for it, according to company officials charged with morale building, are the musical programs which are broadcast to the workers of this shift.

Music is used on both the day



Above, the P.A. system provides labor and management with one voice. Production supervisor Charles Angle and president Harold Charles of the Rochester Independent Workers announce a production award to the factory workers. Below, Joann Procopio of the MacArthur shift is shown with E. W. Graham, maestro of the turntable for that period.



shift (8 A.M.-4:30 P.M.) and the second shift (4:30 P.M.—midnight) and the whole schedule has proved an effective vitamin dose for production.

At this factory, the Star Spangled Banner opens the twenty-four hour day, followed by a few peppy tunes played in mid-morning. Music of a much more varied character is played continuously during the lunch hours, and lively spirited music, without pronounced accents, is played in mid-afternoon. The workday is ended for the day shift with some snappy music that not only helps send them down the aisles with dispatch, but starts the early evening shift off with vigor.

## Nighttime Values

It is on the MacArthur shift, however, that music is called on to do its big job. In addition to a program of music during the lunch hour of this shift, it is used at these times: from 12 to 12:30 A.M., from 2:00 to 2:30 A.M., from 4:00 to 4:30 A.M.

Bill Strohmeir, night superintendent of the company, says: "The practice of broadcasting music over the plant sound system in our company is in my opinion proving highly beneficial. There is a noticeable lessening of tension with a resultant reduction of fatigue among the workers. Also there is no stoppage of work during the broadcast. The music definitely tends to increase production and helps overcome the hardship of nightwork."

## No Time for Jive

The effect of this music is particularly noticeable on women workers, and has inspired especially favorable comment from the new type of women war workers—the women now working as a patriotic duty not normally to be found in factories. But comments of appreciation have been received as well by the labor-management committee from hardened veterans of production who never knew of such devices as morale programs in the old days.

One thing has been learned very

positively. The vast majority of workers have no liking for "jam" music while they are at their benches. Strident and raucous swing bands find no place on the hit parade of the MacArthur shift. The music shows much wider range during the MacArthur shift lunch hour, for here the tunes and music are selected almost entirely by the personal choices of the workers.

It is not at all uncommon for guards at the Stromberg plant, when examining packages being brought into the factory, to find that a worker is bringing a few of his or her favorite records from home for use over the sound system. This is not only permitted but encouraged.

"In every case where music is played through good sound equipment attuned to the surrounding noise level, one production man at the plant said, "the results are the same—happier employees, reduced absenteeism and increased production."

## Many Uses

In discussing the use of the public address system, Lee McCanne, assistant general manager, pointed out that the war plant with such a system should not confine itself to music.

"It has been our experience that a plant sound system can pay for itself the first year, figured only against the savings in long distance toll charges and the saving in the relatively smaller number of plant-to-city exchange telephone lines, when any employee can be found and directed to a telephone in an average of two minutes' time.

"Therefore, when on top of this tangible saving, a labor-management committee finds the sound system its most useful tool for morale building, reduction in absenteeism and clock-watching and overcoming fatigue in war production, a good plant sound system is almost worth its weight in gold. We can't recommend it too highly to any firm engaged in war production."

A striking example of the use of the paging section of the sound sys-

# Shift



The work in Dept. 15 goes better and faster with the right music to relieve tedium.

tem at the Rochester plant occurred recently. Like many other war plants, Stromberg has played host to mobile Red Cross blood bank units and the blood bank has acquired a hold on the imaginations of the workers. On this particular day, plant officials received word from one of the city's hospitals of the immediate need for two donors with Type 2 blood. The announcement was rushed to the plant studio and broadcast to the workers in the plant. Within a very few minutes, not two, but fifteen Type 2 volunteers appeared ready to give their blood.

The sound system here is used

daily for instructions, general announcements and messages. Bulletin boards are not seen by everyone, personnel assemblies take time away from production, and printed messages require considerable time for production and distribution. By using the sound system, however, everyone in the entire plant is reached immediately and with no loss of production time.

### **A Dynamic Device**

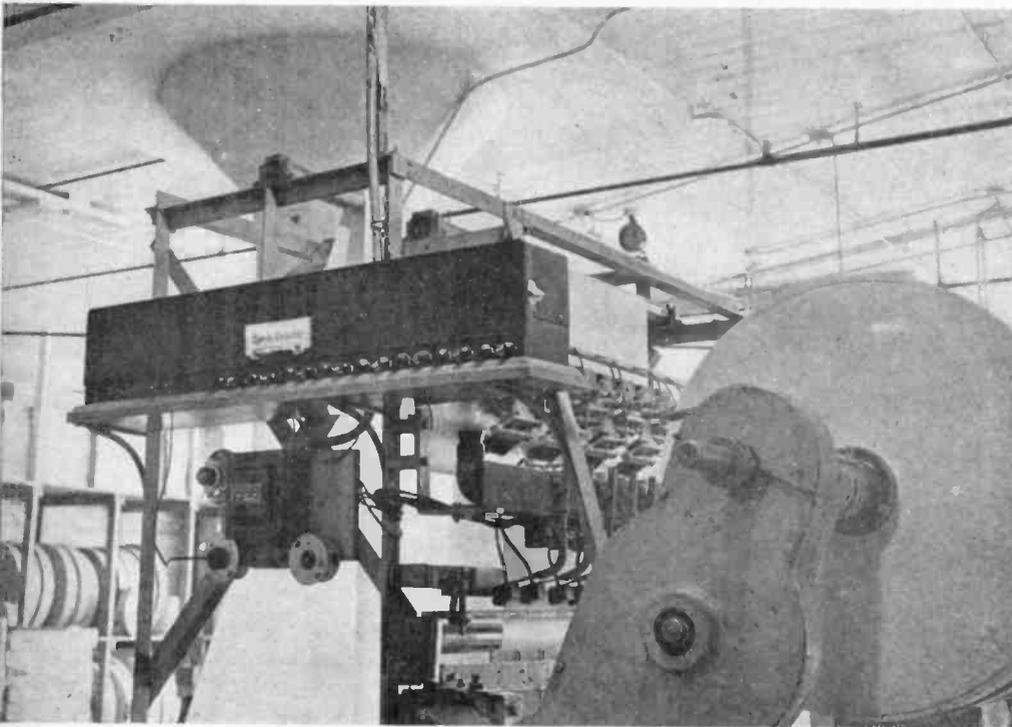
Right at the work benches and machines, every employee hears messages from the president, W. M. Angle, as well as talks by former employees

now in the armed forces, requests for blood donors, and talks by Army and Navy officials congratulating the organization for work accomplished and encouraging them to produce more and more.

The President makes his Production Award and the General Manager makes his Attendance Award over the sound system so that everyone takes part—not just the department winning the award; special news items are immediately rebroadcast to everyone; and on days when there has been a particularly heavy snowfall an announcement is generally made over

*(Continued on page 42)*

# ELECTRONIC ERA



An example of the electronic equipment now used by modern industry is this paper-inspecting device (in black case) at the C. E. Shepard Co., Long Island City, N. Y. It has eight separate amplifiers hooked to ink-markers which respond to any conductivity through sheets of paper.

## Wartime Steps Taken by Radio Jobbers to Develop New Business in the Fast-Growing "Electron Field"

They realize that at this point, a great new industry is just beginning to settle down to a system of distribution and it is a good idea to get in on the ground floor.

Shortages of critical materials have, in a way, held up the full development of some types of industrial electronic equipment, and yet the wartime demand for streamlined speed in military production has served as a great stimulus to the general idea of more electrons in industry. When the emergency developments in the field have been adapted to peace-time industry, it appears that the expansion will be endless.

• A survey conducted among radio distributors and parts distributors reveals that in spite of the wartime disruption of normal business, most of these firms have continued at the old stand and with the same driving force.

These radio men have shifted their main efforts toward war activities and are energetically going after new kinds of business. Much of this business is electronic.

At the same time the jobbers have not lost sight of protecting, as best they can, the demands of their dealers and servicemen. To this end the distributors promptly and voluntarily put into force their own scheme of rationing radio parts and supplies. It is an effort to treat all of their old customers alike and to supply them in proportion to their former ordering. No one is permitted to hoard items at the expense of the others.

As for the new business, the far-sighted distributor is making a star contact out of the industrial man in his area. Plants working on war or-

ders can furnish priority ratings to a jobber, and thus one of the major problems is solved. But this business, and the process of getting started in it, makes other demands on the distributor—he should promptly make a serious and straightforward effort to learn about the types of electronic equipment being used in industry, and should begin to know his way around in the installation and maintenance of this equipment.

### The War Trend

The reports show that this industrial business is apt to be developed to a very high degree by distributors, or not developed at all. That is, such is the general situation under present conditions.

Those jobbers who have aggressively sailed into the business are the ones who have sensed what it means to their business future. On every hand they have seen industrial electronics expanding at a spectacular rate and they have hastened to identify themselves with a "coming" proposition.

### Now or Never

Distributors who have this "bandwagon" attitude, and want to establish themselves as a unit of a new industry, do not worry particularly about how modest and small-scale may be their early efforts in the business. The point is, *somebody* in each trade area is going to get started in the work and the radio distributor may as well be "it".

These days, the thing that will establish the initial contact between the distributor and his industrial buyers is likely to be the kind of immediate service that the jobber is prepared to offer.

### The Time Element

This is vitally important because the long suit of the jobber is local service and the time that it saves. An industrial outfit never knows when radio apparatus is going to fail, and where war equipment is concerned, the need for immediate replacement and servicing is great.

# FOR DISTRIBUTORS

Deliveries of component parts direct from the manufacturer often require 10 to 15 weeks or more, while the parts jobber may be just around the corner. Thus the factory man should feel that he has that "always on call" kind of acquaintance with the local radio man.

Distributors have reported that a lot of the "hurry" calls have come from factories busy in development work, when much of the electronic work is in the trial-and-error stage and odd components are needed in small quantities. Delay in getting these parts holds up the pre-production work and may keep the regular production line waiting.

## Field Examples

One such progressive distributor is H. L. Dalis, Inc., New York City, who specializes on expediting priority orders in meeting radio and electronic requirements for industrial manufacturers. They maintain the same old sales organization of ten men who cover a 50 mile radius among industrial manufacturers having war time orders. This firm carries on the strictest rationing policy among its



The repair shop of the radio distributors, Hatry & Young, Hartford, Conn., where plenty of electronic equipment is serviced for local industries.

old dealer clientele so that all are uniformly taken care of.

Big volume cannot be expected in all areas, needless to say. Each community of course has its own industrial characteristics, and the hardest-working jobber cannot develop the business beyond its natural limits.

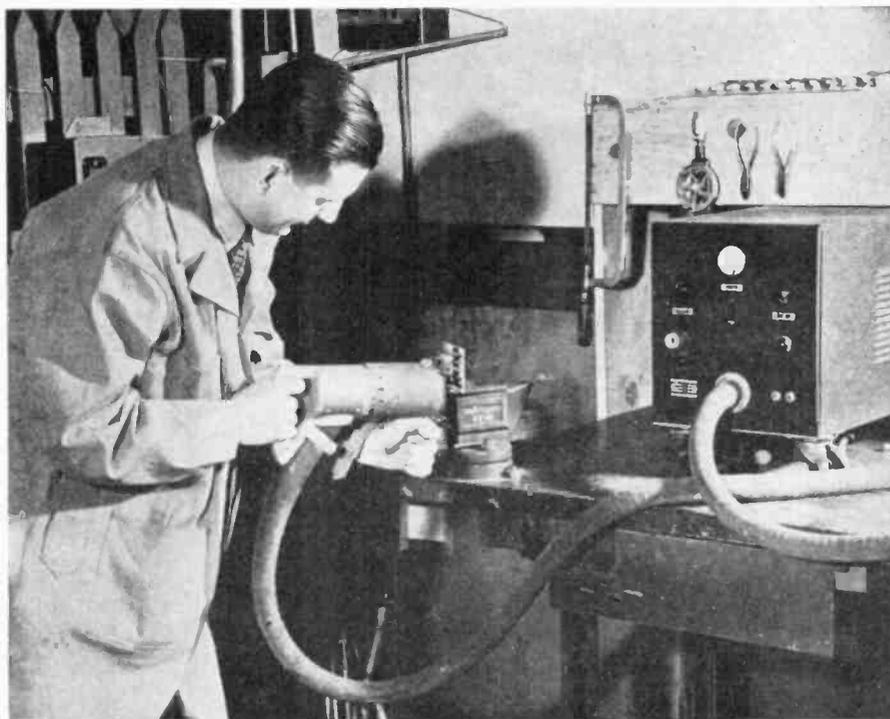
George Barbey, the Reading, Pa., parts distributor who heads the National Electronic Distributors Association, has long seen the value of such contacts, and has a wide acquaintance among the industrial outfits in his area. But the situation there is such that the volume of industrial sales cannot be brought to more than 10 per cent of Mr. Barbey's total business.

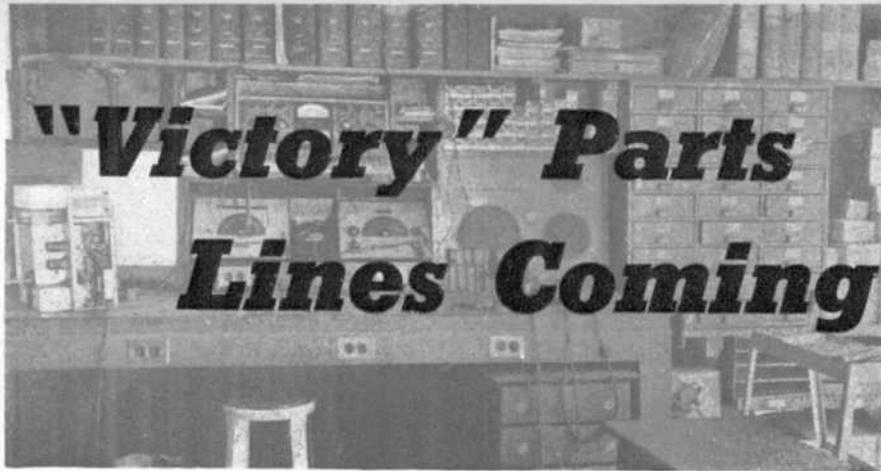
## Volume Hiked

On the other hand, in the New Jersey area, it is reported by Henry W. Hold, sales manager for Continental Sales Co., Newark, that his company's sales of parts to industrial buyers has advanced about 80 per cent over the pre-war level.

Another house where industrial work is being done practically every day is at Hatry & Young, Hartford, Conn. These jobs are handled in addition to the firm's work on buying up extra radio equipment throughout the U. S., in a plan to get it into military use.

Another illustration of how factories speed up their production in 1943—a portable electronic rivet detonator does a fast and efficient job.





• Completing its study of a Victory Line of Replacement Parts for Civilian Radio, the American Standards Association committee working with the War Production Board and Office of Price Administration has now agreed upon a simplified list of home-radio replacement parts, and is proceeding with the definition of standards for the products on this simplified list.

The Simplified List itself covers paper and electrolytic capacitors, volume controls, power and audio transformers and chokes. This list has been certified to the War Production Board through the office of Frank A. McIntosh, assistant to Radio Director Ray C. Ellis of the W. P. B. and is expected shortly to be made the basis of a Limitation Order by the Washington Board specifying that only these items shall be manufactured for servicing radios for the duration.

#### **Specifications Under Way**

In addition the Civilian Radio Committee, chairman of which is O. H. Caldwell, Editor of Radio Retailing Today, has drafted and approved specifications for fixed paper-dielectric condensers and also dry electrolytic condensers, both of the home-receiver replacement type. It is also taking up the preparation of specifications of transformers and chokes, and will have recommendations on these probably following its meeting scheduled for February 16.

The present work of the Civilian Radio Committee was initiated when the Office of Price Administration at Washington, under Leon Henderson, asked the American Standards Association on Oct. 19, 1942, to undertake work in this field. The Civilian Radio Committee was appointed Nov. 13, 1942. This committee has since met five times and

discussed drafts on various subjects, as follows:

Three drafts of the proposed standard for fixed paper-dielectric capacitors were considered by the committee. These drafts were also circulated to all home-radio receiver and capacitor manufacturers and to others interested. Comments received were reviewed and a letter ballot of the committee on the revised draft was taken. Out of a membership of six, all affirmative votes were received.

The proposed standard for Dry Electrolytic Capacitors was circulated on January 15, to members of the committee and all home-radio receiver and capacitor manufacturers. The vote in the committee was unanimous in favor of approval.

#### **Standard List Approved**

The proposed standard list of Home Radio Replacement Parts was first circulated as separate lists to members of the committee and all known home-radio receiver, capacitor, and radio transformer manufacturers, and to others concerned for comment and criticism. The replies received were considered by the committee at a meeting and the revised lists were consolidated. Modifications in this draft were made and a letter ballot of the committee was taken. The vote was unanimous in favor of approval.

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#### **Simplified List of Replacement Parts for Home Radios, Approved by Civilian Radio Committee, to Be Made Basis of Limitation Order**

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There are two representatives of the War Production Board and one of the Office of Price Administration on the Civilian Radio committee, but these representatives serve only in liaison capacity and as such do not officially vote. These three members, however, recorded themselves affirmatively on approval of these three proposed standards.

#### **Resistor Line Cords**

Several suggestions have come before the Civilian Radio Committee that ballast resistors be entirely eliminated in favor of resistor line cords. This proposal has brought forth strong criticism from the Underwriters' Laboratory representative on the Committee, M. M. Brandon, who expresses his views as follows:

"When the question of resistor line cords first arose, I pointed out that Underwriters' Laboratories, Inc., had never recognized resistors in cords because of the firm belief that flexible cords are at best a poor substitute for fixed wiring and are recognized primarily because the necessity for the mobility of apparatus made their use essential. The adding of resistors to these cords provides a function for which the cords were not originally recognized and for which they are not particularly well adapted. There are better methods of providing the necessary resistance, and cost should not be the sole determining factor in designing equipment intended for general use by the public. At the time of expressing this opinion I pointed out that we recognized that many unlisted sets had been made with resistance wire in the line cords, and it seemed entirely in line with the War Production Board's desire to keep civilian radios in operation to provide replacements for such line cords as are now in use on radio sets.

"There is quite a difference between the proposal to replace worn-out resistance line cords with new resistance line cords and the proposal to use line cords in existing sets that never previously used such cords but were recognized with ballast tubes, and we believe that this would not only be an undesirable move from the standpoint of hazard but that it would also be undesirable from the standpoint of the most efficient use of critical material."

IN TUNE WITH THE UNITED NATIONS WAR EFFORT



WILCOX-GAY CORPORATION



**WILCOX-GAY CORPORATION**

CHARLOTTE, MICHIGAN

*"Producing for war...planning for peace"*



Above, young Johnny Arnold of Burlingame Calif., starts early to relieve radio manpower shortage.

At right, some of the records used at Westinghouse plants to serenade workers and speed production. Ailee Granchar, Isabel Brown pick 'em.

Below, Paul R. Grigsby, former parts jobber of Atlanta, Ga., now a Navy lieutenant, had a V-mail post until a WAVE came along. She's Frances Rich, daughter of radio star Irene

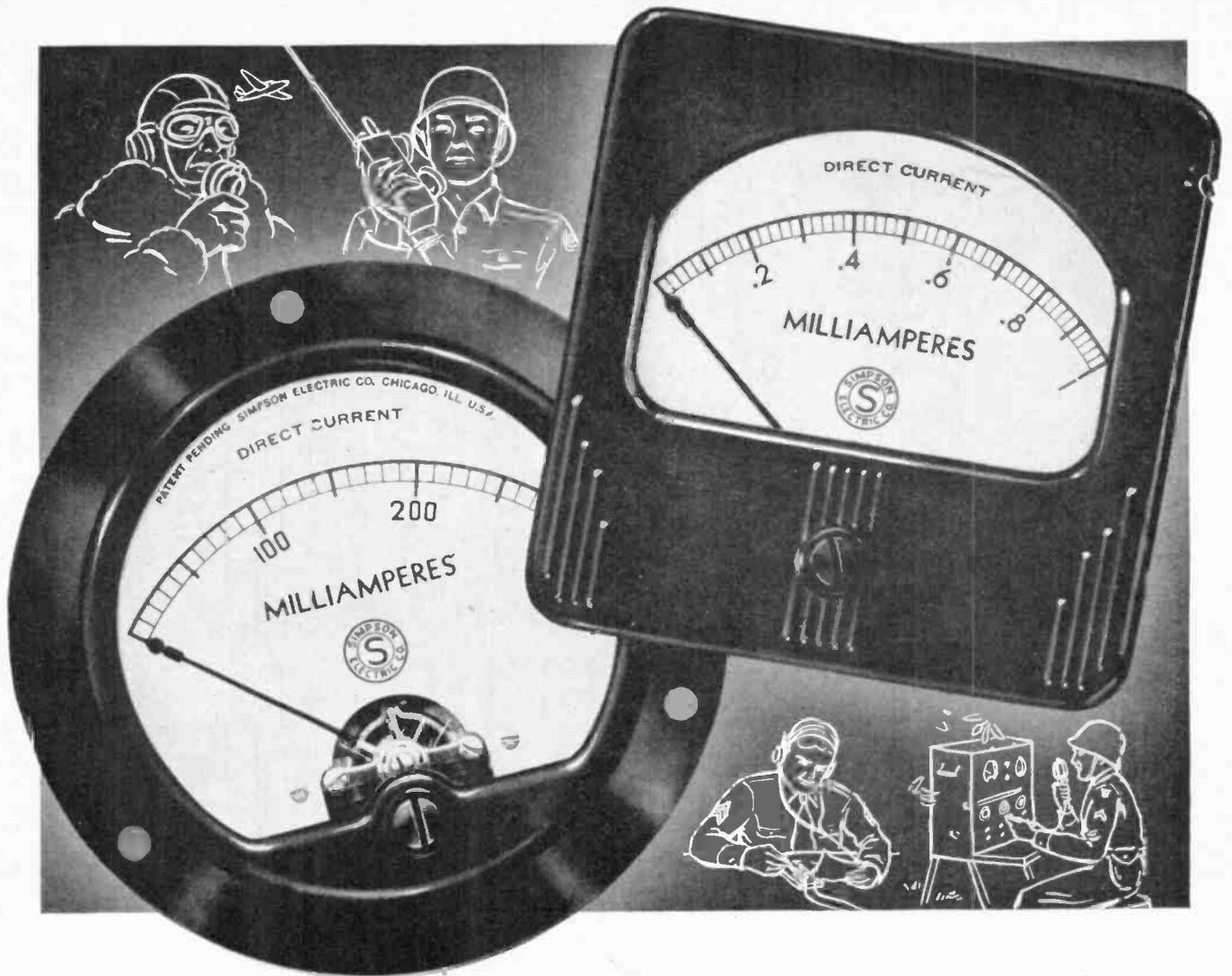


# WORKING TO WIN

Below, radio takes its place in the rubber life raft equipment carried by Army Flying Fortresses. The box kite is used to raise the radio antenna.

Below, a Russian girl on the battlefield with a Soviet "walkie-talkie."





*For the job that must be done*

★ By the thousands, Simpson Instruments are going forth to assume vital responsibilities in America's march to victory—to help do the job that must be done. ★ You will find them in active service on the fighting fronts—maintaining vital communications, and keeping watch over the men and machines that carry the battle to America's enemies on land and sea and in the air. ★ On the home front they are helping importantly in the production of planes, tanks, ships and guns.

SIMPSON ELECTRIC COMPANY, 5200-5218 Kinzie Street, Chicago, Illinois

# Simpson

INSTRUMENTS THAT STAY ACCURATE



• Major William R. Bolton, Special Service Officer for the Second Service Command of the U. S. Army in making many inspection trips among the army posts and camps situated between Iceland and the Caribbean islands observed that the crying call from the enlisted men, everywhere, was: "Send us more radios so we can hear more programs from home."

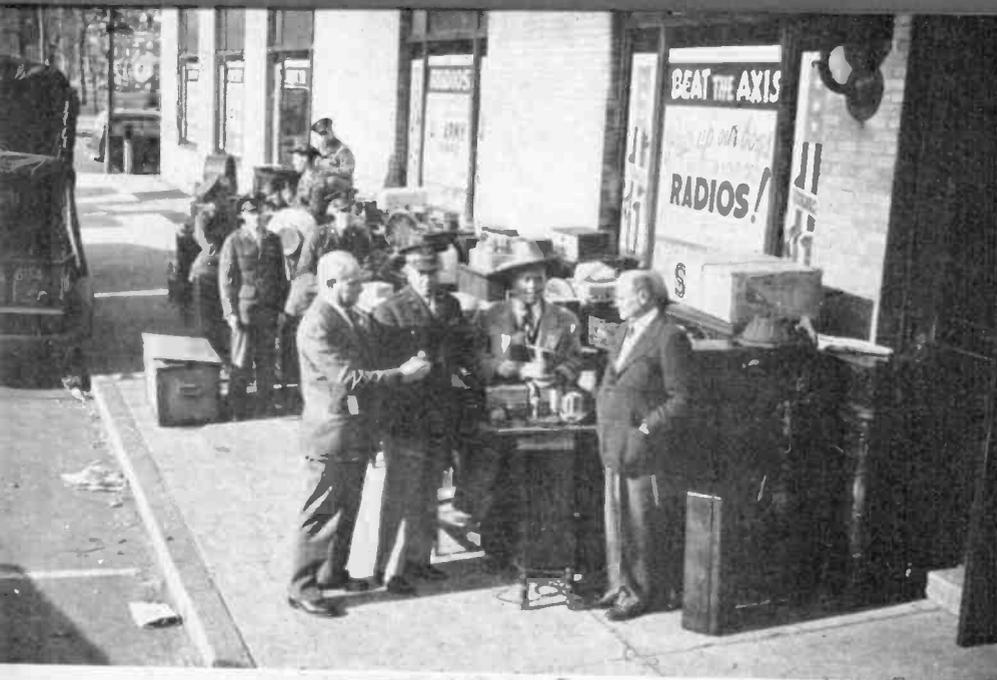
Although official Special Service operations and the USO provide numerous types of recreation, entertainment and instruction, including a certain number of radios, yet the sets available are far too limited to satisfy

the universal request of the soldier. The radios must obviously come from the patriotic and generous public, but this can be done only by conducting an organized campaign for this purpose.

Whether or not radio dealers, servicemen and jobbers take a direct and active part in such campaigns, the results of the drives are of immediate interest to the trade. It indicates what can be done to supply the Armed forces; it shows the distribution of old sets and their condition; it reveals how many second-hand replacement parts might be available from



## 500 Sets a Day



this source, and it places a general emphasis on the idea of getting *all* radio equipment into action during the emergency.

War department regulations do not permit officers of the army to request donations, hence the only way to obtain a large quantity of radio sets is through the joint activities of local civic organizations, radio men, newspapers and transportation companies operating with the unofficial, friendly co-operation of local army officers.

Such a campaign has recently closed in Newark, N. J., resulting in the collection of over 6,000 radio sets of all ages, makes and condition. These were delivered in turn to the National Youth Administration of New York with its 800 odd members, who reconditioned the sets and then transferred them to the U. S. Army for ultimate distribution to camps and isolated units of the command. The active campaign lasted about six weeks and the peak collection was 500 sets in one day. Taxi-cabs, trucking companies, private auto owners, commercial delivery cars and even an undertaking establishment donated

*(Continued on page 42)*



At the top of the page, a New Jersey mother contributes a radio, and shows one reason why—a son in the Army. Center photo is a scene at a radio collection depot, and in the foreground, left to right, are R. R. Lemcke, Civicereers president; Major William R. Bolton of the Army; Zeke Manners, singer; and Herman M. Bess of WNEW. Below, the Army picks up thousands of radios.



## "TELL 'EM WE COULDN'T DO WITHOUT THE PARTS THEY'RE GIVING UP"

*"Yea, the folks back home are helping us plenty by giving up those radio and communication parts. See—over those hills! There's a bridge there. We just bombed hell out of it—cutting off an enemy tank column. With inadequate communications, we couldn't have done it!"*

**C**OMMUNICATIONS are vital in this war of rapid movement—where success demands "co-ordination" of widely dispersed units.

When a swift PT boat gets its radio orders to torpedo an enemy transport . . . when a bomber drops its eggs over a submarine base . . . when an allied tank column, keeping in contact by radio, speeds over Sahara's sands . . .

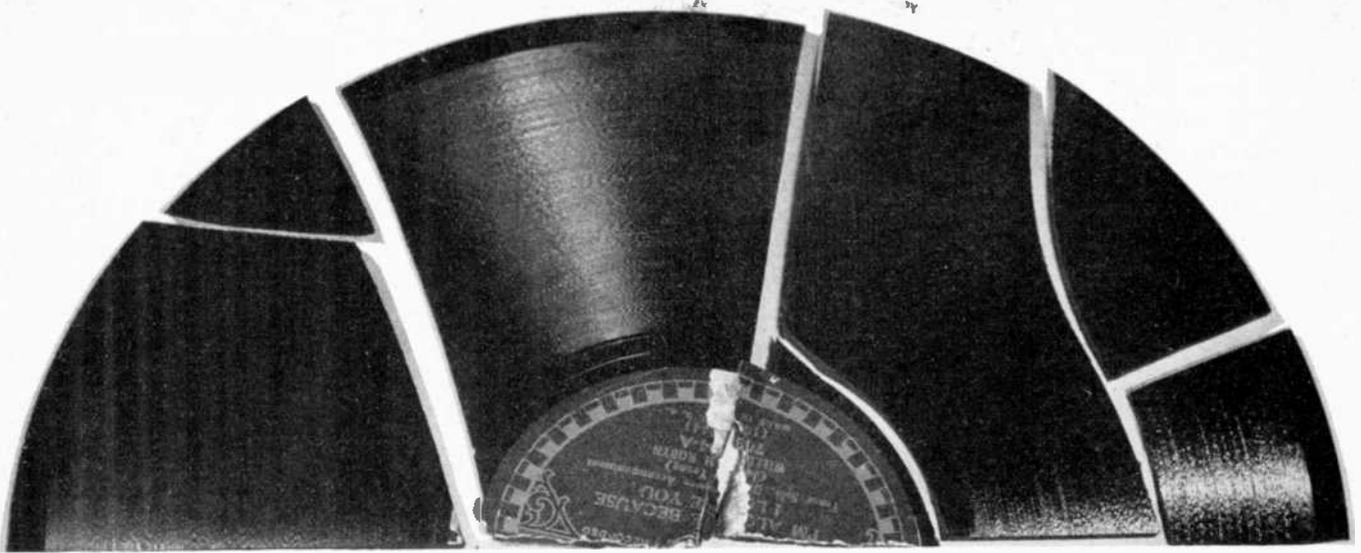
Utah Parts are playing their role in this war of communications.

Soldiers of production build dependability into those parts at the Utah factory. Utah engineers plan it in the laboratories . . . as they pore over blueprints far into the night.

Constantly, research is going on at Utah . . . new and better methods of production are being developed . . . to help keep the ears of the armed forces open. Tomorrow—when peace comes—this research and experience will be reflected in the many civilian products being planned at the Utah Laboratories. Utah Radio Products Company, 810 Orleans Street, Chicago, Ill. Canadian Office: 560 King Street West, Toronto. In Argentine: UCOA Radio Products Co., SRL, Buenos Aires. Cable Address: UTARADIO, Chicago.



**PARTS FOR RADIO, ELECTRICAL AND ELECTRONIC DEVICES, INCLUDING SPEAKERS, TRANSFORMERS, VIBRATORS, UTAH-CARTER PARTS, ELECTRIC MOTORS**



# ***Pick Up the Pieces!***

• The collection of scrap records in the early weeks of 1943 has not proceeded at the proper rate. The trade needs to take a new interest in disc salvage, for the sake of the future record supply.

Many dealers are already taking steps in this direction. And quite a number of them are hoping that the manufacturers will also adopt a more vigorous line of action. As one retailer put it, "the manufacturers seem to be spending millions of dollars on fancy ads in national magazines stirring up consumer demand which we can't fill anyway . . . but they don't do much to help educate the public on the importance of scrap records."

It is generally agreed that the public is woefully unaware of the fact that discarded records should be saved. People are still keeping old records stored away in closet and attic; they are still tossing away the discs that are accidentally broken; they continue to ignore all those records in their collection for which they admittedly have no further use. And when they move to a new home, they still put a dozen or so old records in the left-over junk pile.

## ***Outline for Action***

The retailer's part in the get-in-the-scrap program has many angles, that is, there are many things that he can do to help. One merchandiser said that the most important thing to remember was to keep everlastingly at

it, in all the contacts that a dealer has with his customers.

Another retailer said that "I guess I'll have to put in another window on scrap records . . . I don't much like it, because the other time I had a record salvage display, it seemed to make the whole front of the store look junky . . . but we aren't getting the scrap in and something has to be done."

## ***Increase Number of Posters***

Record men will want to be sure that their placards and posters on the subject are effectively and prominently shown. These displays are more than incidental, at this point. They should be repeated in windows, on counters, and in listening booths. In the booths, record fans have a lot of time for reading notices.

Manufacturers are helping dealers now by issuing new posters of this type. These are expert, and will help to do away with those weak and hand-

made jobs which were fixed up in a hurry.

Appeals for scrap may of course be included with any direct mail pieces which the dealer is now using. Envelopes are not stuffed with specials like they used to be, and the appeals will get some attention.

Reports from some quarters show that one of the main troubles is that record customers do not like to carry heavy packages of scrap records to the store. Retailers point out that the very type of customer who has the biggest record library is the very one who is not accustomed to hauling packages around. However, the time has come when the shortage of gas and tires has taught these people new habits, and the situation will doubtless improve.

But to solve this pickup problem immediately, dealers have said that youngsters can be used to good advantage. Usually they do this under the banner of an organization such as the Boy Scouts. Contacts with these organizations will in some cases prove valuable to record stores.

## ***Dozens at a Time***

There are a few spots in the average community where dealers can find piles of scrap records at a single call. For instance, industrial plants which furnish recorded music to their workers use hundreds of discs and of

*(Continued on page 50)*

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## ***Old-Record Sources***

•  
Industrial Plants  
Dance Schools  
Record Collectors  
Moving Outfits  
Sound Specialists

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# TRIPLET

## Combat Line TESTING EQUIPMENT



# TRIPLET

### The Toughest Test in History

Miracles must be done in minutes in this war of mechanized movement. And Triplet Testers, built to the needs of war, are valued tools with America's armed forces on 22 fronts and on the seven seas.

Here are a very few of Triplet Combat Line Testers. There are many! Built for every tester job, they are different in adaptation to each specific purpose; unfailingly alike in precision performance rendered under the toughest test ever devised since the beginning of time.

When the last gun has been fired, the values of Triplet wartime experience will be evidenced by advanced technical superiority and by precision performance that might well seem miraculous today.

THE TRIPLET ELECTRICAL INSTRUMENT CO., BLUFFTON, OHIO

#### A WORD ABOUT DELIVERIES

Naturally deliveries are subject to necessary priority regulations. We urge prompt filing of orders for delivery as may be consistent with America's War effort.

# Radio Service for OCD



In this Civilian Defense emergency repair truck, a mobile radio unit of WERS adds its instant-communication facilities to air raid warning system in Washington, D. C.

• The War Emergency Radio Service, a wartime project which invites the interest of every radio man, is expanding throughout the target areas of the country.

Fundamentally, WERS is a system worked out by the Federal Communications Commission and the Office of Civilian Defense, whereby radio men in each community can officially furnish emergency radio communication facilities for the local Civilian Defense organization. This is done by using ham-type equipment under a special WERS licensing procedure.

The establishment of Civilian Defense Stations in WERS went slowly at first, but it recently received new impetus when the OCD at Washington issued a preliminary planning guide for the setting up of such stations in any community of the U. S. where they are necessary. This guide is detailed and thoroughgoing; specific procedures are recommended and the way is clear for brisk expansion of the service.

### Opportunity Here

In a statement to RADIO RETAILING TODAY, it was pointed out by Mervyn Molloy, Chief of the Control and Communications Section of the OCD Protection Branch that "In communities where WERS has not already been started, radio servicemen have a wonderful opportunity to do some missionary work in calling the necessity for such a service to the attention of the local civilian defense council."

Mr. Molloy said that in areas where the service had already been started,

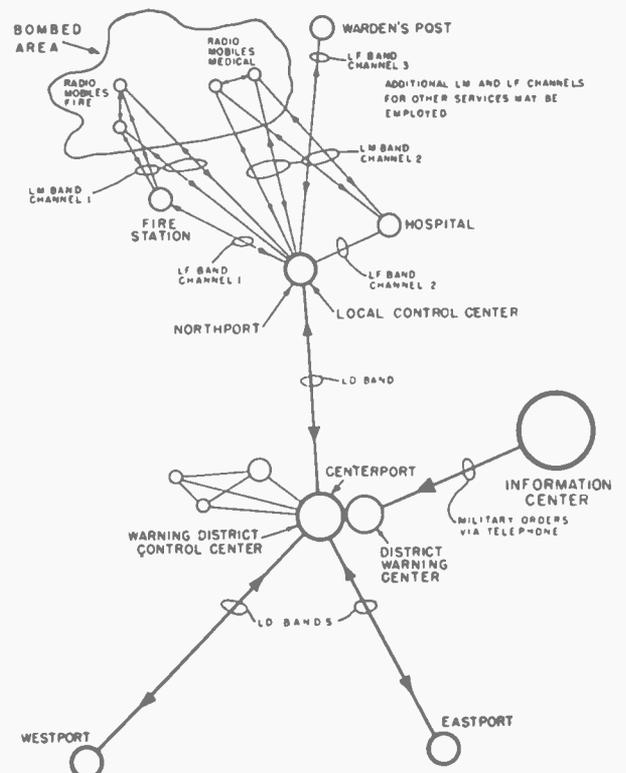
radio men can well volunteer their assistance to the CD council, as the WERS "can make use of every qualified serviceman, set-builder and operator who is willing to spend time and effort in building up the service." Radio equipment used in the service takes a lot of building, installing, checking, and servicing, and it is Mr. Molloy's view that it should be started in every city that can be considered a target area. So the job is big and important.

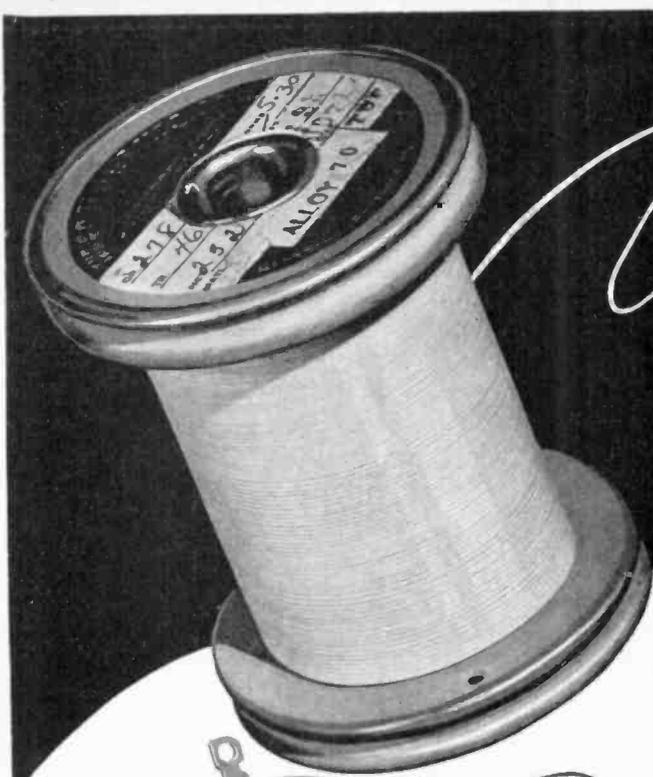
The units of WERS may some day

play a vital and heroic role in the protection of the country, for, as OCD puts it, "This service has certain advantages over other types of communication facilities . . . it is much less vulnerable to attack than any wired system; it is much more flexible and mobile, and it requires a minimum of critical materials . . . also, as a method of speedy dissemination of information, radio circuits have no equal."

Since organization work is impor-  
(Continued on page 56)

The chart shows a recommended "Tri-Part Plan" for a District Warning Area in the WERS set-up. Note that the control centers are linked by various bands. All of these are in the 112-116 megacycle band, which has four divisions. These are the LD, LF, LM and Cap channels. LD runs from 112 to 112.8 mc; LF from 112.8 to 114; LM from 114 to 115.2; and the Cap band from 115.2 to 116.





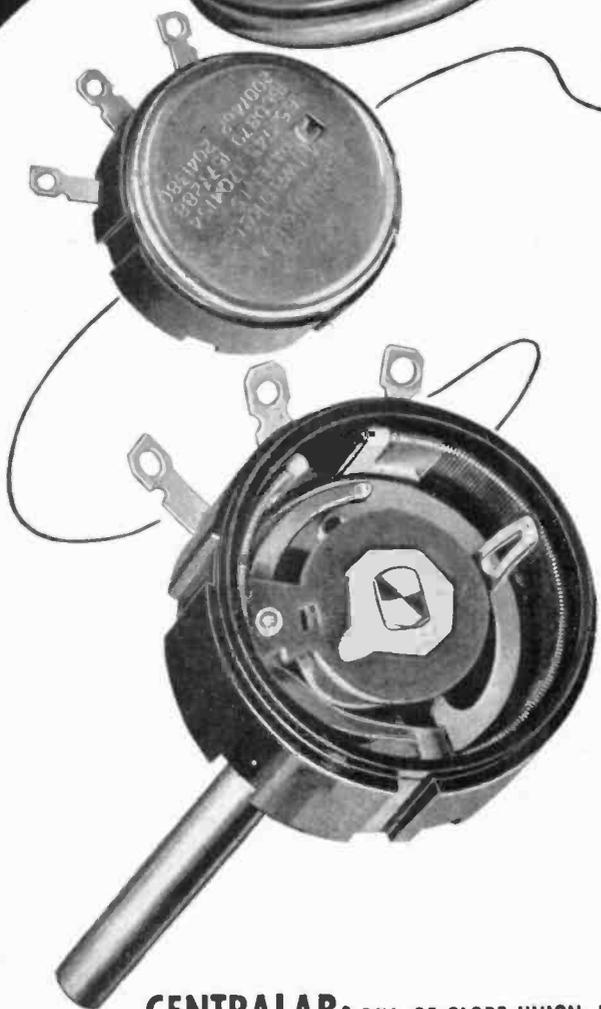
Wire Wound  
Radiohms

by

**Centralab**

Our Army, Navy and Air Force is using electronic equipment in which Centralab Wire Wound Radiohms play an important part.

Available in single or tandem type . . . with or without switch . . . for use as potentiometer or rheostat . . . in resistance values up to 10,000 ohms. Total rotation 300°. Switch type requires 40° for switch throw. Linear taper only . . . rated conservatively at 3 watts . . . temperature rise of 100 ohm unit is 28°C. at 3 watts, 40°C. at 4 watts . . . with load carried over total resistor.



**CENTRALAB:** DIV. OF GLOBE-UNION, INC., MILWAUKEE, WIS.



# PATRIOTIC DISPLAYS

• Patriotic window displays, the ones which can easily be made of available materials, can today be very useful in radio stores.

The window style which appeals to radio men these days must be simple, because of the shortage in store help; it has to be timely for a reasonable period; and of course it has to be designed without the use of the war-scarce materials.

Patriotic trims made of crepe paper seem to fill the bill. Dealers have had some experience with this type of window because plenty of them used the paper at Christmas time with good effect. Also, it is quite likely that the dealer now has more women on the store staff, and the ladies will probably be interested in helping with this kind of display.

## New Ideas

Thus if the store has lapsed into a gloomy mood because of merchandise shortages, and if the importance of a good "front" had almost been forgotten, here is a chance to doll up the place with fresh-looking trims and bright colors.

For designs and ideas that are backed by long experience in the paper business, we depend this time upon the advice of the display specialists from the Dennison Mfg. Co., Framingham, Mass. The firm has recently released a string of suggestions for building patriotic windows, using only crepe paper plus a few patterns and stickers, and emphasizing simplicity and dignity.

## Three Suggestions

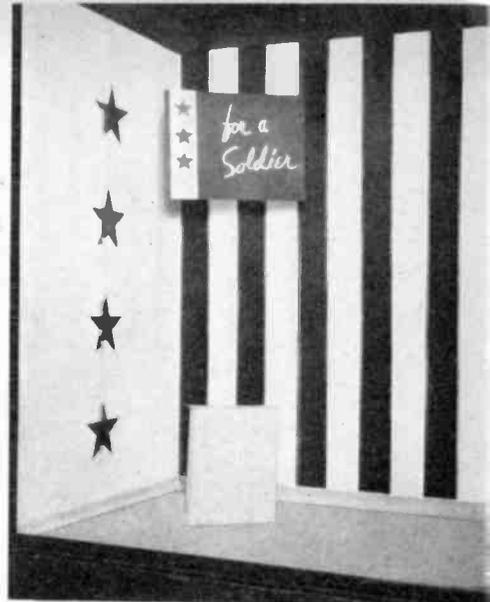
Three of the best bets in red, white and blue display for radio dealers and servicemen are shown herewith. They represent different types of windows which are perhaps the most common ones in the trade, that is, corner windows and open-back jobs. They can, of course, be adapted to other shapes. They are selected for the opportunities they present for the effective

display of whatever merchandise remains in radio shops.

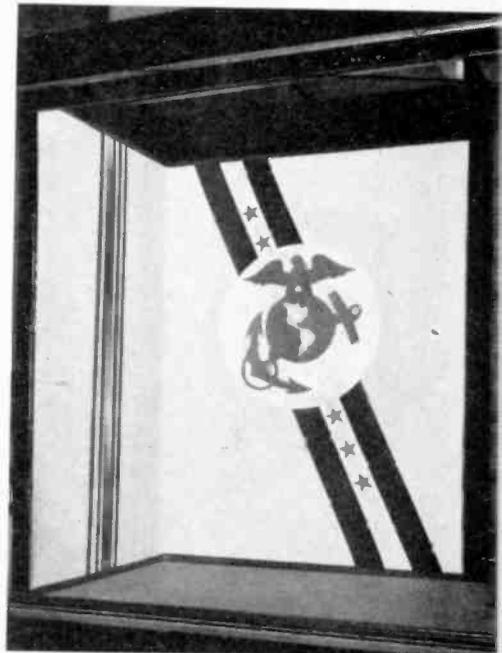
In these designs, retailers will see for themselves all kinds of possibilities for showing a few radios, record accessories, albums, record cabinets, and any of the newer and smaller lines that may have been taken on recently.

Two suggestions for corner windows are shown at right, using white crepe paper backgrounds. The soldier window contrasts wide stripes of red with blue stars. Sign is optional, but whatever is chosen should complement the design of the window. The marine window uses red tubes on the side wall and wide diagonal blue strips on the back. Blue gummed stars down the center of the banner and an insignia cut from red or blue pasted on white cardboard completes the theme.

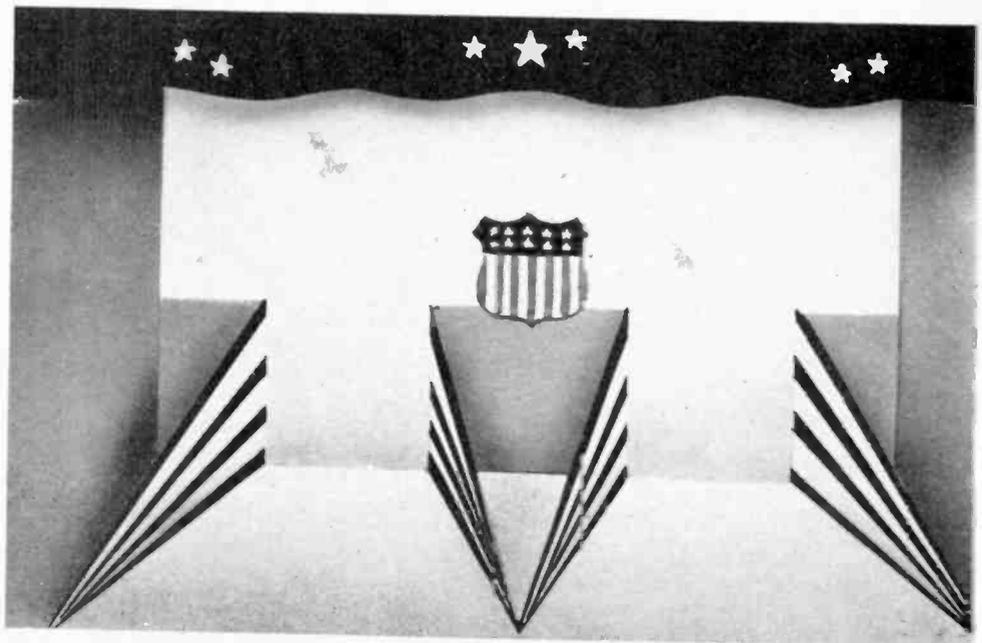
Below is illustrated a design for an open back window. A low railing and sidewalls are covered in red. Strips of blue and white are tacked to edges of the railing and stretched tightly to the front of the window. Blue valance close to the window, silver stars and shield add to the effect.



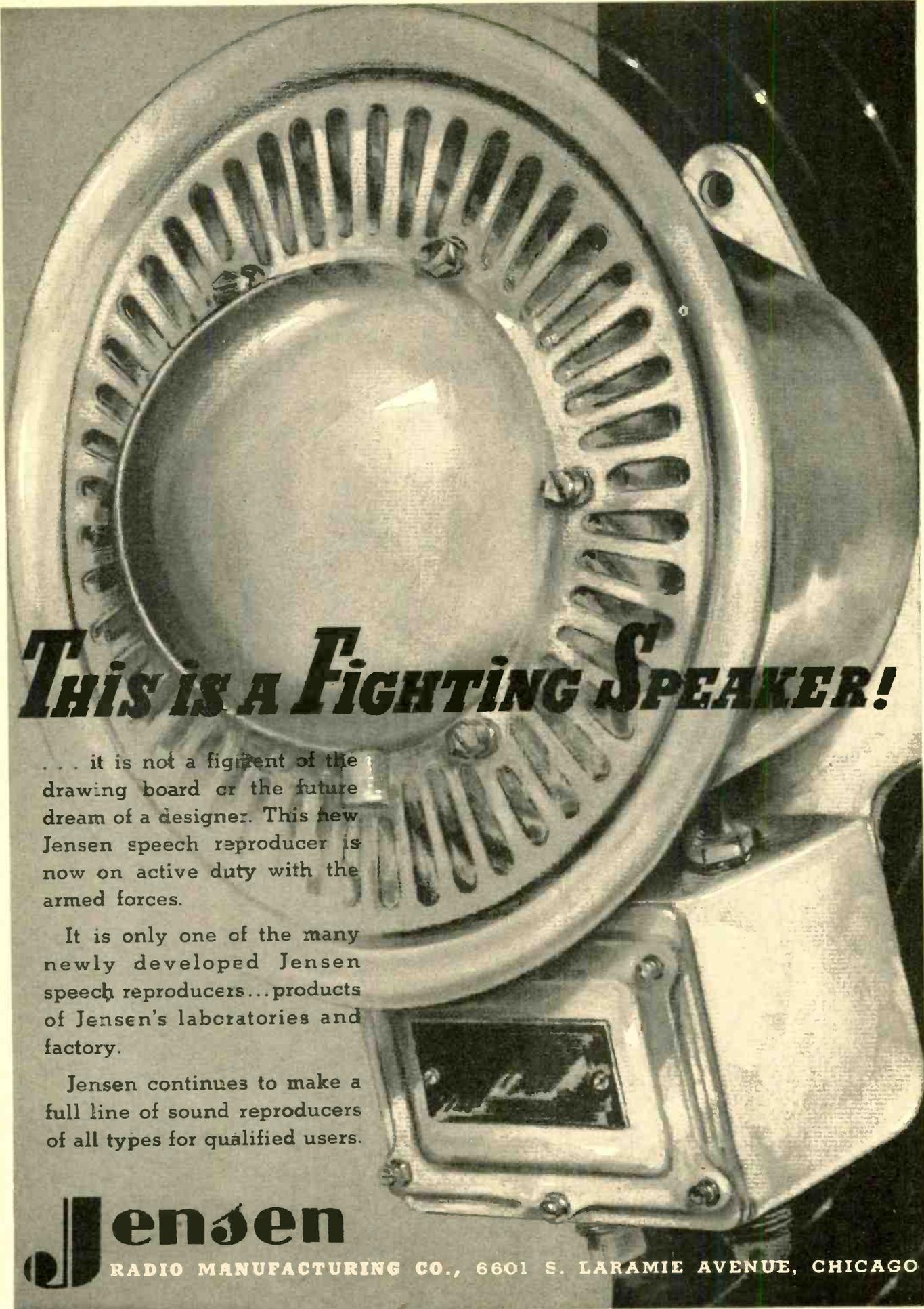
Ideal for record albums and accessories!



A simple salute to the Marines.



Open back display insures sufficient interior light.



# ***This is a FIGHTING SPEAKER!***

... it is not a figment of the drawing board or the future dream of a designer. This new Jensen speech reproducer is now on active duty with the armed forces.

It is only one of the many newly developed Jensen speech reproducers... products of Jensen's laboratories and factory.

Jensen continues to make a full line of sound reproducers of all types for qualified users.

**Jensen**

RADIO MANUFACTURING CO., 6601 S. LARAMIE AVENUE, CHICAGO

# What Washington Says—

## Guarding the Supply of Batteries

On the subject of batteries for farm radios, officials of the Consumer Durable Goods Division of WPB declared the "WPB is fully cognizant of the need for maintaining farm radios in operation, both as a means of keeping America's farm population informed on the progress of the war effort, and also as a source of entertainment to replace drastically curtailed peacetime recreational facilities . . . to attain that objective, more than half of the zinc allocated for civilian batteries is now used for production of farm radio batteries, but until military requirements are fully met there's little possibility of any additional allocations."

Accordingly the WPB has issued five rules for the owners of farm sets to follow, in order to take care of their batteries and to make them last longer. Radio men who operate in farm areas can help the cause by circulating these rules among farm radio owners. Here they are:

1. Avoid long, continuous radio operation. Break up your reception into a number of short periods.
2. Don't waste your batteries. Operate your radio only when there are programs that you particularly want to hear.
3. Keep your batteries away from heat.
4. Have the tubes checked regularly as insurance against waste of battery power.
5. Disconnect the batteries from the radio when not in operation. This will be a double check against the radio being left on accidentally. It is also a guard against young children in the family operating the radio unnecessarily.

## Inventory Limitation Forms Are Simple

The forms and blanks which are to be used by jobbers and dealers in complying with the Inventory Limitation Order L-129 have been prepared in simplified form, to eliminate all unnecessary paper work, according to Eaton V. W. Read, chief of the Consumer Goods Branch, Wholesale and Retail Division, WPB. The order controls the stocks of retailers and wholesalers who did a business of \$200,000 in the year of 1942 and who had inventories of \$50,000 on the last day of that year.

Mr. Read emphasized that the merchant who keeps his inventory in line with sales does not need to make any report to the Government.

Forms have been devised so that the ordinary merchant can use them as

work-sheets in his day by day business, he said.

Should a merchant at the beginning of any quarterly period after the first quarter of 1943 find his inventory over the limit here's what he has to do:

1. Fill out two copies of Form PD-690. One goes to the War Production Board, Washington, D. C. The duplicate remains in his files.
2. Fill out two copies of Form PD-689. One is sent to Washington with one copy of PD-690.
3. (a) Compute allowable receipts" for the quarterly period.  
(b) Keep actual receipts of merchandise within this figure.  
(c) Restrict first month's receipts to not more than one-third of the quarterly "allowable receipts" and first two months' receipts to not more than two-thirds, taking in the balance in the third month.
4. Fill out two copies of Form PD-713 and mail the original to Washington not later than twenty-fifth day of the second and third months.
5. At start of the next quarter, forward another copy of PD-690, to WPB, showing his status at that time.

Should his inventory be so excessive that he has almost no "allowable receipts," he still is allowed under the order, Mr. Read explained, to receive during any quarterly period one-third of his sale for the preceding quarter at cost or retail, depending on his inventory method, timing his receipts as above.

Form PD-690 reports current sales, inventories, calculation of allowable receipts. Form PD-689 reports base period sales, inventories and inventory sales ratios.

## Distributing Field to Be Studied by WPB

The simplification and standardization of current methods of distribution of civilian goods will now be studied by the War Production Board. What wartime progress has been made in this regard will be surveyed for the WPB Office of Civilian Supply, according to its director, Joseph L. Weiner.

Heading up the study will be Irwin D. Wolf, Pittsburgh merchant and a consultant to Mr. Weiner, who has been engaged in a similar study of the progress of simplification and standardization of civilian goods.

Outlining the second study, Mr. Weiner said that progressive restrictions upon raw material for the manufacture of civilian products, and the heavy drains of war production upon manpower, are creating an increasingly serious problem for the approximately 2,000,000 retailers and wholesalers in this country.

Both studies are in line with carrying out a request of James F. Byrnes, Director of Economic Stabilization, that WPB undertake a vigorous program of simplification and standardization.

"Completion of this survey," Mr. Weiner said, "will give us a full picture of the extent of simplification to date and will provide the basis for a constructive program of action to maximize production of civilian goods and assure an efficient minimum distribution system."

Mr. Wolf will work with Dr. Donald R. Longman, newly appointed Chief of the Retail and Wholesale Section of the Office of Civilian Supply.



"Didn't I tell you radio was thrilling work?"



Did you listen  
to your radio program  
last Sunday?

Every Sunday at 2:30 P.M., E.W.T., **your** radio program ... "World News Today" ... is being broadcast over a nation-wide hook-up of the Columbia Broadcasting System. Rated one of the most popular of all daytime shows, "World News Today" brings direct short-wave reports from the leading news centers of the world to millions of listeners each week.

This is **your** program ... sponsored by Admiral Radio for the Admiral dealers of America ... to help you build a profitable service business for the duration. Listen to this typical "commercial" from a recent broadcast:

"... the radio you are listening to right now must last for the duration ... and it will if it is given regular attention by an expert ... by your Admiral dealer. Have your Admiral dealer put you on his 'list,' that

is, have him check your radio at least twice a year. A little dust removed from the condenser, a periodic check-up of all tubes, is the ounce of prevention which adds months to the life of a radio. When you have this regular service performed by an Admiral dealer, you're sure the work is being done by a man trained in the science of radio, one equipped with the right tools for the job ..."

Yes, "World News Today" is **your** program, so listen in next Sunday at 2:30 P.M., E.W.T. ... and since this is your show, any suggestions you may have to make it better, more effective, more helpful for you, will be most welcome.

**Continental Radio & Television Corporation**  
3800 W. Cortland St., Chicago, Ill.

*Introducing*  
THE "STARS" ON  
*Your* RADIO PROGRAM



LEIGH WHITE  
Washington



WEBLEY EDWARDS  
Honolulu



CHAS. COLLINGWOOD  
Algiers



WM. J. DUNN  
Australia

BOB TROUT  
London



Maj. GEO. FIELDING ELIOT  
CBS Military Exp., New York



BILL SLOCUM, JR.  
Special Events Reporter



LARRY LESEUER  
Moscow



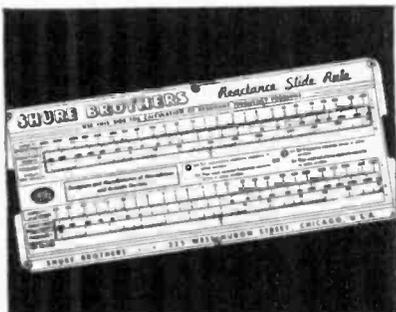
*Admiral*  
RADIO  
AMERICA'S SMART SET

# New Products



**FILMGRAPH TYPE CD**, for continuous recording or playback up to 11 hours, depending on length of film loop used. Loops supplied for 15 min., 1 hr., 2, 5, and up to 11 hours. Automatically moves from track to track—50 tracks in all. Three-position control for recording, playback or public address. Housed in wooden cabinet, 12 x 15 x 20 in. Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.—RRT.

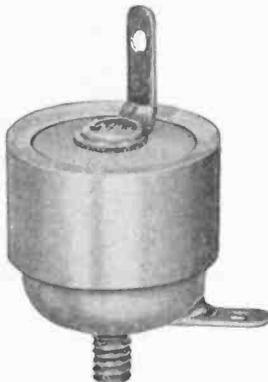
**OHMITE "BROWN DEVIL" RESISTORS** are small sized, wire wound and vitreous enameled, to be used in radio receivers, radio transmitters and electronic and industrial equipment. They range from 0.4 to 100,000 ohms, 10 and 20 w. sizes. Ohmite Mfg. Co., 4835 Flournoy St., Chicago, Ill.—RRT.



**SHURE REACTANCE SLIDE RULE** saves time in solving resonant frequency problems, capacitance reactance, inductive reactance, coil "Q" problems and dissipation factor. One side of the rule ranges from 5 cycles to 500 megacycles, .001 mmf. to 1,000 mf., and .00001 mh. to 10,000 henries. The other side ranges at 0.1 cycle to 10,000 megacycles, 1 mmf. to 100 mf., and .001 mh. to 100 henries. Available at 10c from Shure Brothers, 225 W. Huron St., Chicago, Ill.—RRT.

**LEKTRA "RAID WARN" ELECTRONIC SIREN**, for broadcasting air raid warnings on any public address system. Where no PA system is available, model RW-2 can be furnished complete with 4 w. speaker. Starts with a throw of switch. Gives exact reproduction of official "air raid warning" and "all clear." Model RW-1H (high impedance—50,000 ohms), \$75; RW-1L (low impedance—200 ohms), \$78.50; RW-2, \$98.50. All models use 115 v., 50-60 cycle current only. Lektra Laboratories, Inc., 30 E. 10th St., New York, N. Y.—RRT

**IDEAL SCREW-ON-TYPE WIRE-NUTS**, connectors consisting of cone-shaped spiral spring insert imbedded in molded insulation, an alternate for solder and tape joints of wires. A joint is made by stripping the wires about 1/2 in. and screwing the Wire-Nut on the stripped ends. Available in 5 sizes for making all combinations of wires from 2 No. 18 to 3 No. 10, solid or stranded. Ideal Commutator Dresser Co., Sycamore, Ill.—RRT.



**ERIE DISC CERAMICONS**, new ceramic condensers, made in 2 sizes 1770, 3/4 in. diameter and type 170, 15/16 in. diameter. Height varies with capacity of the unit, maximum being 3/4 in., excluding mounting stud and terminal. Type 1770 rated at 500 v. dc working; is available in any standard temperature coefficient from  $\pm 120$  to  $-750$  parts per million per degree C (N750). Maximum capacity at zero temperature coefficient (NPO) is 1,000 mmf and is approximately 7,000 mmf in N750. Type 170 is rated at 1500 v. dc working with maximum capacity in NPO of 400 mmf and 1750 mmf in N750. Erie Resistor Corp., Erie, Pa.—RRT.

**HEWLETT - PACKARD VACUUM TUBE VOLTMETER**, model 400A, a wide band feedback amplifier which operates a diode voltmeter of average reading. Meter scale on a sloping panel facilitates readings. Switch on front panel selects 9 volt-

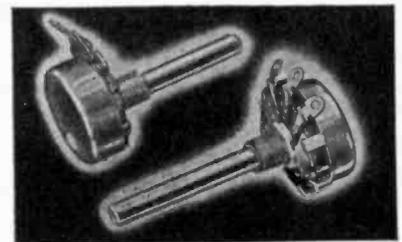


age ranges having sensitivities of from .03 v. to 300 v. Frequency response is within 3 per cent from 10 cps to 100 kc and within 5 per cent to 1 mc. Operates from 115 v. 60 cps. Wrinkle grey finished steel cabinet with leather handle. Hewlett-Packard Co., 395 Page Mill Rd., Palo Alto, Calif.—RRT.



**RCP CATHODE RAY OSCILLOSCOPE**, No. 555, housed in black crackle, non-corrosive steel case 14 x 12 x 19 in., uses a 5 inch cathode ray tube operating on 2,000 v. Maximum dc voltage at input terminals of amplifier is 60 v. Input resistance is 3 megohms. Frequency response is  $\pm 3$  db from 20 cycles to 2 megacycles. Ultra wide frequency range of sweep signal generator is from 30 cycles to 350 kc, linear from 50 cycles. Operates from standard 115, 230 v., 50-60 cycle AC power supply. Radio City Prods. Co., Inc., 127 W. 26th St., New York City.—RRT.

**STACKPOLE SEALED VARIABLE RESISTORS**, designed for use under extreme humidity or salt spray and where leakage must be held to a minimum. Leakage resistance of 300 megacycles after 48 hours in 95 per cent humidity at



40 degrees C. Spacing of current-carrying parts is greater and surface insulation of the molded base is several times that of previous laminated-base units. Furnished with dust-proof cover and sealed with a special compound. Stackpole Carbon Company, St. Marys, Pa.—RRT.

**EMBY INSTRUMENT RECTIFIERS** of the selenium type, utilizing unipolar conductivity of the metal to selenium junction for rectification purposes. 8 sizes with output ranging from 8 to 120 milliamperes. Designed to withstand temperatures up to 70 degrees C. Made in two series—L, supplied in well insulated metal cases for applications drawing more than 10 milliamperes, and series S, in unbreakable molded enclosures for use where the frequency of the ac exceeds 1500 cycles. Furnished with tin lugs which can be bent to any position. Range in price from \$1.75 to \$4.25. Emby Products Co., Inc., 1800 W. Pico Blvd., Los Angeles, Cal.—RRT.



# "Here's How"

## VOLUME CONTROL

# Contest

# Pays \$500<sup>00</sup> in WAR BONDS

Do you know how to make a sick radio sit up and *sing*? Would you swap a few minutes' time for a \$100 U. S. War Savings Bond? O.K. . . . if you live within the boundaries of the United States—you're qualified. Not only one, but FIVE, \$100 Bonds are offered! Let's go!

Nobody knows better than you how important the radio is to a democracy at war. And nobody knows better how difficult it is sometimes to get a radio into working order . . . what with the difficulty of getting exact replacement parts, etc. The question is: HOW DO YOU DO IT? IRC is going to pay a \$100 Bond each for five answers. Don't you agree one of them might as well be delivered to YOU?

### HOW TO WIN A BOND!

All that's required is a simple account, told in your own way, and your own words, describing:

**How you were able to replace a volume control and get the set working satisfactorily—when you couldn't obtain the volume control you would ordinarily have considered necessary for that particular make and model of radio.**

Name the make and model instrument you were working on. Tell what the VOLUME CONTROL trouble was. Describe exactly what you did and why, whether you made certain mechanical changes in the substitute control and/or electrical changes in the circuit.

IRC suspects that in these times radio service men are displaying more ingenuity and inventiveness and resourcefulness than most of us have any idea of. We'd like to uncover some of these stories.

### It's the IDEA that Counts

Remember, no one expects you to submit a literary masterpiece. Your spelling makes no difference; grammar doesn't matter. Just "let yourself go" and tell us how you licked the volume control problem you faced (it may have been as simple as filing down a shaft, or making a special shaft), and send the story in.

### You May ALREADY Have Won a Bond

What we mean is that some Volume Control job you've already done may be the one to cop one of those Bonds. It may be only a matter of putting down the detailed facts and mailing your entry!

### IDEAS to be Shared

In entering this contest you have the satisfaction of knowing that worth-while ideas will be publicized for the entire service profession. You yourself will benefit from the information made available by the results of this contest. This exchange of ideas is certain to help you keep radio sets going, through the use of standardized controls. These same sets might otherwise be kept out of service and become lost jobs for you.

### The Judges

Judges, whose decision will be final as to the five winning entries, include IRC's Chief Engineer, Jesse Marsten, and two "outside" experts—Joseph Kaufman, Director of Education of the National Radio Institute, and William Moulic, Service Editor of "Radio Retailing Today." If, in the opinion of the judges, winning ideas of equal merit are presented, duplicate awards will be made. It is understood, of course, that all ideas submitted become the property of IRC.

### WHAT HAVE YOU GOT TO LOSE?

Don't say, "Aw, the Volume Control job I'm thinking of was too easy—any good radio man would have done the same as I did." Remember this: ANY job looks easy when you know the answer. . . . And besides, even if someone else did have the same idea, HE may not tell us about it. So get busy yourself—surely a crack at one of those \$100 Bonds is worth *some* trouble! All entries must be in IRC's hands by April 10, 1943 when contest closes.

### FILL OUT THE COUPON

—and send it in with your entry this week—**TODAY** if possible. Don't put it off. Five men are going to be richer by a \$100 Bond—make one of them YOU!

### Uncle Sam's Men, Too

If you're now in Government service, in or out of uniform, you're still eligible in this contest. Maybe the job you did was handled before you went into the service.



**CLIP THIS—FILL IN—SEND IN WITH YOUR ENTRY**

**INTERNATIONAL RESISTANCE COMPANY**

401 N. Broad St., Philadelphia, Penna.

• Gentlemen: Here is my entry in your \$500 U. S. War Savings Bonds Contest.

MY NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

MY REGULAR DISTRIBUTOR IS \_\_\_\_\_

# Servicing Methods

## Servicing Data for Motorola Model 51R11

This BC receiver is equipped for record playing and recording from both mike and radio inputs.

The circuit, shown in accompanying diagram, is a conventional superhet. Notice that the 6SK7GT tube is used as both the IF amplifier and the microphone pre-amplifier. When used as a microphone amplifier the input voltage from the mike is applied between the low end of the IF transformer and ground. The plate load for the 6SK7GT is a 220 M ohm resistor in series with the IF transformer winding. The resistance is shorted-out for "radio" operation. When being used as a pre-amplifier, the audio voltage across this 220 M resistor is fed to the selector switch B through 0.01 mfd. condenser.

Neon bulbs are used to indicate correct and "too loud" volume levels in recording. The audio voltage from the 6V6GT is applied to each of the bulbs which are shunted with resistance to give correct flashing points.

The IF transformers are aligned at 455 kc. The signal generator should be connected to the 6SA7 grid through 0.1 mfd. condenser and the set dial tuned to 1720 kc. Adjust trimmers on transformers for maximum output.

The RF end of the set is aligned at 1720 kc and at 1400 kc with the generator connected to the external antenna through a 200 mmfd. dummy antenna. With set and generator at 1720 kc adjust oscillator trimmer on front gang section for peak output. Retune set and generator to 1400 kc and adjust trimmer on loop for maximum output.

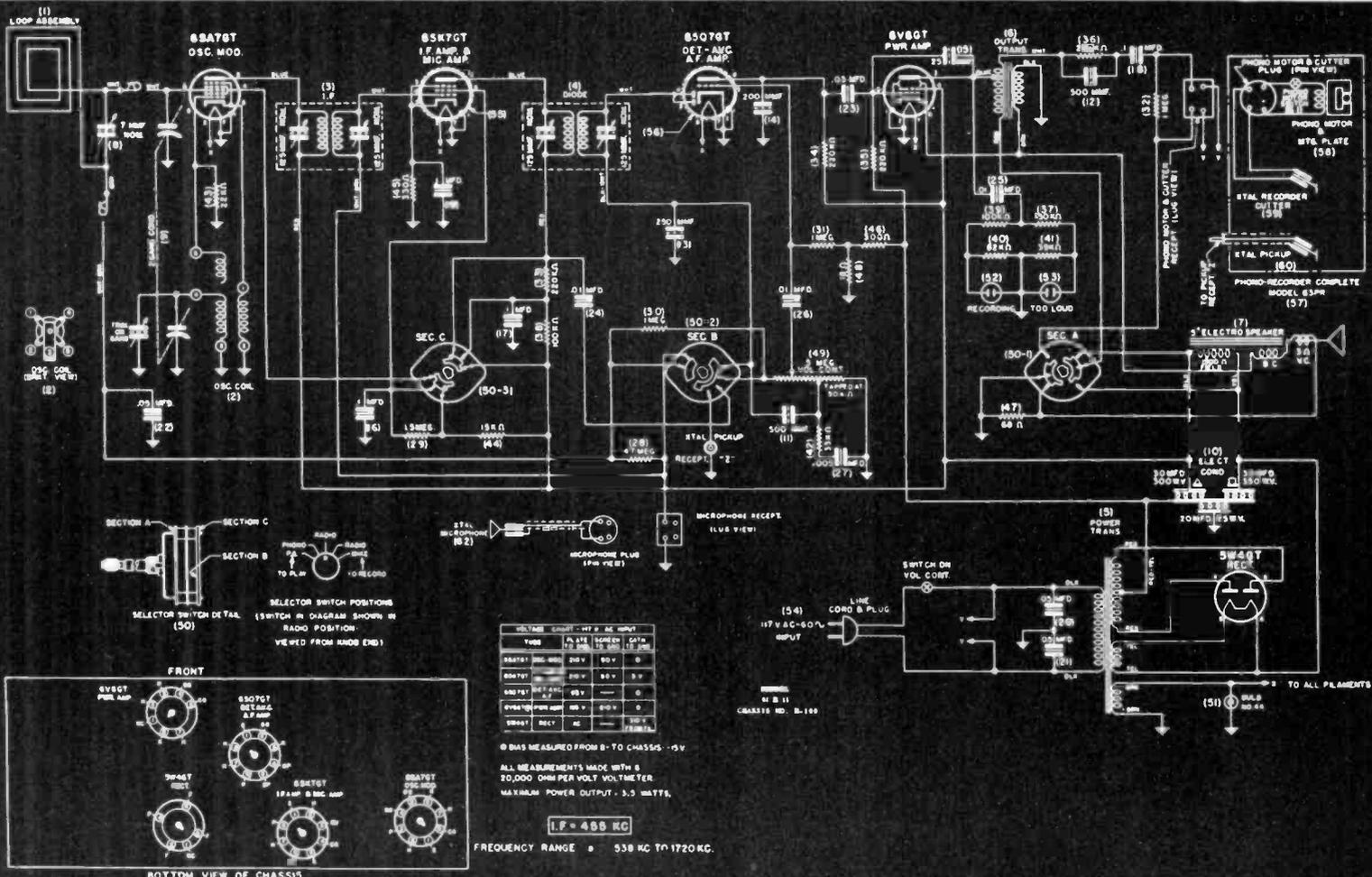
## Chicago Service Set-up Does a Good Job

A radio repair shop with some unusual and result-getting features is the Metropolitan Radio Service, 4314 Elston Ave., Chicago, run by a veteran servicing expert, Ray Pentecost. A photo of the shop is shown here-

with, and describing the set-up, Mr. Pentecost writes as follows:

"The sliding door on the left leads to the repair storage room and to the stock room in the rear. The drawers under the bench carry the working stock to eliminate loss of time of the workmen at the bench. The tube tester on the counter is of our own design and contains a five watt A.F. amplifier, with five inch speaker for amplification of loose element and other tube noises. It cares for all receiver tubes and is so arranged that with nine sockets and ten rotary switches any one of ten voltages, AC or 'B' volts can be impressed on any given prong. Readings are made in power factor computations.

"Our Rider Chanalyst and C.B. Oscillator are mounted on a steel carriage, rubber tired wheels and on the lower part of this carriage are mounted the record player and ten watt amplifier. The amplifier is so arranged and calibrated that it may be used for testing phono pickup crystals for sensitivity, against a standard, and also may be used as a check



for detector output from any receiver, to determine efficiency or distortion at this point.

"In the background, on the lattice above the bench is a sign which we have found to be particularly valuable. It is headed 'We Charge for Estimating Because' and then our ten reasons are listed thus:

1. To make estimates takes time.
2. Our income is rated by hourly pay, the same as yours.
3. Locating trouble is the greater part of any repair job.
4. We are definite in our diagnosis—no guesswork.
5. Our expense goes on whether we estimate or repair.
6. Our knowledge has been costly; we did not get it free.
7. Equipment must be maintained and estimating helps to wear it out.
8. A radio must be made to operate in order to complete diagnosis.
9. Obligations are eliminated when services are paid for.
10. WE expect only what YOU expect from YOUR employer.

"This sign was put up about one and one-half years ago and I can truthfully say that it has saved us many, many hours of talk and argument with prospective customers and has provided us with an income which previously did not exist. Our hourly rate is (ceiling) \$2.00 per hour, which we seldom charge, but we have a minimum of \$1.00 for examination and estimate, which we collect in all cases where the customer does not order the job done on the estimate.

### **Credit Idea Works**

"We have a rubber stamp imprint which we use on all such estimate charge bills. It says that 'This charge, made for time used in making a repair estimate which is not accepted at this time; may be used as cash on the repair if same is done within 30 days of this date. No credit allowed without this slip.'

We have used this now for about three years. It has been tried by other shop owners here in Chicago and as yet has never failed to work out satisfactorily.

Our other wall signs, of which there are six, are in the same trend as that mentioned above. We have felt that we wanted our customers to know our feelings about certain things and something about us, but we did not want to be continually blowing our own horn over the counter, therefore the signs. After thirteen years I can say that they were a complete success and are more effective today than they were when they were first put up.

"As can be seen we have the complete Rider Manuals and we are also equipped with complete manuals of all other manufacturers which are



The Chicago expert, shown with his workbench and his "policy" wall-sign.

available. Our data covers practically every set, including 1942 models. Also we have on file, data on sets as far back as 1921, these are the original manufacturers data sheets. Such sets as Remler, Workrite, Amrad and others."

### **NOISE ELIMINATION MADE EASIER**

Throughout the country police departments and short wave enthusiasts have encouraged the local city fathers to enact ordinances against man-made radio interference. Most cities now have statutes on the books that in some way attack the problem. In many cases, though, the lawmakers' intentions have lain dormant because of the inability of the local service men to provide a remedy. This is an unfortunate state of affairs because more than ninety percent of the interfering noises can be eliminated with a careful survey and the proper application of appropriate filters.

#### **The Familiar Ratio**

In the first place, there is practically an infinite amount of gain in a receiving set. An incoming signal can be amplified in the radio section millions of times and then turned over to the audio at zero level and amplified still more. Naturally, the determining factor of the famous "signal to noise" ratio manifests its all-too-unwelcome presence about this time. We now have tubes with practically minimum internal random noise, but because of external local electrical disturbance we are unable even to begin to utilize their maximum voltage gain.

Collectively, this disturbance is dad using his razor, Mrs. Smith down the street vacuuming, the fan in the restaurant, and, among other things, that pretty neon sign that goes on and off about once a second. There are, of course, hundreds of appliances

that add to this background of racket, though each one can be absolutely cured without hindering its normal operation in the least.

#### **Proper Filters**

Suppose we pick up the ring of the segments in a commutator. All that is necessary is to count the segments and find the product of this and the RPM of the generator, then insert a filter that would offer extremely high impedance to this resultant frequency though its actual resistance to the normal flow of current would be negligible. This filter would merely be an inductance capacity combination resonating at the disturbing frequency.

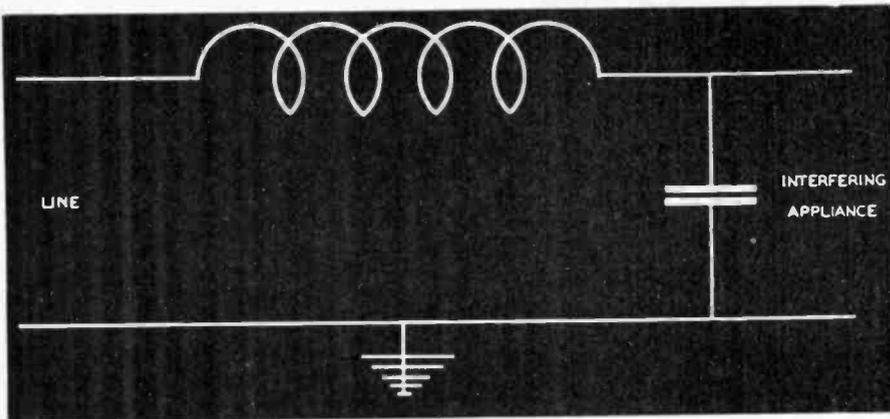
The inductance would be "duo-lateral" wound or, in other words, wound to obtain the highest inductance with the lowest capacity between turns. This is essential as the capacity tends to bypass or shunt the noise instead of rejecting it. The condensers chosen should be rated far above the working voltage so there will be no worry about safety. As we get into more complicated interfering wave forms, naturally we have to reject several bands of frequencies instead of a single frequency so in our next form of filter there are two inductances.

#### **Frequencies By-Passed**

One section of the filter broadly resonates at the higher frequencies and the second section resonates at the lower frequencies, both sections being in series. The bypass condensers provide practically a short circuit to ground for the highest frequencies. Since electrolytic condensers are of little value for this purpose, a good grade of paper condenser must be used.

When we encounter diathermy and other interference generators that are rich in harmonics and random frequencies, the inductance consists of

## SERVICE NOTES



Schematic for a simple "filter" using one inductance.

several duo-lateral wound coils, each coil of which resonates at a slightly different band of frequencies.

An important thing to bear in mind is that the disturbance reaches the radio both conductively and inductively. Sometimes by moving the antenna away from the proximity of the source of noise we can effect an improvement. Generally, though, much of the energy is either radiated from the many surrounding power lines or is conducted by the power line to the receiver. For instance, if there is a series motor operating on the same power line as your receiver and you install a filter in the line to your power supply, you will eliminate all the disturbance that enters the set through the rectifier, but once the disturbance has gotten into the lines, each line acts as a radiating antenna and the most effective RF section of a receiver will be unable to reject it. If this same filter were installed at the motor, both the path through the power line and through radiation would be attenuated at the source.

### False Economy

For the most successful filtering, a good ground is necessary. In fact, repairmen frequently have had to resort to  $\frac{3}{8}$ " copper braid from the filter to ground because the radio fre-

quency resistance to the interfering noise was so high in the ground wire it would radiate the energy rather than ground it.

Probably one of the biggest setbacks to interference elimination is due to the service man's attempt at economy. It always looks so unnecessary to install a filter designed to carry twenty amperes, let us say, when it is seldom that the current consumption exceeds this amount. The luckless victim of such thrifty notions usually finds himself about a week later cleaning molten tar and wax off the floor below what used to be a filter. Emphatically you must anticipate the maximum demands upon a circuit and install a filter with sufficient current margin!

### Common Cases

Now for some everyday examples of filter applications. First in the line of offenders around the house are the electric shavers, food mixers, other small series motors, and the doorbell which is capable of producing a most disconcerting roar if someone pushes the button while you are listening to a radio program with the volume control turned well up. For most of these we install a filter at the wall outlet and plug the appliance into the filter. Generally, it is difficult to find

a convenient ground so none is provided on the stock filters. In most cases the appliance cord is four feet or less in length and little trouble is experienced from radiation.

Probably the next in line would be the vacuum sweepers, refrigerators, and other such power equipment. Here the filters are essentially the same, but they are designed to handle larger amounts of current. If in any of these it is possible to ground the case of the motor, the noise level will drop somewhat lower.

### Outside Target Areas

One of the meanest and most prominent problems is the animated or flasher neon sign. Here due to the extremely high voltage used we have to filter with inductance alone as condensers of sufficient capacity rated at 15 or 20,000 volts are not readily obtainable. Inductances designed to withstand more than 50,000 volts are inserted in each lead of the sign directly at the flasher, and also in the lines from the high voltage transformer to the flasher. It is not common practice to run these high voltage leads any great distance because of the danger element, though should there be instances of long leads, it would be essential to install filters at the sign as well as those already mentioned to prevent the leads from radiating. It is always an advantage to ground the case of both the animator and the transformer.

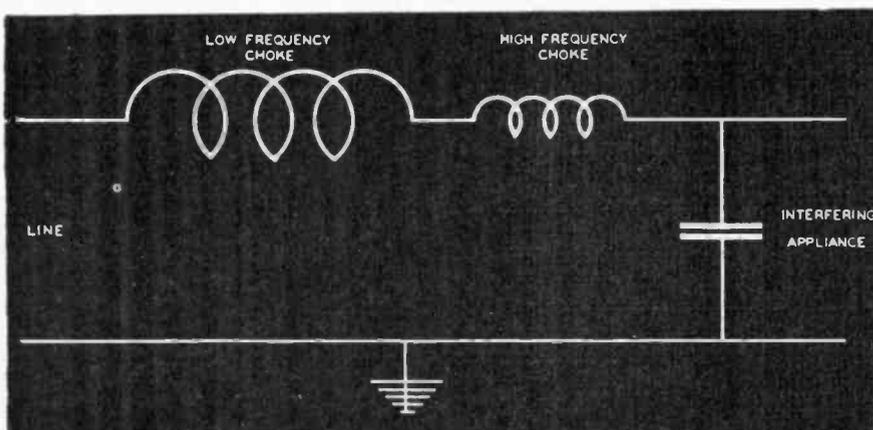
Some manufacturers of x-ray tubes and complementary equipment very thoughtfully keep the interference problem in mind when designing plants. The section of the building housing the high frequency spark bombarder was completely shielded with copper screen and all power lines into this section were filtered. If you have ever been in the area with a receiver while one of these infernal machines is operating, you can better appreciate the above precautions. It is now possible to operate a short wave tuner from the same power line in an adjacent room and be free from disturbance.

### Shields and Filters

Diathermy equipment can best be handled in the same manner. Here it is only necessary to shield a small section of a room in which the unit is located and install an adequate filter in the power line where it enters the shielded section. Often these sections are made up of portable flats lined with copper screen well bonded and tied to a good ground.

Car ignition noises can be minimized by a filter in the battery leads at the set, and one in the battery lead to the high tension coil. The latter prevents the ignition interruptions from getting into the battery line. Also, simple  $2\frac{1}{2}$  millihenry chokes and condenser networks are installed

Two inductances are used to help filter the more complicated interfering wave forms.



# The SPRAGUE TRADING POST

EXCHANGE — BUY — SELL

**WILL TRADE** Radiola Model 64 complete, for small new sets or table combination. Gross Radio Shop, 6744 Stony Island Ave., Chicago, Ill.

**CHANALYST WANTED**—or similar signal tracer such as Meissner or Jackson. Must be in A-1 condition. Cash. D. L. Ballengee, ChilliCothe St., South Charleston, Ohio.

**SIGNAL GENERATOR WANTED** for cash. All-wave, A-C operated. Also 2" or 3" scope. W. A. Conklin, 70 Community Drive, Cranston, R. I.

**NEEDED AT ONCE**, I-T 124 Transmitting Tube, or two T-125 tubes. Will pay cash. H. D. Bennett, B & B Radio Co., 4812 Euclid Ave., Cleveland, Ohio.

**TUBES WANTED** at once. Types 6F6; 12A8; 12SA7; 12SK7; 12SQ7; 50L6, and others. Write giving quantity, make and price. Little's Jewelry Store, Auburn, Indiana.

**FOR SALE**—Crystal Cartridges for phono pickups, Astatic Type L40 and L26A. Brand new, individually boxed. Will fit most radio-phonographs. \$2.40 each. No trade-in required. Olson Brothers Radio Supply, 362 Wooster Avenue, Akron, Ohio.

**TUBES NEEDED**—12SA7; 12SQ7; 12A8; 6SC7; 45, and 80 tubes. Please name quantity and price. Kimmel Radio Sales, 39-43 E. Pittsburg St., Greensburg, Pa.

**TUBE TESTER FOR SALE**—Hickok AC-51, just modernized last month, \$50. Would like 5" Oscilloscope. State price, number of hours tube was used. Also want Hickok Vacuum Tube Voltmeter, good slide rule, and good camera. E. M. Prentke, 1960 East 105th St., Cleveland, Ohio.

**SIGNAL GENERATOR WANTED**—modern R.C.P., Philco, or RCA unit considered for cash or trade. Have plenty to trade. Wooster's Radio Service, Feesburg, Ohio.

**METERS FOR SALE**—Have twenty 0-10 mill. D'Arsonval type; 2 1/4" face, 3 1/4" O.D., moving coil, \$3 each. Also have 300 assorted meters iron vane type, 25c each, or make offer. Want 16mm. projector. Jack's Radio & Music Shop, 14 Bellingham St., Chelsea, Mass.

**TUBE TESTER WANTED**—late model. Have fifty National Mazda lamps 300 watts, 220 v., will swap or sell for cash. Bill's Battery & Radio, 240 Blue Hill Ave., Roxbury, Mass.

**TUBES FOR SALE**—1, 5E1; 1, 1B7G; 1, 2Z2/G84; 2, 6AF5G; 1, 6H4GT; 3, 6K5GT; 1, 6ZY5G; 2, 14A7/12B7; 1, 182B; 1, 183; 4, 2A7S. Reliable Motor Parts, Inc., 1700 Seventh Avenue, Beaver Falls, Pa.

**MANUALS & OHMMETER WANTED**—Want Vols. 7-9-10 Rider's Manual, also ohmmeter. Name best price. Have Marlin 22 cal. rifle to swap or sell. Ristow Rado Co., 3608 Irving Pk., Chicago, Ill.

**TUBES AND SIGNAL TRACER WANTED**—Want 6F6M (G or GT), 35Z5GT, and 35Z3 tubes; also Philco Signal Tracer. Tubes must be factory-sealed. Duncan's Radio Service, Longhurst, N. C.

**FOR SALE**—Sets, chassis, and farm sets. Table models, combinations, etc. Write for details. Victory Radio & Record Shop, 1546 E. 53rd St., Chicago, Ill.

**TECHNICAL BOOKS WANTED**—Want Rider's Manuals 7 to 13, also late technical books on radio & refrigeration. Name best price. Robison Radio Service, Ione, Wash.

**WILL BUY**—Oscillator, Ohmmeter and Manuals. Give details and price. Tube Tester for sale. John Honochick, 157 First St., Oneida, Pa.

**SWAP OR SELL**—Will sell or trade tube checker, channel analyzer, and over 300 tubes, parts and old radios. Need a Supreme or any good make oscilloscope. Jos. M. Ortiz, 52 E. 103rd St., New York, N. Y.

**WANTED**—Two 865 tubes; also one 6 amp. battery charger. General Radio, 701 E. Las Olas Blvd., Ft. Lauderdale, Fla.

**WILL TRADE OSCILLOSCOPE**—Will swap 2" Supreme Oscilloscope Model 535 in excellent cond. for Vac. Tube Voltmeter, or new radio tubes, or will sell for \$20. Buck's Radio Service, 291 Home Avenue, Mansfield, Ohio.

**TUBES TO SWAP OR SELL**—will sell or exchange the following tubes: 32L7; 48; 188; 182B; 89; 25B6; 12A7; 12A5; 34; 40; 30; 31; 32; 33; 55; 25A7; 6A4; 1A1; 1A5; 1A6; 1B4; 1C1; 1C5; 1C6; 1D5; 1D7; 1D8; 1E5; 1F1; 1F6; 1G4; 1J6; 1P5; 1Y1; 1Z1; 2A6; 2A7; 2B7; Travel-tone Radio, 2014 Broadway, New York, N. Y.

## A WARTIME SERVICE TO THE RADIO PROFESSION

Is there something pertaining to Radio that you want to Buy—Sell—or Swap? If so, send us your Trading Post advertisement today. We'll schedule it for appearance here as soon as possible—at no cost to you, and providing only that your ad seems to us to fit in with the Trading Post Plan. Our aim is to cooperate with our friends throughout the nation's radios working during these short-ages of wartime days!

Address your ad to:  
Sprague Products Co., North Adams, Mass.

**Your Own Ad Run FREE!**

**WATTMETER FOR SALE**—Weston Model 432 in bakelite case. 0-150 and 0-300 watts. \$30. Radio & Electric Repair Service, 315 Beechwood Ave., Trenton, N. J.

**WANTED FOR CASH**—Solar, QCA, or Exam-eter; Triplett 1200 VOM, 1000 ohms per volt. Also need 125 tubes, 5Y4G, 5YG, 50L6GT. Will pay cash. Seymour Radio Service, 20 New St., Seymour, Conn.

**WANTED**—Do you have 4" diam. 3-jaw self-centering lathe chuck with or without face plate to fit 1/2" 24-thread spindle? Have phono motors and tube testers to swap or sell. Miracle Radio Shop, 1901 Lexington Ave., New York, N. Y.

**WANTED FOR CASH**—Scott Philharmonic FM-AM Receiver; Triplett Signal Generator Model 1632; Presto Recorder. State price, condition, and how long in service. Jahn Radio Service, 240 W. Maumee Ave., Napoleon, Ohio.

**50L6GT TUBES TO SWAP** for a Bridge Condenser Tester. Will pay part in tubes, part cash. Leo the Rado Man, 4230 Lancaster Ave., Philadelphia, Pa.

**ANALYZERS WANTED**—Need Superior Channel Analyzer, and All-Meter (Jumbo) 6" meter in good condition. Also want Jackson Condenser Analyzer or similar apparatus. Dearth Radio Service, Augusta, Ohio.

**FOR SALE**—Jensen 12" series X speaker with 6 v. field coil; Wright-DeCoster 10" speakers (two) with 6 v. coils; Triplett Model 1210 A Tube Tester in oak case; also Janneff C6 Rotary Converter, 110 v., a.c. to 110 v., d.c. All used, but in fair to good cond. Howard F. Wampole, P. O. Box 45, Gwynedd, Pa.

**VOLTMETER FOR SALE**—Weston Milli-Voltmeter, Model 45, 5" needle sweep, scale in 10's graduated 0-1000. Wood case. Make offer. Mauk's Radio Service, 717 S. Brady St., DuBois, Pa.

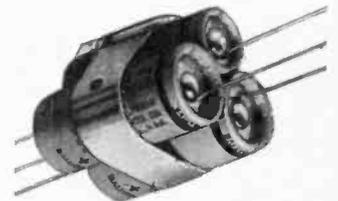
**CHANALYST, VOLTOHMYST FOR SALE**—Going into other business and offer following in first class condition for best cash offer: Rider Chanalyst; Senior Rider VoltOhmyst; Philco Model 050 Tube Tester; Philco 077 Signal Generator; Rider's Manuals Vols. 1 to 12. Farmon L. Newton, 2112 Picher St., Joplin, Mo.



SPRAGUE  
PRODUCTS CO.  
North Adams, Mass.

## THE CONDENSER YOU NEED . . . When You Need It!

Sprague Atom Midget Dry Electrolytics are still available—and, with them, you can handle practically any condenser replacement up to their rated values. You can get Atoms in many single-section as well as multi-capacity values—and you can make up hard-to-get replacements by strapping individual Atoms together. Atoms are smaller, cheaper, and fully as reliable as the big, old-fashioned condensers they replace. Use them *universally* on all of your jobs!



# SPRAGUE CONDENSERS AND KOOLOHM RESISTORS

OBVIOUSLY, SPRAGUE CANNOT ASSUME ANY RESPONSIBILITY, OR GUARANTEE GOODS, SERVICES, ETC., WHICH MIGHT BE EXCHANGED THROUGH THE ABOVE ADVERTISEMENTS

# SERVICE NOTES

in the vibrator high voltage leads to kill the vibrator hash.

Of course, there is an endless list of electrical devices that mar radio reception or disturb amplifier circuits; but each problem can be solved. For instance the r-r-rip of a cash register, the metronomic click of a railroad wig-wag, and the stacato buzz of voltage regulators. In every case the offending device can be electrically isolated from other circuits by means of stock filters.

To recapitulate for a moment, the filter must be chosen to handle the amount of current necessary, and should be installed at or as closely as possible to the interfering device to prevent the leads from radiating. A good ground from the frame of the interfering unit to the filter connected by means of a large conductor is generally necessary. If the above conditions are met, the filters will give a lifetime of service and efficiently perform their duty.

## One Radio Per Family

Radio men of the Philadelphia Radio Service Men's Association have decided on an official "One Radio Per Family" policy and the members of the group have been advised to work in that direction. For some time, the idea had been regarded by the Pennsylvania repairmen as the "coming" trend in the national effort to save radio materials.

Here is the bulletin to the PRSMA members:

"All service men know the condition we are facing these days in reference to getting parts, tubes, etc., for the servicing of home radios. Let's relieve ourselves of some of the headaches and worry, and in the meantime our fighting forces will get more of the essential parts for their work. We all must sacrifice in order to win this war and the quicker we start this the better we will all be. We are sure this order is coming sooner or later from Washington so why not start now.

"Here is the idea:—When you receive a call for repairs you should ask the customer if this is the only radio they have in the house, if it is then you may or should repair it, but if they have another radio in playing condition they should be told that we are trying to do our part, by saving all the tubes and parts we can and we may only repair the radio if it is the only one they have, in other words, let's make the slogan 'ONE RADIO PLAYING PER FAMILY.' Don't worry that you will lose your customers, for if they are real Americans they will go along with you, all service men have more work than they can take care of just now and this will relieve the pressure.

"Here is a tip for service men who have stores:—On tubes which are hard to get why not keep what tubes you have and use them in the service work of radios and not over the counter as just a tube sale, some people are buying tubes for their radios just in case they are frozen. When you go to your distributor for tubes why not tell him that you want this tube for service work and not for the counter sale, it will help a lot. So let's get into the habit right now. 'ONE RADIO PLAYING PER FAMILY.'"

## Devising a Rubber Record Protector

A wartime repair hint for phono turntable jobs comes from the Magee Radio Service shop, Bethesda, Md. The suggestion is as follows:

"Since we cannot get phonograph turntable rubber record protectors, I have found an excellent substitute for most types. Just get a pencil eraser and drill a hole in it or use a small nail. After placing it on the turntable, hold a file against it while it is revolving, to shape it."

### Some Things are REALLY Scarce Right Now\*



\*(Including Servicemen's Time)

★ THE scarcity of receivers, replacement parts and labor have resulted in a dangerous scarcity of servicing time.

★ The only way you can handle the ever-growing burden is to ration your effort—get the utmost from every precious moment you spend at the bench. Study your consumption of time the same as you check the consumption of any other rationed item.

★ Are you employing the latest methods of servicing procedure—availing yourself of the advantages of testing instruments—using your Rider Manuals on every job?

★ The authorized and comprehensive servicing information in Rider Manuals leads you quickly to the cause of failure—supplies you with the facts that speed repair.

★ Stop wasting time "guessing out" defects: it's your dead-serious duty to work with maximum speed and efficiency.

★ Reach for one of the thirteen Rider Manuals before you begin every job. This way you'll conserve manpower, parts, time, and civilian receivers—all critically scarce right now.

#### RIDER MANUALS

Volumes XIII to VII	\$11.00 each
Volumes VI to III	8.25 each
Volumes I to V, Abridged	\$12.50
Automatic Record Changers and Recorders	6.00

#### OTHER RIDER BOOKS YOU NEED

The Cathode Ray Tube at Work	\$3.00
Frequency Modulation	1.50
Servicing by Signal Tracing	3.00
Meter at Work	1.50
Oscillator at Work	2.00
Vacuum Tube Voltmeters	2.00
AFC Systems	1.25

★ HOUR-A-DAY-WITH-RIDER SERIES—on "Alternating Currents in Radio Receiver"—on "Resonance & Alignment"—on "Automatic Volume Control"—on "D-C Voltage Distribution." 90c ea.

#### JUST OUT!

★ A-C CALCULATION CHARTS—Two to five times as fast as a slide rule—and more fool-proof. All direct reading—operative over a frequency range of from 10 cycles to 1000 megacycles. 160 Pages—2 colors—9½x12 inches—\$7.50.

#### FOR EARLY PUBLICATION

★ Inside the Vacuum Tube—complete elementary explanation of fundamentals of vacuum tubes.

### JOHN F. RIDER PUBLISHER, INC.

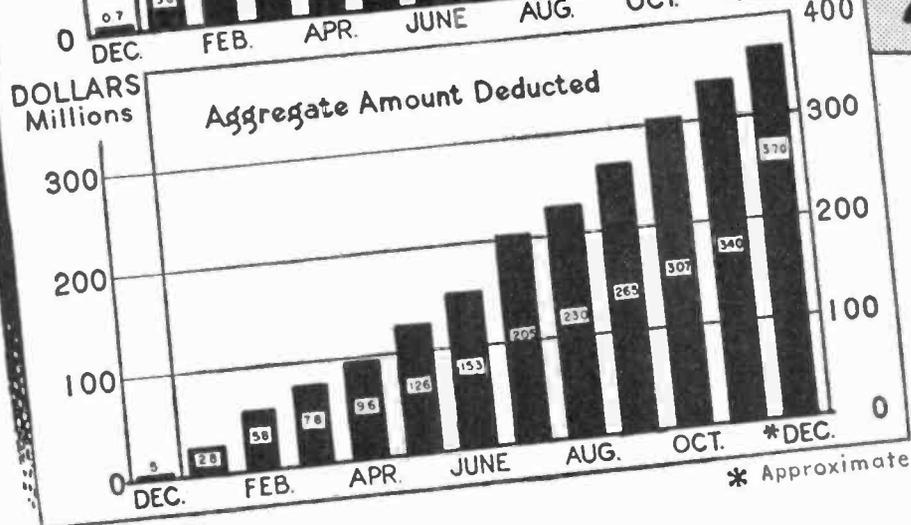
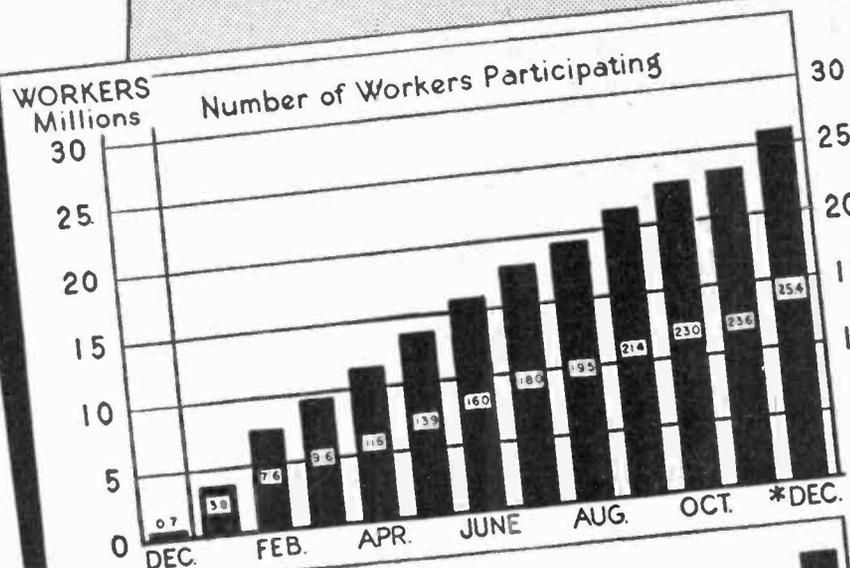
★ 404 Fourth Avenue - New York City  
Export Division: Rocke-International Electric Corp.  
100 Varick St., New York City Cable: ARLAB

**YOU NEED ALL THIRTEEN RIDER MANUALS TO "CARRY ON"**

*Tomorrow's*

SALES CURVES  
ARE BEING  
PLOTTED . . .

*Today*



THESE CHARTS SHOW  
ESTIMATED PARTICI-  
PATION IN PAYROLL  
SAVINGS PLANS FOR  
WAR SAVINGS  
BONDS (Members of  
Armed Forces Included  
Starting August 1942)

STUDY THEM WITH AN EYE TO THE FUTURE!

There is more to these charts than meets the eye. Not seen, but clearly projected into the future, is the sales curve of tomorrow. Here is the thrilling story of over 25,000,000 American workers who are today voluntarily saving close to FOUR AND A HALF BILLION DOLLARS per year in War Bonds through the Payroll Savings Plan.

Think what this money will buy in the way of guns and tanks and planes for Victory today—and mountains of brand new consumer goods tomorrow. Remember, too, that War Bond money grows in value every year it is saved, until at maturity it returns \$4 for every \$3 invested!

Here indeed is a solid foundation for the peace-time business that will follow victory. At the same time, it is a real tribute to the voluntary American way of meeting emergencies that has seen us through every crisis in our history.

But there is still more to be done. As our armed forces continue to press the attack in all quarters of the globe, as war costs mount, so must the record of our savings keep pace.

Clearly, on charts like these, tomorrow's Victory—and tomorrow's sales curves—are being plotted today by 50,000,000 Americans who now hold WAR BONDS.



Save with  
**War Savings Bonds**

This space is a contribution to America's all-out war effort by  
RADIO Retailing TODAY



Effectiveness of the Stromberg-Carlson production methods is recognized by Uncle Sam. Here, Rear Admiral William C. Watts, USN (retired), presents the Army-Navy "E" to Stromberg president Wesley M. Angle.

## MacARTHUR SHIFT

(Continued from page 17)

the sound system that bus transportation will be available as usual and that those who have cars will be assisted in getting out of the parking lot. All of these items build worker morale, free the workers' minds of worry, and encourage better and faster production.

Efficiency and morale are also boosted by instructions given over the sound system in case of fire, air raid drills, or any other type of emergency. Frequently the plant guards are summoned over the sound system to save time.

Whenever the sound system is not being used for special instructions and messages, it is in use twenty-four hours a day for paging. In these days, more than ever before, it is of extreme importance to be able to locate the man you want when you want him. With the sound system anyone can be located—not just employees, but Signal Corps inspectors, Army and Navy officials, and all other visitors as well. And paging is as quick as speech itself—there is no faster means of communication.

## 500 SETS A DAY

(Continued from page 24)

cars for pick-ups. Local radio servicemen and small dealers contributed their share which included many tons of spare parts, including precious tubes.

The "Make-a-Yank-Happy" campaign was sponsored by a Newark civic organization called the "Civiceers," with its secretary, Sol Berla, directing the activity. Herman Bess, vice president of Station WNEW, New York, and a member of Civiceers, was a prime factor in getting the drive started. Stations WAAT, WOV, WHOM and WPAT also donated time on the air for special shows and many spot announcements. The local newspapers, including the *Newark Star Ledger*, *Sunday Call* and *The News*, also went all-out in publicizing the call for radios. The papers published daily stories and made urgent requests for the sets in their columns, to the extent that newspaper offices were flooded with telephone calls and letters from eager donors of radios.

## Still More Needed

Not only will these donated radios furnish added enjoyment to the enlisted men who receive them, but they provide ideal means for the teaching and practical application of radio technique to the hundreds of NYA boys, officially assigned to the Signal Corp Reserve. Thus the soldier in training and the soldier in camp both benefit from this drive for old radio sets.

At a recent meeting of the Army officers of the Special Service Office from all Service Command depots this subject was brought up for discus-

sion. Lieutenant Colonel Tom Lewis, Special Service, Radio Section, said that though programs both local and distant, were well provided, the lack of adequate reception means was woefully meagre. At another conference of Army officers held at Baltimore, Md., last month under the direction of Brigadier General Fred H. Osborn and the staff of the Special Service Division of the War department, Major Bolton outlined the splendid achievement and motive back of the Newark campaign, all of which was approved by the meeting with favorable comment.

## WOMEN'S CORPS

(Continued from page 15)

ing policy overnight.

Large organizations have the facilities, and the experience to do a sound job of selecting and training women, though some have learned to their regret that there is a vast difference between the male and female psychology. But small organizations have been notoriously lax in this phase of their business. The haphazard selection of personnel is there the rule, rather than the exception.

And the haphazard selection of women is most certainly going to result in disappointment or worse.

It is highly desirable, if not absolutely necessary that those businesses and industries which expect to maintain their place, lose no more time in their proper preparation to employ women, to select them carefully, train them thoroughly and take full advantage now of the only "manpower" which can possibly meet our needs.

## Place for All

The facts now are plain.

Women can be trained to perform any work, and any skill.

Grammar school or high school graduate or college degree, "Rosie O'Grady or the Colonel's Lady", there's a place for each and every woman in the total effort required to bring the war to a victorious ending.

Women are doing more and better than was ever thought possible a few short months' ago.

Women have "made good" in every occupation they have tackled, though it cannot be said that all employers have given women the same thoughtful selection, and training they have to men.

## Sales Managers Discuss Radio After the War

Post-war planning in the radio industry is currently the topic which claims the attention of the Sales Managers Club, Western Group. At its January meeting the group invited Dr. Louis Wirth, sociology professor from the University of Chicago, to speak on post-war problems generally and the radio industry in particular. The meeting was held at the Electric Club, Chicago.

Dr. Wirth, who is chairman of Region No. 4 of the National Resources Planning Board, is a long-time expert on the subject of post-war adjustment. He analyzed the radio parts industry as one which was interdependent and not self-sufficient and one which was essentially a young industry. As a result of its dependency the industry members must, in order to determine its post-war program, look to other branches which deal more directly with the consumer market.

In the view of Dr. Wirth, the first steps in post-war planning is to determine and agree upon objectives that would give society the benefits of modern mass production, employers the benefit of the retention of the maximum number of employees, and to the employees themselves, high standards of living by virtue of higher rates in pay so that they can purchase the products manufactured.

The post-war planning committee of the Sales Managers Western Group is now planning more discussions and meetings on the same subject.

## NEDA Committee to Washington

A committee of the National Electronic Distributors Association has just wound up a week of special work in Washington, D. C. and New York City, looking after the interests of the radio parts distributor. In the group were George D. Barbey, who heads NEDA; William O. Schoning, A. D. Davis and Aaron Lippman.

On the schedule for committee action this trip were the Tube and Victory Parts Programs, the PD-1X, the Service Training Program, the Copper-wire freeze, the Manpower situation in the radio business, a Salvage plan, and other matters affecting the wartime radio picture.

## To the Signal Corps

Walter G. Willie, for many years with the National Union Radio Corp., has been ordered to active duty as a First Lieutenant with the Signal Corps.

Mr. Willie has had a long and varied experience in radio and radio parts to qualify him for his new responsibility in the armed forces.



Those imaginary pixies that haunt our pilots can also gum up your microphone. Protect your unit from falls, heat, wind, moisture and improper circuit conditions. Above all, use common sense in handling your mike. Don't bang it around as though it were a football. You'll get longer, better service if you treat it right. When your mike fails or gives trouble, send it to the factory or its dealer — don't try home repair jobs!

The back page of the new Turner Microphone Catalog lists the DOs and DON'Ts for longer mike life. It's Free. Send for yours.



Send NOW for your Free Copy of Turner's new 8-page, fully illustrated, colorful Microphone Catalog. Each unit is engineered for specific jobs and trouble-free performance. Select the one best suited to your needs at the price you want to pay.

Free

THIS NEW TURNER MICROPHONE CATALOG

The  
**Turner**  
Company

Cedar Rapids, Iowa

# THE TRADE'S *only complete* BUYING

PUBLISHED AS AN  
INTEGRAL SECTION OF

**RADIO**  
*Retailing*  
**TODAY**

*in March*

for PARTS JOBBERS, DEALERS, SERVICE DEALERS, INDEPENDENT SERVICEMEN AND "REPS"



## *Reaching* IMMEDIATE

Whether you are selling the trade today or preparing for the day when trade distribution can be resumed, your product should be advertised in the RADIO YEAR BOOK & TRADE DIRECTORY.

This is your once-a-year opportunity to appear in the only buying guide that is used all year long by the retailing and servicing fields.

By taking advantage of the full twelve-month life of this directory, you will gain some measure of protection against error in estimating when the war will be over and you will have an offset against unpreparedness if that much-mooted day comes sooner than you expect.

Several vitally important situations now shaping up, point to a gradual but persistent trade comeback. Among them:

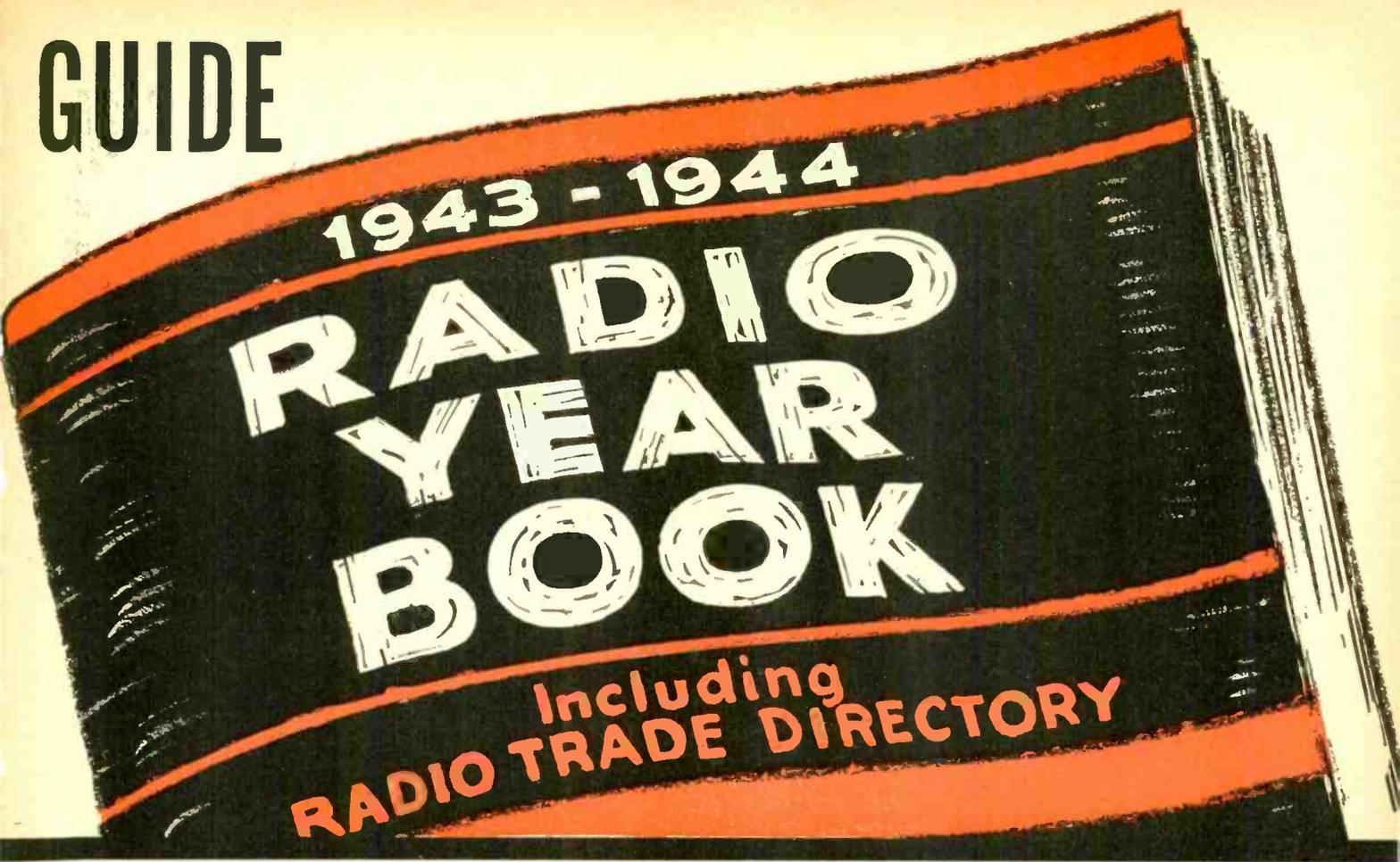
1—The government's plan to simplify and standardize replacement parts, and give manufacturers the go-ahead to produce them for civilian set servicing.

In terms of market coverage, the RADIO YEAR BOOK & TRADE DIRECTORY and the ELECTRONIC YEAR BOOK & ENGINEERING DIRECTORY are complementary and almost entirely non-duplicating.

Together they cover the entire field. To reach the manufacturers, engineers, communications services and industrial users of electronic equipment, use the ELECTRONIC YEAR BOOK & ENGI-

NEERING DIRECTORY. Where trade coverage is the primary requirement, use the RADIO YEAR BOOK AND TRADE DIRECTORY. Where industry and trade coverage are both desired, use both directories.

# GUIDE



## AND POST-WAR MARKETS

2—The deep undercurrent of manufacturers' post-war planning, which may break loose on further indications of Victory.

3—The fact that many manufacturers are already promoting the products they expect to deliver when war production ceases.

4—The retail trade is giving much thought to the probable effect of an avalanche of post-war promotions.

Despite the shortages of personnel as well as merchandise, the leading outlets are finding ways of remaining in business. Through the sale of substitute and supplementary lines, the adoption of expedients in servicing, the cultivation of war industries, civilian defense systems, etc., the more substantial types of retailers have kept the backbone of distribution intact.

Now, as always, the bulk of the business is centered in those outlets whose chief advantage is size and experience. These are the outlets who constitute the main readership of RADIO RETAILING TODAY and who appreciate the information-value of the manufacturers' advertisements, especially in the RADIO YEAR BOOK & TRADE DIRECTORY.

## *Note these Features!*

- ✓ Classified lists of manufacturers of all sets, sound equipment, transmitters, record players, combinations, recorders, intercommunicators, testing instruments, etc.
- ✓ Classified lists of manufacturers of tubes, parts, accessories, equipment, phonograph records, recording blanks, needles, batteries and raw materials.
- ✓ The only radio trade directory that lists all classes of products for servicing and distribution.

### **SPECIAL ADVERTISING FEATURES**

- ✓ Immediate nationwide coverage of radio buying power—industry and trade.
- ✓ Advertisements placed alongside or adjacent to the manufacturer's listing, if immediate reservation is made.
- ✓ Striking visibility due to special position and makeup.
- ✓ Maximum prominence as a source of supply all year long.
- ✓ No other publication, trade or technical, can match the RADIO YEAR BOOK & TRADE DIRECTORY in the coverage of buying power in the merchandising and servicing fields.

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480 Lexington Avenue  
Telephone PLaza 3-1340

**CALDWELL-CLEMENTS,  
INC.**

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201 North Wells Street  
Telephone Randolph 9225

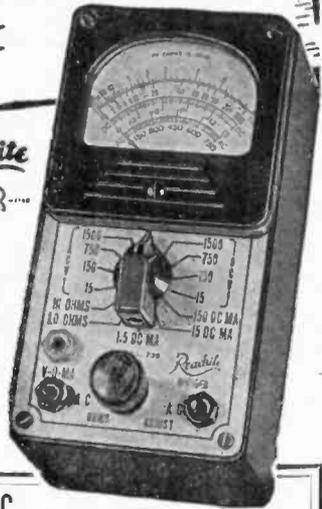
**A "LAB" to  
fit your pocket**

**Readrite  
RANGER**

**MODEL  
739**

**\$10.89**

Dealer Net  
Price



**A.C. D.C.  
VOLT-OHM-MILLIAMMETER**

Pocket Volt-Ohm-Milliammeter with Selector Switch Molded Case. . . Precision 3-Inch Meter with 2 Genuine Sapphire Jewel Bearings. AC and DC Volts 0-15-150-750-1500; DC MA. 0-1.15-15-150; High and Low Ohm Scales. . . Dealer Net Price, including all accessories, \$10.89. MODEL 738 . . . DC Pocket Volt-Ohm-Milliammeter. Dealer Net Price, \$8.25.

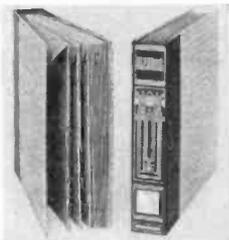
WRITE FOR CATALOG

SECTION 717 COLLEGE DRIVE

**READRITE METER WORKS, Bluffton, Ohio**

**PEERLESS  
ALBUM**

*Ingenious*  
**VISIBLE INDEX  
PROTECTOVUE**



Removable slip-in-card shows contents at a glance . . . eliminates handling, conserving precious records. Protecto-Flap prevents breakage . . . both exclusively Peerless. Feature Peerless . . . the line of distinctive features.

**PEERLESS**  
*Album Co., Inc.*

38-44 West 21st St., New York City

**WHEN  
A RECORD NEEDS A FRIEND**

**Philco Arranges  
A V-Loan**

James Buckley, president, and Larry Gubb, chairman of the board of directors, announced that Philco Corp. has arranged a \$30,000,000 three-year Victory loan to provide additional working capital to finance its large and increasing production of electronic equipment for the Army and Navy.

This credit is being extended by a group of 21 banks headed by the Pennsylvania Company for Insurance on Lives and Granting Annuities, and is guaranteed to the extent of 80 per cent by the War Department. It has been arranged via Regulation V of the Federal Reserve System based upon the President's Executive Order No. 9112 of March 26, 1942.

Philco production of war goods is running at a higher level than ever achieved in peacetime and further expansion is expected in coming months as increasing use is made of expanded facilities.

**Emerson Record in  
War Production**

In a report to its employees, the Emerson Radio & Phonograph Corp. revealed that "since our all-out war conversion in July, 1942, Emerson (and that means the workers on the production lines, in the laboratories, in shipping and other departments) has completed ninety-four per cent of its contracts ahead of schedule."

The statement goes on to say that "with vastly enlarged facilities, with hundreds of thousands of dollars spent on modern manufacturing equipment for war production solely, with more than 200 engineers on the job seven days a week, with a large staff of expediting specialists who know how to break bottlenecks, with accommodations for more than 3,500 workers on a three shift basis, Emerson is prepared and able to increase its production ten-fold in 1943."

**RCA Announces New Firm  
to Handle Service**

The technical servicing and installation activities of the RCA Victor Division of the Radio Corp. of America will now be handled by a separate subsidiary of the corporation, to be known as the RCA Service Co., Inc.

Edward C. Cahill, manager of RCA Victor sound equipment, is president of the new company; but will also retain his other responsibilities with the RCA Victor Division. W. L. Jones, former manager of RCA Victor's service and installation division, is vice president and general manager of the new company. There are no changes in either the managerial or the technical staff of the RCA Victor service organization, which is now incorpo-



**Edward C. Cahill**

rated in its entirety within the new company.

RCA Service Company, Inc., will continue to devote a major part of its activities to the installation and servicing of vital radio and sound equipment for our armed forces, and in all parts of the world.

Twelve district service offices are maintained in Hollywood, San Francisco, Dallas, Kansas City, Atlanta, Pittsburgh, Cleveland, Chicago, New York, Boston, Philadelphia and Scranton respectively. From these offices a highly trained technical staff installs and services theatre sound reproducing equipment, broadcast station equipment, and other RCA radio and sound equipment for industrial plants, schools, churches, hospitals, and the home.

The new company will also continue to conduct its training school for technicians in Philadelphia for the U. S. Signal Corps.



**W. L. Jones**

## "The Reps" in Action

Various local chapters of "The Representatives" of radio parts manufacturers continue to make news in their areas throughout the United States.

At a recent meeting held by the Missouri Valley Chapter, Kansas City, officers were elected as follows: Fred Somers, president; Ted Keller, vice-president; H. A. Roes, secretary-treasurer.

The Wolverine Chapter, Detroit, Mich., boasts of nine members now, and announces that R. C. Merchant was re-elected president and Robert Milsk was elected secretary-treasurer.

The January meeting of the New York Chapter was very well attended, 18 members being present. Final plans are being made by Mathew Camber, Chairman of the arrangements committee for their annual dinner at the Latin Quarters restaurant, being held February 16.

At Philadelphia, the Mid-Atlantic Chapter, elected new officers — president, L. D. Lowery; vice-president, Norman M. Sewell; secretary-treasurer, J. A. Maguire; and delegates to the National Convention, W. S. Trinkle, L. D. Lowery and S. K. MacDonald.

A number of new addresses of "Reps" are:

Leslie M. Devoe, 4014 Washington Blvd., Indianapolis, Ind.

W. B. Swank, 18925 Grand River Ave., Detroit, Mich.

Mose Branum, 301 N. Market St., Dallas, Texas

J. H. Vawter, 351 Berryman Drive, Snyder, N. Y.

## Ed DeNike to Public Relations Post

Ed DeNike, who has been an executive with National Union since 1929, has been named public relations director of that company, according to the news from S. W. Muldowny, president.

Mr. DeNike was advertising manager of National Union from 1931 to 1940, when he moved to a district sales managership for the firm with headquarters at Geneva, New York. He returned to the Newark, N. J., office in November, 1942 to help in the N.U. war effort.

In his new post as head of public relations he will be busy with company morale—building activities, advertising and publicity work.

## Powel Crosley, Jr., Married

Powel Crosley, Jr., president of Crosley Radio Corp., Cincinnati, was married last month to Mrs. Marianna Richards Wallingford. The ceremony took place at North Vernon, Ind.

Mr. Crosley's first wife, the former Gwendolyn Bakewell Aiken, died in 1939.

Rectangular type "09" high-voltage capacitors, widely used for heavy-duty continuous service applications. Double rubber bakelite sealed porcelain-pillar terminals. Upright or inverted mounting. 600 to 7500v. D.C.W. Choice of capacities.

Heavy-duty oil-filled "bath-tubs". Logical choice for assemblies subjected to hard usage. One-piece drawn metal case with soldered bottom plate. 400 to 1000 v.

New type "10" Hyvol. Double terminals on stepped bakelite threaded terminal post. Fully insulated can. Insulator washer no longer necessary for non-grounded mounting on metal chassis. 600 to 1500 v.

Aerovox oil-filled capacitors range from tiny tubulars to giant high-voltage capacitors. Series "20", in voltages up to 50,000 v.



# Drafted...

● For sheer ability "to take it," nothing excels the properly engineered and built oil-filled capacitor. Which explains why Aerovox oil-filled capacitors have been drafted for the war effort. They are available only on very highest priorities these days.

However, if your work is of a vital military or industrial nature as attested by priority ratings, you can count on these Aerovox oil-filled capacitors. Our production is now at an all-time high in meeting war needs. And after victory is won, these oil-filled capacitors, toughened by an outstanding war record, will be yours generally for bigger and better radio opportunities.

See Our Jobber . . .

NEW BEDFORD, MASS.,  
U. S. A.  
Sales Offices in All  
Principal Cities

# AEROVOX

CORPORATION

In Canada  
AEROVOX CANADA LTD.  
Hamilton, Ont.  
EXPORT: 100 Varick St., N. Y.  
Cable 'ARLAB'

## Free "Trading Post" for Radio Men

To help radio servicemen and dealers find the tubes, parts or equipment they need during these days of wartime shortages, a free classified advertising service has been announced by Harry Kalker of the Sprague Products Co., North Adams, Mass.

Known as the Sprague Trading Post, this effort takes the form of full page advertising appearing in leading national radio periodicals and made up almost entirely of classified "Swap or Sell" advertisements from servicemen and dealers themselves. There is no charge to servicemen for this service.

"Our sole aim," says Mr. Kalker, "is to devote our regular advertising budget to doing what we are convinced is a highly important and essential wartime job. We want to use it to cooperate with our friends throughout the radio profession in helping them get the things they need, and to dispose of the things they do not need and which would come in mighty handy to some other serviceman who is having a tough time keeping radios working on his sector of the home front."

Servicemen or dealers who wish to have free classified advertisements in the Sprague Trading Post are requested to send them in promptly,



Harry Kalker of Sprague

keeping them down to 50 words or less. Ads may be sent in, either on the serviceman's business letterhead, or on regular forms that may be obtained from their local Sprague distributors.

Emergency ads for urgently needed equipment will, of course, receive preference, although all classified advertising that seems to Sprague officials to fit in with the spirit of the Trading Post plan will be scheduled for appearance in one or more leading radio trade publications at the earliest possible moment.

## Jordan Joins Federal Radio

Arthur C. Jordan, formerly sales manager of Garrett, Miller and Co. of Wilmington, Del., Philco distributor, has joined the Selenium Rectifier Division of Federal Telephone & Radio Corp., an I. T. & T. associate, 1000 Passaic Ave., East Newark, in the commercial engineering department.

Mr. Jordan, active in radio and appliance merchandising for the past 15 years, will concentrate on Federal's promotional activities. He was associated with General Electric Co. and with Atwater Kent Mfg. Co. for a number of years.

## Raytheon Men Make Changes

A. E. Akeroyd, manager of replacement sales, Raytheon Production Corp., Newton, Mass., has been assigned to special work in the electrical equipment division of Raytheon at Waltham, Mass.

Since it is expected that this work will result in full-time duties for Mr. Akeroyd, Russ Lund, of Raytheon's Chicago office has been transferred to Newton. Mr. Lund is familiar with distributor problems and an expert in tube jobbing under wartime conditions.



**T**HE "MALLARD" — one of Cinaudagraph Speakers' achievements—designed to meet War standards. The finished Mallard is an unenclosed, moisture-impervious speaker — some have been tested under water and recommended wherever outdoor installations are required.

**Cinaudagraph Speakers, Inc.**

3911 S. Michigan Ave., Chicago

*"No Finer Speaker Made in all the World"*



## Radio Officers



Two radio men meet at Naval school—Lt. Duhl Mack, former jobber of Scranton, Pa., is greeted by Lt. Commander Henry A. Hutchins, National Union's sales manager on leave. The latter is an executive officer at the school where Lt. Mack is a student.

## Official O.C.D. Stirrup Pump Ready

A contract has been awarded to the Independent Lock Co., Fitchburg, Mass., for the manufacture and sale in the New England states and New Jersey, of the O.C.D. approved, government designed stirrup pump.

Colen-Gruhn Co., radio and appliance distributors of 387 4th Ave., New York City, will act as jobbers for the Ico pump and are now taking orders.

The equipment combines lightness and strength so it can be effectively handled by a woman. The pump is of metal and plastic with a wooden handle, and has a 10 ft. hose. A ceiling retail price of \$3.80 has been set by the OPA.

## Burlingame to New Quarters

The Burlingame Associates, formerly located at 69 Murray St., New York City, announce the removal of their offices to 10 Murray St.

They are representatives for the Audio Development Co. of Minneapolis, Minn., Hewlett-Packard Co., Palo Alto, Cal., and Supreme Instruments Corp., Greenwood, Miss. Service divisions of the latter two firms are located with the Burlingame Company at the new address.

Personnel of the company includes Bruce O. Burlingame, on leave of absence, Jack Grand, Charles E. Sargeant and William E. Adams.



Here—there—everywhere Ken-Rad is in the service Directing the courses of our warships keeping our precious merchantmen informed discovering hidden enemies sighting and firing guns Yes Ken-Rad tubes are in service—on and under the seas—in the air—smashing along with the tanks everywhere—the heart of communications You may have to wait a while But Ken-Rad will be back with you again—even better than before Our armed forces come first now You understand . . .

# KEN-RAD

RADIO TUBES • INCANDESCENT LAMPS • TRANSMITTING TUBES  
OWENSBORO • KENTUCKY

## STANCOR TRANSFORMERS

USED BY MOST SERVICEMEN . . . MOST!



## STANDARD TRANSFORMER

• CORPORATION •  
1500 NORTH HALSTED STREET . . . CHICAGO

FOR VICTORY Buy  
United States War  
Bonds and Stamps



**POLYMET  
CONDENSER CO.**

699 EAST 135th ST.,  
NEW YORK, N. Y.

**JOBBER &  
DISTRIBUTORS**

If you can furnish  
us with your suit-  
able ratings,\* we  
can supply your  
condenser needs.



**CONTINUOUS  
DEPENDABLE  
SERVICE**

\* Ratings A3 and higher on  
P.D.1x Forms supplied.

**FAST, EASY WAY**



**TO CUT HOLES IN  
RADIO CHASSIS**

*No Filing, Reaming or  
Tedious Drilling*

Here's a handy tool to help the radio worker  
save many hours of work when cutting holes  
for sockets, plugs, connectors, and other re-  
ceptacles in radio chassis. A cap screw is  
inserted in a small drilled hole, and the punch  
is easily forced into the die by a few turns  
of the cap screw with an ordinary wrench.  
Smooth holes, requiring no filing or reaming,  
can be cut in metal up to 1/8-inch thick in 1 1/2  
minutes or less.

Ten punches are available for cutting 3/4, 7/8, 1,  
1 1/8, 1-5/32, 1-3/16, 1 1/4, 1 3/8, 1 1/2, and 2 1/4-inch  
holes. A Greenlee Knockout Cutter is also  
available for cutting holes up to 3 1/2-inch size  
for meters.

Write for Greenlee Catalog 33E

**GREENLEE TOOL CO.**  
1902 Columbia Ave., ROCKFORD, ILL.

## PICK UP THE PIECES!

(Continued from page 26)

course they wear out. Also, dance halls use many records and have been known to provide dealers with much scrap.

Another source of scrap is moving outfits. They get in on the discarded household stuff which is junked by families when they move. A good many old records have ended up in the hands of those in the trucking and storage business.

There are also a number of public address specialists who have been playing records on their systems at public gatherings for years. If they do not have record departments themselves they're not interested in their worn-out discs.

It is a fact that many of these "best bet" sources are contributing their records to charity organizations, which should be okay with the dealer. In no case should his record-collecting activity clash with the efforts of any legitimate organization which is making a patriotic contribution.

## "Music for Victory" Celebration

Music Week in 1943, which occurs during the first week in May, will be a spectacular "Music for Victory" celebration, according to the plans of the Music War Council. Announcements are being made by Howard C. Fischer, administrative secretary of the Council.

The Council, with headquarters at 20 E. Jackson Blvd., Chicago, has for some time been active in a day-to-day campaign to widen the general "Music for Victory" movement. Local musical leaders are encouraged to organize local Council chapters, and Mr. Fischer reports that such groups are already active in several dozen cities.

Plans for Music Week include network programs showing the value of music in the war effort, broadcasts from industrial plants where music is used to help workers, mass induction ceremonies (with music) in various cities, musical rallies for U. S. Bonds and Stamps, and a number of big broadcasts for the entertainment of men in the Armed Forces.

Another activity of the Music War Council which is already familiar to many dealers is the release of the 4-color poster, for store display, headed "Music Inspires" and depicting the wartime value of music to services, industry, home and school. It is sold in three sizes and is accompanied by information on how to conduct local chapters of the Council.

## To Get Records In



One of the colorful posters offered to dealers by Columbia Recording Corp. to help in scrap collection. The firm also uses monthly supplements and weekly release cards in its drive to reach record fans with appeal for old discs.

## Victor Record Artist Ad Campaign

RCA Victor's 1943 record advertising campaign will center around its roster of great recording artists, and will be the largest in recent Victor history.

The program calls for 12 ads, once a month in *Life*, 30 full-page ads in *Time* and one-a-month in *Collier's*; local concert program advertising, promotional displays in direct-to-consumer record publications and through local radio stations.

The opening broadside in *Life* magazine shows an oil painting which spotlights 60 of the company's Red Seal artists. Following months will feature record catalogue supplements.

*Time* ads will personalize many of the leading Victor artists, stressing their Victor affiliation and their familiar recordings. This series is designed to give week-after-week advertising identification to dealer's merchandise.

The *Collier's* ads are a continuation of those running in that magazine for the past year. *Listen* magazine, used by many dealers for consumer distribution, will also be included in the promotion program.

For its radio campaign RCA Victor will continue working through its popular "Music You Want" programs, carried by 55 radio stations from coast-to-coast. In addition, it also plans to widen the coverage of its test program "Sounding Board" which consists of interviews by Ted Cott of Red Seal artists.

The regular series of Red Seal and popular window displays will resume in February, too, streamlined for 1943.

## TUBE DISTRIBUTORS

SWAP tubes with me and help the war effort by saving just that much more critical material.

Equalizing your unbalanced stock and mine will assist dealers stocks in going further.

We have prepared a mimeographed list of tubes we can let you have in exchange for some of your slow movers. Tubes are in individual cartons. There are a good many fast movers on our list.

Mail a post card today requesting this valuable "Swap List".

**W. R. BURTT**

308 Orpheum Bldg.

Wichita, Kas.

## WHY DO SO MANY THOUSANDS OF SIGNAL CORPS TRAINEES USE VACO DRIVERS?

The answer is simple. These three numbers perform every necessary task . . . save time, save trouble. For Vaco drivers are shock-proof, break-proof, chip-proof, with Ambery handles and narrow straight bits.

Other "Vacos" for radio work include: G2 Grip-point Screw-holding and Spin-hex nut drivers.

**RADIO JOBBERS:** Stock a supply of these Signal Corps sets immediately. Priority rating preference. . . And find out about all the other Vaco drivers and tools it will pay you to handle when the terrific demand of peacetime arrives.



**VACO Products Co.** 317 E. ONTARIO ST. CHICAGO, ILL.

# Manufacturers-

If you have not returned your questionnaire giving data for your free listings in the 1943 editions of the

**ELECTRONIC ENGINEERING DIRECTORY**  
to be published in March as a section of  
**ELECTRONIC INDUSTRIES**

and the

**RADIO TRADE DIRECTORY**  
to be published in March as a section of  
**RADIO Retailing TODAY**

—please fill out and return to us by February 17.

A single questionnaire is used as the basis for both directories and copies have been mailed to all manufacturers. If you did not receive your questionnaire, let us know and a duplicate will be sent.

**CALDWELL-CLEMENTS, INC.**

480 Lexington Avenue • New York, N. Y.



MORE THAN

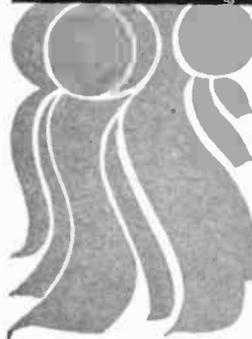
**1/2**  
SOLD

# Fidelitone\*

*De Luxe*

**FLOATING POINT  
PHONOGRAPH NEEDLE**

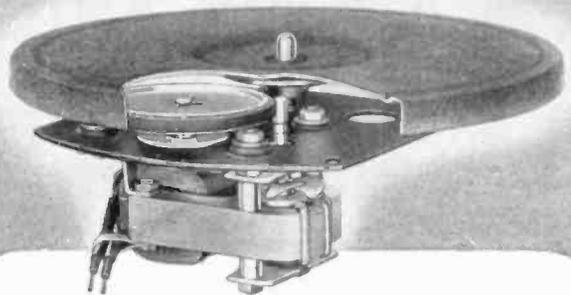
**WHEN DEALERS GET THEM**



The name of Fidelitone DeLuxe Floating Point Phonograph Needles is well known to phonograph owners everywhere through constant national advertising, attractive counter and window displays and as original equipment on many new phonographs. Cash in now on Fidelitone's reputation as the nation's favorite long-life phonograph needle. A Fidelitone DeLuxe counter salesman will identify you.

**PERMO PRODUCTS CORPORATION**  
6415 Ravenswood Avenue, Chicago, Illinois

## GENERAL INDUSTRIES Smooth Power MOTORS



**RELIABLE POWER  
FOR WARTIME APPLICATIONS**

• Manufacturers producing for Victory will do well to look to General Industries for precision-made devices, and especially small-power motors. For thirty years G. I. motors have been recognized as setting the standard for quality construction, quiet running and reliable performance. They are available on Government order and measure up fully to Government requirements. Do not hesitate to let G. I. engineers advise with you.



**THE GENERAL INDUSTRIES CO.**  
Department 15, ELYRIA, OHIO

## War Opportunities for Parts Jobbers

In the hands of Charley Golenpaul, who heads up jobber sales for Aerovox, are a large number of reports from distributors throughout the U. S. who are taking wartime steps to stay in business. From these reports, Mr. Golenpaul has concluded that "there's a wartime job for every parts jobber provided he goes after that job."

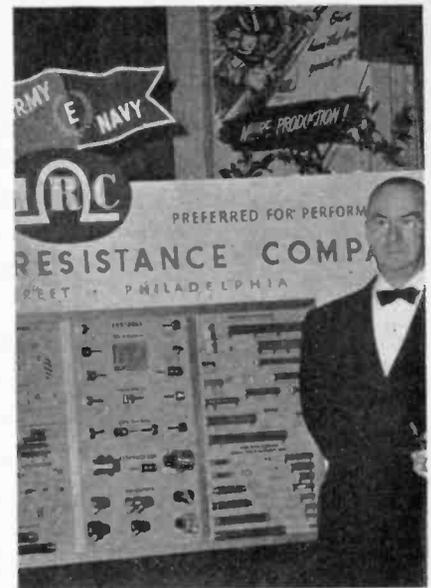
Accordingly, the well known Aerovox executive has listed the wartime activities which await the parts distributor, and they are as follows:

1. Contact the wartime activities in your territory—training camps, posts,

fortifications, bases; university, college and training schools; research and engineering groups; local radio and electronic equipment manufacturers and sub-contractors, and other war workers. The jobber's stock is of tremendous importance in providing perhaps small quantities but certainly large varieties of needed components, particularly for experimental assemblies and models that must precede actual production. Also for urgent maintenance.

2. Existing stocks should be made available to Government agencies. Complete inventories should be submitted with selling prices. Wonderful cooperation has been forthcoming from

## The WPB Chairman



Donald Nelson of WPB was a guest of the Poor Richard Club of Philadelphia last month when the Club presented him with the Gold Medal of achievement for 1942. Preceding the ceremonies Mr. Nelson visited exhibits of major war products made in the area; here he's shown at the International Resistance Co. display.

jobbers in this connection. Weeks and months have been saved in the most crucial days of our war efforts before factories could swing into production. Most jobbers freeze merchandise deemed essential to the war effort, even at the sacrifice of immediate turnover and taking care of civilian needs.

3. The keen jobber today is invaluable as a procurement agent for firms and agencies not so manned. He knows where to get certain parts and supplies. Often he knows what other jobbers have in stock, and there is a growing collaboration among jobbers in this connection as a patriotic measure. The keen jobber is able to get together a highly diversified order comprising relatively small lots, which order could not be handled by the manufacturers under existing high-pressure production.

4. Due to the falling off in numbers of local servicemen—not to mention experience and skill—some jobbers have stepped in with a service department. Not only are they servicing home radios, and these are usually brought in by set owners, but also communications equipment, test instruments, electronic assemblies of the industrial kind, and so on.

5. Many jobbers are now functioning as radio and electronic manpower recruiting agencies, unofficially but nevertheless very helpful. Jobbers know the local servicemen, experimenters, amateurs and other radio workers. The jobber can supply information to radio workers as to wartime opportunities. Names can be sent to the

## NEW BULLETIN TELLS THE STORY!

ACCEPT THIS TIMELY OPPORTUNITY!



Take the lead now—with BELL—in offering Industry this advanced equipment for voice paging and inter-plant broadcasting of music and announcements! The ad below is one of a series in current business and industrial publications announcing the new BELL Industrial Voice Paging System, designed especially for Industry's present-day needs—the first genuine industrial system of its kind! Write today for bulletin 37!

Paging by Voice  
More Efficient!

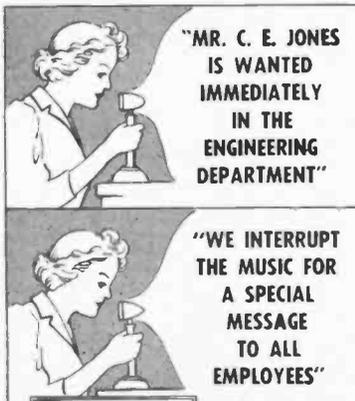
Employees Respond More  
Quickly

Broadcasting  
to Employees  
Speeds Output!

...leaving their own names

Surprising increases in production as a result of the broadcasting of continuous music programs to

# SPECIAL BELL INDUSTRIAL SYSTEM MEETS BOTH SOUND REQUIREMENTS!



You can now gain the double advantage of speedier paging and faster production with the new BELL Voice Paging System designed especially for industrial use. It broadcasts recorded music, announcements, alarms, and paging calls to any or all areas of any plant. Its widely adjustable, precision-built standard units can be grouped to fit any need. Also designed for quick, easy expansion or rearrangement. Get details on this new BELL Industrial Sound Equipment.



WRITE TODAY FOR BULLETIN 37



**BELL** SOUND SYSTEMS, Inc.  
1186 ESSEX AVE., COLUMBUS, OHIO  
Export Office: 5716 Euclid Ave., Cleveland, Ohio

proper authorities seeking specialized manpower. Even after men have been drafted before they had a chance to select a radio service, the jobber is referring such cases to the Chief Signal Officer in Washington, and doing a real service to Signal Corps and men alike.

6. The jobber can provide much needed engineering service to local manufacturers, sub-contractors, engineers, research workers and others. In most instances the circuits and problems are highly confidential. Data cannot be taken out of given premises. Having access to such data, the jobber can suggest parts and substitutions, helping convert ideas into working models and even production efforts. More and more the live-wire jobber, cognizant of this engineering factor in his wartime business, is getting nice orders.

### Sonora Record Album Releases Expanded

Seven new albums of records have been added to the disc lines of the Sonora Radio & Television Corp., 325 N. Hoyne Ave., Chicago. Total number of Sonora albums released since the middle of last year is thus brought to twenty-one.

The company will continue its merchandising policy of over-the-counter "packages," it was announced by the Sonora president, Joe Gerl, who reported that the plan had been highly successful since Sonora started releasing records.

Mr. Gerl also announced that "one very important change in our past policy is that hereafter our records will carry names of the recording artists used . . . these artists are well known and all have proved their outstanding ability." Examples are Jan Peerce, Roman Totenberg and Ernest Victor Wolff. Most of the Sonora symphonic selections are recorded by the Havana Philharmonic Orchestra.

"The albums to be released within the next few months," said Mr. Gerl. "Will be in the field of popular classics as in the past . . . we are aiming at a market which will give our jobbers and dealers a steady turnover, month in and month out, without obsolescence."

### Improved Service on Speakers

Leotone Radio Co., sound equipment specialists of 63 Dey St., New York City, have announced that the Leotone facilities for speaker cone duplication and speaker repair have been greatly enlarged. The firm recently purchased stocks of speaker parts from manufacturers, and reports that "this has enabled us to greatly increase our production of cones, and we are now in better position than ever to give fast service in duplication cones and repairing speakers."

## Making "ENDS" Meet

■ ■ ■ — Bringing America closer to Victory by manufacturing Radio Sockets and Connectors for perfect electrical contacts in communication applications is an important wartime job entrusted to The Astatic Corporation. All the engineering skill and precision which formerly went into the manufacturing of Astatic Microphones and Pickups is now utilized and reflected in Astatic Radio Plugs and Sockets, Co-Axial Cable Connectors, and and similar equipment for the U. S. Army Air Corps and the Navy.

**The ASTATIC Corporation**  
**YOUNGSTOWN, OHIO**  
 IN CANADA:  
**CANADIAN ASTATIC, LTD., TORONTO, CANADA**

**ASTATIC**

*Whether it's*  
**GLOBAL OR NATIONAL**  
**THORDARSON TRANSFORMERS**  
**PERFORM VITAL SERVICES**

- There is no limit to the important part that Thordarson Transformers are playing on the stages of the world to-day.
- In the war plants and communications centers of America . . . in far-away places with unpronounceable names . . . and on isolated battlefronts all over the globe, vital tasks are being performed with greater speed and efficiency, due to the dependable character of Thordarson Transformers.
- We are proud of the recognition given to the 47 years of effort we have put into the development of the finest transformers that engineering skill can possibly produce.

**THORDARSON**  
 ELECTRIC MFG. COMPANY  
 500 WEST HURON STREET, CHICAGO, ILL.

*Transformer Specialists Since 1895*

## RADIO AIMS FOR VICTORY

(Continued from page 13)

equipment, the major problem for this year lies in finding the engineer, the chemist, and the key production supervisors in sufficient numbers. It is true that the universities have trimmed their liberal arts courses, and that the students are learning one or another of the physical sciences. However, while many of these young men are studying Maxwell's equations, while they are observing the ways and foibles of the electron, they are also dreaming of themselves in uniform. How many will come to our laboratories and plants? How many will be permitted to stay?

"In general, then, the problem of war production—in radio as elsewhere—is to keep output in line with the requirements of war. That involves synchronizing the various kinds of output. It requires that the factors of production, namely, facilities, materials, manpower—be available where needed. The WPB, in cooperation

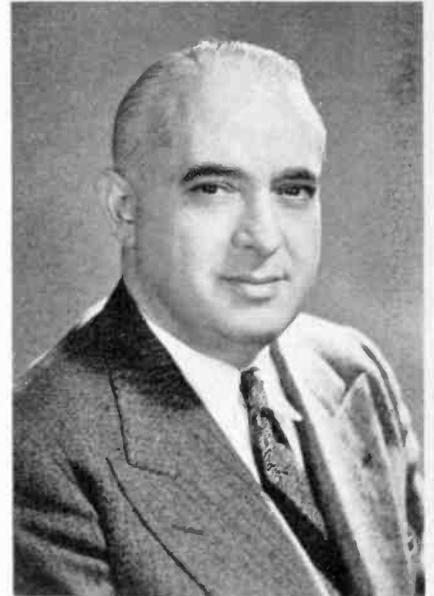
with the Armed Services, are endeavoring to minimize these problems.

### Radio Groups

"Within the Radio Division there are three groups to handle the three major problems of war production. There is a program group which keeps abreast of the requirements for military electronic equipment. Another group, working primarily with the B-1 components, sees to it that critical materials are delivered at the right time and delivered to the right places. A resources group makes certain that equipment and facilities of the industry are adequate to meet the schedules which have been set. There is a separate group in full charge of the maintenance of our civilian radio equipment. Finally, there is a new Radio Field Operations Section working within the WPB regional office structure, which assists the manufacturers at their plants, helping to solve their specific problems outside of Washington.

"An Engineering Advisory Section closely watches the developmental

## Gets Washington Job



Off to Washington is Charles Robbins, general sales manager for Emerson Radio & Phonograph Corp., who has just been granted leave of absence. He has been appointed by the War Dept. to act as consultant to the office of Chief Signal Officer of the Army Signal Corps.

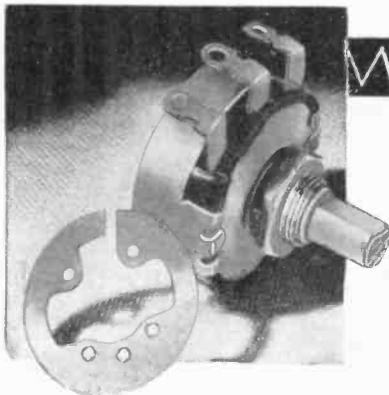
work going on in the laboratories in order that, when new devices reach the production stage, there be facilities to undertake the production swiftly; and also that these new designs use the minimum critical materials and components.

"The Radio Division, as you know, is concerned primarily with war production which comprises all but a negligible volume of the present output of the industry. Nevertheless, it is vital that the broadcasting stations and the radio sets in our homes be maintained.

### Careful Allotment

"A separate group within the Division keeps constant check over the amounts of materials and the quantities of components needed to keep the civilian network of radio communications in repair. It is true that broadcasting stations no longer may expand their facilities and that manufacturers no longer may put new sets on the market. To keep existing broadcasting and receiving apparatus in working order requires some part of the output of the radio industry; it is the Division's responsibility to determine what this part is and to see that its efforts are properly allocated.

"I think that we are becoming familiar with the fact that while we



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temperature and other climatic conditions; minimized wear; exceptionally smooth rotation; quiet operation. But don't take our word for it. Just try a Clarostat control!

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may have sufficient food, there is less variety. Civilian radio is in approximately the same position as domestic housekeeping. The radio set is to get its proper allotment of tubes and condensers. However, the great variety of designs for each component is not feasible in war time. The group in charge of civilian production has done much work in the direction of standardizing the components which enter civilian manufacture.

"Since the manufacture of standard parts economizes use of our resources, one effect is to insure that the radio sets in our homes will be adequately nourished.

"In describing the organization of the Radio Division, mention must be made of the Field Section. Until recently, a radio manufacturer with a problem to solve felt that he was virtually forced to come to Washington. While the WPB maintained regional offices, the regional men were not radio specialists, trained in the peculiar problems confronting the radio manufacturers. Although we are always delighted to see them, the Field Section was set up in order to allow them to stay at home. The men in the field are sufficiently informed to handle intelligently a great many of the WPB problems, which in the past seemed impossible to deal with anywhere except in the Nation's capital.

#### Victory Time-Table

"This is a general and rather rough description of the Division of the WPB which supervises in an overall manner, the war production of your industry. You will readily appreciate that the job of channeling a military program into production time-tables, of finding the resources with which to produce each component, of watching new developments, and of maintaining our civilian radio system is a broad assignment that involves a great amount of subsidiary detail. It does; and the handling of that detail is reflected in the set-up of our organization. It is, however, only the broad outline which I have sketched.

"When production one year ago was less than \$15,000,000 a month, the organization was much simpler. There were fewer problems and less to watch. As production grew to more than fourteen times that amount within a year's time, a more complex organization was needed.

# GOING THROUGH HELL!



Yes, going through hell... and willing to take it! That's the spirit of all America, at the front and at home. You service men of the radio industry, in the armed forces and in your jobs at home, can look to the future with hope and confidence. Victory will bring you

who are trained in the electronic arts a new era of opportunity. And National Union, in its tube research and development, is doing its part for the electronic program of our armed forces... and for your future as a service man in the field of electronics.

**NATIONAL UNION RADIO CORPORATION**  
NEWARK, NEW JERSEY • LANSDALE, PENNSYLVANIA

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At left: Control unit of the Rouland **AMPLICALL** Sound System

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4791 Ravenswood Ave. Chicago, Ill.

## RADIO SERVICE FOR OCD

(Continued from page 28)

tant in getting a WERS started in a community, the way in which the national, state, district and local authority is distributed in WERS may be of interest.

Top authorities are the Washington offices and the regional offices of OCD, which recommend procedures for the various state CD organizations. Under state heads are the warning district control centers and the local control centers. The key man in the local set-up is the "Radio Aide" whose position depends upon whether he functions under a district license or a local license, but who, generally speaking, is finally the man who heads the local organization.

### Service Heads

Working under the Radio Aide are five groups, besides the radio operators who are needed. In any of these five groups, radio servicemen can serve, according to what they are best fitted for, and according to what the local manpower situation happens to be. The thing to do is to pick out your spot, and get started in one of these:

### Jobs Waiting

1. Maintenance Group. This group maintains the equipment in perfect operating condition. Personnel in this group will function when the War Emergency Radio Service is activated, as well as under normal conditions.
2. Procurement Group. This group has the function of procuring the the component parts to build radio equipment suitable for the War Emergency Radio Service.
3. Construction Group. The construction group builds the radio equipment from the component parts supplied by the procurement group.
4. Radio Installation Group. After the equipment has been built by the construction group, the installation group installs it at the designated points and in mobile units. The erection of antennas is also one of the duties of this group.
5. Personnel Training Group. This group has charge of the recruitment and training of operators, construction, maintenance and installation men.

## INDEX

### To Advertisers

	Page
AEROVOX CORP. ....	47
ASTATIC CORP. ....	53
BELL SOUND SYSTEMS, INC. ....	52
BURTT, W. R. ....	51
CENTRALAB ....	29
CINAUDAGRAPH SPEAKERS, INC. ....	48
CLAROSTAT MFG. CO., INC. ....	54
CONTINENTAL RADIO & TELEV. CORP. ...	33
CROSLY CORP. ....	8
ELECTRO-VOICE MFG. CO., INC. ....	7
GENERAL ELECTRIC CO. ....	3
GENERAL INDUSTRIES CO. ....	51
GREENLEE TOOL CO. ....	50
INTERNATIONAL RESISTANCE CO. ....	35
JACKSON ELECTRICAL INSTRUMENT CO. ...	2
JENSEN RADIO MFG. CO. ....	31
KEN-RAD TUBE & LAMP CORP. ....	49
LITTELFUSE, INC. ....	56
MALLORY & CO., INC., P. R. ....	Cover 2
MEISSNER MFG. CO. ....	6
NATIONAL UNION RADIO CORP. ....	55
PEERLESS ALBUM CO., INC. ....	46
PERMO PRODUCTS CORP. ....	51
PHILCO RADIO & TELEVISION CORP. ....	1
POLYMET CONDENSER CO. ....	50
PRESTO RECORDING CORP. ....	4
RADIO CORP. OF AMERICA ....	Cover 4
RAYTHEON PRODUCTION CORP. ....	9
RAULAND CORP. ....	55
READRITE METER WORKS ....	46
RIDER PUBLISHER, INC., JOHN F. ....	40
SIMPSON ELECTRIC CO. ....	23
SPRAGUE PRODUCTS CO. ....	39
STANDARD TRANSFORMER CORP. ....	49
STROMBERG CARLSON TEL. MFG. CO. ....	10
SYLVANIA ELECTRIC PRODUCTS, INC. ....	5
THORDARSON ELECTRIC MFG. CO. ....	53
TRIPLETT ELECTRICAL INSTRUMENT CO. ...	27
TURNER CO. ....	43
UNIVERSITY LABS. ....	56
U. S. TREASURY ....	41
UTAH RADIO PRODUCTS CO. ....	25
VACO PRODUCTS ....	51
WILCOX-GAY CORP. ....	21
ZENITH RADIO CORP. ....	Cover 3

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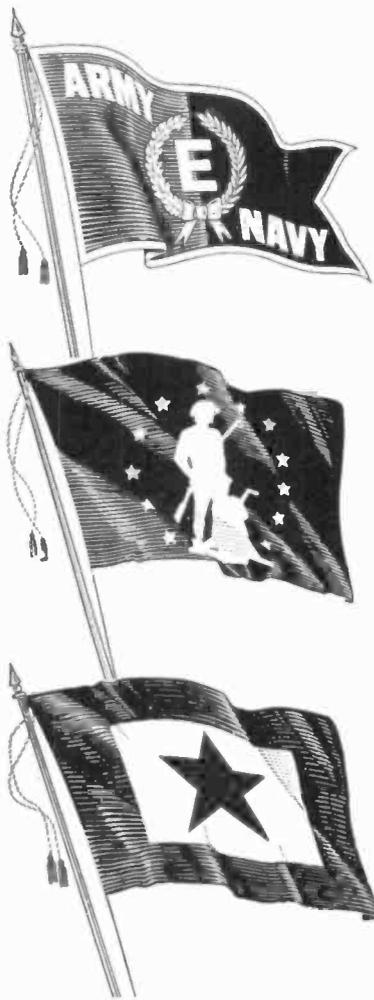
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# RADIONICS

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Goes full speed ahead for Victory



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Exactly what Zenith is making is a military secret, but we can tell you we are dealing with the thing we know best, Radionics exclusively.

☆ ☆ ☆

It should be a source of real satisfaction to Zenith dealers to know that Zenith is producing war radio and Radionic apparatus in great quantity for our armed forces; learning and perfecting much that will mean a real contribution to post-war radio.

☆ ☆ ☆

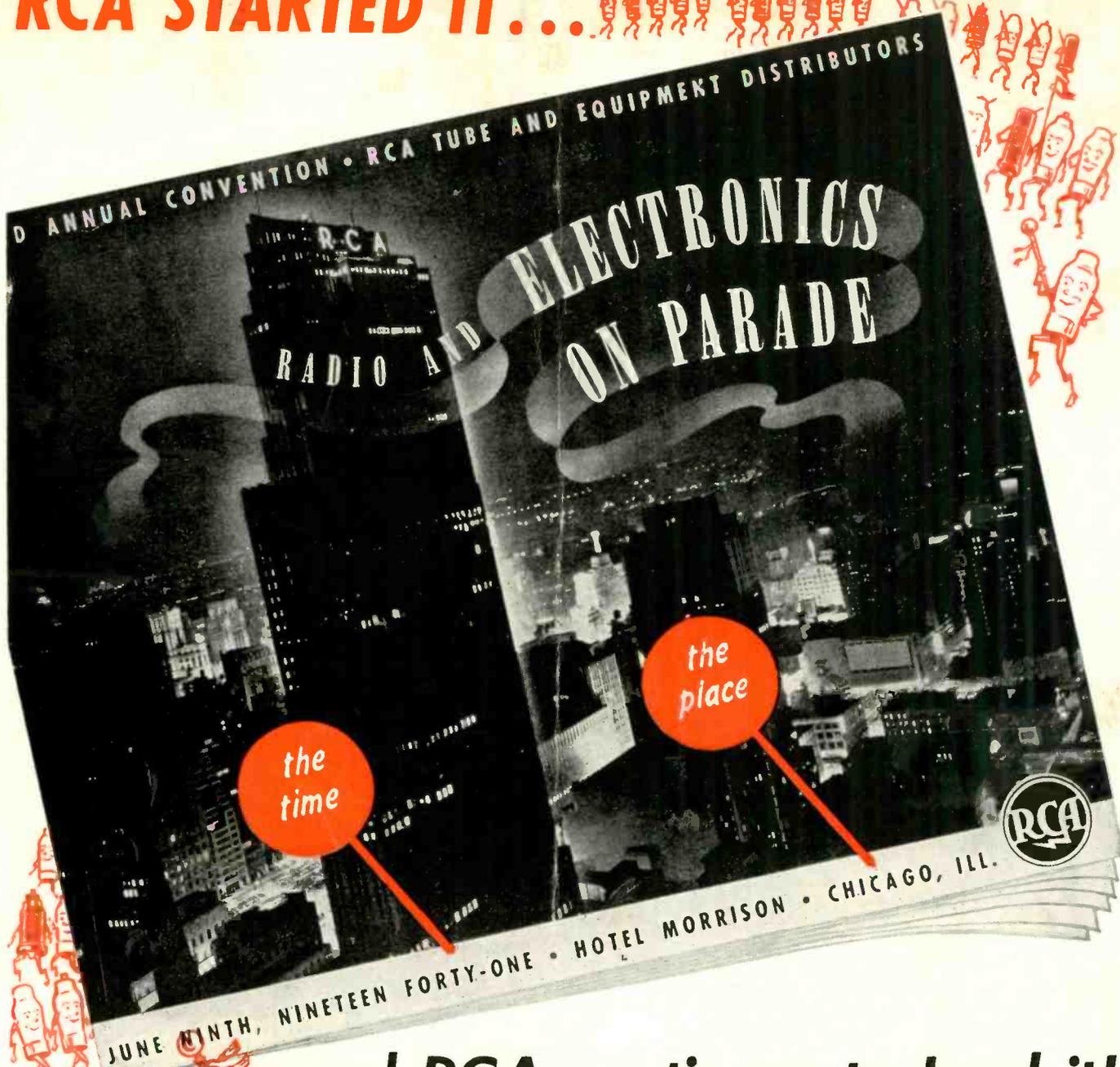
Zenith prefers to speak conservatively of this war experience, and to promise conservatively for the future. But Zenith *does* promise that every ounce of energy, ingenuity and inventiveness that has been put forth to create war radionic devices, will later be channeled into the making of a superb peacetime Zenith Radio line, once the war is won and civilian production resumed.

**ZENITH RADIO CORPORATION**

Chicago, Illinois



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## and RCA continues to lead it!

Two years is a long time in an industry as fast-moving as Electronics. Yet it has been almost that long since RCA Tube Distributors received a graphic demonstration of this field in RCA's now-famous presentation "Electronics on Parade." Long years before this, many of the Electronic developments now being heralded as "new" and "revolutionary" were a familiar story to RCA.

Remember: The *Magic Brain* of ANY Electronic equipment is an electron tube and, since the days when Radio itself was a scientific novelty, RCA has been the fountain-head of tube development. Wherever Electronics is already on the job, chances are, it has been RCA that led the way. Wherever Electronics will lead in the future, you can count on RCA to continue in the forefront of the parade!



# RCA RADIO ELECTRONIC-TUBES

RCA Victor Division, RADIO CORPORATION OF AMERICA, Camden, N. J.