



RADIO *Retailing* TODAY

1942

SEPTEMBER

RADIO SERVICEMEN'S WARTIME PATROL

- ★ Repairs for Vital Listening
- ★ Help on Scrap Collection
- ★ Service for Civilian Defense



← The Book of This Month...

The new MYE TECHNICAL MANUAL has received a hearty welcome from radio servicemen, amateurs, engineers, experimenters . . . and in training centers of the Army, Navy and Marine Corps.

But we're calling it "the book of this month," because September is when many business men start planning for the active autumn season ahead. In the radio business, alert men are thinking constructively and reading the best technical literature available. That's why, as you read over the list of chapter headings below, you'll put the MYE TECHNICAL MANUAL on your list of "must" reading . . . as thousands of others already have.

- 1 Loud Speakers and Their Use
- 2 Superheterodyne First Detectors and Oscillators
- 3 Half-Wave and Voltage Doubler Power Supplies
- 4 Vibrator and Vibrator Power Supplies
- 5 Phono-Radio Service Data
- 6 Automatic Tuning—operation and adjustment
- 7 Frequency Modulation
- 8 Television—suggestions for the postwar boom
- 9 Capacitors—how to overcome war shortages
- 10 Practical Radio Noise Suppression
- 11 Vacuum Tube Voltmeters
- 12 Useful Servicing Information
- 13 Receiving Tube Characteristics—of all American tube types

This manual is as valuable as a voltmeter, according to some of the outstanding servicemen who are using it daily. It contains 392 pages of down-to-earth, practical information. It bridges the gap between radio theory and actual practice. But the supply of MYE TECHNICAL MANUALS for civilian use is limited. Soon copies may be scarce. See your Mallory Distributor today—get your Manual now!

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

Cable—PELMALLO

P. R. MALLORY & CO. Inc.
MALLORY
Approved Precision Products



Admiral RADIO

SPONSORS

"WORLD NEWS TODAY"

O V E R T H E

Columbia **B**roadcasting **S**ystem

BEGINNING SUNDAY, OCTOBER 4TH, AT 2:30-2:55 P. M. EWT

- ☆ *To tell America the story of Admiral's war production . . .*
- ☆ *To keep the Admiral trade-mark foremost in the minds of future radio buyers . . .*
- ☆ *To insure favorable consumer acceptance in the tomorrow when peace again returns . . .*

Admiral Radio is sponsoring "World News Today" over the Columbia Broadcasting System beginning Sunday, October 4th and each Sunday thereafter at 2:30-2:55 P.M. EWT, 1:30-1:55 P.M. CWT and 12:30-12:55 P.M. MWT.

"World News Today" is generally recognized as the outstanding news broadcast on the air. Speaking direct from news centers all over the world, famous CBS correspondents such as . . .

Eric Sevareid & Leigh White from Washington; Edward Murrow, Bob Trout & Charles Collingwood from London; Winston Burdett & Chester Morrison from Cairo; William J. Dunn from Australia; James Stewart from Chungking; Farnsworth Fowle from Anakara; Howard K. Smith from Berne, Switzerland; Larry Lesueur from Moscow; Alexander Garcia from Havana; John Adams from Rio de Janeiro; Herbert Clark from Buenos Aires; Don Lundberg from Mexico City; Jorge Mantillas from Quito,

Ecuador; Jack Fendell from Panama City; Franklyn Whaite from Caracas, Venezuela; Charles Griffin from Santiago, Chile; Claude Guyant from Lima, Peru; John Vebber from Asuncion, Paraguay; Webb Edwards from Honolulu; Hubert Anderson from Reykjavik; Harry Flannery from Los Angeles; William Winter from San Francisco . . .

each summarizes the week's news as it has developed in their particular locale. Then from New York expert analysts such as John Daly and Major George Fielding Eliot knit this news together,

review its significance and point out to the listener the broad trend of events.

"World News Today" is eye-witness reporting of the biggest events in world history . . . many of which have occurred on Sunday. The absorption of Austria . . . the invasion of Poland . . . England's declaration of war on Germany . . . the occupation of Norway . . . the occupation of France . . . the Russo-German Alliance . . . Germany's invasion of Russia . . . the attacks on Manila and Pearl Harbor . . . all these major news breaks carried a Sunday date line.

It is with this outstanding news program that we hope to entrench the name Admiral firmly in the minds of millions of potential radio customers . . . that when victory is won and mankind again seeks the comforts and luxuries of peace, Admiral Radio will be in demand as never before.



**Still YOUR BEST BET
ON REPLACEMENTS!**



Centralab MIDGET RADIOHMS

Servicemen recognize the "plus-performance" that these sturdy controls give on every replacement job... Old Man Centralab's good advice to "ALWAYS SPECIFY CENTRALAB" was never more timely than now . . . when it is so important to keep the "radio ears" of the nation properly tuned to the events of these critical moments in our history . . . For smooth, silent, sure attenuation . . . specify **CENTRALAB MIDGET RADIOHMS**

**CENTRALAB: DIV. OF GLOBE-UNION INC.
MILWAUKEE, WISCONSIN, U. S. A.**





FOR'D MARCH

For America!
THROW YOUR SCRAP
INTO THE FIGHT!
 AMERICAN INDUSTRIES
 SALVAGE PROGRAM

with **METAL TUBES**

Metal radio tubes are in the forefront of the drive to keep the public informed of the war effort. Over 80,000,000 metal tubes are in use in the nation's radios. When there is no longer a wartime need, we will again make and recommend metal tubes for civilian use. At present, our entire production of metal tubes is reserved for our fighting forces.

Handle Ken-Rad Radio Tubes and Be Sure of Satisfied Customers.



KEN-RAD

Metal Radio Tubes



KEN-RAD TUBE & LAMP CORPORATION, Owensboro, Kentucky

ALIVE!

TO KEEP THE **ZENITH**
NAME ALIVE—AND HELP YOU

1917 WAR TELEPHONE RUN BY 

1942 WAR RADIO RUN BY 

For Instance . . .

"We would like to have carried over Tokyo and watched the later developments of fire and explosion, but even so we were fortunate to receive a fairly detailed report from the excited Japanese radio broadcasts. It took them several hours to calm down to deception and accusation."

(Big Gen. James H. Doolittle in news reports of Tokyo bombing)

Interesting!
Watch for radio use in the war news—you'll find it in the air—on the ground—and at home!

WITHOUT radio, the movement of courier and visual signals, the war would still be anchored by telephone lines—the physical hazards of the earth—now moves swiftly over the whole face of the earth—instantaneous radio communication thru the ether instead of over copper wires has blasted the barriers of space and time.

So today all our radio production centers on war use.

But what of tomorrow—what effect will this have upon the future—after victory?

One thing is certain—it will revolutionize and speed the great new future form of transportation. Radio has never been universally necessary in transportation before. In automobiles—on trains—it has been entertainment—in boats it has been a great aid but not an essential.

But today for the future, in that great, new universal transportation that is forming itself—the airplane—radio is essential as the engine itself.

And—mark this well—airplanes and radio are two of the four great industries destined to lead this country back to business normalcy after the peace is won.

Zenith's leadership in the radio industry has been established by a consistent achievement of "firsts." Repeatedly, ideas "brand new" when Zenith "first" introduced them, later became essentials on all radios. And that same "forward thinking" of engineers and factory organization now concentrates on war production of the things we know—radio—exclusively. We are progressing—we learn every day—and this new experience will inevitably reflect itself when Zenith again produces for peace.

—A Zenith Radio Dealer near you is giving reliable service on all radios—regardless of make.

ZENITH RADIO CORPORATION—CHICAGO

ZENITH
"LONG DISTANCE"
RADIO PRODUCTS EXCLUSIVELY
WORLD'S LEADING MANUFACTURER

Running Frequently in a Long List of National Magazines

KEEPING



INGENUITY ALIVE

"INGENUITY"—as described in the dictionary, is the quality of having inventive power—cleverness in contriving or originating.

Through the years Zenith has proved ingenuity by consistently contributing outstanding "firsts" in the industry.

AND IN WAR—AS IN PEACE—ZENITH IS PRODUCING NOTHING BUT RADIO.

We are proud to be producing for Victory—proud to be a part of the great industrial force which manufactures war material for our armed forces—doing all we can to hasten the day when peace will come.

And in this period of producing for war we are contributing much in new ideas. We are learning, gaining valuable experience, too, which will stand us in good stead when the present emergency is over.

Zenith proven advertising strategy, used so successfully in establishing deserved supremacy for the Zenith Trans-Ocean Clipper and Zenith Wavemagnet Portables, calls for hard-hitting, moderate sized space, run with rapid frequency and aimed toward large circulations in a diversified list of periodicals. Advertisements similar to the one reproduced at the left will help keep the Zenith name alive before the American public.

**ZENITH RADIO CORPORATION
CHICAGO**



The **FIRST** American Landing in Japan . . .

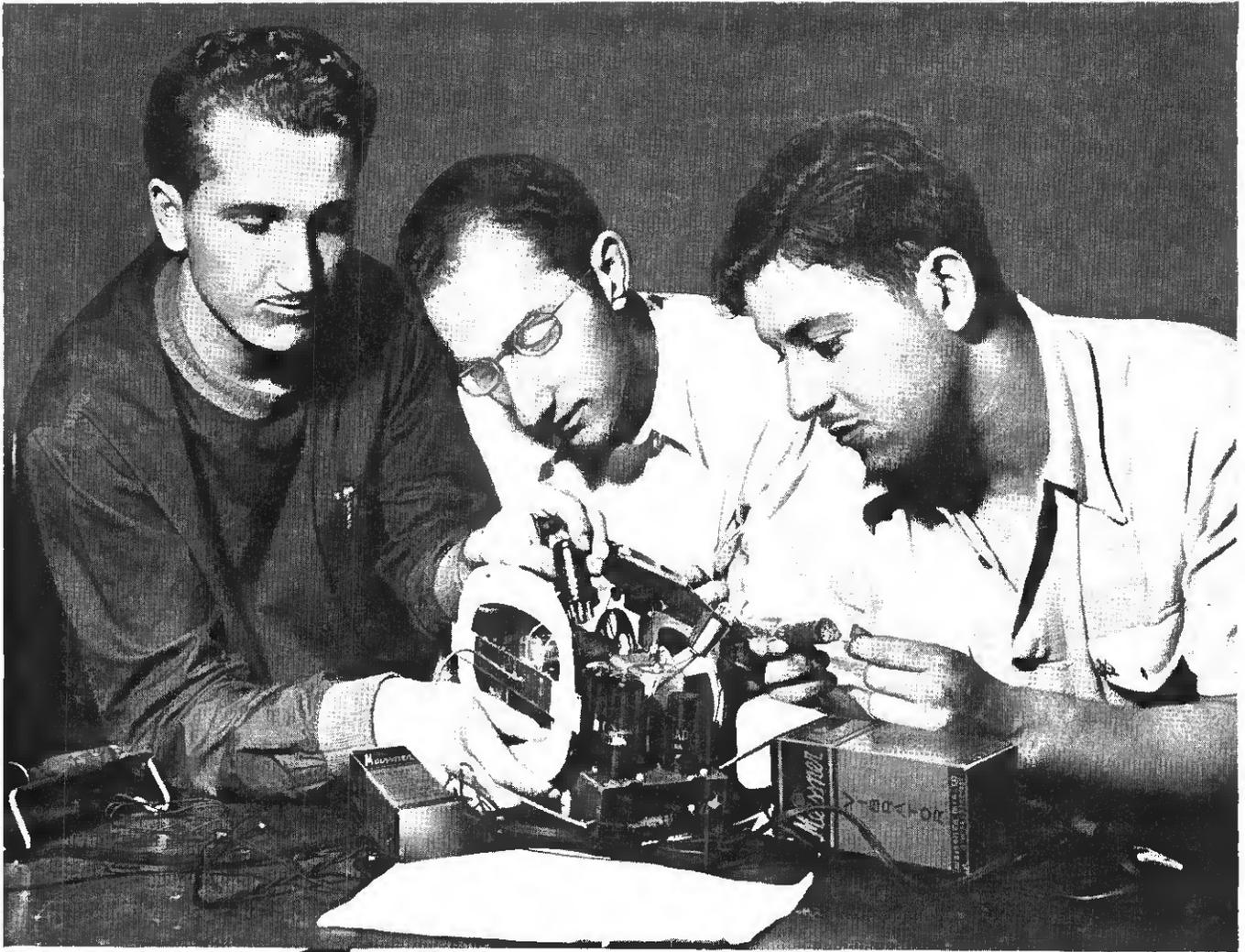
You Can Be in the **Next Landing**

BY
BECOMING
A
RADIOMAN
IN THE
**UNITED STATES
NAVY!**

In 1853 Commander Calbraith Perry, with four United States warships, opened trading with Japan . . . then there were no radio communications . . . today the U. S. Navy will give you FREE passage to the Island of Nippon with the added conveniences of radio communications and Jensen Speech Reproducers!

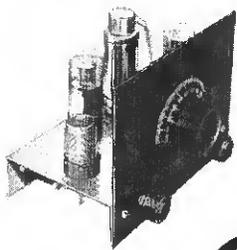
Jensen
SPEECH REPRODUCERS
6601 SOUTH LARAMIE AVE., CHICAGO

SPECIALISTS IN ACOUSTIC RESEARCH AND PRODUCTION FOR VITAL MILITARY ADAPTATIONS



Train 'em Faster with MEISSNER RADIO KITS

Signal Corps Schools know that in order to speed up radio training they must use kits that have been specially designed for student training purposes . . . Meissner radio kits are precision engineered for classroom use, saving valuable time for both instructor and student. Meissner pictorial Wiring diagrams simplify construction problems in basic radio training.



Meissner one, two and three tube add-on Kits are ideal for the beginner in classroom work . . . starting with a one tube Kit, students can, with the add-on features, construct two and three tube receivers—available for both AC and DC operations. Six and nine tube kits are available for the advanced student.

See your Meissner distributor for special SCHOOL NET PRICES

Meissner
MT. CARMEL, ILLINOIS
"PRECISION BUILT PRODUCTS"

Above the Roar of the Crowd . . .



THE NEW *Utah* TRUMPET — FOR USE WHEREVER SOUND MUST COMPETE WITH NOISE

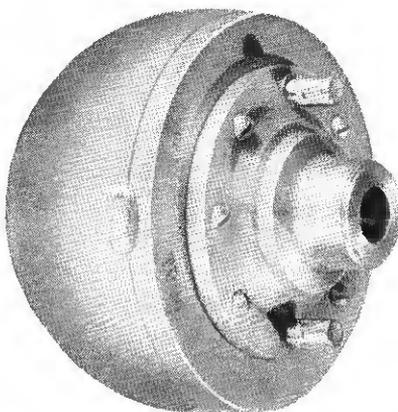
● Where excessive noise threatens the successful performance of sound equipment, maximum results can be obtained with Utah Heavy Duty Trumpet and Driver Units. They are primarily designed for coverage of large areas, such as: Circus arenas, auditoriums, stadiums, roller skating rinks, outdoor bandstands, etc.

Utah Trumpets have maximum power handling capacity with minimum distortion and the widest possible frequency response consistent with limited dimensions. Sturdily constructed, they are available in two models, reflexed for compactness, fully weather-proof, and equipped with a steady, ratchet lock mounting fixture that locks positively at any practical angle.

The *Utah Driver Unit* is impervious to all weather conditions. The

welded magnet assures water- and air-tight fit between the magnet and the front and back plates. Special treatment in the baking of the voice coil provides maximum power handling capacity without danger of burn-out. The modern magnet design gives the maximum flux density per unit of weight, insuring greater over-all tonal reproduction. Spring clips are used in the driver unit to aid ease of assembling and setting up the system; no soldering of leads is necessary.

Be sure to specify Utah products. Look for the Utah trademark. **UTAH RADIO PRODUCTS COMPANY**, 810 Orleans Street, Chicago, Illinois. Canadian Office: Toronto. In Argentina: **UCOA RADIO PRODUCTS COMPANY, SRL** Buenos Aires. Cable Address: **UTARADIO**, Chicago.



Utah's New Driver Unit



S P E A K E R S
VIBRATORS • TRANSFORMERS • UTAH-CARTER PARTS

When seconds count...

**YOU WILL FIND
RAYTHEONS
ON THE JOB!**

Communications between our Aircraft carriers and our pilots are extremely important . . . seconds seem like hours and in those few seconds commands are given that mean success or failure.

Raytheon tubes are on the job! . . . and as usual doing their work in the same dependable way that Raytheons have always functioned.

When you find an important job . . . one that requires real tube stamina . . . you will usually find Raytheons on the job!

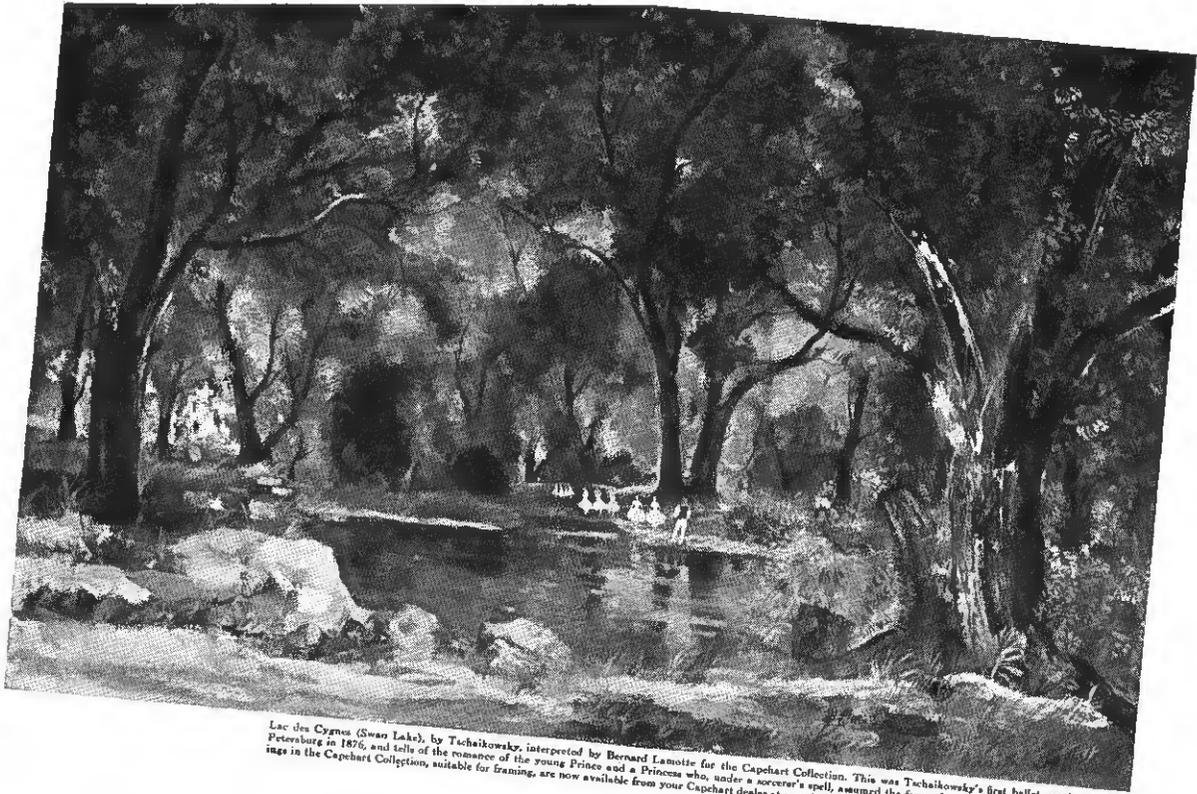
Ask your Raytheon distributor.

RAYTHEON PRODUCTION CORPORATION
Newton, Mass. • Los Angeles • New York • Chicago • Atlanta

**RAYTHEON
RADIO TUBES**

NOTICE! If you have not obtained RAYTHEON'S interchangeable Tube Chart, it is important to get one of these cards at once from your RAYTHEON jobber. Speeds up radio repair service and simplifies your tube stock by elimination of a large number of types.

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



Lac des Cygnes (Swan Lake), by Tchaikovsky, interpreted by Bernard Lamotte for the Capehart Collection. This was Tchaikovsky's first ballet, produced in St. Petersburg in 1876, and tells of the romance of the young Prince and a Princess who, under a sorcerer's spell, assumed the form of a swan. Reprints of previous paintings in the Capehart Collection, suitable for framing, are now available from your Capehart dealer at a modest charge. Or you may write direct to the Capehart Division.

Melody at Dusk

Man's life is an alternating day and night — the sheer joy of living, and then the shadow of doubt. One moment is exultation, one moment a dark despair.

Part of the glory of music is its power to alter such disquieting moods. The symphony, the concerto, the dance, interpreted by the Capehart, can awaken fresh hope, bring new courage to war's world of turmoil and strife.

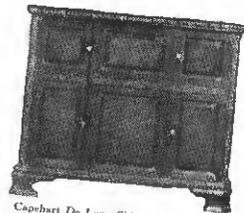
The laboratories and the vast factories of the Farnsworth Television & Radio

Corporation now are devoted to building war materiel only. Production of the Capehart and the Capehart-Panamuse Phonograph-Radio has ceased, and only in dealers' showrooms are there any of these magnificent instruments still available. You are invited to see and hear them there, at your convenience.

Also, you may ask and receive from your Capehart dealer advice on all your musical requirements, including the selection of a piano, band instruments, sheet

music, and the latest recordings. He will serve you with intelligence and care.

And you can prepare for an earlier tomorrow by buying War Bonds now! The Government needs your investment to win the war, and you will be building soundly for the future when you may want to purchase a new home, a new automobile, an airplane, a television set, or the De Luxe Capehart. The Capehart Division of the Farnsworth Television & Radio Corporation, Fort Wayne, Indiana,



Capehart De Luxe Chippendale with the time-proved record changer that turns the records over. The Capehart is equipped for FM radio. Control stations may be played throughout your home and the grounds.

CAPEHART - PANAMUSE - FARNSWORTH
GREAT NAMES IN ELECTRONICS - MUSICAL REPRODUCTION - TELEVISION

THIS IS WORKING FOR YOUR TOMORROW

The great factories and laboratories of the Farnsworth Television & Radio Corporation are wholly engaged now in war production.

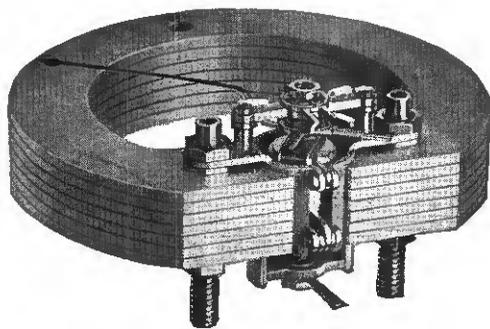
But the national advertising campaign continues. You have already seen examples of the new Farnsworth Television advertising. Here is the current advertisement in the superb Capehart campaign.

Full pages in *Life*, *Fortune*, *Time*, *The New Yorker*, *Newsweek*, *Business Week* and *U. S. News*—building for your future after the victory. The public forgets a business if the business forgets the public. Farnsworth intends that the American public shall remember its products, including radio receivers, television sets and the world-famous Capehart.

Farnsworth Television & Radio Corporation, Ft. Wayne, Ind. • Manufacturers of Radio and Television Transmitters and Receivers; Aircraft Radio Equipment; the Farnsworth Dissector Tube; the Capehart; the Capehart-Panamuse, and the Farnsworth Phonograph-Radios.

SEE FOR YOURSELF

- why Simpson
Instruments STAY Accurate



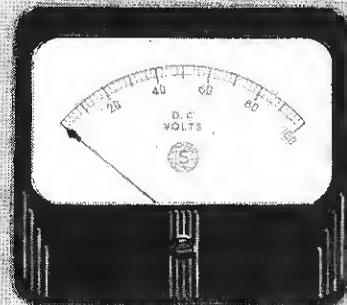
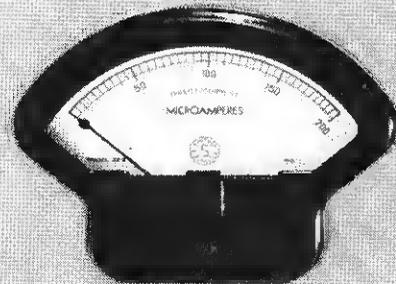
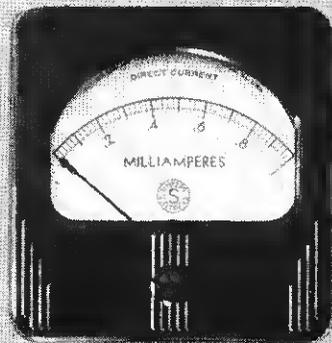
THE service you get out of an electrical instrument depends entirely on the lasting accuracy that is built into it.

And, by the same token, the lasting accuracy of an instrument depends entirely upon the stamina and accuracy inherent in the movement proper, for this is the very heart of every instrument.

In every Simpson Instrument you will find a movement like the one pictured above—a full bridge type movement with soft iron pole pieces. Men who know instruments have long recognized the basic superiority of this design. It not only permits a higher degree of accuracy—it assures maintained accuracy, year after year.

If your need for instruments is vital enough to give you the right to buy, it is vital enough to rate the best. Examine the Simpson movement, and you will see for yourself, why, to so many discriminating buyers, best means . . . Simpson.

SIMPSON ELECTRIC COMPANY
5208-18 Kinzie Street, Chicago, Illinois

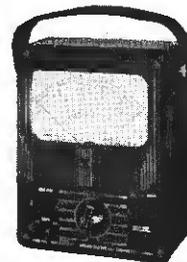


Simpson

INSTRUMENTS THAT STAY ACCURATE

MODEL 260 High Sensitivity Tester

Here is a typical example of Simpson leadership. Ranges to 5000 Volts, both AC and DC, at 20,000 ohms per volt DC and 1000 ohms per volt AC. Current readings from 1 microampere to 500 milliamperes. Resistance readings from 1/2 ohm to 10 megohms. Five decibel ranges, -10 to +52 DB.



**"We count on
servicing and
sound recording
to pull us
through..."**

Super service and sound recordings enable this Rochester, N. Y. radio dealer to hold business and build new volume.



"OUR SERVICE CHARGE has varied little since October, 1941," says Mr. Louis A. Schifino of Sound-Equipment Co., "we still continue to test tubes free, because it is not only good advertising but enables the customer to become acquainted with our service shop. Frequently this little favor leads to a service call."

● Go into the store of Sound-Equipment Company, Inc., Rochester, N. Y., and you'll find business humming. Here's how Louis A. Schifino, owner, explains his store's activity: "Service is our goal . . . so we bend over backwards to keep our service fast and reliable.

"We achieve speed in repairs in four ways:

1. A large stock of parts always on hand.
2. Using only nationally-advertised, factory-parts . . . (Stromberg-Carlson's 24-hour service is a big lift!)
3. High quality test equipment.
4. Good service men.

"Service work is no better than the parts used and the men who do the job. Good compensation and pleasant working conditions have enabled us to hold our help.

"To keep our head above water we do work in sound recordings. Our equipment is the best, and we cater only to professional recordings—spot announcements, radio transcriptions, and recordings of Navy "E" programs. So far our recording service has furnished us an additional source of revenue and a good medium for advertising our radio and sound service.

"Service business is good and we are gonna 'keep 'em listening!' We realize that the goodwill we build today can mean an even bigger and better business for us after the War is won."

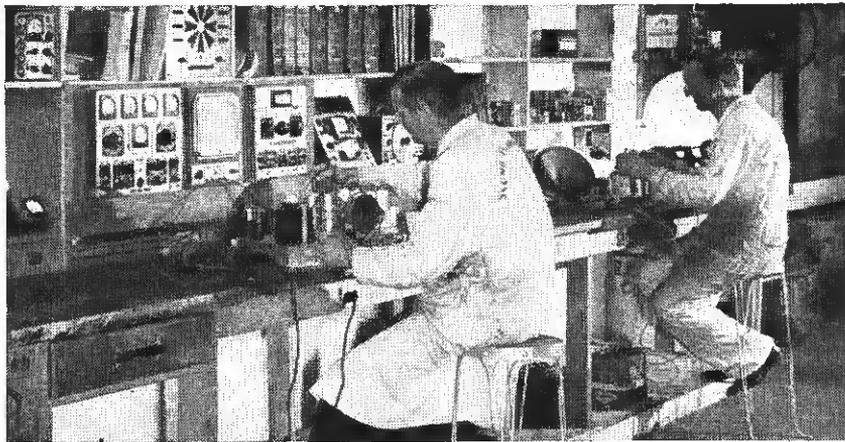
IN RADIOS, TELEPHONES, SOUND SYSTEMS . . . THERE IS NOTHING FINER THAN A

STROMBERG-CARLSON

ROCHESTER, N. Y.



RECORDINGS are a profitable source of income for Sound-Equipment Co. In addition, a sound department is maintained which devotes full time to sound rentals and service.



WELL-LIGHTED, complete test equipment is one key to quick service on repairs. And nothing builds goodwill for a shop better than speed. Says Mr. Carl Galutia, "We have found goodwill is more important today than ever before. The lack of good service shops is no excuse for taking advantage of a customer. We're trying to build a business that will last."

RADIO *Retailing* TODAY

Including Radio and Television Retailing

O. H. CALDWELL, EDITOR. M. CLEMENTS, PUBLISHER
480 LEXINGTON AVE., NEW YORK, N. Y.

New Jobs for Tubes

In a rapidly changing field like radio, readers naturally look to our pages to reflect radio's varying trends.

During the past few years the editors have repeatedly called attention to the increasing applications of vacuum tubes and amplifier equipment in fields *outside* of *space radio*. These uses have come to be known under the broader term of "electronic" applications. Today, tubes find uses everywhere in industry, business, communications, therapeutics, and scientific research. Maintenance and servicing of these opens wider opportunities for local radio men.

For many months the editors have sought to keep radio readers in touch with these new electronic developments through our own pages. Looking back over the last two years, many articles and many columns in this magazine have been devoted to describing these new electronic uses.

But now that the electronic field is receiving new and tremendous impetus under the drive of war, it becomes apparent that the electronic industries are too vast and important to receive only incidental or departmental attention in the pages of RADIO RETAILING TODAY.

Of course, in duty to our radio readers, RADIO RETAILING

Today will continue to treat of electronic servicing as an opportunity for the local serviceman. RADIO RETAILING TODAY will continue to interpret electronic devices and circuits in wide use, to help servicemen do a good job when called into this new field.

But to serve the great electronic groups now rapidly growing up, your publishers announce a new magazine "Electronic Industries" to appear next month, to treat fully of electronics in all its aspects—manufacture, applications, communications—design, production and use.

Page 48 of this issue, describes this new magazine further, and interprets its relationship to the field of RADIO RETAILING TODAY.

Every Minute Counts!

Every minute of production action is *for* us.

Every minute of non-productive time counts *against* us.

It is the job of every one of us to see that our time counts for US and against Hitler, Hirohito, et al.

And to only a lesser degree, the same applies to every dealer, every serviceman, every business man, who finds the conduct of his business complicated and jeopardized by our War Effort.

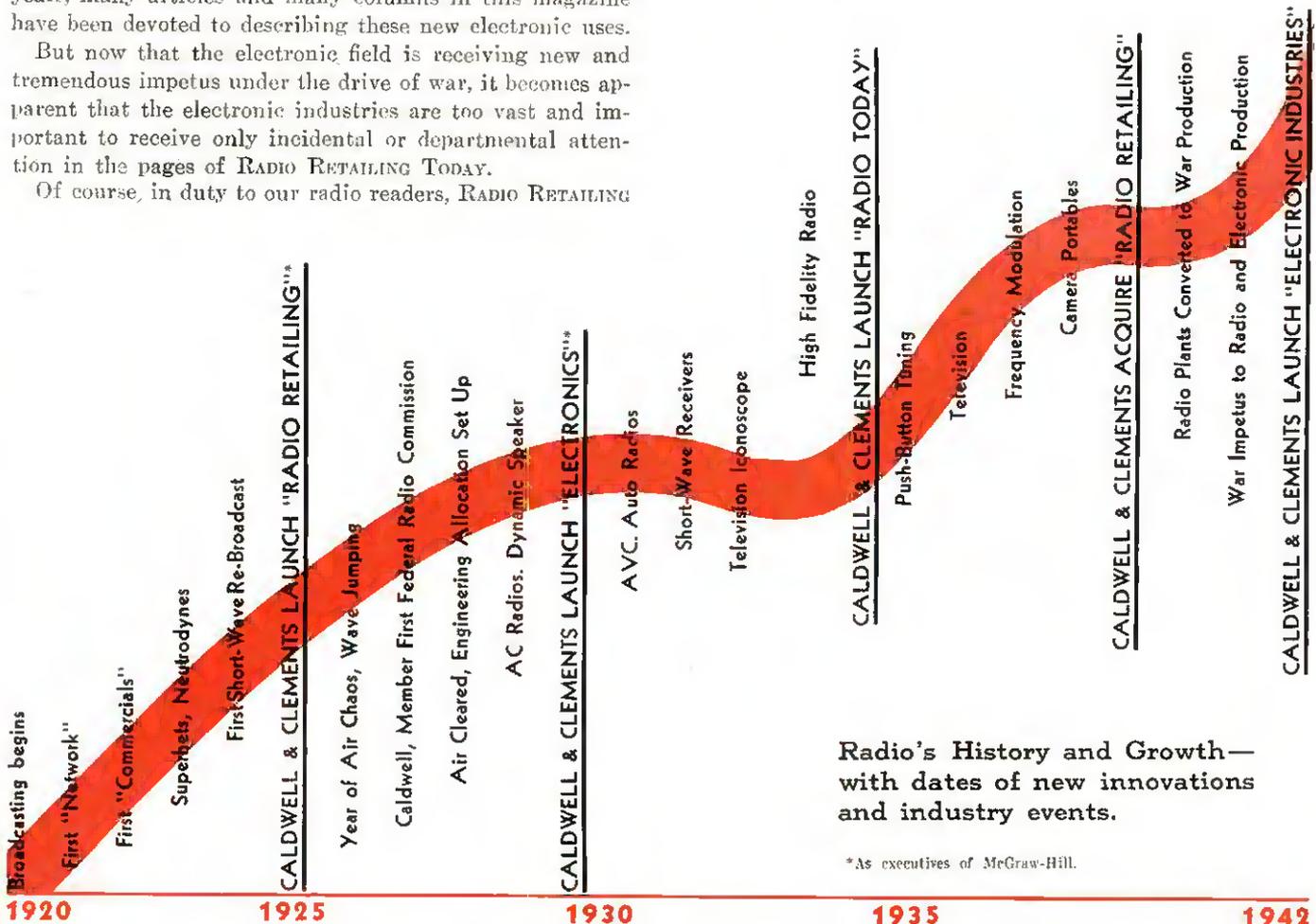
In the solution of your own problems, too, time is important,—for time is slipping fast away.

It's up to *you* to make every minute count for you.

Things will not get better by themselves.

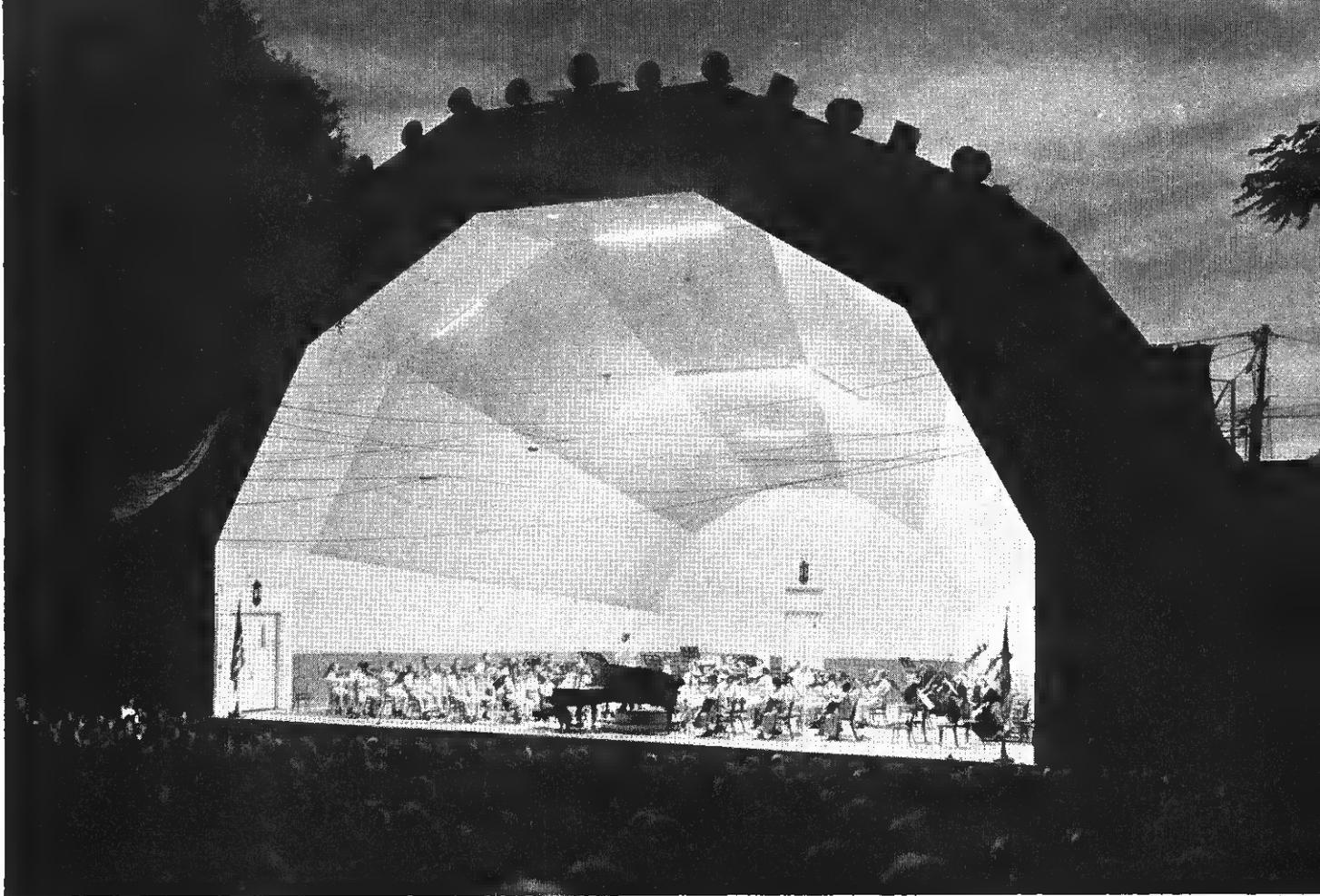
Your action is needed—today—and every day.

Your wartime tasks are *never* done, so long as war clouds darken our horizon.



Radio's History and Growth—
with dates of new innovations
and industry events.

*As executives of McGraw-Hill.



SOUND BUILD-UP for



• The great Robin Hood Dell outdoor music amphitheatre in Fairmount Park, Philadelphia, where famous orchestras and musicians give recitals on summer nights, is provided with some special sound facilities to make for greater audience enjoyment.

The natural acoustics of the great amphitheatre are enhanced by a six-channel high-fidelity amplification system for the reproduction of symphony orchestra music, and the carrying of this undistorted reproduction to all parts of the vast audience. Features of this system are the special loudspeakers for the reproduction of the contra-bass section of the orchestra, assuring that the low notes are equally well heard by all listeners.

Interesting special details of the Robin Hood Dell job, as supplied by A. M. Slott, manager of the Algene

Top photo shows the 12 speakers atop the huge shell. At left, the sound expert places each speaker above that section of orchestra it will reproduce. At the right is a front view of the audience of 14,500 covered by the 6-channel system.

Sound & Radio Company of Philadelphia, are as follows:

For the six-channel sound-reinforcement installation, the entire orchestra, consisting of 100 pieces, divided into six sections:

- No. 1—First violins and soloist
- No. 2—Second violins
- No. 3—Woodwinds
- No. 4—Brass
- No. 5—Celli and violas
- No. 6—Contra bass

No. 1 Section utilizes two Shure 55B Unidyne microphones, one University WLC dual-range high-fidelity projector loudspeaker, one University LH projector using PAH driver unit, and one Webster-Rauland W-861 bi-power 60-watt amplifier.

No. 2 Section utilizes one Shure 55B microphone, two University LH projectors using PAH driver units, and one Webster-Rauland W-835 35-watt amplifier.

No. 3 Section utilizes one Carrier 702D microphone, two Webster-Rauland exponential flare trumpets using

Jensen A 12 PM cone units, and one Webster-Rauland W-835 35-watt amplifier.

No. 4 Section utilizes one Shure 55 B microphone, two Webster-Rauland throated-type exponential-flare trumpets using special Webster-Rauland cone-type driver units, and one Webster-Rauland W-835 35-watt amplifier. This section also utilizes one Turner U9S microphone.

Six-Channel Reinforcement

No. 5 Section utilizes one Shure 55B microphone, two special speakers (trumpets) which were developed for the reproduction of the contra bass by our engineers in conjunction with the University Laboratories (these units powered by Jensen A 12 PM loudspeakers), and one Webster-Rauland W-861 bi-power 60-watt amplifier.

No. 6 Section utilizes one Turner U9S microphone, two University LH projectors using PAH Driver Units, and one Webster-Rauland W-835 35-watt amplifier.

"Blackout" System

In addition to the aforementioned equipment, a "blackout" system using one Webster-Rauland W-841 30-watt 6-volt battery-operated amplifier connected with throw-over switches to the W-1 system speakers and microphones, was installed for emergency use in case of air-raid blackouts, or power-supply failures.

It was only necessary to use this system once during the entire season, which consisted of 28 concerts over a period of seven weeks. However, the one time that it was used, entertainment by a vocalist and pianist was furnished the audience of 6000, which remained orderly throughout the half-hour blackout.

The twelve speakers which are mounted on top of the shell are placed according to the corresponding position of the instruments they are to reproduce in the orchestra.

All of the microphone cables term-

(Continued on page 54)

Concerts in the Park





Women have long been experts at selling records, and their performance there may be used to guide dealers in wartime hiring to replace men.

DO YOU KNOW HOW TO SELECT THEM FOR RADIO SALES?

CAN YOU GIVE THEM THE PROPER STORE TRAINING?

HAVE YOU FIGURED OUT WHICH JOBS THEY CAN DO?

Do you UNDERSTAND

Replacing Manpower, They Often Do a Go

• Day by day, more and more men are giving up their peacetime pursuits to "join the colors" and take an active part in fighting to preserve our way of life.

Yet business and industry, must go on. It must go on to provide the civil population with the necessities of life and of living.

Men must do our fighting on the battle fronts, and women must do their full share in business, in production and in taking a man's job on the home front.

Women are taking the places of more fighting men in the Army. The WAACs will make a real contribution to Army administration. The WAVES are soon to take their places in the shore establishment of the Navy.

Women are taking the places of men in industry, in manufacturing everything from zippers to airplanes, and doing a fine job.

Women have made more radio tubes and radio sets than men ever will.

Women can and will, take their place in your business, selling, servicing and maintaining your records.

Many business men still harbor some prejudices against women in some jobs, but these are fast disappearing in the light of their performance. Light work, hard work, hand work, head work, machine work, office work, all now are women's work.

Certainly, you have to train them, thoroughly and carefully. But first you have to *select* them.

Natural Aptitudes

Most women have a high degree of hand dexterity, and fine coordination of hand and eye. But some are clumsy and awkward. Most women have infinite patience, and excel at detail and repetitive work.

But many do not.

You'll run into just as much trouble putting the wrong woman on a job as you would in putting the wrong man on the same job.

With some careful selection, you will find most women will equal or excel men on:

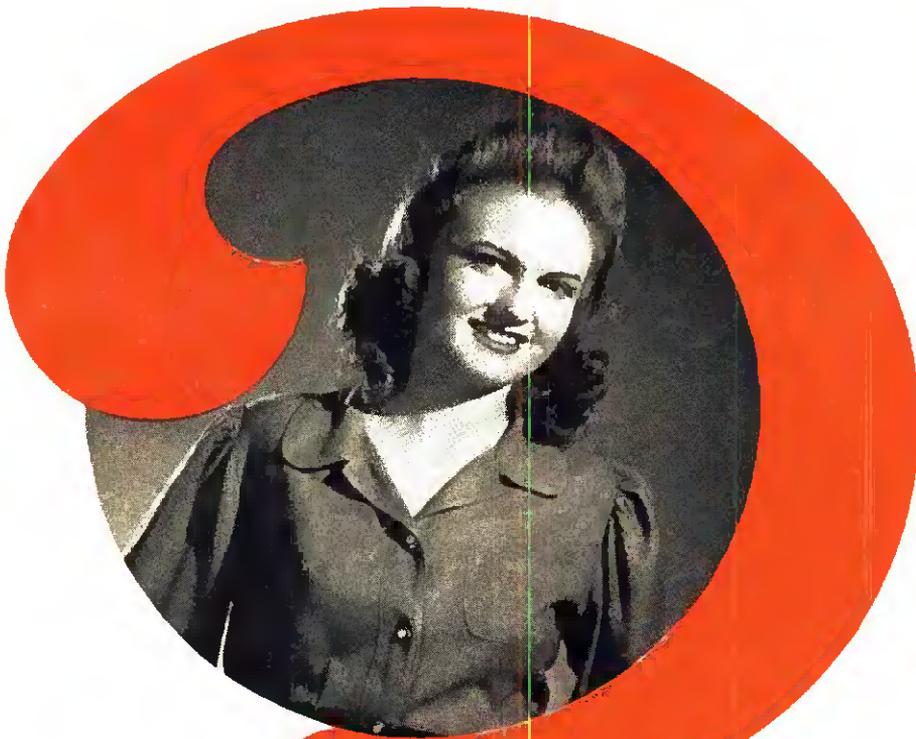
- a. Selling
- b. Clerical work and filing
- c. Small part assembly
- d. Detail and fast repetitive work
- e. Fine production work.

Because most women have not had the experience, you must be prepared to train them to bring out the full advantage of their natural aptitudes.

In the selection of personnel there is no good reason why sex should be any more important a factor than nationality, or religion, given equal education and intelligence.

Seek Necessary Qualifications

Bear in mind when selecting women to replace men, that "beauty" is the poorest of all measures of ability. Very often, you will find, that "beauty and brains" are like "oil and water." Neatness is highly desirable in any employee.



WOMEN

at Radio Counter

Women must be selected for their jobs as workers, not as women and they must be trained, disciplined and supervised on the same basis.

It's true, of course, that the female psychology is somewhat different from that of the male. And so the methods of discipline and supervision must be adjusted accordingly.

Women should be tested and fitted to their jobs by the same standards as men.

That is, the same qualities are necessary to fit a woman for a particular job as for a man. You may find that quality more frequently in women than in men. But they may not always be present. So you must *look* for them.

Salespeople, whether men or women, should have a pleasing personality, a

sincere friendliness, an easy smile and a knowledge of the products they sell. Women who have these qualities have been very successful selling records, radio, home furnishings, home appliances. Do not expect *more* from women than you do from men.

Careful Supervision

Women in business expect to be treated like the workers and humans they are, with respect and impersonally. Preferences to some are quickly resented by others and in a way which can quickly cause trouble and confusion. Rules, regulations, privileges must be uniform.

Most women do not have as high a sense of safety as do men; they shortcut the safety rules, have more minor accidents, fewer really serious ones, than do men.

Thus they create the necessity for more constant and careful supervision on machine or productive work. And this supervision presents a different problem where women are involved

They are more sensitive, more nervous than men. Sharp criticism for an error may produce hysterics which

lasts for 10 minutes, "nerves" which lasts for 10 days and resentment which lasts for 10 weeks. A woman is always to be preferred to a man, as a supervisor of women.

More women are working today than ever before, and their number is fast increasing. Women have tackled every job within their physical ability, and their records of performance are outstanding, in every line of endeavor.

Getting Results

These records are uniformly better in the larger organizations than in the smaller ones. This is true because in the larger organizations women are more carefully selected, their individual abilities more accurately measured, their assignment to jobs more scientifically done, their training more thoroughly given.

And this boils down to the fact that in most jobs, the factors of intelligence, education, training, are far more important than sex in fitting a worker to a job.

Not Permanent Prospects

But women are women—for all that, and differ from men in viewpoint, and in emotional equilibrium. These factors must always be kept in mind.

Business, or industry to most women is a temporary thing. For nature has endowed women with the maternal instinct, which must look upon home, and mate, and family, as the permanent state to which they aspire. There are some exceptions, of course.

And so, in employing women, do not make the mistake of placing too much dependence upon any one, so far as certainty of continuity of service is concerned.

The Fundamentals

A woman seldom ceases looking for "her man." And this factor must be watched in business, for it can cause waste and inefficiency when "boy meets girl" in the same business, to a degree that is surprising.

To expect the impossible from women is foolish. But women have "made good" in every job they've tackled, and they will make good in yours, too, if you try them, under fair conditions and handle them with intelligence and understanding.

Electronic Jobs For Servicemen

• In factory processes all over the country — and undoubtedly in your town, too, — electronic devices and photo-cells are today simplifying production operations and improving products.

Photo-cells, for instance, are used to count, sort, regulate, signal, control and weigh, measure and inspect. On certain machines they add to safety and efficiency by providing for starting or stopping operations through the operator's merely raising his knee and interrupting a beam of light.

Photo-cells make tireless detectives, wherever property or premises are to be guarded. The electric eye, of course, never winks and it never sleeps! Merely put it on guard in a position where ceaseless vigil is to be maintained, and the approach of any maulrauder will be automatically reported. By the use of the new infra-red filters, the light-beam itself may be made practically invisible, so that even the presence of the alarm system is undiscoverable to the thief.

Wrapping, Packing

Packing and shipping rooms can use photo-cells to count packages and items. One wrapping room uses a

photo-cell conveyor belt which automatically moves along so as to present always a full compartment to the wrapping desk.

The presence of trucks can be reported in this way. In one large New York building where trucks are taken up into the upper floors, photo-cells in each upper space report back to the entrance watchman, so that trucks will not be sent to positions already occupied.

A cellophane wrapping machine uses a photoelectric relay to control cutting of the wrapper in synchronism with printing on the cellophane.

In Industrial Plants

In connection with a paint sprayer a relay starts the spray when an object moves in front of the nozzle, and turns it off when the object moves away.

A punch press would be damaged if it were operated with no material in place to be punched. The photo-electric relay will not permit the press to operate unless the piece is in place.

A sheet catcher in a steel mill is automatically controlled by the electric eye so that it will operate only when the light beam is re-established

after an interruption caused by the passing of a sheet.

In a ready-mix cement plant photo-electric control regulates the mixtures by automatic weighing.

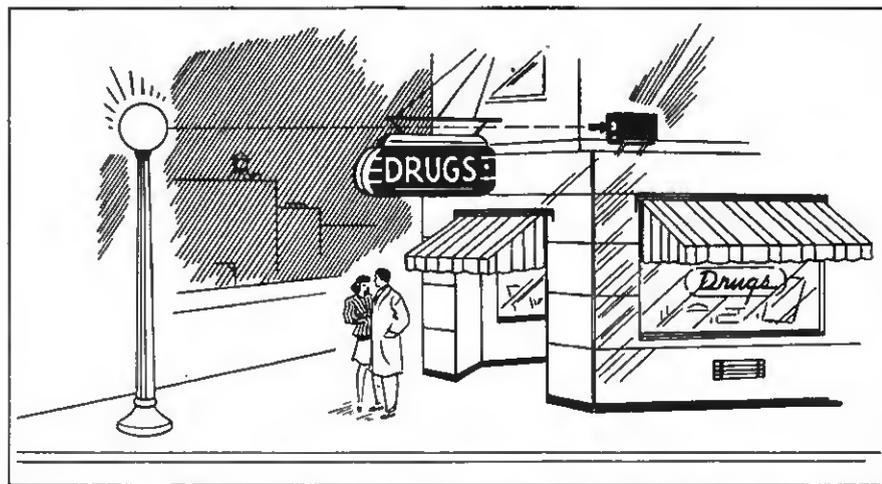
Stops Smoke Evil

The vigilant photo-cell recently went to work "checking up" on recalcitrant stoke-hole men in boiler rooms. On one ship, the firemen, suspected of laxity while the ship's engineer slept, were very much surprised when the engineer confronted them with a graphic record that the stack had been smoking heavily all night. By passing a beam of light through the breaching to a photo-electric cell coupled to an Esterline-Angus graphic milliammeter, the density of the smoke was measured and recorded continuously on a slowly moving tape.

In speeding up Uncle Sam's steel production, the photo-electric cell scores another electric bull's-eye. By training an electric eye on the molten steel in an open-hearth furnace and measuring the current generated by the cell, the temperature of the glowing mass can be automatically indicated. In this way one big steel mill uses a graphic recording milliammeter, after suitable amplification of the cell output, to make a continuous record on graph-tape of temperatures of 3000° F. and higher.

Timing Sports Events

Electronic devices already play an important part in modern sports. Electric-eye-operated cameras for "photo finishes" of horse races and track events are in wide use. Instead of fallible human referees at bowling matches, electric eyes on the foul-lines ring an alarm when a player's foot slips past the legal limit. Light beams at one-inch intervals above the bar in pole-vaulting or high jumping events give contestants extra credit for clearing the bar with space to spare.



When street lights are extinguished during blackout, the Rehtron photoelectric relay shown, also switches off druggist's electric sign.

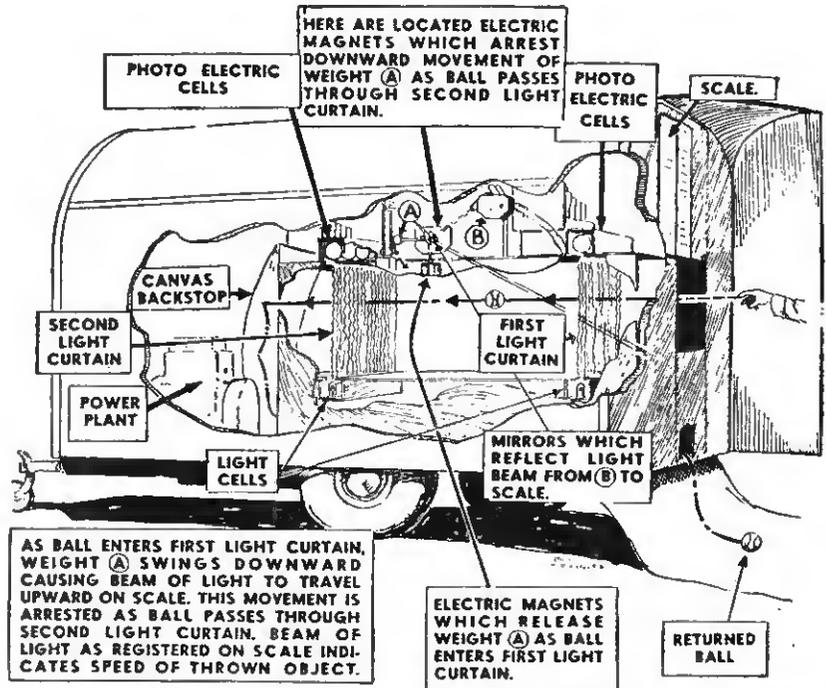
Vacuum-tube-timed short-interval photos made of golfers' swings have proved invaluable in studying driving technique. In football, electric eyes may some day be used to determine whether field kicks actually pass between the goal posts.

Many other applications of electronic devices to the sports field have been suggested and even been tried experimentally. A photo-electric automaton to aid the baseball umpire would call "strikes" and "balls" with absolute accuracy, and microphones concealed in the ground near each base would definitely settle questions of who got there first—the ball or the runner. It's not hard to imagine the baseball umpire of the future seated at a switchboard high in a steel cage, quite safe from angry fans' pop bottles. In fact, with electric eyes doing the judging, fans won't have anyone to get mad at!

Measures Speed of Baseballs

But electric eyes are actually used to determine just how fast is a "speed ball" in a new mobile pitching-speed meter in regular service by the Cleveland "Indians." Designed and constructed by electronics engineer Rex D. McDill for the Cleveland Plain Dealer, it is now used by the local team to test and select pitchers.

The equipment is mounted in a trailer. When a pitched ball enters the hooded opening, it passes through a "curtain" of light beams focussed on photo-electric cells. This releases weighted, hinged mirrors which reflect a light beam onto the translucent scale visible at the left of the hooded opening. When the baseball passes



Mechanism of trailer for measuring the speed of thrown baseball by means of banks of photo-cells, devised by Rex D. McDill, 1047 Lee Road, Cleveland, Ohio. This unit in use is pictured below.

through the second curtain of lights, the downward fall of the mirror-weight is arrested instantly, freezing the light beam at a point on the scale determined by the speed of the pitched ball. Quick-acting trigger thyatron circuits are used as controls. The ball is caught in a canvas backstop and automatically returned through the small opening at lower right, ready for the next throw.

Thus electronic devices and photo-electric mechanisms are finding hundreds of applications in industry, science, and the arts. Rapidly, too, they are revealing themselves as everyday tools for everybody to use in some way or other!

The electronic age is here!

It remains only for business men, home owners, mechanics, and merchants to realize the potentialities of electronic and electric-eye control, and to apply such electronic tubes or photo-cells to everyday problems.

One Use Suggests Others

As this is done, dozens of new uses for electronics will suggest themselves. For it has been the experience in every industry that as soon as an electronic or photo-cell installation is employed for one purpose, half-a-dozen other new uses immediately suggest themselves, to overcome difficulties hitherto without solution.



Electronic baseball-speed measuring machine, built for Cleveland Plain Dealer, in use on the local ball-park grounds. Note the thrown ball, photographed in mid-air, on its way to the photo-cell window.



Connie Boswell is one of those popular singers whose discs keep things lively in wartime record selling. For instance, she has recorded the hit, "He Wears a Pair of Silver Wings."

• Most Americans at home and abroad have their eyes on the enemy and their hands on some kind of a weapon. And you'll notice that they very often have their ears cocked toward some kind of music—a melody or a march that stirs them up and helps them to do a better job of Victory.

This fact helps to explain the big

RECORD Sales

wartime demand for records. It helps to keep the nearly 7,000,000 record players of the U. S. spinning at a good rate, and the dealers selling available discs at a healthy pace.

Can we keep up the pace? And what is the future of the record retailer in this wartime uproar? The answers, as provided for this magazine by the major suppliers of records, look like this:

Columbia in War

Edward Wallerstein, president of the Columbia Recording Corp., says that "in our opinion, not only are recordings of great necessity in the maintaining of civilian morale under these trying times but records are also of tremendous value in helping to maintain the morale of our armed forces. If the actual figures could be accurately arrived at, it would be amazing to most of us how many records find their way either directly or eventually to the men in the various services."

Mr. Wallerstein states that it is difficult to comment on the subject of what raw materials may be available for record manufacture, but says that "Columbia sincerely hopes to maintain its production at least at present levels."

Columbia is planning to continue its promotion of records, unless unforeseen circumstances intervene, and is all set with full page color ads in leading magazines. This big program will reach a monthly readership of some 28,000,000 persons.

The company will continue its monthly display releases for dealers, and will launch special promotions as the situation demands. A new Columbia record catalog will be ready this month

Victor and Victory

At the RCA Mfg. Co., Inc., the Victor statement by Vice President Frank B. Walker is prefaced by the idea that "in times like the present when the whole effort of each corporation and individual is directed toward an all-out war program, other types of selling programs must take second place."

The Victor view is that "there is nothing in existence today which plays a more important part in the maintenance of the morale of our

Much credit goes to the Tri-State Music Co., El Paso, Tex., for this big window display which really "gets in the scrap." Centered around the eye-getting American eagle in a "Keep 'Em Punching" mood, the exhibit effectively includes the right wartime appeals.



This Fall

armed forces at the front and the civilian behind the front than phonograph records. A large proportion of our new releases has been confined to inspirational songs of a patriotic nature which tend to arouse the people to an all-out war. At the same time, our extensive catalog provides that measure of entertainment changes so necessary to all of us in whatever mood we may be at the moment of playing. We believe that high officials in Washington have assured themselves of the importance of records in their morale-building program. It is our intention to do everything possible to foster this movement and to continue to supply, in reasonable quantities, phonograph records of all prices and classifications."

This executive declares that record shipments for the rest of this year will depend greatly on successful collection of scrap discs. Looking further ahead, he says that "the future of the record business will depend upon the resourcefulness and engineering research of the manufacturers in providing themselves with the extended materials available or alternates of other than critical materials."

Victor has a number of plans and promotions—various forms of advertising and display for records this Fall—but all of them are completely flexible and will be made to fit wartime conditions. The idea is "to cut the cloth to fit the requirements as the days progress."

Dealers' Cue

Such are the prospects for the production and promotion of records this Fall, as reported by executives at headquarters. The rest of the season's possibilities are up to the dealer. And the aggressive retailer will want to remember at least five wartime market factors in making his individual plans.

First, the dealer should plan to cooperate with all local efforts to get needed records to the Fighting Forces. In some cases this will involve store promotion of records to be bought by relatives and friends of the men in service, and in other cases it may mean added cooperation with whatever local war agencies are involved in getting the discs to the soldiers and sailors.

Second, the record man must be sure that he's doing his part in collection of scrap records. This is getting to be more and more important to everyone in the industry.

Display Themes

Third, the retailer should remember that many of the musical movies these days are definitely of a "military" flavor, and that the situation calls for all kinds of local tie-ins on recordings of the tunes involved. It will help sales, it will help to keep the public Victory conscious, and it will help to make the record store the up-to-the-minute local headquarters for the popular music of World War II.

Fourth, the dealer should make a re-check of his window displays. There

are dozens of patriotic themes which need dramatization in the record window. These include wartime song hits, War Bonds and Stamps, Get in the Scrap, and "Music Maintains Morale."

Fifth, the retailer should remember that in doing his part in civilian morale among the record fans, that he is now dealing with a nation of "stay-at-homes"—people who do not have the gas and the tires to seek entertainment outside of the home. It is a time to get record collectors started, and to develop new musical interests in the average home.

Thus with the suppliers of records ready with Fall promotions up to the limit of available materials, and the dealers keyed up to wartime selling, the business promises to be lively and vital during the new season.

There's Plenty of Action This Fall in the Phonograph Needle Business

• The suppliers of phonograph needles are keenly aware of a new national interest in their products. They know well enough that a fighting nation will be playing millions of records important to its morale. They know that while supplies of new discs are limited, that available records must be "handled with care" and played with fresh needles and "points" that make for longer record wear.

In a situation like this, the suppliers of needles and their dealers have an exceptional chance to develop the business in new directions, within the limits of available manufacturing materials and the general requirements of a Victory program. As never before, the public is being taught the vital lessons of record care, and is being confronted with the general importance of the needle as the final interpreter of all the great values of recorded music.

Thus the retailer of needles has a special job to do this Fall. And he's being energetically assisted by his suppliers who are looking ahead as far as they can and making announcements that mean a great deal to counter sales. A number of these Fall programs are summarized herewith.

Walco values

Fall plans revealed by the Electrovox Co., Inc., 169 Maplewood Ave., Maplewood, N. J., show an emphasis on helping dealers to "sell up" to higher priced needles, where there is more quality for the consumer and more profit for the retailer.

Now promoting Walco needles made by Electrovox are a series of jumbo three-dimensional displays, window streamers, counter cards, and a selection of smaller promotional materials. These feature the regular line of Walco sapphire cutting and playback needles, plus the new \$2 "Floating Jewel" lifetime stylus. Walco also has a special promotion on its offer of "The Record Book" by David Hall, selling in combination with the Iridium needle for \$4.95.

This firm states that "we can make prompt deliveries on all of our merchandise in unlimited quantities."

Phonneedle promotion

News from the Recoton Corp., 21-10 49th Ave., Long Island City, N. Y., is that the retailers of Recoton Phoneneedles will be supplied with new

(Continued on page 46)

New Lines for Wartime

Substitutes Gather Speed in Milwaukee

Reports from Milwaukee are that distributors there are branching further into timely new lines to replace those lost because of war shortages. One of them is said to be featuring a product for treating auto tires—an item that would be of interest to millions during the rubber emergency. Other distributors are going into floor coverings and toys. And one wholesaler has indicated that he will take on a line of soap! The jobbers of this city appear to be resourceful and ingenious enough to insure their survival for the duration, and it's a healthy situation for their retailers, too.

Among the new lines being considered by radio men in other cities is the "unpainted record cabinet." These are lower-priced items, ranging from \$3 to \$10, and they seem to appeal to all types of record fans. The popular music addicts are interested in the low price, and many of the serious-minded record fans like them because they can be custom-finished to match their individual room interiors. And the fact remains that a good part of the 6,500,000 owners of record players in this country are still without storage facilities for their records.

Exhibition of Wartime Merchandise

Many of the bright new lines that are being offered to retailers during wartime were on view at the New York Gift Show at the Hotel Pennsylvania, Aug. 24 to 28. A great many of them were of interest to radio retailers who are looking for "substitute" merchandise, as nearly 600 exhibitors at the show concentrated on products made of glass, leather, plastics and wood.

Merchandise of the home furnishings type, most likely to catch the eye of radio men, included dim-out lamps of wood and cloth; cocktail tables of Lucite; blackout window shades; electric fountains in plastics, glass and metal; outdoor furniture

for terrace and barbecue; wooden buckets; self-revising globes; patriotic games; musical alarms; military-style leather furnishings.

In most cases the suppliers stated that their supplies of manufacturing materials were okay at the moment, in regard to the non-metal materials mentioned above. Hundreds of orders were taken during the event as buyers flocked to the exhibition.

The Boston Gift Show is being held at the Hotel Statler Sept. 14th to 18th and a similar event is scheduled for the Hotel Benjamin Franklin in Philadelphia Sept. 28th to Oct. 2nd.

Lawn Mowers, Jewelry and Linoleum

A big variety of new lines being added by dealers and distributors is to be noted in reports from Zenith Radio Corp., Chicago. The news runs like this:

Grinnell Bros., with 22 stores in Michigan and Ohio, have converted the third floor of the headquarters building in Detroit to the promotion

and sale of furniture, chinaware, and novelty furniture.

Serlin Radio has taken on a complete line of jewelry and gift items.

Radio Specialty Corp., New Orleans distributors, reports excellent activity on Sandura floor coverings, Kisco fans and Stor-A-Dor wardrobes. The firm is also planning a quality line of non-electric ice refrigerators.

Ideas Galore

Northeastern Distributors, Inc., Massachusetts jobbers, have taken on furniture, wood specialties, Coolerator ice conditioned refrigerators and linoleum.

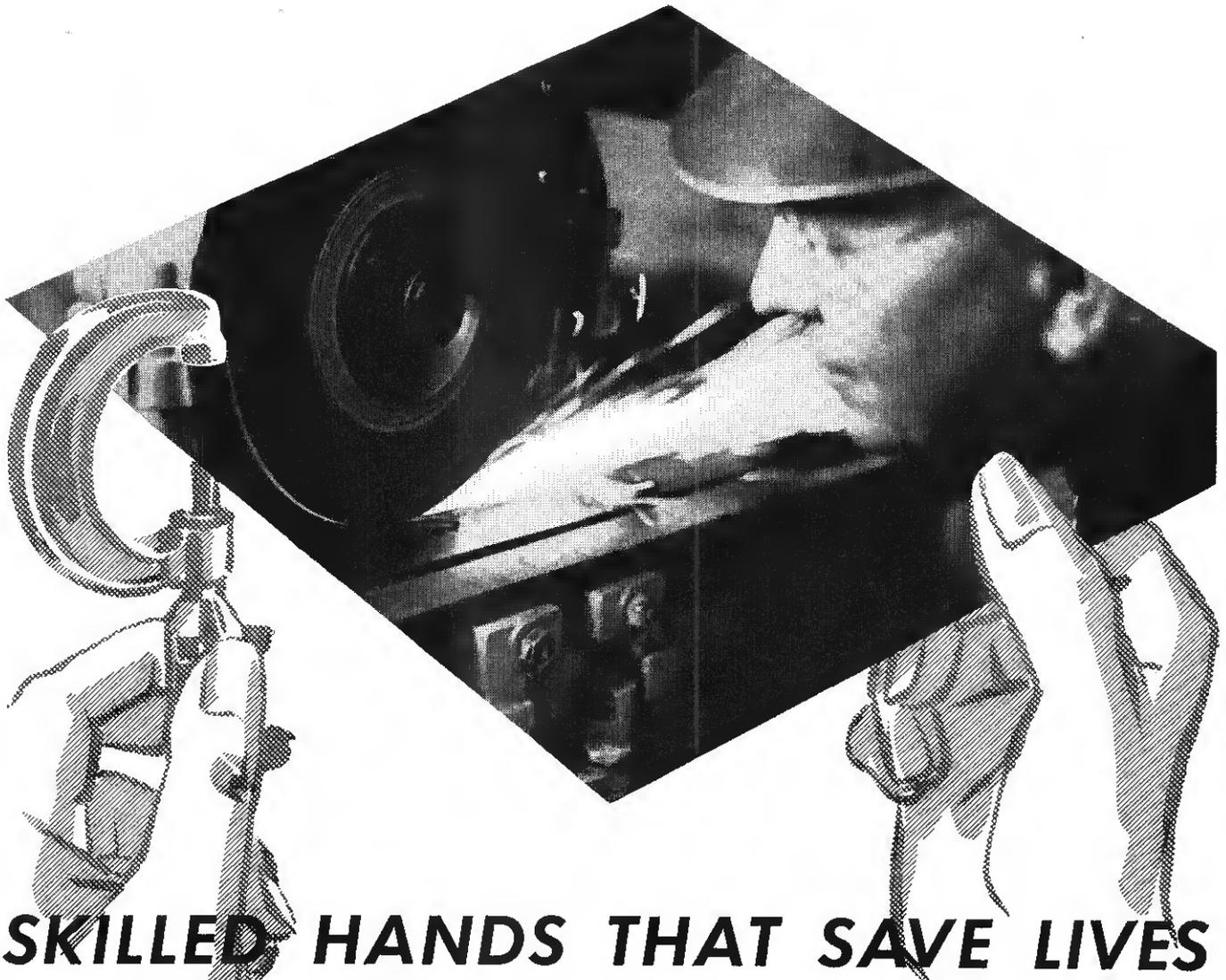
Lawson Radio & Appliance Co., Monmouth, Ill., has added Sherwin-Williams paint, wallpaper, breakfast sets and Pabco linoleum. Lawn mowers, mower sharpeners, and bottled cooking gas are also in the line-up.

Radio Electric Shop, Knoxville, Ill., are accumulating used radios and appliances. They will put them in first class shape for sales in wartime.

Where the Radios Used to Be!



An interior view of The Radio Club, La Porte, Ind., shows a complete line of furniture replacing a \$9,000 stock of frozen appliances which has been warehoused.



SKILLED HANDS THAT SAVE LIVES

Civilization was built by skilled hands. Skilled hands may save it from destruction. For, millions of lives are dependent on the skilled hands of American industry and its symbol, "the man at the bench." America must build weapons better

and faster. And industrial America has met that challenge squarely. This is a war of precision, and precision manufacturing was cradled in America. The skill and spirit that is America will "see her through."

The Wilcox-Gay organization is proud of the important work our nation has assigned it. The story of Wilcox-Gay's participation in the war program can't be told now; after Victory it will be an interesting chapter in the chronicle of America's "battle of production."



WILCOX-GAY CORPORATION
CHARLOTTE, MICHIGAN

"Producing for war...planning for peace"



Jobbers in Seven States Report Brisk Flow of Repair Parts

• Servicemen who have chosen to help fight the battle on the home front, and who concern themselves with the vital business of keeping the 60,000,000 U. S. radios in repair, are doing a good job of it. Their ranks are thinner, because many servicemen have joined the Armed Forces, but the volume of parts which they are putting into the radios of the nation is greater than in pre-war days.

These facts are indicated in a survey completed by **RADIO RETAILING TODAY**, which has contacted a number of leading parts jobbers in order to get a national check-up on the flow of replacement parts today.

Parts distributors in Louisiana, Connecticut, Minnesota, Michigan, Pennsylvania, Oregon and Ohio have expressed themselves on the subject. The majority state that their total demand for parts from their servicemen customers is larger than in pre-war days; the idea is that the demand comes from fewer servicemen, but that each order is a larger one.

For instance, one jobber has this to say:

"The demand from the individual serviceman customer is considerably larger than in pre-war days. However, there are fewer such deals than previously.

"Casualties among the better accounts are minute, comparable to the situation as relates to smaller dealers.

The type of serviceman who is continuing in business is much superior to former averages. For the most part, he is not only an experienced technician but has at least a reasonable knowledge of conducting a business, whereas those who have left the business have the lack of experience in one or both of the above classifications, and no doubt will be much better off where they now are than they formerly were in the radio service picture.

Few But Choice

Another distributor agrees on the need for more parts, and adds a note on "trade stabilization." He says that "I find that: total need for parts from the service trade is greater; those leaving the business so far have been mostly the smaller servicemen who have been able to make more money by entering government service or simply working in war plants; the larger and more intelligent (usually older) ones are slow to leave or go out of business; if only the larger shops survive, the public will finally get around to paying for radio service what it is actually worth, which up to now, in general, they have not."

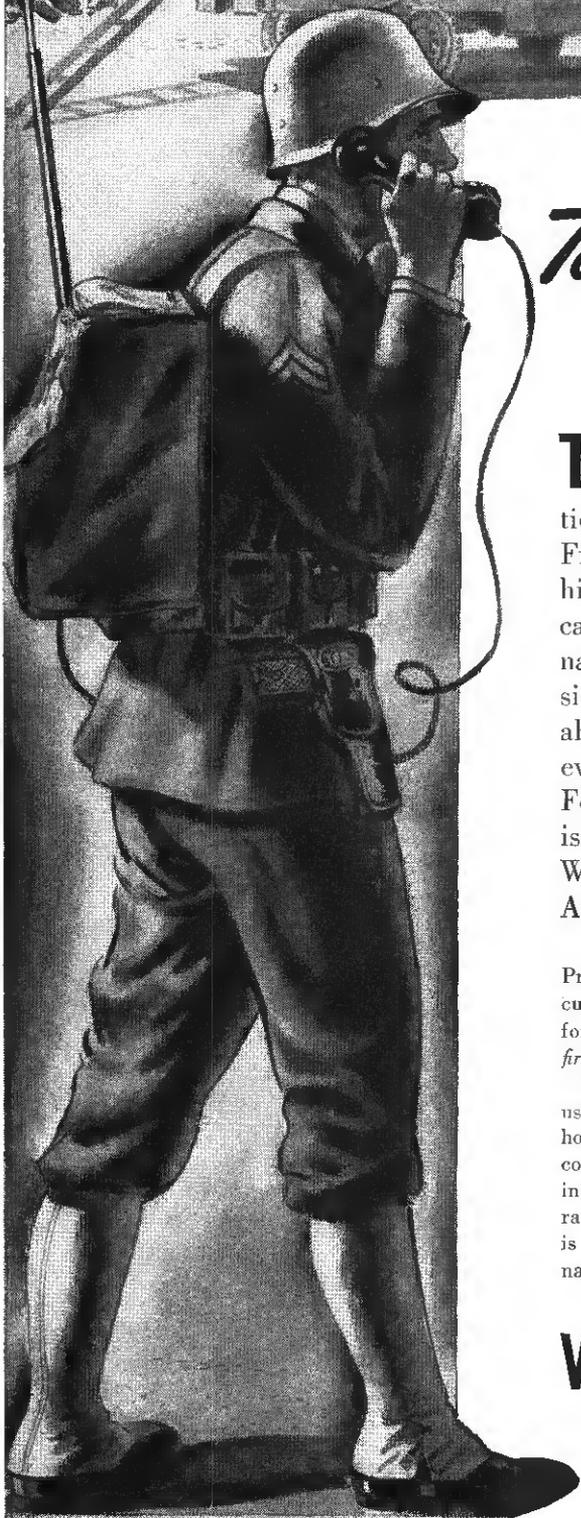
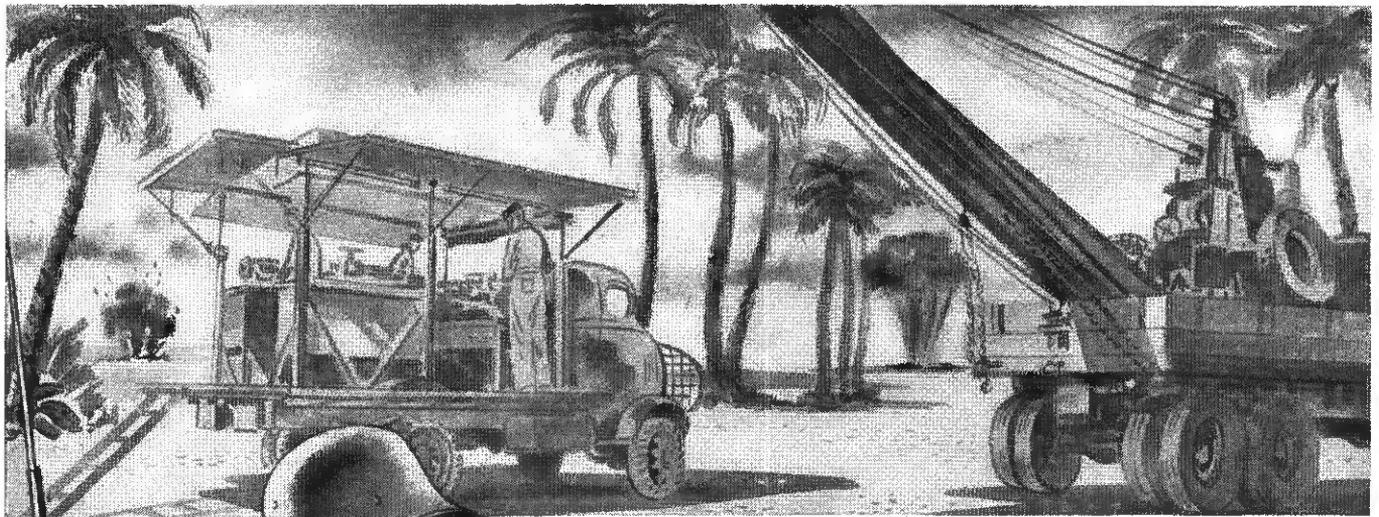
Only one jobber reported that his parts business had decreased; two of them said that their volume was about the same. Also in the minority were the distributors who were discouraged about the fact that in their particu-

lar areas, the better type serviceman had "folded" his business.

A bright note was added by a distributor who said that he was now selling to servicemen in "somewhat" larger quantities (total) but added that "this does not take into consideration our parts business to the military and to the industrial concerns which are buying in ever-increasing quantities, making our over-all total parts business far greater than in pre-war days."

In this jobber's case, he reported that the servicemen who had closed their shops could be divided into two groups. Group 1 includes men with good technical ability but lacking in the shrewd business judgment needed to make radio servicing a profitable business. Group 2 consists of men with insufficient technical training that are taking advantage of this opportunity to secure additional schooling and at the same time better serve their country in time of war.

Some problems of a special nature have appeared in connection with this new situation in the servicing trade. In one area, for instance, a new crop of "night-working" servicemen is coming up among those who have daytime defense jobs, presumably. In another area a jobber has found it wise to start a "wholesale service dept." to operate on a strictly wholesale basis in assisting the remaining servicemen with their overworked facilities.

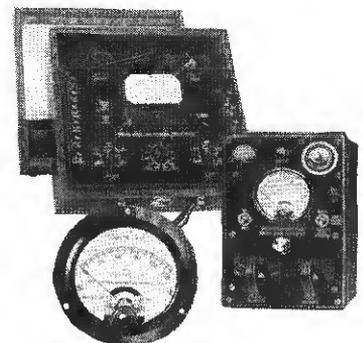


Tom is meeting familiar faces
EVEN 'OVER THERE'

TOM'S background in radio now stands him in good stead in the Signal Corps. Starting as a "ham", then a communications engineer . . . he knows how to spot and correct trouble. From the day he "joined up" he's been thoroughly at home in his new job. Even the test instruments he works with are duplicates of those in the shop back home. They bear the same name he's always banked on for measurement dependability since he built his first "ham" transmitter. And now that he's abroad, he's surrounded by these same familiar instruments even on the equipment and in the repair depots of our allies. For throughout the allied countries, too, the mark WESTON is the accepted symbol for dependable electrical measurement. Weston Electrical Instrument Corporation, 581 Frelinghuysen Avenue, Newark, New Jersey.

Priority restrictions have necessarily greatly curtailed the supply of WESTON instruments for many industrial needs. *Uncle Sam stands firmly at the head of the instrument line!*

To the great majority of instrument users not now engaged in war production, however, this has meant little, if any, inconvenience. The WESTONS they now have in service will see them through for the duration and beyond. *Long-life dependability* is built into every instrument bearing this name.



WESTON INSTRUMENTS

Laboratory Standards • Precision D-C and A-C Portables • D-C, A-C, and Thermo Switchboard and Panel Instruments • Instrument Transformers • Sensitive Relays • Specialized Test Equipment • Light Measurement and Control Devices • Exposure Meters • Aircraft Instruments • Electric Tachometers • Dial Thermometers

Explain Radio **FADING** to the Public

Neither Radio Sets Nor Station to Blame for After-Dark Distortion

• Beginning this month, Nature will again be giving broadcast listeners *extraordinary reception*. After night-fall, the whole broadcast spectrum will again be filled with far-off stations, many of them roaring in as

strong as "locals."

This means that our radio-reflecting-layer, 100 miles up in the sky, is working as an excellent radio mirror again.*

But such "good reception," as we

enjoy at present, also brings some annoying *troubles* to broadcast listeners. These are twofold:

Two Kinds of Trouble

1. Distant stations come in strong, right alongside familiar local stations, and so cause crosstalk and "monkey chatter" on familiar local channels.

2. Nearby high-power stations (60 to 100 miles away) have their sky waves so strongly reflected by the excellent sky mirror, that their reflected waves (traveling a path 150 miles longer) reach the listener out-of-step with the same station's direct-wave he ordinarily hears. This conflict of the two sets of waves, if of equal strength, may produce annoying total fading. Or, certain audible frequencies may be suppressed, so that at intervals the announcer "sounds as if he had a mouthful of hot mush," and a fine orchestra tinkles like a Chinese band!

Too Much of a Good Thing!

Broadcast listeners hearing such interference, usually blame their sets.

But neither the set nor the broadcast station is at fault! Nor is the set maker, the dealer or the radio repairman!

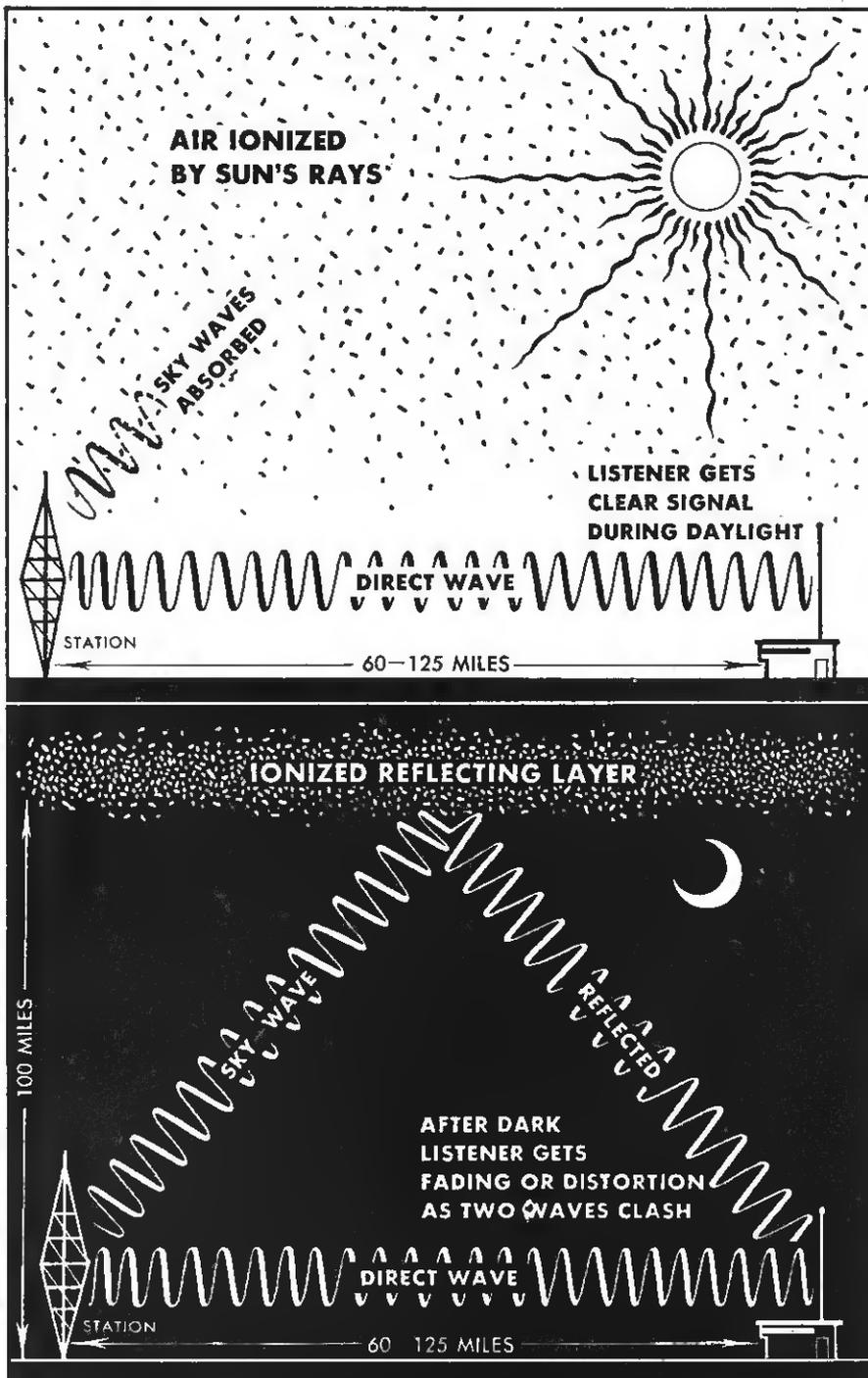
Nature herself is to blame, by temporarily making her reception conditions *too good*,—so that we suffer from the spillover. Fortunately, the trouble occurs only after dark, and usually for limited periods.

Try This Solution

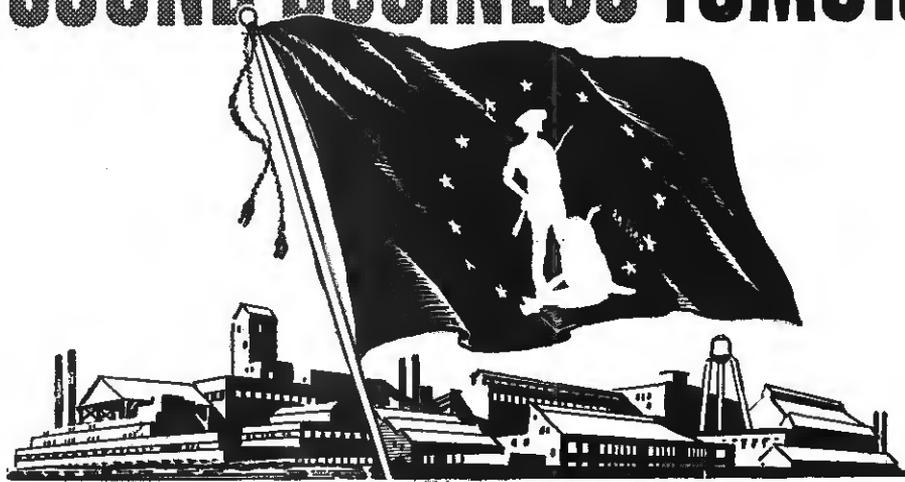
A very long antenna, or a pickup from telephone wires will sometimes help at the receiving end. This affords pickup from a number of points, so that fading at any one point is neutralized.

Or the listener can tune to stations less than 60 miles distant, whose reception is unimpaired. He also will find during such distortion periods that he has *new* and almost unlimited choices among stations *over 150 miles away*, for *on such nights* these distant broadcasters, including *many never before heard*, will be found coming in like locals.

*This is to be expected, now that sunspots are at a minimum in their 11-year cycle, for it is the electron projectiles from the sunspots which shatter the radio mirror and so interfere with long-distance reception.



FOR VICTORY TODAY AND SOUND BUSINESS TOMORROW



Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business*. It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow*, keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Pay-roll Savings Plan, *now is the time to do so*. For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.

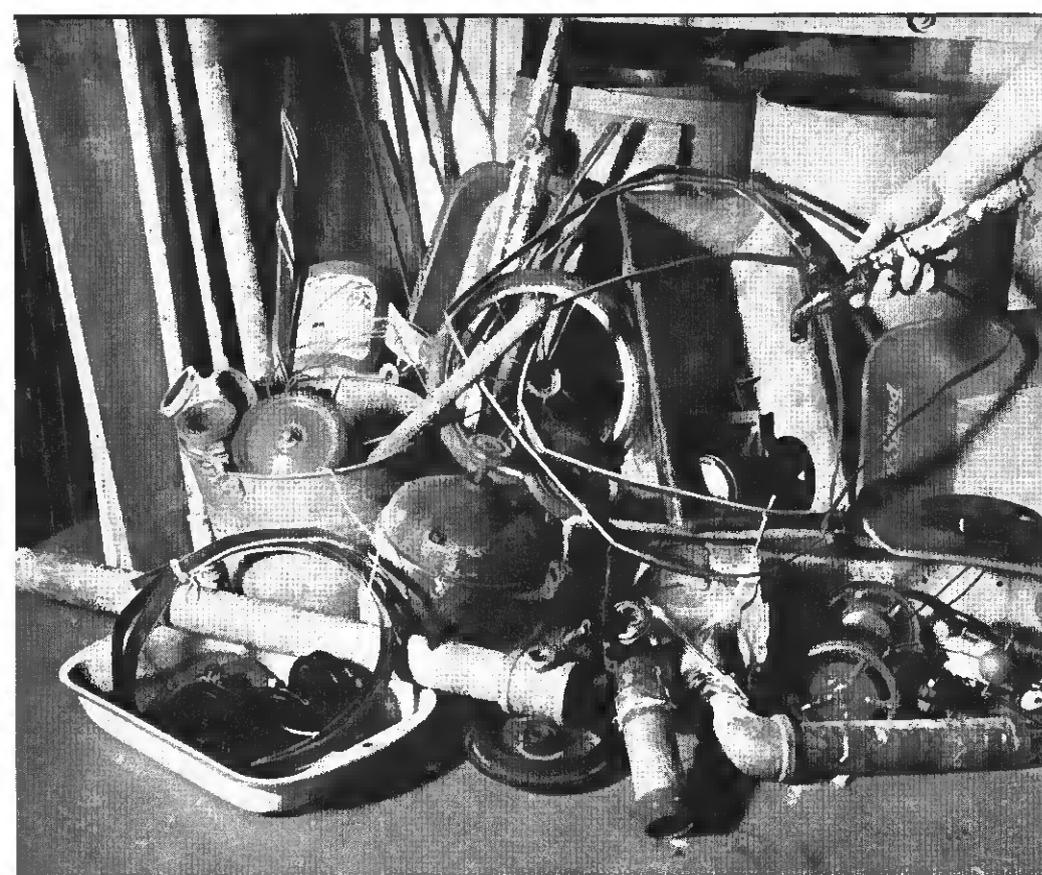


Save With

War Savings Bonds

This Space Is a Contribution to America's All-Out War Program by

RADIO Retailing TODAY



OEM Photo

"Precious" junk like this can be picked up from the average radio home.

Get in the **SCRAP!**

• One of radio's Victory jobs is the prompt and efficient collection of all scrap materials within the limits of the industry. The War Production machinery of the nation needs it badly, and the situation invites the energetic interest of everybody in the radio business.

Donald Nelson of WPB, in his currently "tough" mood, has declared that the collection of scrap is today as important as any problem we have in this country. He has made it clear that there must be a sharp acceleration in the coast-to-coast effort to "get in the scrap."

The activities of the radio factories themselves are already being organized under the direction of Larry E. Gubb, chairman of the board of Philco Corp. Mr. Gubb works with the American Industries Salvage Committee, 350 Fifth Ave., New York City, of which Robert W. Wolcott is chairman, and is contacting all manufacturers in the industry. The emphasis is on the collection of such critically-needed materials as iron and steel scrap, scrap rubber, non-ferrous metals, rags, manila fibre and other materials used in war production.

Some radio manufacturers have al-

ready organized their plant personnel for important salvage drives and have collected great amounts of "waste" metal. The "mountain of metal" saved by salvage efforts at RCA plants is an example.

The Whole Trade

Cooperating with the all-industry scrap effort, RADIO RETAILING TODAY is helping to enlist the efforts of the thousands of radio servicemen and dealers who contact the millions of radio owners to "Keep 'Em Working." The suggestion is that local radio men clean up their own shops and homes; that they encourage the scrap collection idea in all the homes they visit

Donald Nelson says:

"I am not exaggerating in the slightest, when I say that the collection of scrap is now as important as any problem we have in this country. If we as a nation, allow a single furnace to go down for lack of scrap, we should, every one of us, have a guilty conscience. The loss of one per cent in our production of steel, for example, is immediately reflected in the arming and supplying of necessary material to our fighting forces."

on radio repair calls; that they use their trucks in hauling scrap whenever appropriate; and that they cooperate to the limit with all existing salvage plans and organizations already set up in their communities.

The idea is that the collection of scrap should become a part of the radio man's wartime duties—it should be a part of his wartime patrol as represented on the front cover of this issue.

In a special statement to this magazine, Mr. Gubb describes the radio serviceman's salvage job as follows:

"The radio servicer can be Uncle Sam's right-hand man in the nationwide drive to get scrap metals and other materials out of homes, farms and business establishments and into the steel mills where it is drastically needed to keep the production of steel for tanks, ships, planes and guns running at capacity. Scrap iron and steel stockpiles have dwindled from the normal six weeks' supply to a two-weeks' supply. The War Production Board is swiftly organizing a network of Salvage Committees in industry, in farm communities and in town and cities, to handle the job of getting in the scrap.

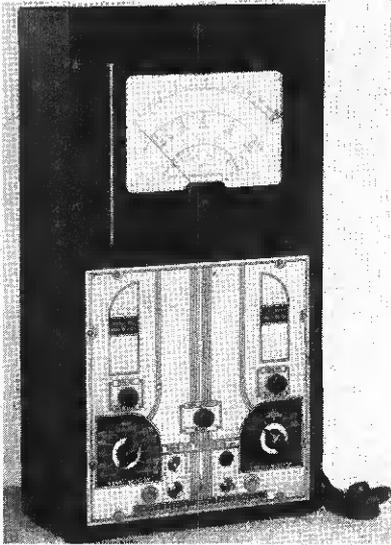
Servicer's Job

"What can the radio servicer do, over and above his own contribution of scrap materials? First, he can take on his personal patriotic responsibility of asking—at the home of every customer he visits—if there is not some metal or other scrap which the householder would like to have hauled down to the scrap collection center in the radio man's car, on his way back. Second, he can notify the local salvage committee of his willingness to give this special service—a service to his customers and to the scrap metal drive.

"Inasmuch as production of new radio sets has been stopped by the Government, it is up to radio servicemen to do everything they can to aid the public by keeping existing sets in operation. Especially in wartime, it is important that every American family be able to keep informed of current developments, which they can do through the miracle of radio. In those cases, however, where sets are too old or obsolete to be repaired satisfactorily, the parts in them should be added to the nation's scrap reserve for service elsewhere in the war program."

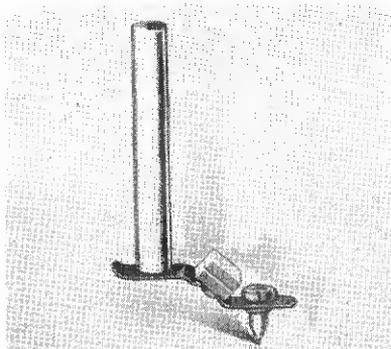
New Products

Improved Equipment for Sales and Service



RCP VACUUM TUBE MULTI-TESTER, model No. 622, is an electronic voltmeter, ohmmeter and capacitometer in one. Furnishes capacity readings directly in microfarads with measurement ratio of 40,000,000 to 1. Comes complete with leads and larger readily accessible batteries, tubes and pilot light in gray welded case. Sloping panel and 4½ in. meter. Also comes in an upright style model (No. 662-V-7) with large 8½ in. rectangular meter. Radio City Products Co., Inc., 127 W. 26 St., New York, N. Y.—RRT.

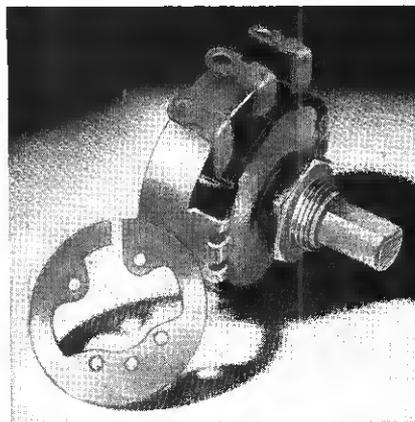
GE RADIO TUBE CHECKERS, one a portable model in a wood case with brown leatherette cover, the other a counter model in a grey meal case. The models, known as TC3 and TC3P will take care of all present and future tubes, through the use of a special switching system that provides any voltages necessary to test tubes. Also provide a triple test for output and a thorough check for short. General Electric Co., Schenectady, N. Y.—RRT.



WALCO FLOATING JEWEL NEEDLE, spring-mounted "lifetime" playback type. Precision-ground, highly polished sapphire point for thousands of

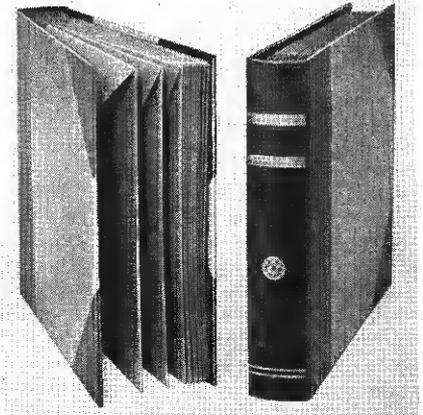
playings. Designed to "damp out" record scratch and surface noise by a plastic element mounted on the spring. The novel spring design affords maximum protection to the sapphire point and record alike. \$2. Electrovox Co., Inc., 139 Maplewood Ave., Maplewood, N. J.—RRT.

NATIONAL UNION S A V . A - SHAFT volume control is a new development in replacement control design using the shaft from the defective control. Eliminates shaft size and knob fitting problems. A switch mechanism is provided which operates when lug is released. Available in various resistance values, tapers and taps to handle the majority of usual replacements. Lists at \$1. National Union Radio Corp., 57 State St., Newark, N. J.—RRT.



CLAROSTAT SERIES 37 POTENTIOMETERS employ a new stabilized element—a resistive coating on a bakelite base. It is chemically treated to eliminate all further changes in its composition and likewise heat-treated to stabilize its temperature and humidity characteristics. The controls are non-wire wound. Clarostat Mfg. Co., Inc., 285-7 N. 6th St., Brooklyn, N. Y.—RRT.

UNIVERSAL STANDARD MIKE SWITCH, SW141, housed in plain plastics case with hanging eye at the top has cable strain relief construction. May be used as press-to-talk type or the locking button may be used on the "on" position. Lightweight and compact it can be adapted for various communications devices. Specifically designed for use on cord assembly CD318, as well as CD508, but also has other applications. Built to specifications of and approved by the Army Signal Corps. Universal Microphone Co., Inglewood, Calif.—RRT.



PEERLESS RECORD ALBUMS in new deluxe style with "Protecto-Flap" feature which keeps records from sliding out if album should be inverted. Comes in two-tone blue or brown color combinations, with stitched headband, rounded back, and corners reinforced for longer wear. Genuine fabrikoid construction. The 10 in. size lists at \$1.50 and the 12 in. size \$1.75. Part of new line which features "window" tab improvement on some albums. Peerless Album Co., Inc., 38 W. 21st St., New York, N. Y.—RRT.

SOUND APPARATUS FREQUENCY RECORDER, built as a single unit in a portable case, 9 x 11 x 15 in. Electrical unit and recording mechanism includes magnetic clutch, motor, recording paper, ink, writer, etc., mounted underneath the main panel. On the top panel are located the interchangeable input potentiometer, oscillator drive, reversing switch, power supply switch and the bridge meter. 115 v., 60 cycles. Sound Apparatus Co., 150 W. 46 St., New York, N. Y.—RRT.

★
Buy
War Savings
Bonds and
Stamps



Photo-tubes in Service

How Common Photo-electric Devices Operate. Typical Characteristics in Use.

• The rapidly growing field of electronics is making many of its strides through the operation of the photo-electric tube.

This versatile member of the electron tube family will do more and more of the important jobs being handled by vacuum tubes. Servicemen will do well to familiarize themselves on the characteristics and circuits employed in these tubes.

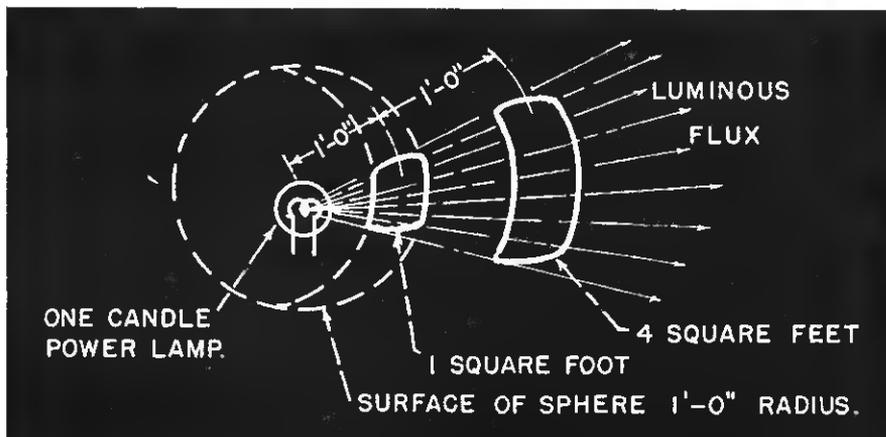
Photo-electric tubes are operated by exposing them to a source of light. In order to understand fully the photo tube operation, a discussion of some of the common principles of light will be helpful.

Light rays travel in straight lines over the distances involved in practical applications. It is customary in photo-tube work to speak of luminous flux as the flow of light energy. Luminous or light flux is somewhat similar to magnetic flux. In each case it is the flux which is considered as producing the results. In light, the luminous flux is radiated from the source of light in straight line paths always away from the source.

Candle Power

Note in Fig. 1 the diagram of a light source of 1 candle-power which is considered as being at the center of an imaginary sphere of 1-foot radius. The 1-candle-power light is one which produces as much luminous flux as a special type of candle. The standard candle has since been replaced by incandescent lamps which have been calibrated against a standard candle.

Fig. 1—Radiation of light from a point source is measured in number of lumens of flux. One candle power lamp produces one lumen of flux per square foot at distance of one foot from light.



In Fig. 1 the light is assumed to radiate flux in all directions. In order to measure the amount of this flux it is customary to determine the amount which passes through a 1 square-foot area on the surface of the imaginary sphere. If the light at the center of the sphere is 1 candle-power the amount of flux passing through the 1 square-foot area is said to equal

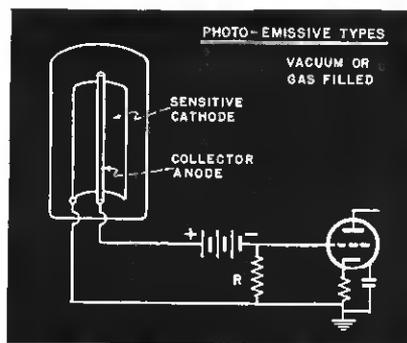


Fig. 2—Construction of typical high vacuum type of gas filled photo-tube of photo-emissive type.

1 lumen. If the light were 10 candle-power, then ten lumens of flux would pass through the same 1 square-foot area. If the light source radiates flux equally in all directions, the total lumens of flux in all directions is then equal to $12.6 (= 4\pi) \times$ the number of candle-power intensity of the source.

Foot-Candles

As with magnetism, the flux density or amount of flux per unit of area is

important in light measurements. If the light flux is dense enough to produce 1 lumen per square foot of area the surface is said to be illuminated with 1 foot-candle. The foot-candle is a measure of the illumination of an area and is equal to 1 lumen per square foot. Referring to Fig. 1 again, if the source of light is 1 candle-power the illumination on the square-foot of area one foot from the light is 1 foot-candle. The same light flux passing through the 1 square foot of area will pass through four square feet of area at 2 feet from the source, through nine square feet at 3 feet from the source, etc. Thus the illumination at 2 feet from the source is 1 lumen of flux/4 square feet or $\frac{1}{4}$ lumen per square foot which is also equal to $\frac{1}{4}$ foot-candle. At three feet from the source, the intensity of illumination would be $\frac{1}{9}$ lumen per square foot or $\frac{1}{9}$ foot-candle. It is thus seen that the illumination of a surface varies inversely with square of the distance and directly with the candle power of the light source.

To take an example, a 50 candle-power lamp at a distance of 10 feet from a surface will produce $50/10 \times 10$ or 0.5 foot-candles or 0.5 lumens per square foot. Typical lamps produce about 10 lumens per watt up to 75 watts and about 15 lumens per watt up to 200 watts.

Photo-Emission

The photo-tube is an electronic tube with the purpose of converting light energy into electrical energy. In general they consist of a light-sensitive material which will emit electrons or otherwise control a flow of current when the material is exposed to light flux.

The most common type of photo-tube is the photo-emission type which consists of a metal surface coated with a light sensitive material usually some of the rare earth chemicals such as caesium and similar elements, and a small collector terminal called the anode. This anode is usually a vertical wire placed so that it faces the sensitive coating. The light sensitive cathode is usually curved to form a section of a cylinder and the anode wire is placed along what would be the axis of the cylinder. This type of construction is shown in Fig. 2.

The photo emissive type of photo-tube is housed in a glass shell and usually looks very much like a regular radio tube externally. The tube is evacuated. In some types a small

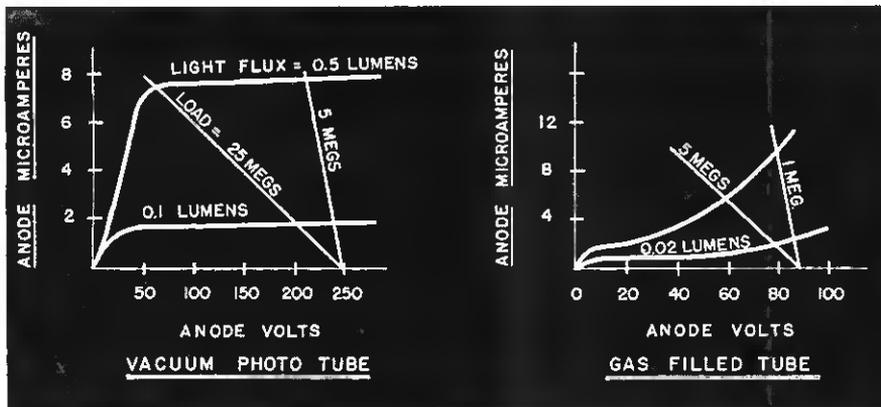


Fig. 3—The current vs. voltage characteristics for vacuum photo-tube and gas filled tube shows relative sensitivity. Typical load lines show output voltage range over light variations.

amount of gas is introduced and this type will be discussed more fully later.

When the light flux strikes the sensitive coating of the photo-tube enough energy is obtained from the light flux to cause some electrons to be released by the coating material. These electrons will be attracted to the anode which operated at a positive voltage with respect to the cath-

ode which are released by the light energy will be accelerated to an extent that will cause the gas to ionize. That is, the speeding electrons will collide with molecules of gas and knock extra electrons out of the gas atoms. These extra electrons along with ones originally released by the light are attracted to the positive anode. The small amount of gas in the tube has the effect of increasing the sensitivity of the photo-tube since a greater number of electrons flow through the tube circuit for the same amount of light striking the surface.

Photo Sensitivity

The photo-tube sensitivity to light is usually given in micro-amperes per lumen. Thus the more sensitive photo-tube gives a greater current for the same light flux. Gas filled tubes are considerably more sensitive than the vacuum types but have the disadvantage that the current is not directly proportional to the amount of light striking the tube. Typical characteristics for a vacuum and a gas filled photo-tube are shown in Fig. 3.

Note in Fig. 3 the similarity of the vacuum type photo-tube to the pentode radio tube.

Another type of light sensitive de-

vice is the photo-voltaic cell. This photo-cell shown in Fig. 4, develops a voltage between its terminals when it is exposed to a source of light. There are a number of variations of this type of cell. In the particular one shown, the light strikes a semi-transparent metallic film covering an iron-selenium compound which in turn is deposited on an iron plate.

This type of photo-cell does not require a source of voltage as the cell develops a source of voltage internally when exposed to light. This voltage will send a current through any external resistance connected across the terminals of the cell. This type of photo-cell is used for measuring intensity of light, particularly photographic exposure meters.

Photo-Conductive Cell

A third type of photo-electric device is the photo-conductive cell which has the ability to control the amount of current flowing in a circuit when the cell is exposed to light. The photo-conductive cell is shown in Fig. 5.

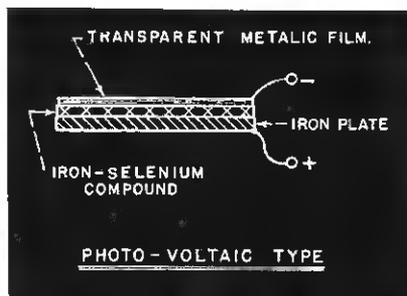


Fig. 4—Photo-voltaic cell generates internal voltage when exposed to light. Used in exposure meters.

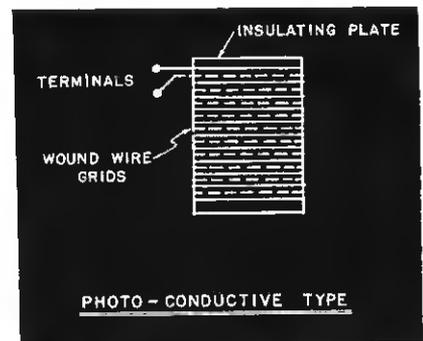


Fig. 5—Photo-conductive cell acts as variable resistor controlled by intensity of light.

ode. This voltage varies with different types of tubes but usually is about 90 to 250 volts for the vacuum types and less for the gas filled tubes. The number of electrons (which determines the output current of the tube) which are emitted by the tube is proportional to the intensity of the light.

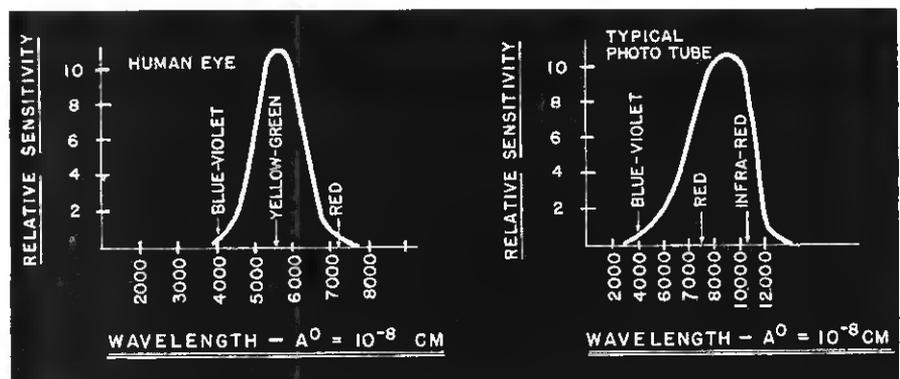
Gas Filled Types

In the usual circuit, the output current of the tube is made to flow through a high value of series resistance and the voltage developed across this resistor is connected to a vacuum tube amplifier to control other circuits.

If a small amount of gas is placed in this same type of photo-tube, the operating characteristics are greatly changed. The gas used is one which will not react with the light sensitive coating. Argon is a typical gas that is used. When the voltage between the anode and cathode is raised above a certain minimum point the electrons

It is usually constructed by winding two fine bare copper wires side by side on an insulating form. The wires are spaced very slightly in order not to form a short circuit. This grid structure
(Continued on page 38)

Fig. 6—Typical color (light wavelength) curves for human eye and typical photo-tube. Gas filled photo-tubes have practically same characteristics as vacuum types.



Multi-Station Tele Antenna

Receiving a Wider Range of Frequencies

• Television Channel No. 4 now assumes a real meaning for television receivers in the New York metropolitan area as Du Mont Station W2XWV goes on the air each Sunday evening at 8:30 with a program of entertainment. In fact, to turn in this 78-84 mc. signal satisfactorily, particularly in the outlying sections, or where reception is generally poor, it may be necessary to revamp the existing antenna which has heretofore been adequate in most cases for NBC television programs on Channel 1 (50-56 mc.) and CBS on Channel 2 (60-66 mc.). With a view to providing satisfactory reception in Channels 1, 2 and 4 for this wider selection of television programs, the following suggestions based on extensive experimentation, are now offered by the Engineering Department of the Allen B. Du Mont Laboratories.

3-band Pickup

The essential factor is an antenna which will provide adequate signal pickup in the three frequency bands. Until now it has been a relatively simple matter to install a dipole of a length between 80 and 120 inches, aim it in the general direction of the two television transmitters operating in New York City, and receive satisfactory images and sound. At distant points or in poor reception spots, a reflector has been added. Such an antenna, however, may prove quite inadequate for Channel 4, which is on a much higher frequency. Experimentation indicates that a 90-inch double dipole can be easily assembled out of the present dipole and reflector assemblies, at very little expense, by cutting down the length, mounting one above the other, and connecting the two sides as shown in the accompanying sketches, for optimum recep-

tion on all three program channels. Such an antenna is recommended because it is probably superior to a single dipole or again a dipole and reflector, from the standpoint of increased signal strength, better pictorial detail, and also because it operates satisfactorily on all three channels. Other factors of height, location, quality of transmission line, etc., still remain, of course. Also, it may be necessary to raise the antenna or to replace poor quality transmission line in order to pick up the higher frequency signal radiated by the Du Mont transmitter.

Twin Dipoles

Instead of the usual dipole and reflector arrangement, the present suggestion is to place the two 90-inch dipoles one above the other as shown in the sketches. The dipoles should be spaced 24 inches apart, the rods on either side connected together, and the connecting pieces tapped at their exact centers for the transmission line, as shown.

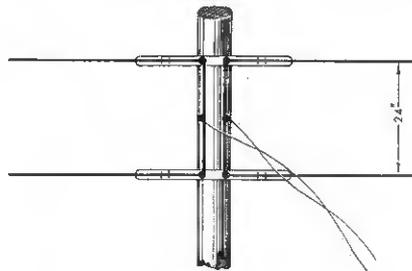


Figure 1.

In Fig. 1 we have the supported-rod type, with a cross-arm mounted on the mast supporting the rods of each dipole. Heavy-gauge copper wire or 1/4" copper tubing may be used for the connecting pieces, while the transmission line is connected to the exact center of the connecting piece by soldering or binding-post means.

In Fig. 2 we have the unsupported-rod type, the mast being drilled to accommodate each rod, while copper tubing is suggested for the connecting pieces. Rods and connecting pieces are offset or staggered as shown to prevent the shorting of the elements.

In converting a single dipole to this new arrangement, it is necessary to obtain and use another dipole as well for the second dipole, cut to the same length as the first. The 90-inch length is recommended because it is

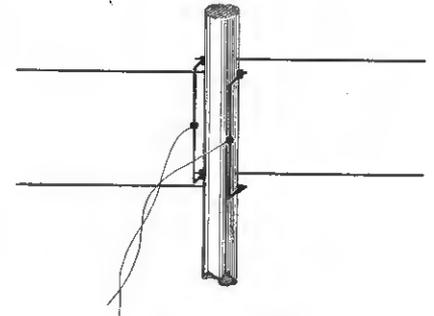


Figure 2.

proving superior to a single dipole or a dipole with reflector, on the three frequencies. Reversing the antenna leads will in some instances increase the gain, and should therefore be tried.

Alignment

The r.f. antenna and oscillator circuits may be re-aligned in the field by a qualified service man, provided the original factory adjustment of sound and video I.F. circuits is not disturbed. *Caution: Do not attempt to re-align the I.F. circuits in the field, but rather return the receiver to the factory for such servicing.*

To adjust the oscillator trimmers for maximum sound, a signal generator is tuned to the sound carrier frequency or the transmitter's own sound-carrier frequency may be used to align the oscillator circuit. Each oscillator trimmer is adjusted separately for maximum sound received on each of the four channels mentioned below.

To insure that the oscillator is tuned above the desired carrier frequency, the signal generator is then tuned to the picture carrier frequency and a check of the signal received is made through the video channel.

Final Adjustment

All adjustments of the oscillator trimmers are made with the tuning control set at one-half capacitance. In cases where two separate oscillator frequencies will pass a sound signal, be sure to use the higher frequency oscillator setting (lower capacity).

Then adjust the R.F. and antenna trimmers for maximum detail, following the procedure just mentioned. It should be noted that maximum picture signal does not necessarily mean best pictures. A compromise between signal strength and detail usually provides the best overall results.

Television Channel assignments in New York

Channel	Station	Frequencies
1	NBC	50- 56 m.c.
2	CBS	60- 66 "
3	Unassigned	66- 72 "
4	Du Mont	78- 84 "
6	Bamberger Broadcasting Service	96-102 "
7	Unassigned	102-108 "
8	Bloomington's	162-168 "



Reduce

Your Worries

BUSIER than you ever were? Harder to "keep 'em listening", with the right replacement parts becoming scarcer? You bet! It's no cinch to run a radio repair business these days... and things may get worse before they're any better!

Mallory can't promise you a "cure-all" for your repair worries. But we are doing our level best to help you solve today's tough problems. Here's how:

1. Standardization: Mallory long ago started a policy of designing and manufacturing interchangeable, standardized precision parts. For instance, with a handful of Mallory Universal Volume Controls, you can service 85% of all control replacements! Other Mallory parts are just as adaptable. Think what this means to you... in saving time... in keeping your inventory at a minimum... and still being able to repair most receivers.

2. Practical Servicing Information: Technical literature prepared by Mallory is helping thousands of radio servicemen and engineers over the hurdle of shortages. By using the latest "MYE", the Mallory Radio Service Encyclopedia, a serviceman can find the facts he needs to repair the majority of sets, utilizing only the standard radio parts now available.

3. Free Consultation Service: Today, as in the past, Mallory radio engineers are ready to help in solving your problems. Just write our Application Engineering Section, Wholesale Division. You won't get a form letter in reply... you'll receive a practical answer.

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

Cable — PELMALLO

Servicers Need More Gas

Rationing Board's Grant of A and B Cards Inadequate for Repair Jobs

• The editors of RADIO RETAILING TODAY are getting many complaints from radio servicemen that their rationing boards will give them only A cards for gas, which greatly limits their house calls to repair and pick up home radios that are out of order.

Minimum figures show that the average radio serviceman needs from two to three times as much gas as an A card provides, if he is to make his regular necessary calls. Servicemen report to us that their local rationing boards often do not seem to regard radio repair as an "essential" activity, in granting either gas or tire authorizations.

While in some cases servicemen have received only A cards, in other instances they have been given B supplementary coupons, allowing them about 475 miles per month. But even these amounts are insufficient for radio men who have been using 1000 miles to 2000 miles a month in calling on homes to repair radio sets. Especially is this true in the rural districts where the trips have to be longer, if repairs are to be made on farmers' premises.

Radios for Public Morale

At Washington, however, the Federal government itself has taken the view that home radio repairs are extremely important to public morale, and has even given radio manufacturers special authorization for production of replacement parts, to keep home radios in use. A similar viewpoint should be urged on local rationing boards with respect to individual radio men's gas and tire needs.

Here is a sample exchange of letters between a radio servicing organization and the rationing authorities having jurisdiction:

*Rationing Board,
Gentlemen:*

The writer is in the retail radio business and is personally actively engaged in repairing, servicing and maintaining radios. I service and

PREFERRED RATION

Questions on gas rationing, prepared by Radio Retailing Today, have been answered especially for this magazine by OPA officials in New York City. These answers have ruled that:

"If the total monthly occupational mileage of a serviceman is over 470, he may be entitled to preferred ration consideration for that portion of his total monthly mileage which is used for the repair of non-portable radios."

"Non-portable" sets in these rulings means built-in units, and most floor model consoles because they cannot be conveniently carried by one person.

deliver radios within a radius of 35 miles. I have been given a supplementary ration of 16 B coupons. This is not enough for me to carry on my business and I respectfully request the Rationing Board to allow me additional coupons in keeping with my minimum needs.

I am in my forties, have a wife and family, and depend entirely on my radio business for my living. I established this business in the 1920's and have built up an excellent service reputation. Consequently not only the owners of radios bought from us, but also their friends, call us to ask us to repair their sets.



Drawn for OEM

O. SAGLOW

Needs 1100 Miles per Month

I personally take care of most of the long-distance repair calls. Before April, 1942, I traveled in my car an average of 1900 miles per month. Since rationing and rubber-saving became necessary I have cut this to 1100 miles per month. All calls are carefully routed to avoid duplicate trips and unnecessary mileage. Shuttle trips to the office have been eliminated. Service trips start from my home, if that is closer. Everything possible is being done to cut down mileage—even to using a bicycle from the house to the office when the car is not needed.

Your questionnaire requested car owners to do all possible to share their cars. My working hours are long—from 9 or 10 in the morning until 11 or midnight. They are irregular. While I cannot make a regular car-sharing schedule with my neighbors, I gladly share the car when an opportunity occurs. I can, and do, share my car in taking observers to and from the local airplane observation post where I am on duty.

Pleasure driving is out. In the past month, my car has traveled only 18 miles on anything except strictly business. I have given up my vacation completely.

In view of the facts, I respectfully request the Rationing Board to give me additional coupons to permit me to travel a minimum of 1100 miles per month.

*Very truly yours,
RADIO SERVICER*

Appeal Board's Reply

Dear Mr. Serviceman:

Careful consideration has been given to your application and statement appealing from the action of your Local War Price and

(Continued on page 50)

MERCHANDISING POINTERS FROM DIME STORES

Any radio retailer who is looking for pointers on smart merchandising can find a wealth of material by watching the way in which the local "five and ten" plans and carries out a sales promotion campaign. Take a few minutes some day and stroll through your local dime store, observing particularly the manner in which seasonable or high-profit items are being "pushed."

Once inside the door you'll find that two particular departments, the candy counter and the soda fountain, have the best location right near the door where the most customers pass. They're put there for one reason—they pay the best profits of any counters in the entire store. Take a tip from that—put your best profit-payers and their displays in the place where they'll command the most attention. Keep one or two numbers of this best line in your window at all times, for if it pays real profit, it's worth pushing!

Display Ideas

Coming to the regular counters in the five and ten you'll find the same thing holds true. The best items in each department are featured in big displays, either at the ends or on the sides of the counter. They're arranged so that they draw attention first, with the result that they sell best. Do the same thing with your merchandise. Take your best or most popular line, show several models of it in one group, along with the display material furnished—arrange it so that it stands out among all the rest—the result will be that each customer who enters your store will be immediately attracted to that particular line and the sale of that item is well on its way to completion. Dress up your display, make it stand out, make it attractive, and half the battle is won. Put yourself in the place of the customer—if you have your choice between one or two items displayed haphazardly or several arranged together so that they look like real "class," you're going to put your money in that which looks or shows up best, performance being equal.

On the counter ends in the five and ten you may notice a slight departure

from the above. If so, you can bet that in nine cases out of ten that manager is being smart and either is making the most of some especially "hot" number or is clearing some slow item at a reduced price before he is stuck with it. In either case you can well copy the idea even though "hot" specials are not too frequent for the average radio dealer.

Tell Your Story

If you do make an advantageous buy, make a feature of it in your window, with good forceful signs and set up a big display inside, setting aside your regular displays if necessary. In other words, make it known by your actions that you've something really special and that you're not going to be satisfied until you've sold every last one.

On the other hand, if you're finding that a certain item or line is not going over, cut the price on it at once, feature it in your windows and in a strong display in the store—if it doesn't move appreciably within a couple of weeks, cut the price again. You'll finally reach a price which, from the purchaser's point of view, represents the value of the set, and

you'll at least get some return promptly on your original investment.

Many of you will probably ask: "Well, what's new about that?" Nothing at all, but it does afford a reason for pointing out that too many dealers are reluctant to take a small profit or even a loss in order to clear out some slow number. They are not stopping to think that the amount of money representing the cost of the merchandise is fully tied up, that it's practically useless to them when it could be used to buy new, faster-moving sets or parts. They do not realize that, moreover, their investment in such slow stock is gradually losing its value due to the fact that the merchandise is becoming shopworn, dusty and obsolete and that they'll be forced to take whatever they can get when they do decide to sell.

PHOTOCELL PAINTS MURALS ON WALLS

An electronic method for automatically painting murals and enlarged paintings on walls from smaller originals, is the subject of a patent received by Paul B. Murphy of South Nyack, N. Y., and assigned to West-ern Electric Co.

On the wall, on which the painting is to be made, is projected an enlarged optical image of the picture to be reproduced. Mounted adjacent to the wall is a "scanner" consisting of a photo-electric cell which scans the image projected on the wall and sets up electrical impulses corresponding with the tone values of the image. On the same carriage is an air brush which moves simultaneously with the photocell in its scanning operation.

"Tone" Control

The air brush sprays paint on the wall, but its action is controlled by a valve which in turn is controlled by the photocell. In this way the amount of paint applied to the wall is in conformity with the tone values of the image.

Where a colored painting is desired, the light image can be broken up into the three primary colors by a prism and these are scanned by different electric eyes. Different currents are produced by the different colors. These currents control valves which supply correspondingly colored paints that are properly mixed before being sprayed.

New England Officer

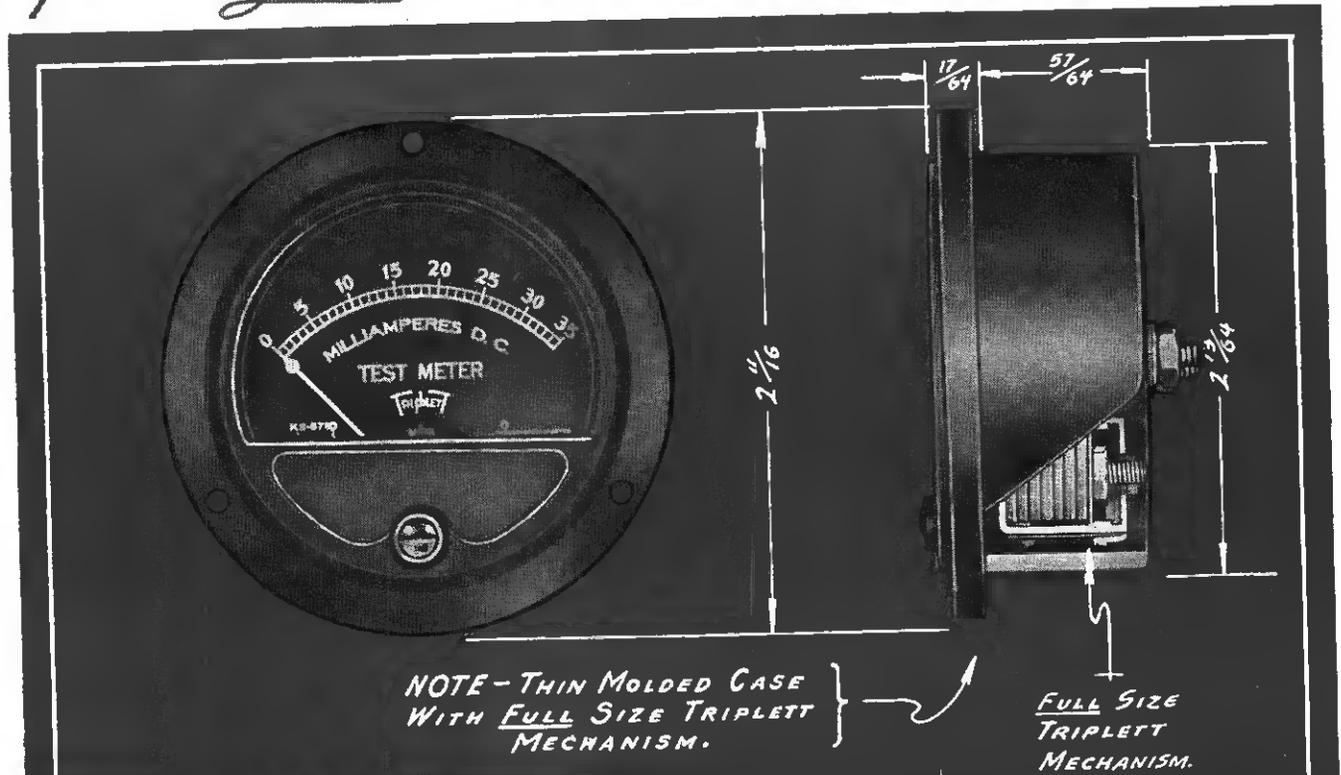


A tube expert is shown here as the proud father of a first lieutenant. Billy Hendrickson, district manager in New England for National Union, says bravo to son William who is now training in special tank corps.



TRIPLETT

Thin-Line INSTRUMENTS

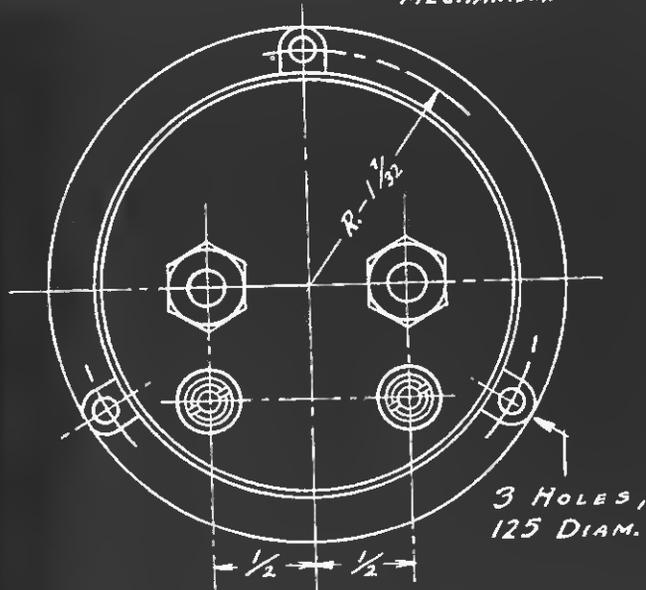


INSTRUMENT "SPECS"

- Minimum case depth.
- Full standard size rigid mechanism . . . no projecting base.
- Wider shroud strengthens face: focuses attention on scale.
- Simplified zero adjustment.
- Sapphire or equivalent jewels. All component parts finely made and of superior quality.
- Balanced Bridge Support.
- Metal Bridges at both ends.
- Separate Scale Mounting.
- Doubly Supported Core.

Also available in metal case

NOTE: When space is at a premium and for all installations where space is efficiently used, Triplet Thin-Line Instruments set a new standard of precision performance in "condensed" space. For full details write for Triplet Thin-Line Bulletin to The Triplet Electrical Instrument Co., Bluffton, Ohio.



DIMENSIONS OVERALL WITH STUDS & NUTS. ORDER. 0221-T
K. S. 5789

THE TRIPLET ELECTRICAL INSTRUMENT CO.
BLUFFTON, OHIO, U. S. A.

DRAWN H. A. 4-29-42
CHECKED W. F. 5-16-42
APPROVED J. B. 5/16/42

5417X

PHOTO-TUBES IN SERVICE

(Continued from page 31)

ture is then covered with selenium, a chemical element, which, when it is heat treated has the ability to change its resistance to the flow of current when exposed to light.

The photo-conductive cell of the selenium type has a "dark resistance" and a "light resistance." When exposed to light the average cell will have a "light resistance" of about 1 megohm and a "dark resistance" of five or six megs. It is thus able to control the flow of current when a voltage is applied to the cell. The

ratio of the dark to light resistance is a measure of the cell efficiency.

Relative Sensitivity

The photo-voltaic and photo-conductive cells in most cases produce a greater output current for the same amount of light than either the vacuum or gas filled photo-emissive tube. Relative sensitivity is not the only important factor in comparing photo-electric devices, however. The speed with which the photo-electric device responds is important in some applications, such as sound motion picture work where the frequency of light

changes may be over 5000 cycles per second. The gas and vacuum photo-tubes are superior in applications requiring response to light intensities which are varying at rapid rates. The range of current output decreases as the frequency of light changes increases with the other types.

In addition to the relative sensitivity of the photo-electric devices, there is the question of sensitivity at various colors of light. In Fig. 6 are two curves showing the relative sensitivity of the human eye and a typical vacuum photo-tube to light of various colors or wavelengths.

Color Response

The human eye responds the greatest to colors of a yellow-green. Photo-electric devices in general have a characteristic which is quite similar to the eye. The photo-voltaic cell described has a response curve which is almost identical with that of the eye. Photo-tubes and photo-cells can be made to be most sensitive at almost any color of light by special processing. In most general applications, the color response of the device is not important if it is being used only as a control to respond to "off" or "on" light conditions. Black-light burglar alarms use tubes which have a maximum response in the ultra-violet or infra-red range where the eye does not respond. The light wavelengths shown in Fig. 6 are shown in Angstrom units. One Angstrom unit is equal to 10^{-8} centimeters or about four billionths of an inch.

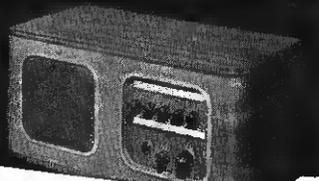
Sherman of Carthage, N. Y. Reports on Wartime Servicing!

Auto-radio installation and repair business is off 50 per cent from last year's record. But house radio repair business more than compensates, declares LeRoy Sherman, Carthage, N. Y., serviceman. Customers are bringing in their sets personally to the shop in an effort to cooperate with servicemen in eliminating delivery and pickup headaches.

Where house calls must be made, Sherman favors establishing a flat 50c charge to cover gas, oil and tire repairs (tire replacements being out for the duration), this charge to be added to the \$1.00 charge for giving set a routine inspection. In other words a minimum of \$1.50 or even \$2.00 for set inspection out of the repair shop.

Customers are buying entire sets of new tubes, even when they are not needed. Where previously they kicked at purchasing one tube, today, they buy tube replacements eagerly. In this connection, Sherman commented on the idea of charging 50c for tube inspection. "In a small community such a charge would create widespread re-

PROFIT NOW
AND HELP BUSY WAR PLANTS
SAVE PRICELESS TIME



We're doing all we can --
TWO WAYS -- to help
YOUR BUSINESS!



ONE! YOUR OPPORTUNITY to make profitable sales now is being promoted regularly by BELphone ads designed to win immediate prospects for you. The ad below, for instance, appears in August issues of both Business Week and Modern Industry — 175,000 separate messages to key men in every field — to firms holding priorities that cover the purchase of BELphone equipment and other BELL Sound Systems.

TWO! YOUR ORDERS are getting every ounce of attention and action we can possibly give them in our 'round-the-clock effort to produce all the war equipment Uncle Sam wants from us. In a determined effort to fill your orders despite pressing war needs, material shortages, priorities and other problems, we have opened a new plant, nearly doubling our facilities. Delayed shipments may try your patience, but we're working extra hard, for extra hours, and with extra speed, to meet your demands.

We're helping you get this profitable BELphone business now, and we promise to continue our all-out effort to help you fill every order!

Write us today for complete information on BELphone Intercommunicating Systems!

HOW TO DO MORE WORK FASTER

TALK DIRECTLY AND INSTANTLY WITH ANY OR ALL DEPARTMENTS



BELphone INTERCOMMUNICATING SYSTEMS

A split-second is all it takes to get complete talking contact with any department or office — when you use a BELphone! You just flip a switch at your elbow and instantly open a two-way conversation with any department head or key individual — or any number of them, simultaneously!

BELphone brings immediate answers to your questions; gets immediate action on your orders, instructions, ideas and requests. No waiting for connections . . . no marking time for messengers . . . no switchboard tie-ups . . . no wasted steps going from office to office . . . no delays of any sort. BELphone helps speed war production by streamlining the work of production management!

You can have any type of inter-departmental call system you want with standard BELphone units. Any number of stations, desk units or loudspeakers stations. The BELphone system you need can be installed quickly and economically. Prices are moderate, operating costs are negligible. Write today for complete information.




BELL SOUND SYSTEMS, Inc.
 1186 ESSEX AVENUE COLUMBUS, OHIO
 Export Office: 5716 Euclid Avenue, Cleveland, Ohio



sentment and lose us much more than we could gain. It takes approximately 10 minutes to check a set of tubes. If tubes are OK and we tell customer so, we find that he of his own accord brings set in for a once-over."

Veterans Come Out of Hiding

Older sets such as RCA 60's and Majestic 90's are now turning up. Profits are great on repairing these "ancients" and labor charges fat because of time element involved. No trouble encountered as yet in the replacement end on these antiquated old-timers. Nearly half the home-set business is made up of sets whose owners should have had them overhauled or repaired years ago. The war brought them out of hiding.

Vibrators and speaker cones and special volume controls are hard to obtain. Tube stock deliveries have slowed up a little. Sherman notes that many "would-be" radio repair men have sprung up. Some of these lads know a little about radio and guess the rest. Soldered-joint connections made with acid-core solder are the results of such amateur talent being turned loose.

Employ Same Serviceman

Sherman believes the public should be educated to the practice of always taking their set to the same radio repair man. He advertises this theme consistently, "Your regular serviceman knows your radio just as your family doctor knows you—why take chances with a new repair man to whom your set is a stranger." Sherman states that he cannot put his efforts whole-heartedly into working on a set that some other serviceman has experimented with before him.

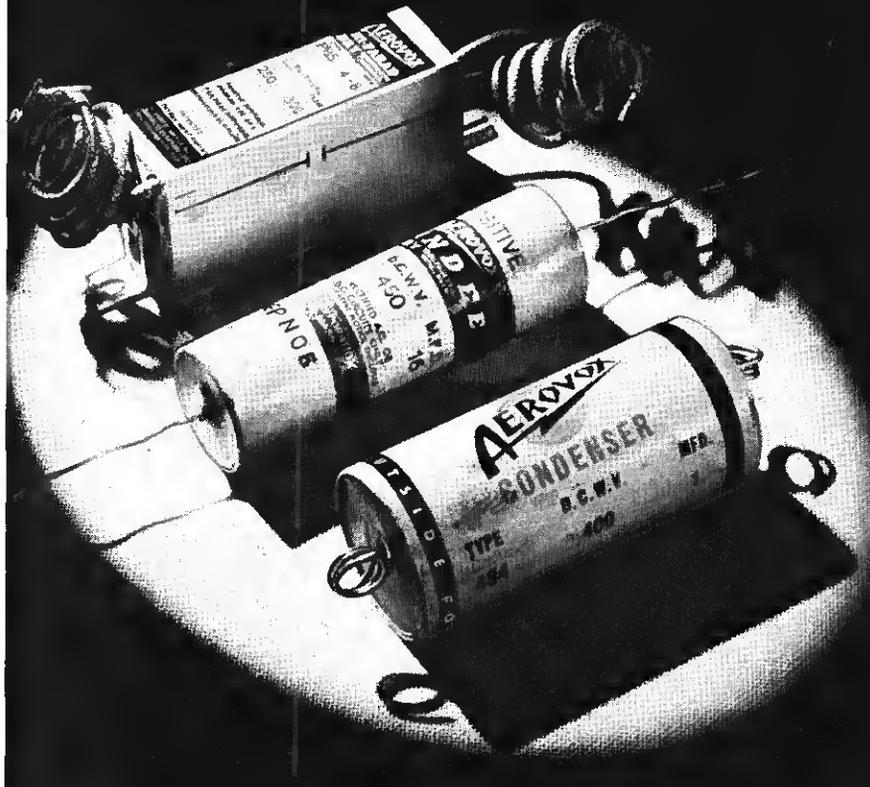
According to Sherman—all radio service bills should be itemized with every part and its price clearly indicated—also the labor charge added. Un-itemized bills arouse customer suspicion or ill will or both. Sherman reports that itemized bills present a full answer to the customer who complains: "What on earth did you do to my set that cost so much?"

Servicemen on Blackout Jobs

With war conditions prevailing, many communities are holding test blackouts. Needed in these tests is a siren amplifying system which gives the beginning and the all clear signals.

Watertown, N. Y., a typical city of 35,000, has had a blackout trial which perhaps represents the average installation. Van Radio of Syracuse were asked to create an amplifying system which would carry the siren's wail to all sections of the city. Also air wardens were to observe the city areas from a high position atop the city's
(Continued on page 40)

Serving on the
HOME FRONT...



Type PBS cardboard-case electrolytic is still the good old standby for electrolytic replacements. Packs a lot of capacity and full-rated voltage into small space. Adjustable metal mounting flanges for single or stacked units. Colored polarity-indicating leads. 25 to 600 v. D.C.W. Single, dual, triple sections.

The Dandee "Victory" type is the popular midget electrolytic in war dress. Extra-generous wax-coating and sealing. Bare tinned-copper leads. Single-section units, PRS, in 25 to 450 v. D.C.W. PRS-A duals, concentrically-wound, three leads, center mounting strap, 25 to 450 v. D.C.W. PRS-B duals, separate sections, four leads, 150, 250 and 450 v. D.C.W.

Ever-popular Type '84 paper tubulars. Non-inductive sections sealed in wax-impregnated paper tubes with wax-filled ends. Varnished colorful jacket label. Maximum protection against moisture. 400, 600, 1000 and 1600 v. D.C.W.

● There still is a correct Aerovox condenser to service any radio set—regardless of growing shortages, curtailment of critical materials, banning of previous types.

Metal-can electrolytics will soon be unavailable for servicing. Likewise mica and oil-filled capacitors. Such types are commandeered for our fighting forces. Substitutes must be used in servicing. But don't let that worry you. Aerovox engineers, after an exhaustive survey, have provided a "Victory" type that will do that job satisfactorily and economically. The three types here shown, for instance, can take care of upwards of 90% of typical set repairs. So rest assured that the radio home front will be maintained, regardless.

Ask Our Jobber . . .

Ask him about those replacement types he has in stock to take care of your service jobs. Ask for your copy of our new "Victory" catalog with up-to-date listings—or write us direct. Incidentally, if you are not already getting the monthly Aerovox Research Worker, ask your jobber for a free subscription.

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'

Circuit and Alignment Data for RCA 520-510

This five tube compact circuit is shown in the accompanying diagram.

The IF transformers are aligned at 455 kc. The signal generator should be connected to the IF grid through a 0.01 mfd. capacitor and the tuning dial set to a quiet point around 1600 kc. Adjust the second transformer for peak output. With the generator connected to the 12SA7 grid, adjust the trimmers on the first IF transformer for maximum output. Keep input signal small to avoid AVC action.

To align the RF end of the set, connect the generator to the antenna terminal of the receiver through a 100 mmfd. capacitor and set the generator and dial to 1720 kc. Adjust the trimmer on the oscillator tuning condenser for maximum output.

With a signal of 1300 kc. radiated from the generator, tune the receiver to the signal and adjust trimmer on the antenna section of the gang for peak output. The last two steps should be repeated for better results.

The gain values are given for a fixed bias of -3 volts on the AVC bus.

RSA Chapters Are Going Ahead

It has been announced by Radio Servicemen of America, Inc., that the local RSA chapters will carry on as usual, and that their charters will remain in force, although the activities

of national headquarters have been suspended for the "duration."

Individual memberships "at large" will retain their validity for the duration. All new or renewal membership dues submitted after June 8 will be returned. Supplies such as membership pins, pocket cardcases, RSA Service-forms, Brandex, extra decals, etc., will be available to members as before until the supply is gone. To obtain them address Al Kilian, 414 Dickens Avenue, Chicago, Ill.

Every effort is being made "to keep the name and prestige of RSA intact, and carry on such limited activity as present circumstances may permit."

The officers elected at the last meeting of the Board of Directors were: national president, Edward H. Gordon of Moline, Illinois; national vice-president, Herb Snyder of Binghamton, New York; national secretary, Si. Christie of Pontiac, Mich.; national treasurer, Harold W. Cunningham of Wilmette, Illinois. Al Kilian is to continue as Executive Secretary to handle remaining details which may require official attention.

Servicemen on Blackout Jobs

(Continued from page 39)

tallest building. One of the air wardens was to be at the mike atop this high perch to make observations on buildings whose signs were still lighted, citizens smoking cigarettes, houses yet illuminated, etc.

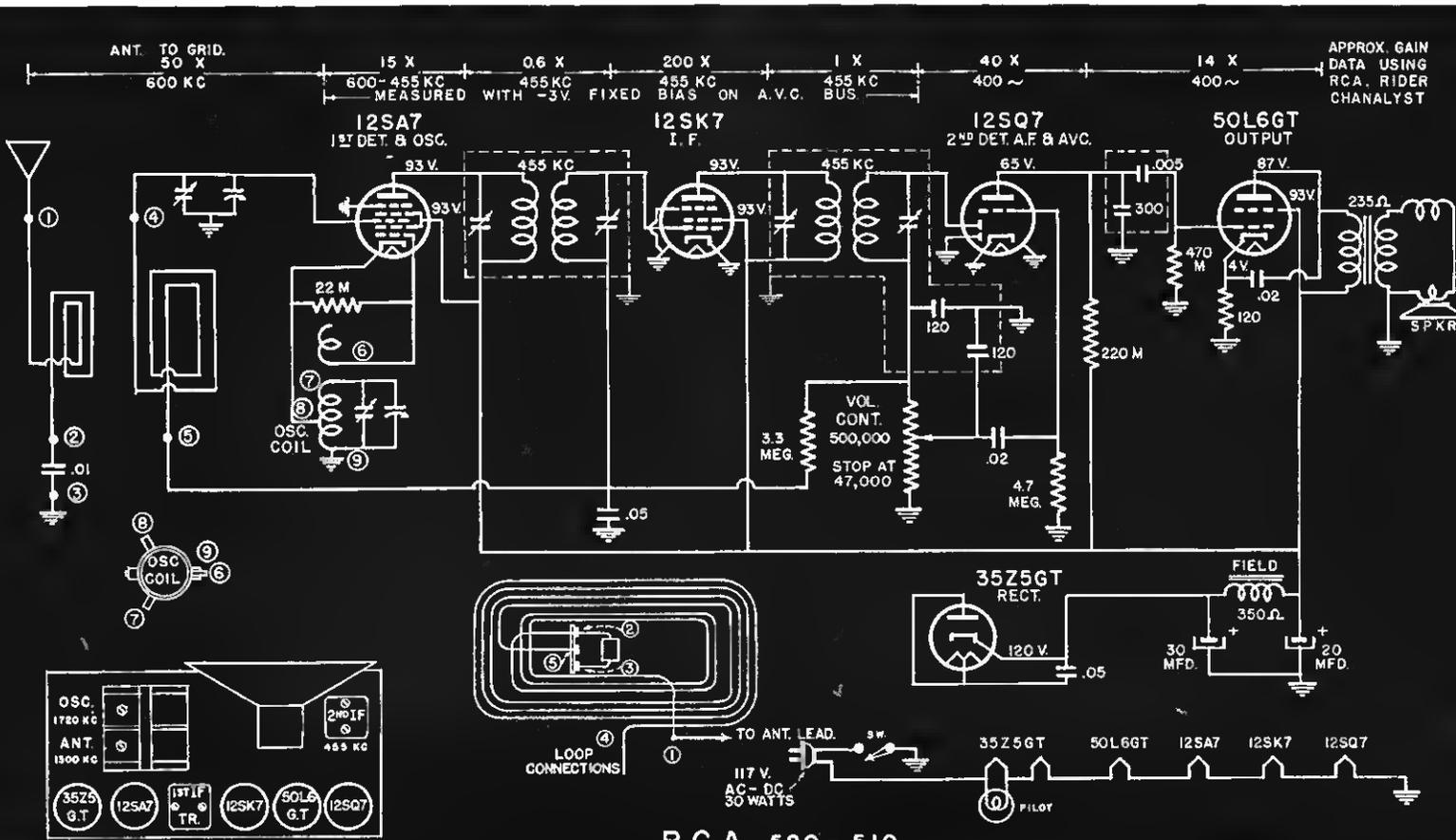
Van installed the main amplifier, mike and directional horns on the rooftop of the central observation point. They erected four other repeat amplifiers at strategic points in the community and huge loudspeakers on the chief street intersections.

Van learned several lessons in this installation which he is glad to pass on to other servicemen. First of all, make certain that the air warden or whoever acts as mike commentator for blackout, understands that he must stand neither too close nor too far away from mike.

Secondly it must be understood that it takes a few seconds for the amplifier tubes to heat up. There is no such thing as split second action. Since the siren is on a recording (no actual siren rebroadcast is advisable) it must be tested previously, and timed.

Some competent service helper should be placed at or near each repeat amplifier to act as trouble shooter and keep youngsters from tampering with said property. Same goes for loudspeakers which make excellent targets for mischievous-minded infants.

Van charged a flat time rate for time consumed in making trip, plus labor charges for installation and operation and a flat sum for the use of apparatus itself. Naturally prices must be lowered for small communities, but in smaller towns, installations are not so complex. The suggestion is to talk with your civic defense council today and to write to neighboring towns.





Advice from "out there" for radio designers "back here"
KEEP IT SIMPLE!

On the hot sands of Africa, or in the wastes of Alaska—our men turn with calm confidence to that piece of radio equipment you designed. If anything goes wrong, there's little time for complicated repairs... and often nothing to replace an injured "special" unit.

How can you best design radio equipment for today's far-flung battlefronts? Don't over-design! Make it good. But keep it simple.

There are many new and special types of tubes available. RCA makes the finest of them, and will continue to make them in order to assist designers.

But if you possibly can—avoid them. The men sitting by that piece of radio equipment have to keep it working—perfectly—all the time. Their repair posts may not have the "special" parts you included in the design. The instrument, so important to the lives of thousands, may stand idle when they need it most.

So use standard equipment whenever you can. Standard crystals, transformers, condensers, and tubes. They're prepared to handle that. They'll be able to repair them and keep them working.

And they'll be mighty grateful to you.

BUY
U. S. WAR
BONDS

This advertisement appears in *Electronics*, *QST*, and *Proceedings of the Institute of Radio Engineers*.

The advertisement above—directed to designers of military radio equipment—is one of a series run by RCA as a contribution to America's war effort. It stresses the need for *standardization and simplification* in the design of equipment that must be "serviced" under difficult conditions, thousands of miles from home.



RADIO TUBES

RECEIVING TUBES • POWER TUBES • CATHODE RAY TUBES • SPECIAL PURPOSE TUBES

Perhaps engineers and designers are among your customers. If so, the message above is worth repeating. Full-size reprints of the original advertisement are available on request. Write RCA Manufacturing Co., Inc., Camden, N. J., Dept. 2-3.

BUY U. S. WAR BONDS EVERY PAYDAY!



RADIO TUBES

RECEIVING TUBES • POWER TUBES • CATHODE RAY TUBES • SPECIAL PURPOSE TUBES

Inventories to Be Limited by WPB

A plan to regulate inventories of civilian goods in the hands of wholesalers and retailers has finally been approved by the War Production Board. As announced by Donald Nelson, the plan contributes toward "an equitable distribution of inventories throughout the country and can be accomplished through sound merchandising operations without unnecessary hardships or difficulties."

The action was taken on the basis of recommendations made by the spe-

cial Wholesale and Retail Inventory Policy Committee of the Office of Civilian Supply which had conducted a 6-weeks investigation of inventory problems throughout the country.

That the plan would be of only limited interest to radio dealers was seen in the recommendation by the committee that smaller merchants be exempted from the program. These would be "any merchant regardless of type of business whose total sales for the 12-month period ending Sept. 30, 1942 (or

the end of any subsequent month) were less than \$100,000 or whose inventory on the same date was less than \$25,000 at cost value.

The WPB is now working on two steps to balance and limit stocks. The first is the issuance of an order requiring quarterly inventory and sales reports, accompanied by a statement of what the War Production Board considers to be a "normal" inventory. That inventory for each concern would be its present total-company stock related to its current rate of sales in the same proportion as stock was to sales in the corresponding quarter of the years 1939-40-41 averaged.

1943 Starter?

The second is the development of a second order, for possible use if an analysis of the reports discloses a need for such formal control and enforcement in order to maintain "normal" inventories, along the lines recommended by the special committee. The committee recommended that any such order, if issued, should become effective about the first of the year unless the information revealed by the quarterly inventory and sales reports indicates that sufficient progress has been made voluntarily by distributors themselves toward the government's objectives.

Price Ceilings on Fall and Winter Merchandise

Several types of seasonal merchandise of interest to radio dealers are now to be priced under a new regulation issued Aug. 26th by the Office of Price Administration. This is Regulation No. 210, for retail and wholesale prices for Fall and Winter seasonal commodities, and although it applies mostly to the apparel field, it will govern the pricing of portable and fixed room heaters; Christmas tree ornaments, lights and holders; toys and games (but not including summer seasonal toys covered by Regulation 142); and Hallowe'en novelties.

In general, No. 210 provides that a seller determine his ceilings on these items by finding his "average cost" of the article being priced, or the "current cost" and adding to the lower of these costs the "initial percentage mark-up" he took during the last 6 months of 1941.

The records which must be kept by the seller of these products are (1) Records of purchases and sales on which the calculation of maximum prices was based, (2) Records of the maximum price calculations themselves, and (3) Customary records of prices charged.

TURNER
is Burning the Midnight Oil
FOR A 3-FOLD VICTORY

This, we feel, is information which will give neither aid nor comfort to the enemy.

1. Every day, scores of men and women at The Turner Co. are on the firing line, producing vital equipment for battle-front communications units. This, above all, is our present job.

2. Simultaneously, an earnest effort is being made to supply needed Turner microphones immediately to those with priority ratings; also to help present owners of Turner Microphones get the best service, for a longer time, from their present units.

3. When final victory has been achieved, the results of the Turner precision engineering research, now being carried on, will be brought to you in the Turner Microphones destined for a world of friendship and peace.

If you have a priority rating, write explaining your communications problem, and we can help you select the Turner Microphone best suited to your needs. We'll gladly send you, too, any information on how to make your present Turner Microphone give the best service, longer

THE TURNER CO.
908 17th STREET, N. E., CEDAR RAPIDS, IOWA



Radio Service Charge Ceilings

Sept. 1 and Sept. 10 were the days on which radio servicemen were ordered to comply with the requirements of OPA's "Service Regulation" (Maximum Price Regulation No. 165 as amended). The regulation sets the maximum prices for (among other things) the repair, maintenance or rental of radios and phonographs not primarily designed for commercial, military or police use. Included are the prices of all commodities, such as parts and accessories, when sold in connection with the sale of a service.

Four main things are required by the regulation:

1. Charge no more than you did in March, or charge no more than you would have charged in March for services offered but not sold.
2. Prepare by Sept. 1, 1942, to the full extent of all available information and records and thereafter keep for examination by any person during ordinary business hours a statement of your highest March prices. File a duplicate of this statement by September 10, 1942, with your War Price and Rationing Board.
3. Keep all records showing prices charged or offered during March.
4. Give sales slips and receipts as required by the regulation.

Applications for Ceiling Adjustments

Of interest to those retailers who feel that they are entitled to make application to OPA for adjustment of their ceiling prices, is a new set-up announced as a simpler and faster procedure for such applications.

The new machinery includes two steps taken by OPA:

First, retailers are authorized to send their applications for adjustment of price ceilings directly to any OPA regional, state or district office. (There are 100 State and District offices.)

Second, under an order from Leon Henderson the eight OPA regional administrators are authorized to extend to state and district OPA offices power to grant or deny retailers' applications.

Belden Honored by Treasury Dept.

"The War Bond-or-Cash Dividend Plan symbolizes the ideal relationship between employee and shareholder," Whipple Jacobs, President of the Belden Mfg. Co., Chicago, said recently, as he accepted a special citation from the U. S. Treasury Department.

The citation came as a result of the company's stockholders subscribing for 10.6 per cent of the dividend, due Sept. 1, in either United States War Savings Bonds or Stamps. The Belden Co.

was also awarded, in the double recognition ceremony, a Minute Man Flag, presented by the Treasury Department on the basis that ninety per cent or more of the firm's employees are subscribing to war bonds and stamps under the payroll savings plan.

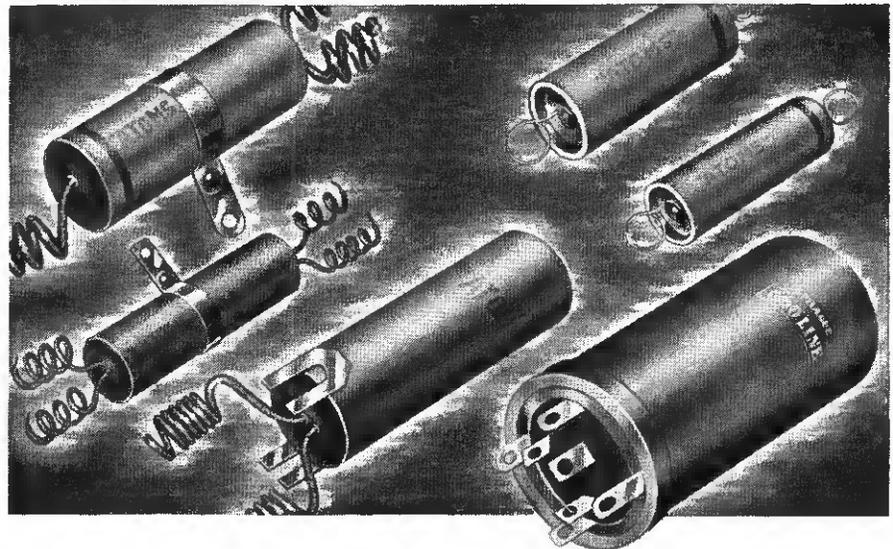
Hallcrafters Gets Army-Navy "E"

One of the newest radio firms to be honored by Army and Navy "E" Award, for high achievement in the production of war equipment, is The Hallcrafters Co., Chicago. The com-

pany was notified of the award by Under Secretary of War Robert P. Patterson, according to an announcement by the Hallcrafters president, W. J. Halligan.

Mr. Patterson said that "the high and practical patriotism of the men and women of Hallcrafters is inspiring. Their record will be difficult to surpass, yet the Army and Navy have confidence that it was made only to be broken."

Presentation ceremonies were held Sept. 9, when the "E" banner went up among a gathering of Army and Navy officers, Chicago civic leaders, and state officials.



WHO SAID ANYTHING ABOUT CONDENSER SUBSTITUTES?

Even if restrictions on metals hadn't eliminated aluminum can type electrolytic condensers . . .

Even if War demands on leading manufacturers such as Sprague hadn't made it necessary to simplify condenser lines and curtail many "exact duplicate" and other types . . .

The fact remains that leading servicemen would now be using Sprague Atom Midget Drys and Type EL Prong-Base Drys almost universally, anyhow. For these Condensers are definitely *not* substitutes. They're a big forward step in modern condenser construction. A small stock enables you to replace almost any condenser of equal rating—and do it in less space, at less cost, and with every assurance of better, more dependable performance. Drys or wets, low voltage or high voltage, single capacitors or duals or triples —Atoms and EL's handle them all.

As long as your Sprague jobber has these popular units, you've no need to worry about condenser replacements . . . and you won't be using substitutes. You'll be using condensers that are actually better—condensers that will set the style in efficient servicing for years to come!



SPRAGUE PRODUCTS COMPANY
North Adams, Mass.

Motorola Gets the Army-Navy "E" Award

Another radio manufacturer has been honored for its feats in war production. Employees and management of Galvin Mfg. Corp., Chicago makers of Motorola products, have been notified that the firm has been given the joint Army-Navy Production Award for production of radio communications equipment in excess of quota expectations.

Award ceremonies were held Sept. 8 at the Motorola plant, with employees,

management, and Army and Navy dignitaries on hand. Motorola is one of the first factories in the Chicago area to receive this coveted "E" flag, with pin insignias for each workman.

Paul Galvin, the Motorola president, received word of the award from Under Secretary of War Robert P. Patterson, who said that "the men and women of your organization have every reason to be proud of their great work in backing up our soldiers on the fighting front . . . this symbol is accorded only to those plants which are exceeding all production expectations in view of facilities at their command."

Crosley Car Head



J. H. Rasmussen, appliance division manager for the Crosley Corp., has been named to head up Crosley's automotive operations, in domestic, commercial and government fields. The new job includes the supervision of the Crosley "Bull Pup" for military use.



"Sure, I'd Rather Drive 50"

... but until this war is won we all have to be satisfied with less in many things."

- ★ This is particularly true in the case of radio receivers, where the shortage of replacement parts is forcing more and more servicemen to improvise in order to get faulty sets into operation.
- ★ In so improvising it may be necessary to eliminate certain stages or find substitutes for certain resistors, condensers, or sockets, etc.
- ★ While this may not produce the maximum in set performance, it WILL save a lot of jobs for you that would otherwise be lost. In addition, your customers will appreciate your licking a tough situation to get their sets into operation and, under the circumstances, be satisfied with less than perfection.
- ★ By this improvising, both you and your customer will be meeting your patriotic duty to free much needed replacement parts for use by the armed forces. At the same time, you will be contributing your share toward the building of public morale by keeping radio receivers in operation.
- ★ Of course, to improvise you have to KNOW what's IN the set. You can't spend hours "guessing out" the trouble and more hours experimenting with "probable" substitutions. You need RIDER MANUALS to tell you what is in the set—to supply you with all the facts you must have in order to find the trouble quickly and improvise the repair in the minimum of time. Speed is the essence today—reach for your RIDER MANUALS when you begin EVERY job! It's your DUTY to work efficiently until "this thing" is over.

RIDER MANUALS

Volumes XIII to VII.....\$11.00 each
 Volumes VI to III..... 8.25 each
 Abridged Volumes I to V.....\$12.50
 Automatic Record Changers and Reorders... 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 each

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"

"Swell" Is the Word for Military Portables

The men in the Army and Navy are heartily wishing that civilians, when selecting their gifts to send to camps and stations, will pick out small portable radios. In a new survey among more than 1,000 men of the Armed Forces from 47 states, these radios ranked second as the gift preference of the sailors, and they ranked third as the choice of the soldiers.

The Fighters Vote

The checking was done at USO headquarters in New York City, where the survey experts of the *Department Store Economist* went to find out what the service men wanted for Christmas this year. The men were asked to check a list of items as "swell," "fair," or "junk." Among the Army men, cigarettes and waterproof wrist watches ranked first and second respectively, while the Navy fellows ranked only the wrist watches ahead of the small radios.

The Navy also gave an enthusiastic vote to portable phonographs and records, and ranked them above such familiar gifts as pipes, magazine subscriptions, playing cards, books and flashlights. Army sentiment was less favorable to phonographs and records.



**Readrite
RANGER**
MODEL 432-A

The Outstanding Tube Tester Value Checks all type tubes including Loctals, Bantam Jr., 1.4 volt Miniatures, Gaseous Rectifier, Ballast, High Voltage Series, etc. Filament Voltages from 1.1 to 110 volts. Direct Reading GOOD-BAD Meter Scale. Professional-appearing case with accessory compartment large enough for carrying Model 739 AC-DC Pocket Volt-Ohm-Milliammeter, thereby giving the serviceman complete testing facilities for calls in the field. . . . Model 432-A with compartment, Dealer Net Price . . . \$20.73. Model 432-A in case less compartment . . . \$19.65. Model 739, Dealer Net Price . . . \$10.89

WRITE FOR CATALOG—Section 1116 College Drive

READRITE METER WORKS, Bluffton, Ohio

*Coming
Soon!*

**ELECTRONIC
INDUSTRIES**

For

**All who design,
produce or op-
erate electronic
equipment.**

**Another Army-Navy
“E” Flag for Radio**

Ceremonies at Philco Corp., Philadelphia, for the presentation of the joint Army-Navy Production Award “E,” were held at the plant Aug. 14th with some 7,000 Philco employees and their families on hand for the celebration. Brigadier General A. A. Farmer, Signal Corps, U. S. Army, presented the award and the coveted “E” flag was accepted for the company by James T. Buckley, president.

Philco board chairman Larry E. Gubb presided at the event, and lapel insignia for representatives of management and employees were presented by Colonel D. N. Hauseman, chief, Philadelphia Ordnance district. These awards were received by John Ballantyne, vice-president in charge of operations, and a number of union heads.

Brig. General Farmer told the assembled crowds that “. . . the ‘E’ flag is placed on your flag pole by the Army and Navy, in recognition of the fact that you did a good job of producing radio communications equipment, batteries and fuzes for use in the planes and tanks and guns and ships of your Country and her Allies . . .”

The Philco plants at Trenton, N. J., and at Sandusky, Ohio, which also chalked up outstanding war production records, were likewise awarded an “E” banner.

**Jack Grand Joins
Burlingame Firm**

Jack Grand, who has been with Sun Radio Co., 212 Fulton St., New York City, for 18 years and is well known as a veteran radio man, has left Sun Radio and has entered the manufacturers’ representative field as a member of Burlingame Associates, 69 Murray St., New York City. Bruce Burlingame, founder of the firm, is now on leave of absence with the Armed Forces, but the Associates activities have been carried on by Charles Sargeant and William Adams and Mr. Grand is now added.

Burlingame Associates cover the metropolitan New York area, the Hudson Valley, eastern Pennsylvania, the District of Columbia and Maryland. Firms represented include Supreme Instruments, Audio Development, and Hewlett-Packard.

**Sylvania Editor
Dies Suddenly**

Readers of *Sylvania News*, which is published by Sylvania Electric Products, Inc., at Emporium, Pa., were shocked last month by the sudden death of its editor, Mrs. J. M. Devoe. Mrs. Devoe founded the paper in 1929 and was a widely appreciated editor, besides being a favorite personality in the town of Emporium.

**THERE’S A
GROWING
DEMAND
for
POLYMET**

**FOR
VICTORY
BUY
UNITED
STATES
BONDS
AND STAMPS**



Condenser replacements account for about 40% of all radio repair jobs. Dependable condensers are, therefore, essential for gaining and maintaining Maximum customer satisfaction.

PROTECT 40%
that

NOW, more than ever, the jobber and service man must recognize the growing demand for POLYMET.

**CONTINUOUS
DEPENDABLE
SERVICE**

For 21 years POLYMET ELECTROLYTIC and BYPASS CONDENSERS have improved quality and service. Add to this a liberal and reasonable mark-up. No fly-by-night “bargain catalogs” can undersell you on POLYMET. You’re protected, your customer is satisfied, your profits and volume increase. We’re conserving vital defense materials by limiting sizes to those most universally used. Those will serve practically every need.

Complete listing of available types and prices will be forwarded upon request.



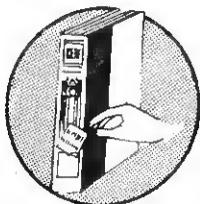
**POLYMET
CONDENSER CO.**

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

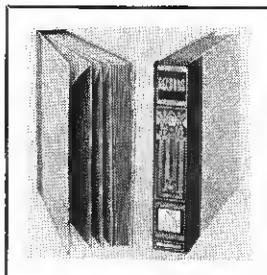
PEERLESS ALBUM

Introduces the Sensational PROTECTOVUE

The most natural seller brought out in years, the PROTECTOVUE combines the revolutionary VISIBLE INDEX (shown in diagram) with the already established PROTECTO-FLAP feature, both EXCLUSIVE WITH PEERLESS. Peerless is first again!



The VISIBLE INDEX allows user to catalog any type records and change at any time by simply slipping in a new card.



Preview

Write for story of the World's Finest Library Edition Album soon to be issued by Peerless.

Distributors Write for Details

PEERLESS ALBUM CO., Inc.
38-42 West 21st Street New York City

PRESTO DISCS NOW BETTER THAN EVER

Contrary to rumors, there is no scarcity of first grade Presto Recording Blanks. No priority rating is required to purchase them. All orders are being shipped the day they are received.

Changes in certain coating ingredients due to war conditions have actually improved their cutting qualities. The thread throws more cleanly away from the needle. The coating is consistently smooth, entirely free of "hard spots." The surface noise is well below audibility. Prices remain the same.

Don't neglect the profit possibilities in commercial recording discs



. . . one of the few lines still free for civilian use. Look over your stock today. Suggest to your disc customers, radio stations, and schools, that they order for the coming fall business.

PRESTO RECORDING CORP.
242 WEST 55th ST. N.Y.

In Other Cities. Phone . . . ATLANTA, Jack. 4372 • BOSTON, Bel. 4810
CHICAGO, Mar. 4240 • CLEVELAND, Me. 1565 • DALLAS, 37093 • DENVER, Ch. 4277 • DETROIT, Univ. 1-0180 • HOLLYWOOD, Hil. 9133 • KANSAS CITY, Vlc. 4631 • MINNEAPOLIS, Atlantic 4216 • MONTREAL, Wel. 4218
PHILADELPHIA, Penny. 0342 • ROCHESTER, Col. 5348 • SAN FRANCISCO, Su. 8854 • SEATTLE, Sen. 2560 • WASHINGTON, D. C. Shep. 4003

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

PHONO NEEDLE BUSINESS THIS FALL

(Continued from page 21)

style window streamers in red, white and blue, as "the Phoneedle fits perfectly into the present day picture." This company is emphasizing its precision manufacturing methods "which not only bring out the highest fidelity in record playing but make for extreme gentleness . . . this means longer playing and preservation of records which are indeed precious these days."

Recoton reports that "we are still able to make prompt deliveries on our full line," but has a word of caution for dealers because no one knows what the future holds. Retailers are urged to insure their future Phoneedle business by stocking up now while deliveries are still available in satisfactory quantities.

Fidelitone program

"Our present ability to supply needles should be good news to record dealers," is the report from Permo Products Corp., Chicago, "We anticipate being able to deliver all the various types of Fidelitone Long Life needles this Fall."

The Fidelitone merchandising program continues with consumer ads in *Ladies Home Journal*, *Better Homes & Gardens*, *Down Beat*, and other leading magazines. A direct mail campaign to the dealers cooperating with consumer literature is also under way, and Permo also has a string of colorful displays to help dealers.

Permo vigorously suggests that since the care and preservation of records is more and more important today, that dealers should do their customers a good turn by advising them as to how various needles affect record wear.

In this regard, the Fidelitone statement is that "here again, our company does the dealer and consumer a good turn in protecting their 'precious' records, a point that dealers should emphasize in their sales presentations."

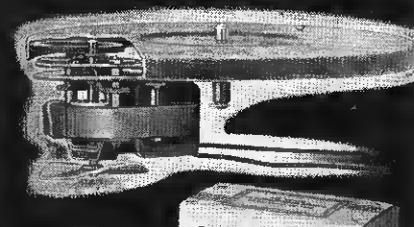
Duotone at peak

"A heavier promotional campaign this Fall and Winter than we have ever had before," is the announcement by the Duotone Co., Inc., 799 Broad-



**Replace
with the
Best!**

ALLIANCE
"EVEN-SPEED"
PHONO-MOTORS




**INDIVIDUALLY
PACKAGED**

EASY TO INSTALL...
Fit 95% of all makes

● The low cost and quick, easy installation of "Even-Speed" Motors make it more practical and profitable to replace the entire unit when trouble occurs than to attempt what may prove to be a difficult repair job. The "Even-Speed" line of only four phono-motors provides a unit for 95% of all replacement requirements. Carry a few in stock for every month will bring a greater demand for replacements.

Each motor and turntable comes in an attractive carton for your greater convenience.

Write today for complete information and low prices on the "Even-Speed" line of phono-motors.
Export Address:
377-379 Broadway, New York City, N. Y.

ALLIANCE MFG. CO.
ALLIANCE, OHIO

way, New York City. This drive starts with a national ad campaign beginning with the October issue of *Esquire*. Dealers will get colorful displays showing this ad, augmenting the regular Duotone line of eleven display cards. The company has recently released a new booklet, also, showing all needles in the Duotone line.

This firm reports that its stocks are in good order, and says that "we intend to continue making immediate deliveries as we are doing today."

Duotone newspaper ads are getting across the idea that people should now use needles that are easy on records, and the company urges dealers to emphasize this to record fans.

**Griffith Heads
Music Dealers**

The new president of the National Association of Music Merchants is Harry D. Griffith, of the Griffith Piano Co., Newark, N. J., whose election was announced at the recent NAMM meeting in Chicago. Melville Clarke of Clark Music Co. Syracuse, N. Y., had been re-elected but declined the honor. Other officers of NAMM remain the same.

Named as the new executive secretary of NAMM, with headquarters at 45 W. 45th St., New York City, was Violet G. Webber, who was specially commended by the Association for the work she had already done on behalf of the group.

**Record Albums in
New Designs**

New style, and new convenience features are now being added to the regular line of record storage albums made by the Peerless Album Co., Inc., 38 W. 21st St., New York City. The improved designs are introduced by the company as a part of the trend in the big wartime record market toward taking better care of available discs. Peerless is a specialist in the album field, with some 25 years of experience in supplying albums, carrying cases, stock envelopes and racks to the trade.

An improved design of the "Protecto-Flap" album has a "window" tab so that the record fan can label it appropriately and note the contents at a glance. The tab fits into a transparent pocket. The "Protecto-Flap" feature is a Peerless device for keeping records in place even when the album is inverted. The covers are genuine fabricoid handsomely styled. The 10 in. size lists at \$1.25; the 12 in. size at \$1.50.

Also new is a "deluxe" album in fabricoid of brown or blue color combinations. These have freshly styled
(Continued on page 49)

They'll BUY when they see this

**NEW
WALCO
FLOATING
JEWEL**

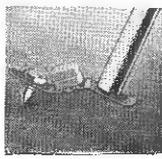


A spring-mounted, lifetime, genuine sapphire needle for all phonographs.

LIST PRICE \$2.00

CLEAR THE FRONT COUNTER for new WALCO merchandise that means booming needle sales, bigger-than-ever profits! WALCO'S amazing FLOATING JEWEL is the needle every music lover's been waiting for. Look at its exclusive features!

- ★ COMPLETE PROTECTION AGAINST DAMAGE
- ★ FREEDOM FROM NEEDLE NOISE
- ★ FULLER, RICHER REPRODUCTION
- ★ ALL-TIME LOW IN RECORD WEAR
- ★ AN END TO NEEDLE CHANGING
- ★ EASY-TO-MERCHANDISE PACKAGING



No damage from dropped pickup

GET THESE FREE WALCO SALES AIDS

EYE-STOPPING COUNTER DISPLAYS "demonstrate" a giant WALCO FLOATING JEWEL in operation—create sales on the spot.



COLORFUL LITERATURE for counter or mailing contains the fascinating story that makes 'em say: "I'll take a WALCO FLOATING JEWEL".

FOR IMMEDIATE PROFITS—STOCK UP NOW!
Your nearest WALCO jobber carries complete stocks of popular WALCO cutting and playback needles—sapphire, steel or alloy for all purposes—in all price ranges. Call him—or write us for complete WALCO catalog—TODAY.

ELECTROVOX CO., Inc., 169 Maplewood Ave., Maplewood, N.J.

WALCO

ELECTRONIC INDUSTRIES

FOR ALL WHO DESIGN, PRODUCE OR OPERATE ELECTRONIC EQUIPMENT

A Vast New Industry in the Making— An Industrial Publication to Serve It

ELECTRONIC industries! Newest prodigy of science—brainchild of radio—staggering the imagination with its endless opportunities—racing to maturity under a billion dollar war impetus!

Electronic industries! Bringing together two rapidly expanding groups of industries—one in which electronic equipment is designed, manufactured and sold; the other, comprising scores of industries in which electronic equipment is installed, operated and maintained.

Separate in a sense. Yet tightly drawn together by a common dependence on the electronic tube.

"ELECTRONIC INDUSTRIES"—the name and the field of a new magazine. Essentially an *industry magazine*; notably different in the character of its editorial service; unique in its helpfulness to large and important groups heretofore unreached or unserved.

These groups have far outgrown the publishing services that formerly seemed to suffice. They now find that circuits are not enough. The many journals that are currently published have served only one function of the industry. Not one has served all branches of the electronic industry—including production, application and operation.

Thus "ELECTRONIC INDUSTRIES" is broader in purpose, methods and scope. It has the task of keeping in step with a field that is in a turbulent state of flux.

To be properly understood, the electronic field must be viewed apart from the field of home radio. It actually is apart. It has a tremendous and different potential, ultimately greater in dollar volume than the radio market itself.

The radio man who is accustomed to think of his market in terms of millions of units will find that the electronic field must have another yardstick. It is an *apparatus market*, embracing every industry that one can think of, needing countless applications. Many can use standard products. Others must be highly specialized. It is a market whose channels of distribution are just being opened—a market which must be sold in the same manner as other industrial equipment.

In this formative period, when plans, policies and facilities are quickened by almost incredible opportunities—when new trails must be blazed by engineers, production heads, sales managers and their customers, it is obvious that an industry magazine to serve this field must look upon radio as but one division of a steadily widening industry.

PUBLISHED MONTHLY — FIRST ISSUE, OCTOBER — WRITE FOR ADVERTISING RATES AND CLOSING DATE

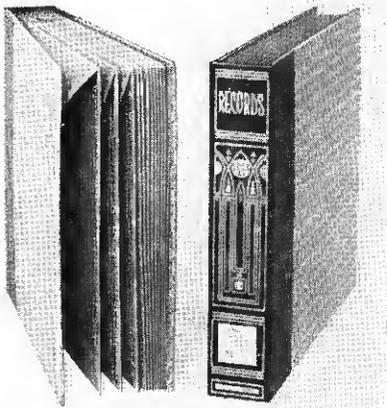
CALDWELL-CLEMENTS, INC.

480 LEXINGTON AVENUE, NEW YORK
TELEPHONE PLAZA 3-1340

201 NORTH WELLS STREET, CHICAGO
TELEPHONE RANDOLPH 9225



Record News



Note the "window" label space on the back of the album at right.

(Continued from page 47)

rounded backs, stitched headbands, and re-inforced corners for longer wear. They have the Protecto-Flap feature and the 10 in. size lists at \$1.50, the 12 in. size at \$1.75.

These new albums fit neatly into the wartime market, as they represent new merchandise for dealers and distributors to get started on while other lines are short.

"National Association for Music and Related Arts"

W. H. Richardson, of the well known Birkel-Richardson Co. "The House of Music," Los Angeles, is now the chairman of an organizing committee formed to launch a "National Association for Music and Related Arts in America, Inc.". The new organization would be composed of musical and other organizations related to music through entertainment, education and industry.

The movement is inspired by the statement that "the Allies, who know war at its worst, have found music, entertainment and morale to be inseparable . . . the successful building of military and civilian morale is beyond the capabilities of any individual organization. . . ."

Chief among its purposes is "to unify and coordinate the separate powers of member organizations in support of a Congressional bill to establish and sponsor music in all its branches and related arts throughout the U. S."

Some 64 organizations have been invited to join, including the Radio Manufacturers Association, National Association of Music Merchants, and the National Retail Musical Instrument Dealers Association.

Mr. Mennie Passes

W. A. Mennie, popular figure in musical trade circles and official of the National Association of Music Merchants, died on Aug. 31 in Port Jeffer-

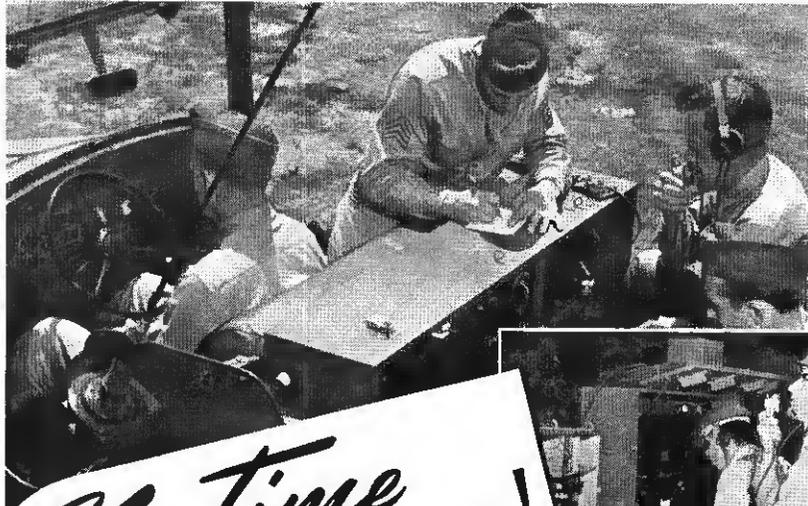
son, L. I., New York. Mr. Mennie was an officer of several other musical trade groups also, and was nationally known for his distinguished work in these fields.

Pope Heads RMA Credit Group

At the meeting last month of the Eastern RMA Credit Group, Henry A. Pope, credit manager of the National Union Radio Corp., was elected chairman of the Credit Committee for the coming year. Mr. Pope succeeds Victor Mucher of the Clarostat Mfg. Corp.

Greusel Heads WPB Office in Milwaukee

Frank W. Greusel, well known head of the Greusel Distributing Corp., Milwaukee, has been named by the War Production Board as manager of the WPB office in Milwaukee. Mr. Greusel will devote full time to the new job but has announced that his company will continue under the same personnel, "knowing that conservative management, and such new and old lines of merchandise as are still available, will enable us to maintain our organization for the duration."



No Time FOR FAILURES!

Official Photographs U. S. Army Signal Corps

DEPENDABLE MEN • DEPENDABLE EQUIPMENT • DEPENDABLE TRANSFORMERS

When seconds are the determining factor in success or failure of an attack . . . when lives depend upon the perfect operation of communications equipment . . . then engineers insist upon dependable transformers . . . Thordarson transformers! Engineered to give high quality performance under every operating condition.

THORDARSON

ELECTRIC MFG. CO.
500 WEST HURON ST., CHICAGO, ILLINOIS

"Why Mr. Higginbotham—how dee-vine!
a real

Fidelitone

PHONOGRAPH NEEDLE

5000 plays - \$1.00

A phonograph needle that is kind to your records . . . Floating Point construction filters record scratch . . . Permo-metal tip gives exceptionally long life and faithful reproduction. Ask your record dealer for a demonstration. Permo Products Corporation, Chicago, Ill.

Permo-products AID NATIONAL DEFENSE IN Ship Companies



the Heart

OF A POWER SUPPLY IS

the Vibrator

● NEVER BEFORE in the history of radio communication has research and development progressed at such a rapid pace.

PARTICULARLY, is this true of Vibrator Power Supplies. Long the standard of the industry for heavy-duty commercial applications, Electronic Vibrator-type Power Supplies are today establishing new and amazing records for top performance, long life and absolute dependability on—**Military Planes, Tanks, P-T Boats, Jeeps, and Other War Equipment.**

Tomorrow they'll return to peacetime pursuits . . . at your service . . . *stronger and better* in every way because of their combat experience.

—Until then—CARRY ON!

ELECTRONIC LABORATORIES

INC.

INDIANAPOLIS, INDIANA

SERVICERS NEED MORE GAS

(Continued from page 34)

Rationing Board, in denying your request for additional gasoline rations.

It appears that you use your car in pursuit of your occupation as *radio salesman*.

It is our considered judgment in agreement with your Local War Price and Rationing Board that your occupation is not one that is eligible for preferred mileage in excess of 470 miles per month under Section 1394.506 of Ration Order 5A, the Gasoline Rationing Regulations. The nature of the services which you claim to perform in addition to your selling functions do not appear to be sufficient to bring you within Paragraph (1) of the Section referred to. Consequently, you are not entitled to any gasoline rations beyond that provided by the "B" book which you have already received.

The action of your local board is affirmed. You are, of course, at liberty again to apply to your local Board and present additional evidence if you feel that the nature of your occupation may properly be brought within the provision of the regulations to which we have referred.

Copy to local War Price and Rationing Board

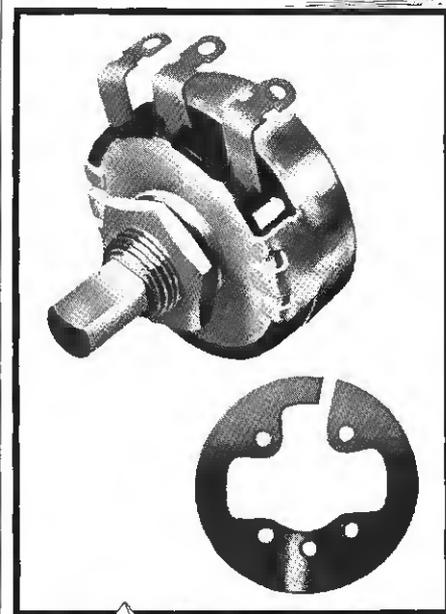
(Signed)

Director, Regional Authority

It is apparent from the above interchange of letters that both the local rationing board and the appeal board having regional jurisdiction, completely failed to grasp the importance of the radio-repair services being performed by this applicant. However emphatic the radio man was in making clear his position as a repairer and maintainer of home radios, the rationing authorities preferred to view him as a "radio salesman"—looking upon his repair functions as minor and incidental.

The lesson then is that if the radio serviceman is to get an adequate gasoline allowance, he must present *complete and emphatic evidence* of the need for gas for carrying on his repair business.

In fact, RADIO RETAILING TODAY: further investigation of this gasoline



with the new

STABILIZED
Element

★ Quietly, modestly, unannounced until now, Clarostat "M" controls have for several months past been coming through with the new **Stabilized Element**. We wanted this outstanding development to prove its worth out in the field, by users, corroborating our own critical tests.

Results have spoken for themselves. Users have promptly spotted something **radically different** in non-wire potentiometers and rheostats. Remarkably accurate resistance values first and last; extreme immunity to humidity, temperature and other climatic conditions; minimized wear; quiet operation; smooth rotation—these features have marked the introduction of the new Clarostat **Stabilized Element**—stabilized by heat-treatment, chemical-treatment, lubrication-treatment, for truly outstanding performance.

Ask Our Jobber . . .

★ Ask him for a Clarostat "M" control of whatever ohmage you need for that job. Try it. Then draw your own conclusions. You will soon agree that the **stabilized element** is really something new—and better.





Peter Jensen demonstrates the spring action of his new concert phonograph needle.

Jensen Ready with New Concert Needle

Peter L. Jensen, one of the leading audio authorities of the U. S. and best known to the trade in his former post as president of the Jensen Co., manufacturers of loud speakers, is now marketing a new type phonograph needle. The new product comes from Jensen Industries, Inc., 737 N. Michigan Ave., Chicago.

The new needle, made from a precious metal alloy, has a peculiar de-

sign announced after extensive research. Emphasis is on long life, high fidelity, reduction of needle scratch, and minimum record wear. The new Jensen "Concert" needle also has a shock absorbing characteristic. It has been made rigid in a cross-wise plane, with a flattened cross section to cut down "needle talk."

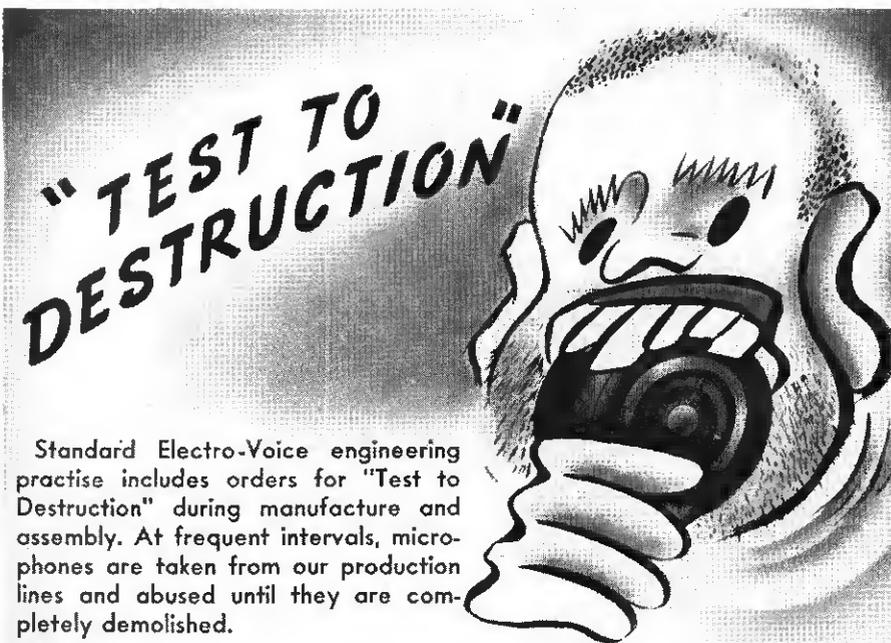
Jensen Industries are also producing pivots and bearings tipped with the same wear-resisting alloy used in the Concert needles. These products are used by the Army and Navy in high quality measuring instruments.

situation from the Washington headquarters reveals that radio servicemen in many cases are *not* being turned down on supplemental rationing books if the mileage on their applications is properly computed and if the radio men can positively show that he is using the car solely for occupational purposes.

Our suggestion therefore is that each serviceman go before his Appeal Board completely fortified with his actual mileage records. If turn-downs result, these turn-downs should be sent on to us here at RADIO RETAILING TODAY for a final appeal on behalf of each individual if it becomes that drastic and necessary. We shall be glad to use every effort to help convince local ration boards to grant "C" cards if the cases warrant such allotments.

In conclusion, it should be stated in full fairness that servicemen must apply themselves diligently to satisfying their Ration Boards as to the absolute necessity of the need for increased gasoline allotments in carrying on their occupation.

In general ration boards are composed of very sensible citizens who, upon being shown the righteousness of the situation, respond rapidly.



Standard Electro-Voice engineering practise includes orders for "Test to Destruction" during manufacture and assembly. At frequent intervals, microphones are taken from our production lines and abused until they are completely demolished.

Throughout the procedure, Electro-Voice engineers carefully examine and analyze the resulting changes in level and response. This is but one of a series of tests that are perfecting a line of rugged microphones for dependable service under the strains and shocks of military service.

ELECTRO-VOICE MFG. CO., Inc.
 1239 SOUTH BEND AVENUE SOUTH BEND, INDIANA
 Export Office: 100 VARICK STREET, NEW YORK, N. Y.

STANCOR

TRANSFORMERS

First Choice of Servicemen!



STANDARD TRANSFORMER

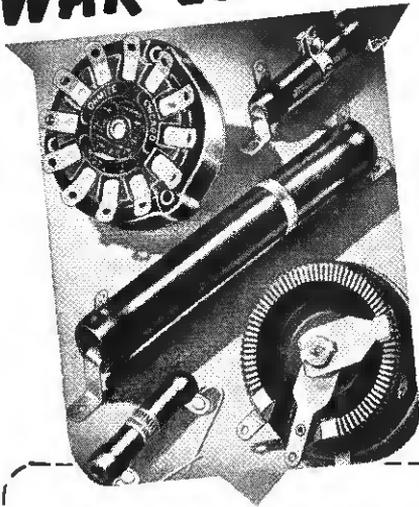
• CORPORATION •

1500 NORTH HALSTED STREET . . . CHICAGO

OHMITE

Rheostats • Resistors
Chokes • Tap Switches

HELP YOUR WAR EFFORT



ON THE WAR FRONT— Many of you now in active service have long been familiar with the dependability of Ohmite Products. When you notice so many of these same units in vital war equipment on land, at sea and in the air, it gives you added assurance and helps you fight a better fight.

ON THE HOME FRONT— Here, too, you find innumerable Ohmite Resistance Units in radio, communications and electronic devices, in test apparatus and electrical control equipment. This knowledge helps you do a better job in dealing with today's resistance-control problems or in maintaining the service of existing equipment.



Send for These Handy Aids

Ohmite Ohm's Law Calculator
Helps you figure ohms, watts, volts, amperes—quickly, easily. All values are direct reading. No slide rule knowledge necessary 4 1/8" x 9" Send only 10c in coin to cover handling cost



Quick-Reference Catalog 18
Gives up-to-date information on the wide range of Ohmite Stock resistors, rheostats, chokes and switches used in all types of applications. Write for it now— it's Free! Ohmite Jobbers Everywhere

OHMITE MANUFACTURING COMPANY
4873 Flournoy St., Chicago, U. S. A.

Be Right with **OHMITE**
RHEOSTATS • RESISTORS • TAP SWITCHES

Kahn Heads Western Sales Managers

Elected president of the Sales Managers Club, Western Group, is J. J. Kahn, president of Standard Transformer Corp. Mr. Kahn succeeds S. N. Shure of Shure Bros., who during the past year has guided the Club through the early "priorities period" and greatly expanded the Club's activities in giving jobbers and manufacturers an understanding of the initial rulings.

Mr. Kahn has already been very active in the priorities field, and was a member of the original Priorities Committee of the Radio Parts and Associated Industries. He is the first sponsor of the Keep 'Em Playing" campaign to get Washington officials to allocate critical materials for replacement parts for home sets. Last June, he was chairman of the highly successful Radio Victory Dinner in Chicago. He is now a member of the Radio Replacement Parts Industry Committee working with WPB, a director of Radio Manufacturers Association, and chairman of the RMA Priorities Committee.

Elected vice-chairman of the group is Paul H. Tartak, president of Oxford Tartak Radio Corp. while Miss Helen A. Staniland of Quam-Nichols Co. and Kenneth C. Prince, Chicago attorney, continue as secretary and treasurer respectively.

Army-Navy "E" to Crowley Company

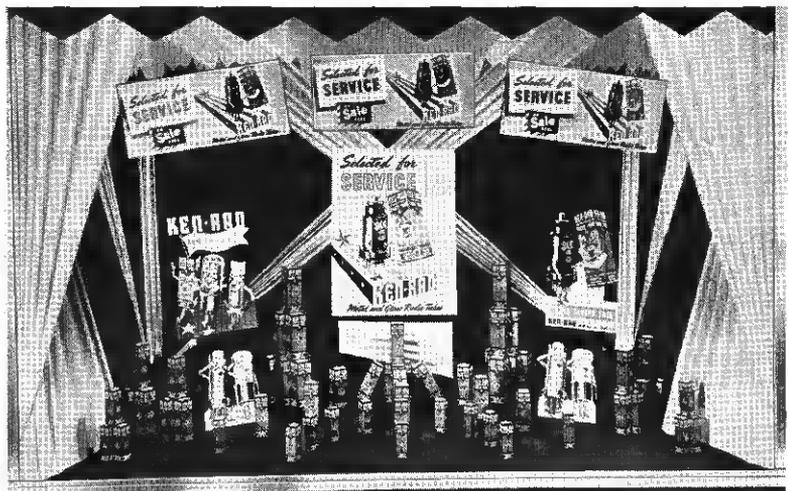
That the war must be won on the production line before it can possibly be won on the fighting front was the keynote of colorful ceremonies marking the presentation of the Army-Navy "E" for production excellence to Henry L. Crowley & Co., Inc. on Sept. 4.



J. J. Kahn of Chicago

Presentation of the Army-Navy "E" pennant, as well as "E" pins to workers and management was made by Brig. Gen. A. A. Farmer, Officer in Charge, Philadelphia Signal Corps Procurement District. The pennant was accepted by Henry L. Crowley, the president of the company, who promised that the workers and management would still further multiply their efforts not only to warrant the coveted star for their pennant by the end of the next six months, but even more so as a practical token of their great appreciation for what our armed forces are doing on many battle fronts.

A Way to Arrange Tube Display Materials



Presented as a model way to handle the display materials on Ken-Rad tubes, this trim shows how streamers, cut-outs and cards may be inexpensively combined with cartons and crepe paper to fix up an eye-getting dealer display.



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6C6	76
6J5 or 6J5GT/G	2051
6K7G or 6K7GT	

W. R. BURTT

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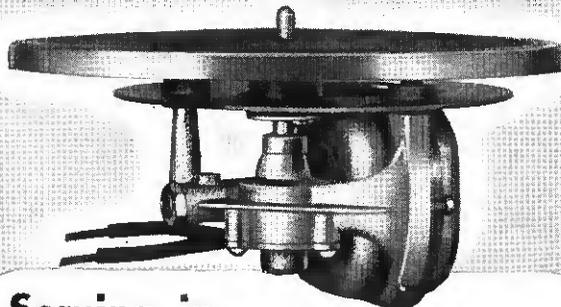
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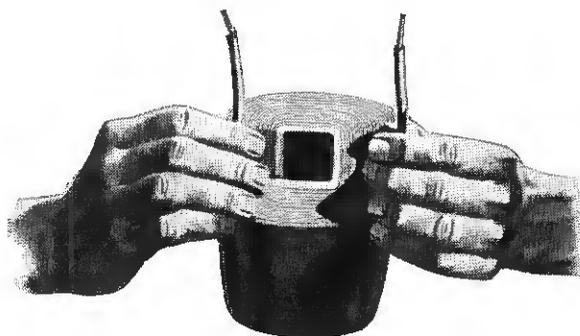
• For forty years G. I. has been the leader in producing reliable quiet-running motors for a wide range of domestic and commercial needs. Now, General Industries has been called into our country's service producing numerous items, including motors, to "keep them rolling" and "keep them flying." We shall welcome the day when G. I. motors will again be freely available for civilian needs.



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Chief Radio Electrician, U. S. Navy
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SOUND BUILD-UP FOR CONCERTS IN THE PARK

(Continued from page 15)

inate in a specially built control room approximately 200 feet from the shell. At this point they are connected to the amplifiers through Amperite LGP-LAB transformers.

Monitoring

A monitoring post was established approximately half-way up the center of the Robin-Hood Dell and the balance was controlled by telephone to the Control Room.

The engineer at the monitor post, of course, had different conditions to cope with, each night, such as: Size of audience (from 6000 to 14,500 people), Quality of atmosphere, Type of selection being played, Type of soloist (Instrumental or various ranges found in vocalists), Vagaries of conductors, etc.

A few of the prominent musicians who appeared at the Robin Hood Dell were: Lawrence Tibbett, Gladys Swarthout, Marion Anderson, Jose Iturbi, Lily Pons, Arthur Rubenstein, John Charles Thomas, Jan Peerce, Oscar Levant, Albert Spalding, Yehudi Menuhin, Paul Robeson, etc.

Robeson "Echo" Set-up

A special system was connected up for Paul Robeson, so that he could hear himself while he was singing. This consisted of a small microphone, amplifier, and projector-type loudspeaker, with the loudspeaker mounted in the wing of the stage and aimed at Mr. Robeson.

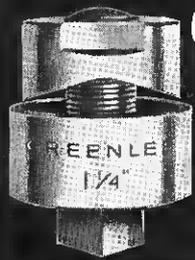
"While the emergency equipment was always ready for breakdowns, explains Mr. Slott, we went through the entire season without a breakdown during a concert. All equipment, including tubes were thoroughly checked before each concert.

No Complaints

"While this is the first season that we have amplified the Robin Hood Dell, it is also the first season that there were no authorized complaints about the sound reinforcement."

Special sound equipment for the Robin Hood Dell amphitheatre was designed and installed by the Algene Sound & Radio Co., 140 South Juniper St., Philadelphia. The contra-bass

THE EASY WAY TO CUT HOLES IN RADIO CHASSIS



Here's a handy tool to help the radio worker save many hours of work when cutting holes for sockets, plugs, connectors, and meter holes in radio chassis. No tedious drilling, reaming, or filing is necessary. 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. Ten punches are available for cutting 3/4, 7/8, 1, 1 1/8, 1 3/8, 1 1/2, 1 3/4, 1 5/8, 1 7/8 and 2 1/4-inch holes. Write for more information.

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YOUR JOBBER WILL HELP YOU—Many months ago we anticipated today's critical situation and adjusted our policies accordingly. Recently announced to Distributors, IRC's new Volume Control stock plan met with immediate approval and a practically 100% response.

This splendid cooperation enabled us to assemble Volume Controls from material on hand and make deliveries in substantial quantities without

sacrificing production of essential war orders.

We suggest you continue to use your IRC Volume Control Replacement Manual. Your Jobber has been advised how to make proper substitutions and will gladly help you with your problem if you will consult him whenever necessary.

IRC QUALITY MAINTAINED—You can rest assured that any IRC Volume Control, whether manufactured "before Pearl Harbor" or recently assembled, conforms to IRC Standards of Dependability, Stability, and Accuracy . . . and although IRC is operating 24 hours per day, 7 days a week, to meet urgent Army, Navy, Air-Force and War Industries requirements, we are ever mindful of your important function in keeping home radios in good working order.



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loudspeakers above mentioned, were designed by Algene's engineers, in conjunction with University Laboratories, New York.

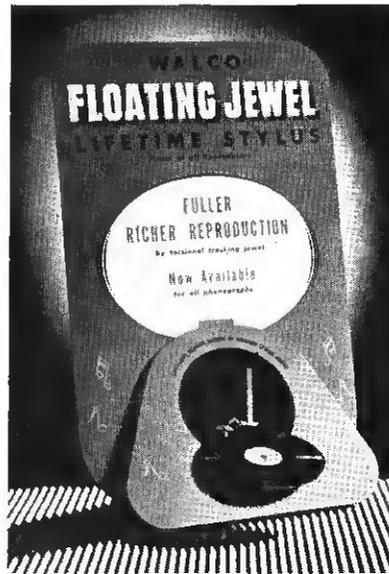
Frederick H. Strawbridge, Jr., is president of the Robin Hood Dell Concerts, and David Hocker is general manager.

"Military Corner" for Radio Stores

A lively merchandising idea for war times is being recommended to dealers by Frederick Kugel, 1233 Sixth Ave., New York City, who is known to the trade as a marketer of a monthly record review, leather-covered cases for radios, and other products.

The suggestion is that dealers set up in their stores a "Military Corner" featuring all those items of interest to the men in the Armed Forces as well as to their families and friends. Besides an appropriate display of phonograph records, the "Corner" would include such items as military-style wallets, writing sets, playing card cases, money belts, picture frames, etc. In offering this type of leather product to the general trade, Mr. Kugel has already got a good reception and has designed many of the items in definite military style. Some are in color; prices range from 25c to \$5.

Selling a Jewel



Here's a new display for the Walco "Floating Jewel" lifetime needle, available from Electrovox Jobbers. Streamlined packaging and colorful literature are also among the dealers' sales helps on this item.

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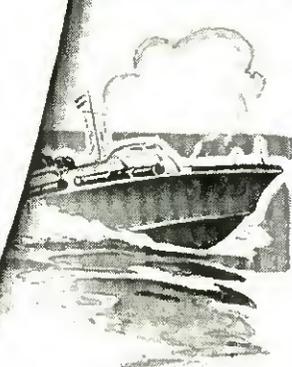
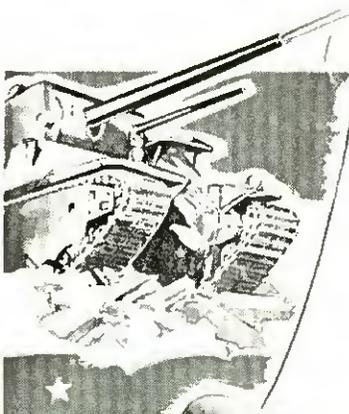
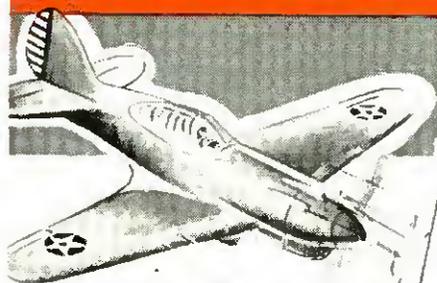
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Only Time and Peace can tip this glass and reverse the flow of magic into new products and services for civilian use. Then, in the hour-glass of progress, will flow television and other new miracles of radio as the electronic sands of science flow again in new directions.



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