



RADIO *Retailing* TODAY

OCTOBER 1943

In This Issue ★ CHRISTMAS MERCHANDISING—Radios, Records, Electric Appliances, Dealer Activities, Radio-Electronic Maintenance

Including Supplement: Fundamentals of Sound — Chart in Three Colors

Remember Uncle Joe ?



Perhaps to you his name was not Uncle Joe. Maybe it was Dad —possibly it was the man-down-the-street. But, as youngsters, most all of us were fortunate enough to know someone with whom we could talk over our problems—someone who always seemed to have an answer for the questions that stumped us.

We want to be your "Uncle Joe" for perplexing radio service problems. We want you to make use of our services established to provide technical information, suggestions on replacements, recommendations on substitutes for hard-to-get items, solutions to circuit problems . . . all the questions you ask in practical wartime servicing of home sets to "Keep 'Em Listening."

No one person in the Mallory organization is a "know-it-all." But many competent radio engineers are on our staff. Men experienced in servicing problems. They are at your service . . . along with plenty of down-to-earth technical data that will help mightily in these busy days. Tell us your problems in detail. Just address—Technical Information Service, P. R. Mallory & Co., Inc., Indianapolis, Ind. You will hear from us promptly.

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

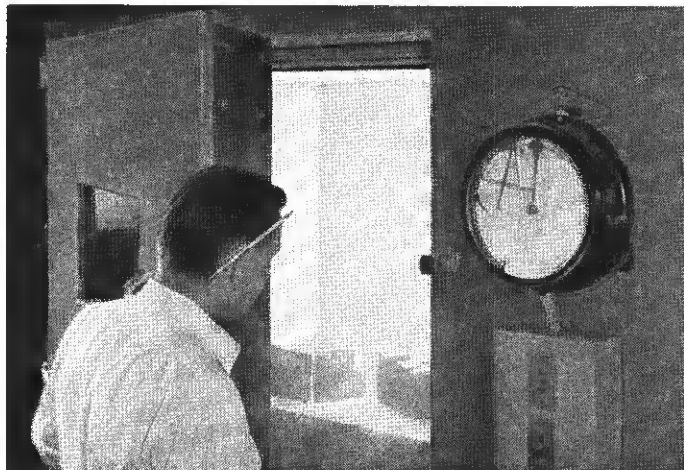
P. R. MALLORY & CO. Inc.
MALLORY



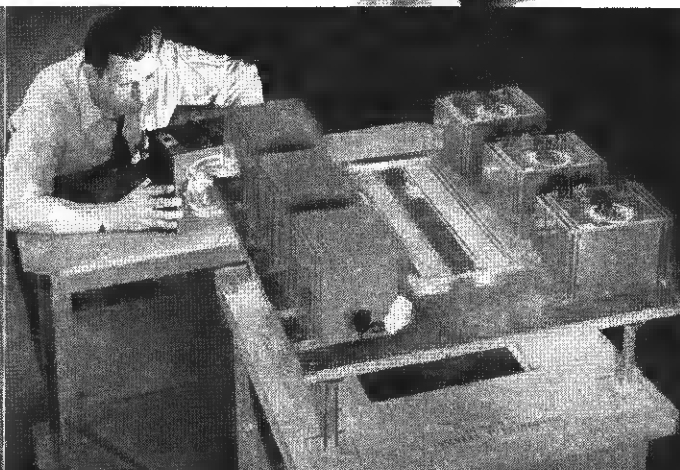
Approved Precision Products

Admiral WARTIME TESTS AND TECHNIQUES

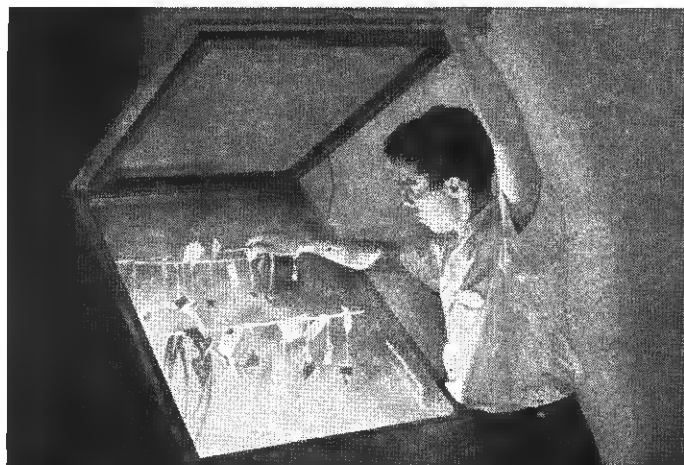
will have a profound effect upon the radio of tomorrow



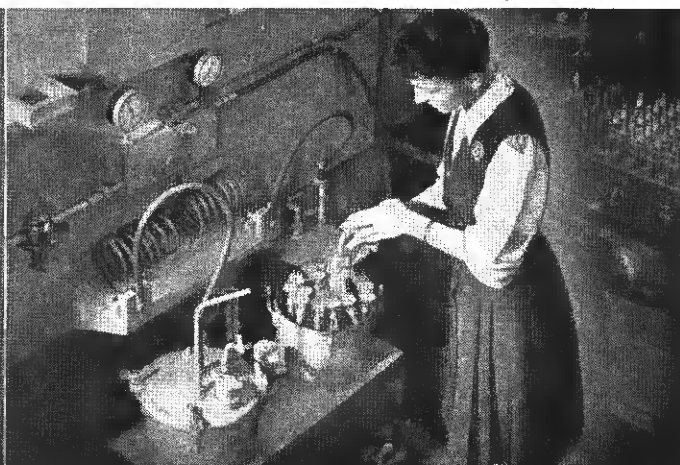
CLIMATE CHAMBER—In the steaming jungle or bitter arctic cold, radio must get the message through . . . and does! To duplicate all possible weather conditions, Admiral engineers have installed a special "climate chamber" with a controlled temperature and humidity range far exceeding that of jungle heat to sub-zero arctic.



TORTURE TABLE—Radios built for service with the U. S. Tank Corps must be able to stand up under continual jarring and crashing. To assure dependable performance, Admiral equipment is strapped to a motor-driven, vibrating table . . . jolted 2200 times per minute . . . must function perfectly after 8 hours of "torture."



SALT SPRAY CHAMBER—To check the efficiency of rust-proofing treatments, small parts are subjected for 200 hours at 100° F in a mist-like spray of salt that gets into the tiniest crevice, definitely reveals any evidence of corrosion.



WAX IMPREGNATING—Bakelite terminal boards, coils, etc., are impregnated with wax under vacuum. Microscopic traces of imbedded moisture are thereby displaced by chemically pure wax . . . thus assuring constant electrical characteristics and dependable performance.

These are but a few of many wartime techniques and tests today employed in the making of Admiral communication equipment. They give assurance of dependable performance on the far-flung battle-fronts of the world . . . while the knowledge that Admiral engineers are gaining today will make the peacetime Admiral of tomorrow a better radio than ever. Continental Radio & Television Corporation, 3800 W. Cortland St., Chicago, U. S. A.

Tune in CBS, 2:30 P.M., EWT, Sundays, for Admiral "World News Today."

RADIO Retailing TODAY • October, 1943



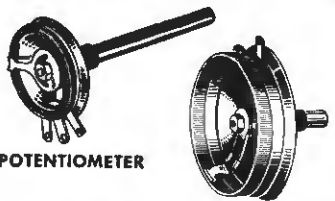
What do 10 Million *Utah* "War" Parts Mean to You?

THEY MEAN, first, support for the armed forces . . . support provided in the way we know best how to give it.

They mean the "know how" to keep pace with the radio and electronic developments which are now being used in wartime application—and which will so greatly influence American living "tomorrow."

They mean better products—keyed to "tomorrow's" demand—products you can count on!

UTAH RADIO PRODUCTS COMPANY, 810 Orleans Street, Chicago, Ill. Canadian Office: 560 King Street West, Toronto. In Argentine: UCOA Radio Products Co., S.R.L., Buenos Aires. Cable Address: UTARADIO, Chicago.



POTENTIOMETER

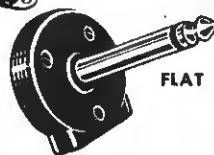
"L" PAD



JACK SWITCH



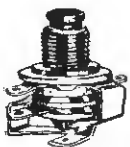
TRANSFORMER



FLAT PLUG



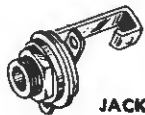
BI-DIRECTIONAL SPEAKER



PUSH-BUTTON SWITCH



TU-WAY PHONE PLUG



JACK



VIBRATOR

Freed-Eisemann

...a name famous in peacetime for one of the world's great radio-phonographs



...a name famous in wartime for unsurpassed engineering skill and precision in the production of military communications equipment

● Ever since radio became an amazing reality to the world, the Freed-Eisemann name has been identified with outstanding radio achievement. The first crystal sets were made by Freed-Eisemann, as were the first neutrodyne sets, and sets with self-contained speakers. Then, with the invention of Armstrong Frequency Modulation, Freed-Eisemann became the first to produce FM radio-phonographs *exclusively*. Famous for magnificent musical tone and cabinet design, these superb instruments rank with the world's *great* radio-phonographs. They represent Freed-Eisemann engineering genius at its peacetime best, and help to explain why Freed-Eisemann *wartime* production involves assignments calling for the highest degree of engineering skill and precision—in the manufacture of communications equipment and highly complex electronic devices for America's armed forces.

In war and in peace, the Freed-Eisemann watchword is *quality*.

FREED RADIO CORPORATION • 200 HUDSON STREET • NEW YORK, N. Y.

Thinking of after the War?

We want to make the acquaintance of dealers and distributors alert enough to do their post-war planning now; men and organizations who will recognize the sweeping post-war sales potentials of the high fidelity tape recorders bearing the Fonda name.

Here are a few Fonda features that will explain why our instruments will be in demand—high quality recordings at low cost; continuous recording for eight hours without supervision; automatic instantaneous playback; provides a permanent, indestructible record. The Fonda method of recording is based on our own exclusive patent which is the result of years of engineering and development effort.

Let's start getting acquainted today by dropping us a note requesting our free literature!

Fonda

THE FONDA CORPORATION
245 EAST 23RD STREET, NEW YORK 10, N. Y.

Designers and Manufacturers of Precision Recording Equipment



The Fonda Recorder
for the Home



The Fonda Recorder
for monitoring by
Commercial Airlines and
Radio Broadcast Stations



The Fonda Recorder
for Industry

RADIO *Retailing* TODAY

OCTOBER, 1943

Page

13	EDITORIALS
14	CHRISTMAS MERCHANDISING
16	DEALER EXPANDS
18	MEETING COMPETITION
20	VITAL APPLIANCES
22	DEALER ACTIVITIES
28	RECORD SUCCESS
30	DISC QUIZ
32	PLATTER CHATTER
34	FROM RADIOS TO RECORDS
38	THE "WHY" IN "MIDDLE MAN"
40	CALLING ALL LINES
50	"SOUND" JOBS FOR YOU*
52	SELLING TIPS ON "SOUND"
54	SERVICE NOTES
81	REBUILDING APPLIANCES

*SUPPLEMENT: Three-Color Basic Chart
on "Fundamentals of Sound."

Cover photo by Ewing Galloway

RADIO Retailing TODAY, October, 1943, Vol. 28, No. 10, 25c a copy. Published monthly by Caldwell-Clements, Inc., 480 Lexington Ave., New York 17, N. Y. M. Clements, president; Orestes H. Caldwell, treasurer. Subscription rates United States and Latin American countries, \$1.00 for one year, \$1.50 for two years, \$2.00 for three years. Canada \$1.50 for one year, \$2.00 for two years, \$3.00 for three years. All other countries \$2.00 for one year, \$3.00 for two years, \$4.00 for three years. Printed in U.S.A. Re-entered as second class matter August 28, 1942, at the Post Office at New York, N. Y., under the act of March 3, 1879. Member of Audit Bureau of Circulations. Copyright by Caldwell-Clements, Inc., 1943.

ORESTES H. CALDWELL
Editor

M. CLEMENTS
Publisher

H. L. M. Capron, Merchandising Editor
William E. Moulic, Technical Editor
Helen Thurman, Associate Editor
John L. Stoutenburgh, Associate Editor
Charles F. Dreyer, Art Director
E. T. Bennett

M. H. Newton
Lee Robinson
B. V. Spinetta
N. McAllister

John A. Samborn
O. H. Sutter
W. W. Swigert
J. E. Cochran

R. Y. Fitzpatrick, Chicago, 201 N. Wells St.
Telephone RANdolph 9225

Editorial and Executive Offices
Telephone PLaza 3-1340
480 Lexington Avenue
NEW YORK



SOARING SALES CURVES WOULD BE BETTER

... before long we may be able to help you.

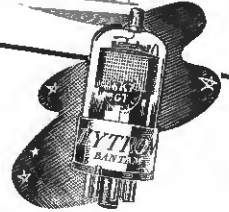
A curvaceous stenographer is an inspiration. A favorable sales curve, however, would be even more desirable. Hytron knows how tough the going is for you; how, as a patriotic American, you have tightened your belt, and made the best of hope deferred.

You will find some consolation in knowing that when Uncle Sam honorably discharges us from his Army of workers, you will be the one to benefit from Hytron's war-time experience in making quality tubes to exacting military standards. Cheer up! There is a bright new electronic era ahead; and Hytron will be ready to help you make your pre-war sales records look puny by comparison.

HYTRON HYLIGHTS



Expansion at the Newburyport and Salem plants has already quadrupled Hytron's size; and Hytron is still growing fast. Even more important to you than Hytron's increasing importance in the industry, is the "know-how" it is developing. Experience gained by a greatly augmented corps of experts in making its famous special purpose War tubes today, will produce plenty of top quality tubes for your electronic future tomorrow.



OLDEST EXCLUSIVE MANUFACTURER OF RADIO RECEIVING TUBES

HYTRON CORPORATION
 ELECTRONIC AND RADIO TUBES
 SALEM AND NEWBURYPORT, MASS.



DON AMECHE SAYS:

EVERYONE TELLS US! RCA'S GREAT NEW FULL HOUR SHOW

"WHAT'S NEW?" IS A BIG HIT!



Monty Woolley, "The Beard," star of the new film "Holy Matrimony."

Jeanette MacDonald, singing star whose concert tour has been breaking attendance records.



Hear it every Saturday

Blue Network 7 P. M. (E.W.T.)

(Consult your local newspaper for variations from schedule)

DID you hear the thrilling new RCA radio program "What's New?" last Saturday night? We told you we had an outstanding new kind of radio show—and now you know everything we said is true.

We told you that Don Ameche, your host, would introduce famous personalities from the whole field of entertainment.

We told you that the newest, most dramatic events that happened during the week in science, music, current events—*everything!*—would be brought to you in this exciting full hour program.

Yes, we told you so! And already the letters are coming in from everywhere saying that "What's New?" is a great show.

"What's New?" is broadcast over 158 stations from

Maine to Hawaii. Every program is planned to create wide interest in RCA radio, television and electronic developments that will be yours to sell after the war. "What's New?" is helping to establish post-war business for you!



Captain Clark Gable, with the Army Air Force "somewhere in England," who was heard via short wave.

EARLY SPARKLERS ON RCA'S NEW SHOW



Dinah Shore, Victor Artist, sensational Songstress, who has just completed "Thank Your Lucky Stars."

Lena Horne, Victor Artist, star of "Stormy Weather" and "Cabin in the Sky."



Three Star Extra!

As we go to press we are happy to report that the Camden plant of the Radio Corporation of America has just received its THIRD star for the Army and Navy "E" Flag of Merit. RCA's production drive for Uncle Sam began way back in October 1940 (14 months before Pearl Har-

bor), a record, we believe, unique in the radio industry. This unparalleled production experience ensures the finest of radios, phonographs and television instruments for you to sell after the war—instruments for which "WHAT'S NEW?" is helping to create a market.

RADIO CORPORATION OF AMERICA

RCA VICTOR DIVISION • CAMDEN, NEW JERSEY

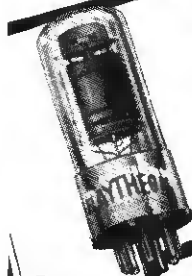


Outdated theatricals...they too served their purpose in their time...the ballyhoo, checkered vest, cane, and all the trimmings, some of these traits were adapted to merchandising... even to jobber dealer and servicemen ...anyone can merchandise by power, the power of ballyhoo...but

THERE IS A DIFFERENCE

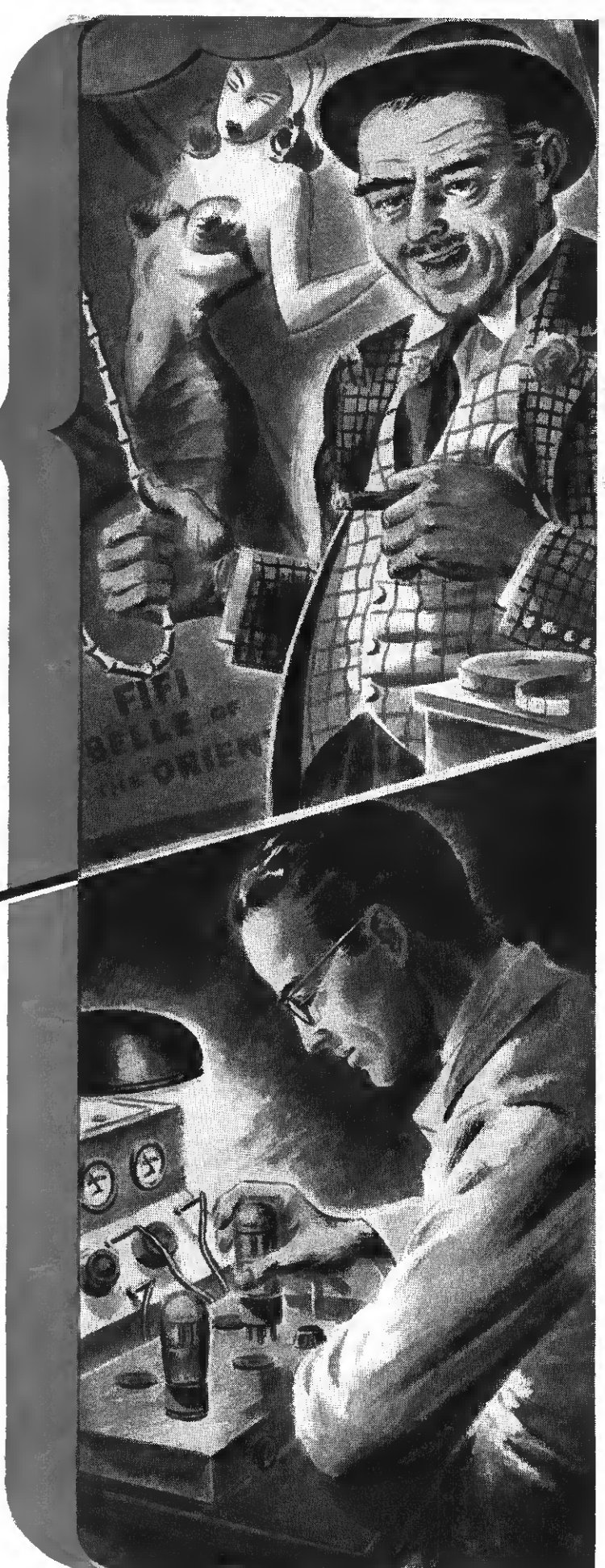
When recognized scientists collaborate in the production of precision devices or engineered tubes, to serve today's electronic principles there is no ballyhoo. America's destiny as world leader is based not so much on resources or population — but on ability — the ability to be so much farther advanced in technical matters and to so far outweigh other nations in the production of superior equipment that we become an inestimable force.

RAYTHEON proudly submits its 12,000 skilled workers as an important segment in this great American achievement. For nineteen years the RAYTHEON laboratories have concentrated on research and development. Scientific achievement has always been foremost in the Company's policy. The fact that today RAYTHEON employs over 12,000 tube experts — supplying the demand for critical electronic tubes — is the proof of the wisdom of this unselfish foresight.

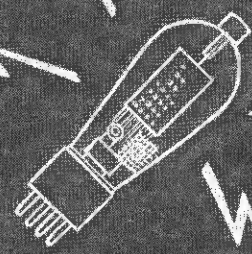
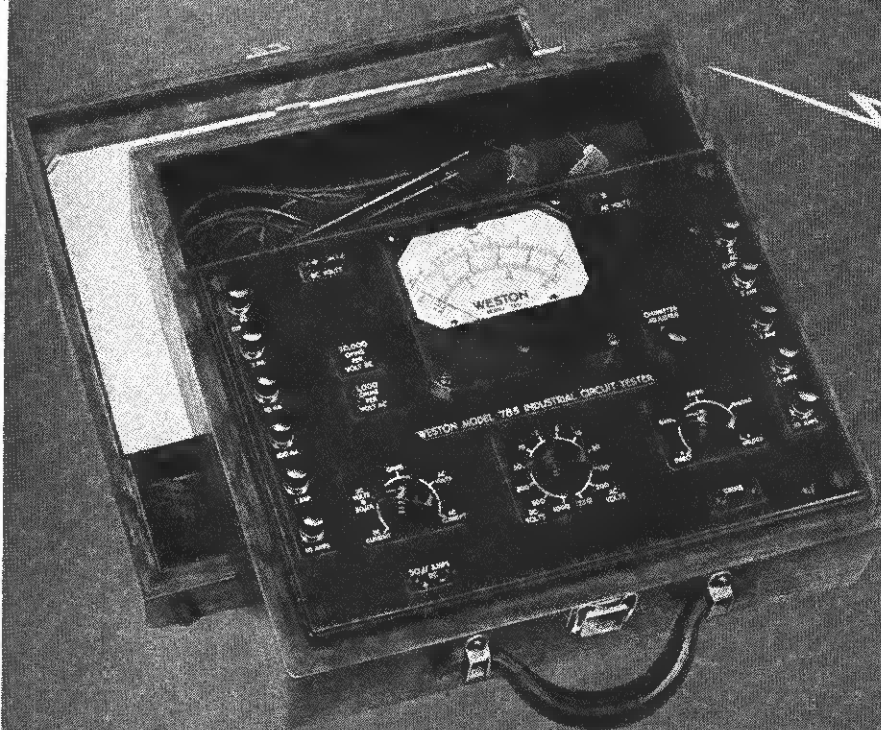


**RAYTHEON
PRODUCTION CORPORATION**
*Newton, Mass., Los Angeles, New York,
Chicago, Atlanta*

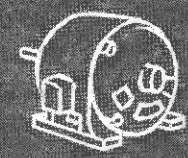
★ ★ ★ ★ ★
DEVOTED TO RESEARCH AND THE MANUFACTURE
OF TUBES FOR THE NEW ERA OF ELECTRONICS



MEASURES THE *new* MAINTENANCE VALUES



as well as
the old...



Weston MODEL 785 Industrial Circuit Tester

RANGES

D-C Voltage—Measurements from 10 millivolts to 1000 volts (20,000 ohms per volt) in full scale ranges of: 1/10/50/200/500/1000 volts. (Up to 5000 volts with very compact external multiplier.)

A-C Voltage—Measurements from 0.1 to 750 volts (1000 ohms per volt) in full scale ranges of: 5/15/30/150/300/750 volts.

D-C Current—Measurements from 0.5 microampere to 10 amperes, in full scale ranges of: 50 microamperes, 1/10/100 milliamperes, 1/10 amperes. (Higher ranges with external shunts.)

A-C Current—Measurements from 10 milliamperes to 10 amperes, in full scale ranges of: .5/1/5/10 amperes. Higher ranges, up to 1000 amperes, with external current transformers.

Resistance—Measurements from 0.5 ohm to 30 megohms in full scale ranges of: 3,000/30,000/300,000/3 meg./30 meg. Center scale values are: 25/250/2,500/25,000/250,000 ohms.

• The growing use of electronic devices and other sensitive circuits throughout industry poses no new instrument problems for contractors or maintenance departments WESTON equipped. The familiar Model 785, with its high sensitivity and broad range scope, answers these newer measurement requirements. But more . . . it also covers most of the usual maintenance needs.

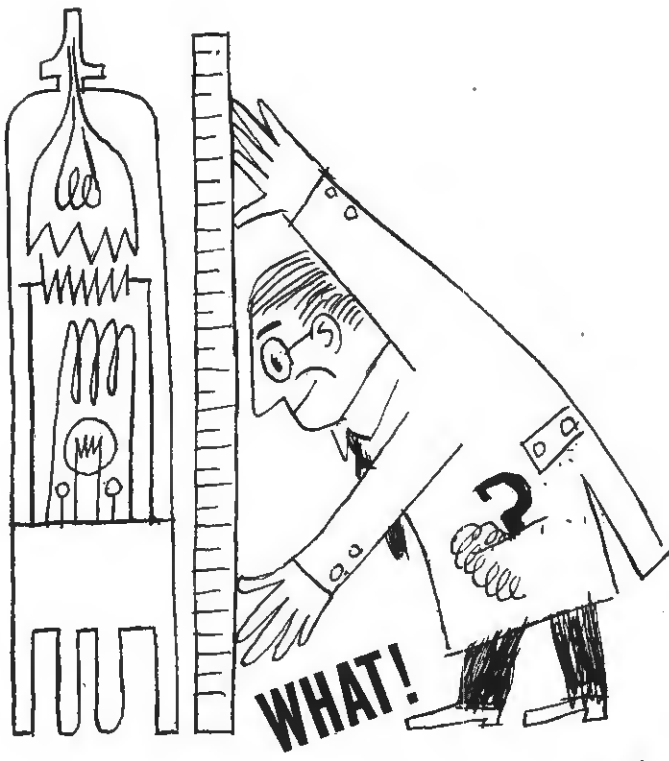
Model 785 furnishes another example of WESTON'S engineering foresight . . . designing instruments always with the needs of *to-morrow* in mind. Other WESTONS, equally important for efficient maintenance in the days to come, are the time-saving WESTON Clamp Ammeter, and the WESTON foot candle meters which measure all types of lighting direct . . . *without correction factors*. Weston Electrical Instrument Corporation, 597 Frelinghuysen Avenue, Newark 5, New Jersey.

Laboratory Standards . . . Precision DC and AC Portables . . . Instrument Transformers . . . Sensitive Relays . . . DC, AC, and Thermo Switchboard and Panel Instruments.

WESTON

Specialized Test Equipment . . . Light Measurement and Control Devices . . . Exposure Meters...Aircraft Instruments... Electric Tachometers...Dial Thermometers.

FOR OVER 55 YEARS LEADERS IN ELECTRICAL MEASURING INSTRUMENTS



NO POST-WAR BLUEPRINTS?

NOT AT EMERSON—YET!

Emerson engineers, draftsmen and production technicians are devoting their time to war production... exclusively.

That applies to the Emerson laboratories in which daily electronic wonders are being performed.

It applies to Labor-Management groups which are meeting regularly to find ways and means to step up volume, improve quality and to keep the eyes of every department on the ONE objective of speeding the Victory.

And it applies particularly to Emerson executives who are supervising war production... to the exclusion of everything else.

This is THE JOB at Emerson. It is being done better and better... and on schedule.

It allows no time and no materials for post-war designs or developments. No preconceived ideas will have "frozen" our thinking or creativeness when the time comes to design and

produce the Emerson Radio of tomorrow.

But consider! With normal peacetime effort and equipment, Emerson designed, produced and sold more than 1,200,000 radios in 1941. It led the industry in home sets.

Combine this achievement with Emerson's vastly increased facilities, plus its priceless war-won experience and you will get an eloquent answer to what Emerson will deliver... in product and promotion... when the go-ahead is sounded.

Emerson converted quickly to wartime production... reconversion to peacetime production will be equally rapid.

You may be sure of this... the flexible, fast-moving and fast-thinking organization which carried Emerson to the position it enjoys today, is pre-paid insurance that Emerson distributor and dealer franchises will be priceless assets in the days to come.

EMERSON RADIO & PHONOGRAPH CORP., NEW YORK 11, N. Y.

Out of a proving ground
wide as the world...

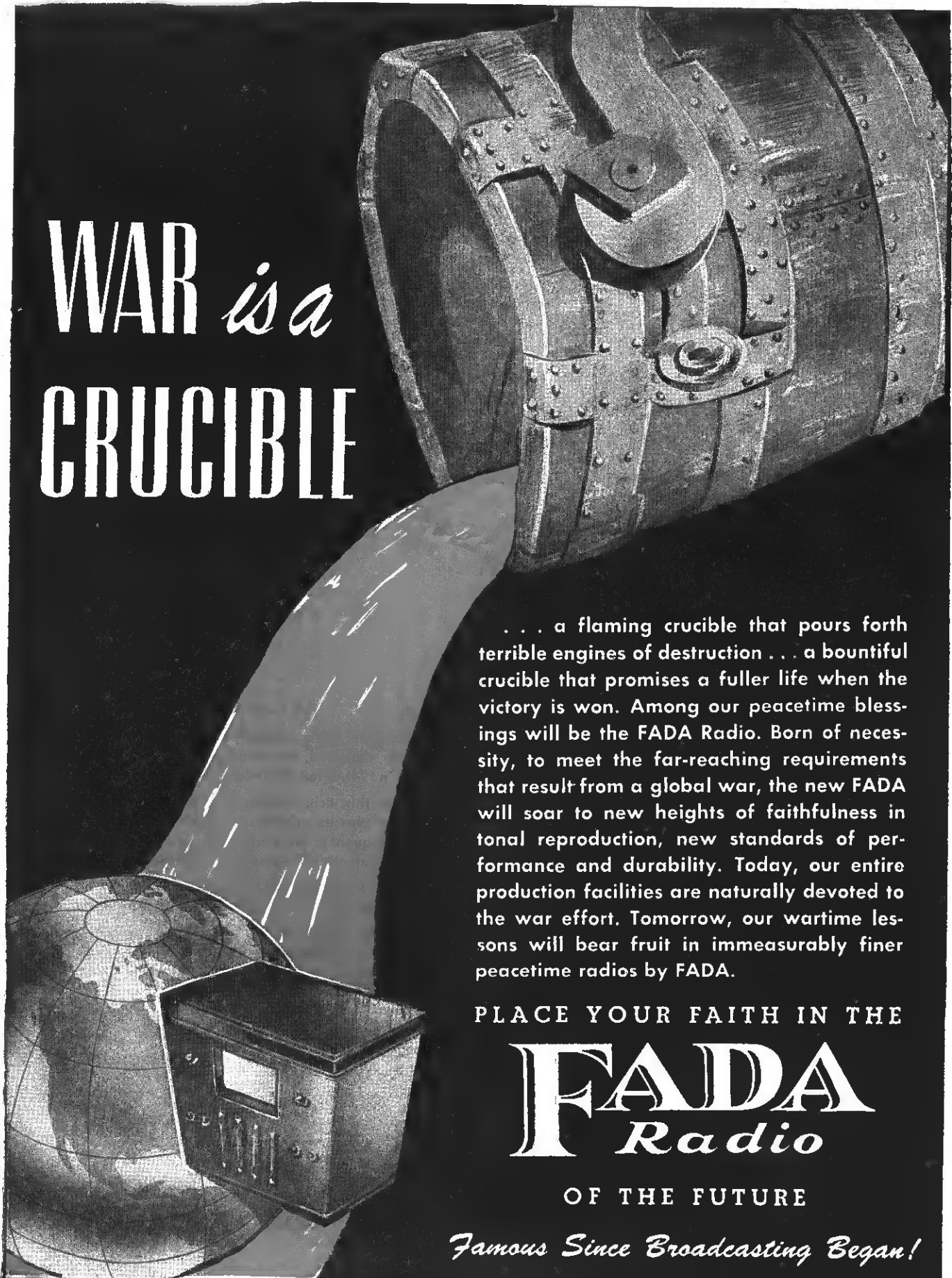


Emerson ELECTRONIC RADIO

and other miracles of electronic
research for peacetime use

BACK THE ATTACK WITH WAR BONDS!

WAR *is a* CRUCIBLE



... a flaming crucible that pours forth terrible engines of destruction ... a bountiful crucible that promises a fuller life when the victory is won. Among our peacetime blessings will be the FADA Radio. Born of necessity, to meet the far-reaching requirements that result from a global war, the new FADA will soar to new heights of faithfulness in tonal reproduction, new standards of performance and durability. Today, our entire production facilities are naturally devoted to the war effort. Tomorrow, our wartime lessons will bear fruit in immeasurably finer peacetime radios by FADA.

PLACE YOUR FAITH IN THE

FADA *Radio*

OF THE FUTURE

Famous Since Broadcasting Began!

FADA RADIO AND ELECTRIC COMPANY, INC., LONG ISLAND CITY, N. Y.



Remember when your butcher tried to sell you sirloin?

NOW you know. You took those juicy steaks too much for granted when you could get them.

Do you feel the same way about the well-stocked shelves with which your jobber provided you when he could?

If you don't, you should. And, for all you know, your jobber is deep in war work.

*For example, a Naval vessel put into a West Coast port for 21 hours' leave from the fighting in the Pacific — with a wrecked radio gear. The local radio jobber — and only he — was able to supply, after 20 hours of straight work, the repairs and vital radio tubes needed for the ship to regain its "fighting voice" and rejoin its Task Force on schedule.**

Sylvania knows you would share our pride in the radio jobber's war record of service — frequently rendered in an emergency, often at the expense of good will — if we could tell you all the facts.

Please remember that the radio jobber plays fair with you,

to the best of his ability, with what he can get. Bear with him when he patriotically puts first things first in the matter of supplying war plants and the armed forces.

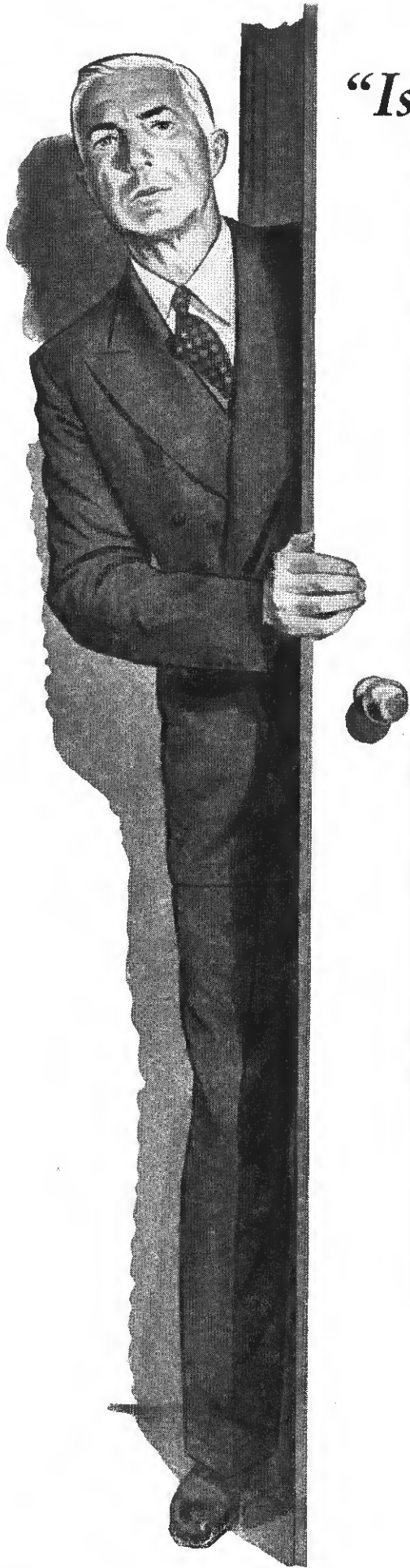
You, as a retailer, and we, as a manufacturer, will need the jobber more than ever when the war is over. It is only as a harmonious team that the three of us will be able to supply the expansive postwar radio and television markets.

• • •

**An actual case from our files, details of which must now be withheld for reasons of military security.*

• • • • **SYLVANIA**
ELECTRIC PRODUCTS INC.

Emporium, Pa.



“Is postwar planning baloney?”

“You hear a lot these days about streamlined widgets in the ‘World of Tomorrow’ that will make a superman out of everybody.

“We don’t have anything planned as wonderful as that.

“But make no mistake about this — we do believe in postwar planning.

“We believe in it so much that we have literally squeezed an ‘8th day out of the week’ so that we can make you these three promises:

“ONE: Soon after this war is won you will have a fine line of Stromberg-Carlson radios to sell... a line that will win customers and retain their goodwill... a line that will offer value and fine performance in a range of prices.

“TWO: The Stromberg-Carlson name in radio will be even more widely and more favorably known than ever before.

“THREE: The Stromberg-Carlson policy of distribution will permit every authorized dealer to have a real opportunity for profit on the Stromberg-Carlson line.

“No, postwar planning is not baloney. It’s vital to our success... and to yours. And it’s your assurance in the peace to come that ‘There’ll be nothing finer than a Stromberg-Carlson.’”



STROMBERG-CARLSON

ROCHESTER 3 • NEW YORK



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

Another Trim Around Our Edges!

Once more we have had to save paper by further reducing the margins of our pages. The size of the type page remains as before, so that no less reading matter reaches our subscribers.

But by using a smaller sized sheet of paper, we are able to effect considerable saving in total paper tonnage consumed—in accordance with the orders, recent and impending, of the War Production Board.

The present serious paper shortage affects all publishers, and grows out of labor shortages in the forest regions of the American continent. Many different solutions are being proposed and undertaken:—farmers' woodlot chopping; use of Italian and German war prisoners in the forests; enlistment of city workers to go lumbering.

Meanwhile we gladly do our part to save paper, while assuring our readers continuing full measure of editorial service.

"Sound Fundamentals"—Supplement with This Issue

Another great basic chart of the fundamentals of radio-electronic installation and maintenance is sent as a supplement with the magazine now in the reader's hands.

Past issues have included the complete electromagnetic Frequency Spectrum (September, 1943) and Radio Allocations of the Western Hemisphere (March, 1943).

And now taking its place with these foundation charts of our business, comes this month's very practical compilation of "Fundamentals of Sound" prepared by RADIO RETAILING TODAY's publishers in collaboration with experts of the great Bell Telephone Laboratories, acknowledged authorities on all that has to do with sound and sound reproduction.

Here on one chart is everything the radio-electronic specialist can need to know about sound-volume intensities, decibel levels, frequency ranges, basic formulas, reference constants.

And this invaluable Sound chart is only another in the series which your publishers have in store for you as a reader of RADIO RETAILING TODAY.

Empty Tube Sockets

Repairmen have hundreds of sets racked up waiting for just one or two tubes to put them back into use. The 12-volt octal series, 35 and 50-volt tubes are now more scarce than the proverbial hen's teeth. While some hesitate to make circuit-changes to use other tubes because a shortage then develops in those types, such circuit changes are still the answer to getting the set going.

Tube changing requires ingenuity to keep ahead of shortages. It is being done successfully. Sets on the shelf "waiting for tubes" do not bring income—they produce ill will. Get 'em fixed!

Christmas Chime\$ for

**Seasonal Sales Opportunities Await Alert Dealers.
Take Your Pick . . . They're Yours to Choose From!**

• Our third "War Christmas" is almost here, and with it must come many a radio man's thoughts of pre-war, pre-Christmas lush selling days.

With stocks of radios at a low ebb, the indications are plain that the radio man's ingenuity must now be fully employed. Yes, indeed, the time has come when the radio man needs *all* the ingenuity he has. And all across the country radio men are measuring up to the current demands.

The major problem is to find new merchandise to sell, new ways of servicing, and of selling service, which fit into your location, your personnel, your community. Some of the merchandise which radio men have taken on is of the type which can and should be permanently retained among their lines. Others are of a temporary nature.

Records Sing Sales Tune

Every radio man knows about records, but many have not yet made any serious attempt to merchandise them. Records offer *real* sales and profit opportunities. Some dealers have been really surprised with the results of their "self-service" record bars, and this idea is taking hold fast. It's worth your serious thought and trial. Gift albums, standard works, operas, children's albums, and your own groupings of name band recordings will all have a large and profitable Christmas sales demand.

And there are plenty of other things which "go hand in hand" with records, and which make building a permanent record business easier. Any regular record customer needs albums, or record racks, or album cabinets. And certainly accessories such as needles, record dusters, needle sharpeners, etc., amply repay the dealer smart enough to maintain an assortment—and who will *merchandise* them. Every radio man should merchandise records.

Hearing aids are another item which every radio man can sell. Many are selling them now, and many more soon will be. Profits are high. But people do not flock to your store to buy them. You really have to *develop* the sale, with advertising, display and other proven merchandising plans. Window displays, store displays, demonstrations, all play their part. Several manufacturers are making thoroughly good equipment, but there is no "cut price" situation. And the business is good enough to support stores which sell nothing else, in cities of 35,000 population or more.

Some radio-record dealers have found that books on music, composers, and operas, have a ready sale, and this has lead several dealers into the general book business, too.

Recordings of greetings, singing auditions, messages, have proven profitable for many dealers, and are quite appropriate for radio retailers.

Among the merchandise lines of a temporary character, and appropriate for the gift season, radio dealers report a wide variety. Small electric appliances are very popular as a side line. Music boxes, ukuleles, jug-rinas, harmonicas, accordions, xylophones and similar musical instruments find a ready sale at Christmas. Small microphones, code practice sets, separate speakers, "silence speakers" belong in the radio store and can be sold readily with a little well directed sales effort.

Tinkerers' Delight!

Another item which holds some real possibility is the "kit set" for home construction. Tens of thousands of kit sets were manufactured to be assembled by trainees in the hundreds of Signal Corps and other radio schools. These schools are now being curtailed—the kits are available.

There is a demand for "compacts"—table model sets—and no stock to

satisfy that demand. It is entirely possible that the stage is perfectly set to revive the "make your own" vogue that was so popular, and profitable, in the early 1920's.

Give "Visiting" Lines Careful Attention

For the Christmas season there is a wide variety of merchandise which offers sales opportunities. In this class are toys and games, which are obvious to all, and also such items as cigarette lighters, pen and pencil sets, health scales, juice extractors, thermometers, barometers, shaving and make-up magnifying mirrors, table lamps, bed lamps, writing portfolios, desk sets, money belts, and a whole host of similar typical gift merchandise.

A word of caution though. Remember that chain stores, drug stores, super-markets, and many other merchants are going to give the public a real "run for their money" on gift merchandise, and the competition may be keener than you expect.

Hobby shops, catering particularly to the boys and girls, young and old—who like to do things with their own hands—are more prosperous than ever. Probably because people need more relaxation from the wartime working and thinking. And that offers another opportunity—model planes, boats, trains and all the materials therefor, for alert dealers to keep their cash registers ringing.

Service Has Holiday Importance

And don't overlook your service department. All the service business you can handle, and at a profit, too, is just waiting for you to take it. It may not be coming into your store, but it's there to be had. Tubes and parts for service are coming through better than a few months ago, and availability will continue to improve,

Your Cash Register

according to present indications. Your service department is your best doorway to the postwar radio business that is coming, and deserves the very best attention you can give it.

Many dealers are doing a fine job with reconditioned sets, particularly the compacts. After thorough reconditioning these sets are now selling at very attractive prices. Consoles do not seem to enjoy such a market. And therein lies probably the best opportunity for keeping your radio sales on the move. Sure, you've got to GET the sets, and recondition them, before you can SELL them, but ingenious dealers will take a leaf from the auto dealer's book and advertise, canvass, phone, write, to buy, borrow or trade for good used sets. Fix them right, clean them clean,

polish them bright and sell them at a bigger profit than you did when you were buying and selling them when they were pups.

Retail business is still reaching for new highs. The public has more money to spend than ever before. If you can't get your share of it, it's because you've lost some of that ingenuity which has so long characterized the radio industry—and the people in it.

Elsewhere in this issue you will see reports from dealers in all parts of the country. Some of them you'll find mighty interesting, and all of them indicate they're "in there pitching" for their business.

NOTES FOR YOUR XMAS SALES MELODY

Console Radios
Phono-Combinations
Record Players
Gift Certificates
for Radio Repair
Code Practice Sets
Home Microphones
Radio Trainer Kits
Electrical Appliances
Record Cabinets

RECORDS

NEEDLES

MIRRORS

TOYS

ALBUMS

COFFEE MAKERS

JUIGERS

MUSIC BOOKS

GLASSWARE





The Boss at the bench . . . Irving Horowitz as snupped by his friend, radioman Martin Bettan.

Brooklyn Merchant Bypasses Present Business Jitter. Hard-Boiled Rules Help Sutter Radio Thrive and Give

show windows, showrooms, and well-lighted, completely equipped service departments. And that isn't all—Sutter Radio expects to open more branches whenever it is possible to do so.

Sutter Radio Service isn't a large organization today. As a matter of fact, Horowitz, his wife, his sister-in-law, and a serviceman who comes in evenings, Saturday afternoons and Sundays, represents the entire staff. Then, too, Horowitz spends a lot of his time working in a warplant, and is very active in local civilian defense. Fortunately for Sutter Radio, Mrs. Horowitz is equipped to help a

Vacuum cleaners brought to our shop 75c
Home service for vacuum cleaners 1.00
Irons and toasters Free
Tubes tested when out of sets Free
Tubes in Radio 25c
If bad ones are replaced. .No Charge
Minor repairs or adjustments included in inspection at no extra charge.

Complete Price Is Quoted

But that isn't all Sutter Radio does to prevent arguments. A sign explaining the OPA rulings on service

Radio Dealer Expands

• A pessimistic dealer pointing to his depleted stock today might describe his store as "half-empty," whereas the optimistic fellow is apt to say his store is "half-full." All of which brings us to Irving P. Horowitz of Sutter Radio Service, Brooklyn, N. Y., who's doing something about getting in line for business when the showroom will be "brimming over."

That Sutter Radio Service can be placed in the optimistic class is a definite fact. The people there look for the "half-full" condition to develop speedily into an "all-full," full-steam ahead status as soon as the Axis is axed; and they're going to be ready.

Helping to belie the propaganda that a considerable number of radio servicers are folding up, this organization is *branching out*—opening a second store, and despite the critical help and tube situation, is plugging for business.

Established for some years at 118 Sutter Ave., a new branch, opened a short time ago, is at 81 Livonia Ave., a few blocks from the original place. This new store is set up as a separate operation.

Both places maintain attractive

lot with the service. She is able to test, estimate, and do much of the repair work.

Recently Sutter Radio Service made a drive for general appliance repair work, and this is coming in satisfactorily.

Stresses Three Rules

This radio dealer has some very definite ideas about conducting his business. He has three objectives:

1. To operate at a profit.
2. To avoid customer disputes.
3. To steer clear of all credit business.

How does he achieve these three goals? His formula is simple:

First, he makes a fair charge for work and he sticks to it. In order to know just how he stands at all times, he hires an accountant who periodically takes care of both stores, does all the complicated tax work, etc.

Second, in order to avoid customer disputes he displays a conspicuous price sign, lettered as follows:

Our Charges For Estimating and Testing

Radios brought to our shop 75c
Home service calls 1.00
Auto radio 1.50

charges, showing this shop's hourly rates, is also displayed. The firm also has a repair order blank, with a numbered stub to be given the customer. On the section retained by Sutter Radio, there is an "authorization," and a customer may be requested to sign this, if the firm has reason to believe the set owner may be likely to protest.

All the above are potent argument-preventers, but Mr. Horowitz declares that the firm's inflexible rule of *a definite price quoted every customer in advance* is the most important. "We don't tell the customer that the repair job is going to cost *about* such-and-such a price," said Horowitz. "We give a specific price and see that the customer understands it completely."

The third point, to steer clear of all credit business, is easy to achieve. This dealer says he refuses point-blank to extend credit to anyone, and says that he has no outstanding accounts on his books.

In both Sutter Radio Service shops an orderly repair system prevails. First the set is checked. Then the work to be done is written on the repair slip, with the estimated price. The chassis is then removed from the

in Branching Out — the Customer a Break

cabinet, and the latter is tagged, and put on a separate shelf. Where one man is at the bench, only one chassis is put there for him to work on.

Employs Efficient System

Watching Mr. and Mrs. Horowitz operate on sick sets is interesting. He takes over a set his wife has already tested and estimated. "You're right," he tells his wife, after reading the diagnosis on the chart. He then repairs the set, and passes it to Mrs. Horowitz, who in turn puts the chassis back in the cabinet, plugs it in and plays it, finally putting it on the "completed" shelf.

When Sutter Radio gives a customer back a set it is always thoroughly clean. The chassis gets a thorough cleaning and the cabinet is polished. Knobs are tightened, dial drives checked, pilot lamps light. Cabinet holding screws are always tightened and missing ones are replaced. Insulators over the plug prongs on the feed wire are installed. "This extra service costs us practically nothing, and builds good will," explained Mr. Horowitz. "We demand a fair price and cash on delivery from the customer, and the customer has a right to demand first class service from us."

Now that there are two stores, Mr. Horowitz and his wife try to divide their time so that one or the other will be on hand to do the estimating

in each place. The young lady in charge of the new shop is not a technician, but it is quite likely that she will become one if she stays with the Sutter organization.

Unique Advertising Method

This live-wire dealer never loses a bet to plug his business. One interesting thing he does is to keep his public address equipment advertising for him. There is a speaker out over the door in front of the store, and important radio news flashes are broadcast. It doesn't take long to draw a crowd because foot traffic is quite heavy at both locations. After the flash is off the air, followed by a commercial, Horowitz shuts off the

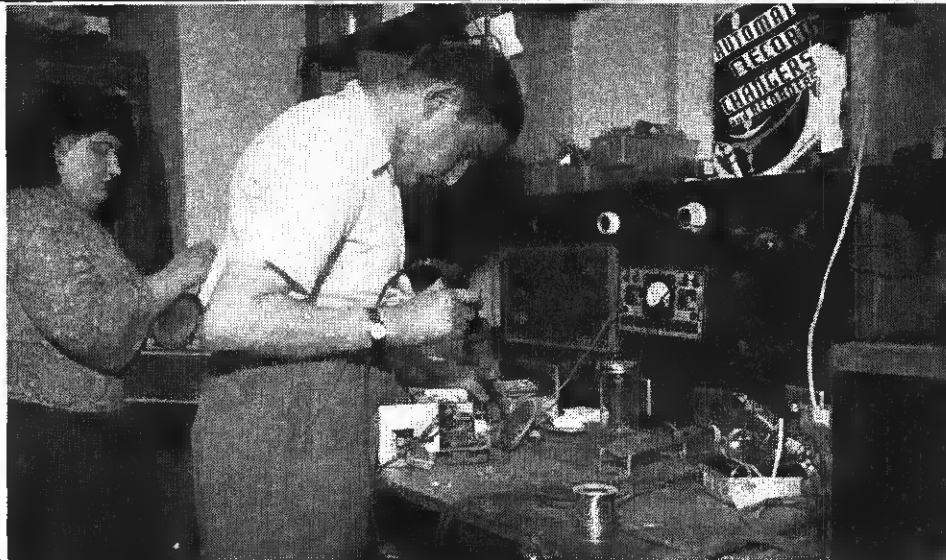
(Continued on page 49)

in Wartime



Top left: The owner and his young manager of new store. Top right: Sutter Radio head and helper. Lower right: The "Mr.-and-Mrs. team" keep the sets playing at the original Horowitz store.

This radio man's wife likes her work. She spends all of her spare time reading radio books, and hopes some day to have time enough to take a technical course. She admitted to a representative of RADIO RETAILING TODAY that when she first started in the service business she got a few electric shocks, but that's all a thing of the past because now she knows where the "hot" places are in the receivers.





STOP

DON'T

- **Gripe to the customer about your competition. This will only serve to put the competitor in a stronger position in the customer's mind.**
- **Let your selling staff misrepresent anything. If you advertise "leaders" don't try to sell "something else" in too aggressive a manner.**
- **Let your selling force bear the brunt of too many service complaints. They'll feel antagonistic toward you and toward the customer. Where service problems arise, solve them quickly and definitely. Don't evade talking to the customer. A sales person who is not authorized to make executive decisions is often placed in an embarrassing situation by unusual customer demands. You'll have to render the final decision anyway, so do it immediately. Don't build up an accumulation of complaints to harass your sales force.**
- **Lose out on a sale because of "easy terms" offered by a competitor. Remember—if a customer's credit is good the terms are good. If the credit's no good, you don't want the sale anyway.**
- **Maintain a dirty, dark or otherwise unattractive showroom. Don't let the show windows get "stale."**
- **Believe that the distributor isn't anxious to do business with you. Radio-appliance dealers are the backbone of the radio manufacturer's business. Remember that if you have an attractive, well-gearred setup, you'll be offered attractive propositions.**
- **Overlook the importance of knowing your customers. Your place of business can be made a place where people feel at home.**
- **Merely adopt "service" as a slogan, adopt it as a practice. Do what you agree to do and do it cheerfully. Give a little more service than the buyer expects.**
- **Ever let yourself, your salespeople or your servicers, get a customer-is-always-wrong attitude. Even if the customer isn't a mind reader he can sense such an attitude.**
- **Let your salespeople "throw in" everything—"and the kitchen sink" in order to make a sale. Instruct the sales force to use "inducements" only where absolutely necessary, and then to dole them out slowly and impressively.**

Business

**Step on the Prospe
Running Start Towar**

GET YOUR SHARE

A national survey, just made, indicates that within six months after the war ends:

1,330,000 families intend to buy radios

1,715,000 families intend to buy new refrigerators

1,260,000 families intend to buy washing machines

● Competition is often called "the life of trade"—but it's also the "strife" of trade, as many an independent dealer can testify. Dealers who've been graduated from the School of Experience know that the class yell is "OUCH!" And they know that the postwar period in competition is going to force them to take a post-graduate course in this same tough school.

There's going to be an avalanche of business in what we hope is the not-too-distant peacetime to come. But, there will be *plenty* of people after this business. It is fantastic for the independent to think that the "chain" competition is going to lessen in intensity, or that he can grapple successfully with the "chains" by using horse-and-buggy methods and "Tiffany" prices.

The independent dealer must convince the buyer that he has everything to offer that his competitor has. He must intelligently combat the only too common belief that he charges more because he has to "make up" for money he loses on bad accounts—and that he also must sell at a higher price because he cannot buy in as large

Traffic Signals

**ity Pedal Now — for a
Your Postwar Markets**

OF THIS BUSINESS!

**1,435,000 families intend to
buy ranges**

**This means that more
THAN SIX MILLION major
appliances are to be sold
in six months, and the
money represented, as the
columnist would put it,
"Ain't hay!"**

**You are entitled to your
share if you're equipped to
compete for it!**

quantities as his "syndicated" competitor. These beliefs are fostered in the minds of many buyers.

The independent dealer can tell the customer that: His overhead is lower, and that he does not have to absorb a share of losses of other unprofitable stores in a chain. Because his overhead is lower, he is able to offset the quantity buying power of his competitor. He can combat the "bad accounts" angle by pointing out that his credit losses are probably smaller than those of the competition because their volume of credit business is larger than his.

He can tell the customer that the idea that things always cost more at the independent store is predicated upon practices the independent dealer had to abandon years ago in order to survive. And, at that time, years ago, most of his "syndicated" competition operated upon a cash basis. Now, he can point out, all retailers are on a more or less common operating basis.

The independent dealer is going to stay in business—if he wants to. Progressive business methods will insure this.



DO—

- Liven up the front of your store. Dress the show windows NOW. Brighten and improve the interior. Plan for attractive display.
- Plan now to secure a tie-in with a strong distributor. Plan to merchandise YOUR favorite radio receiver. Attempt to secure a favorable franchise in your territory.
- Think now about competing with "easy terms" when the selling curtain rises. Plan to connect with a good "finance company." Make contacts with your bank so that you'll be in a position to discount customer's notes, where objections to "finance companies" are raised. If YOUR credit is good at the bank, the latter will discount any note it feels you are good for. If the customer's credit is good, the bank will discount the note regardless of your credit standing.
- Familiarize yourself with your competitor's advertising so that you can intelligently combat it or meet it.
- Stress to your customers that you offer "personal" service. Your own service by your own interested organization, and that the customer can see you at any time. No shunting of responsibility to some remote place or vast organization, if they deal with you.
- Advertise intelligently in local media.
- Employ an aggressive sales force. Select your salespeople carefully and pay them enough to warrant their performing other services besides selling which they are bound to encounter.
- Plan a systematic manner of collecting "open" or time accounts you handle yourself. If called on with rigidly observed regularity, you'll lose very little.
- Strive to keep two jumps ahead of the release of new models by moving your stock quickly. Figure out NOW what you're going to do with superseded models you own—models often offered as "loss-leaders" by your competition.
- Have your demonstrator models separated in displays, and have them in perfect working condition. Be thoroughly familiar with the selling features of each set as stressed by the manufacturer.

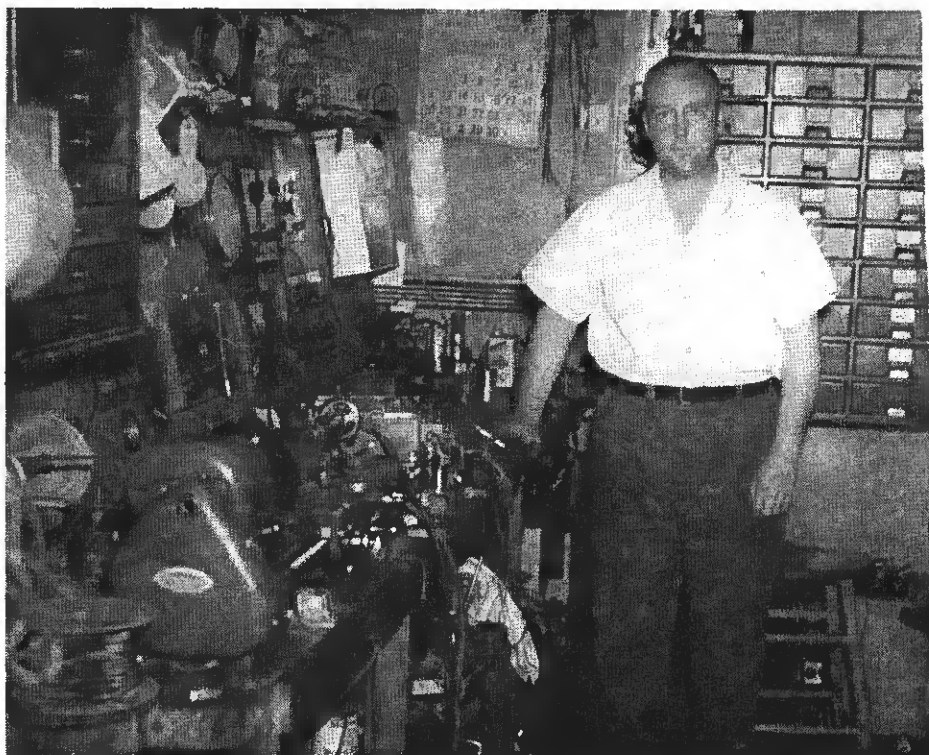
Keep Vital Appliances

Radio Servicemen Aid Nation's Health and Morale With Important Repairs to Farm, Home, War Plant and Institution Equipment

• All over the United States radio servicemen and dealers are successfully and importantly working to keep up the public morale and to maintain the public health.

Through ingenuity, retail radio organizations are keeping receiving sets in operation, thus preserving morale, aiding defense operations, and providing the home with the means of receiving important news and necessary entertainment.

But that's not all these radio men are doing! Today they are called upon to render many special services to the home, the farm and the public institutions as health emergency measures, and the versatility and adaptability of these servicemen is seen in the descriptions of dealer activities in this article.



"If I can't get a critically needed appliance part it's often possible to make it on the lathe," says Claude E. Nichols, of Nichols Radio & Refrigerator Sales & Service, Nashua, N. H.



Re-cycling change in butchers' refrigerators aids meat preservation.

Ewing Galloway photo

When a radio goes dead morale in the home is impaired. When a washer fails to function, the present-day laundry and domestic help situations as critical as they are, health is affected. The refrigerator is of vital importance to the home, and to institutions such as hospitals, and when it fails to operate, waste of precious foods occurs, and health is endangered. Medical and farm equipment maintenance is of prime importance also.

Electrical Appliance Retailer News, published by Virginia Public Service Co., commenting on home appliance breakdowns, says: "We don't know exactly how to define MORALE, but it's something you don't have when things at home go wrong."

Takes Care of Them All

An outstanding example of an electronic maintenance man working night and day on appliances necessary to the health and morale of his community is seen in Claude E. Nichols, proprietor of Nichols Radio & Refrigerator Sales and Service, 16 Kinsley St., Nashua, N. H.

Working!

Despite the fact that his four-man organization is about 10 days behind in radio repair work, Nichols cheerfully accepts all the new jobs as they come in; explains the situation to the customer, and finds that the people are becoming more and more patient. He has not raised his prices, and says that his chief aim now is to render as much vital service as is possible, and above all, to build and maintain customer good will for the future.

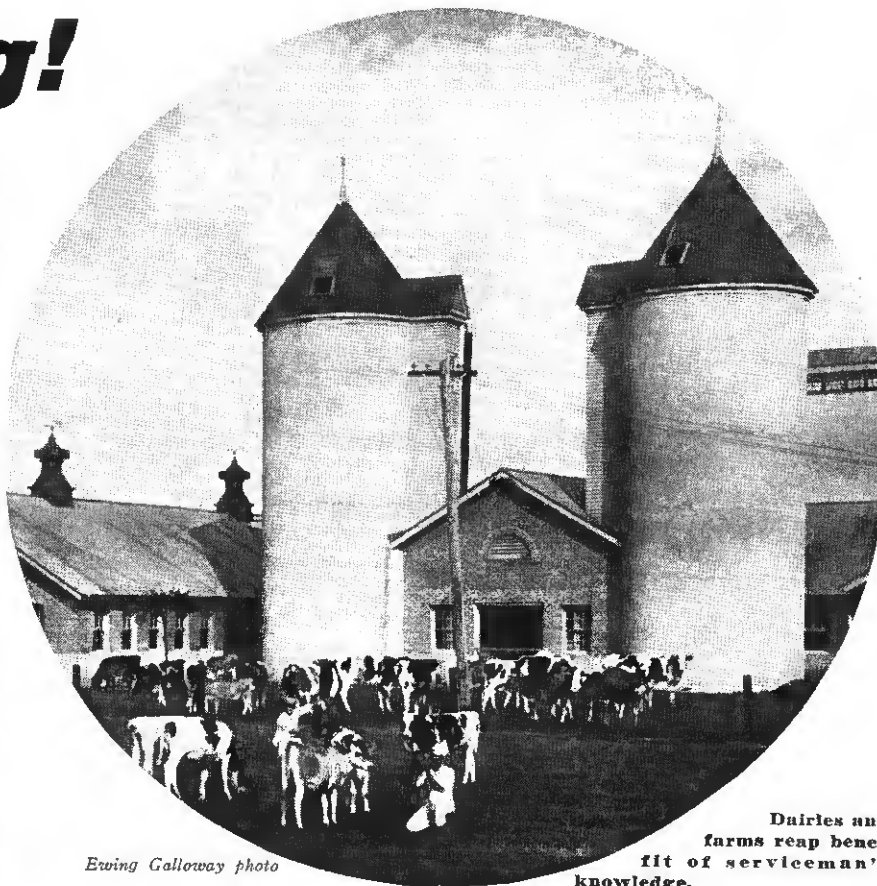
First Aid for Farmers

Nichols, who has been in business for 9 years, repairs electronic devices for physicians, maintains electric fences and wind-power generators for farmers, renders important service to public schools; does some police radio work, and has been very active in work in war plants, where he has sold and installed intrusion and air-raid alarm systems and public address. In one plant he recently installed eight 25-watt University trumpets. Incidentally, he has 10 trumpets for use on his own sound truck, and recently secured a \$1250 government contract for sound equipment.

In some farms, where the household refrigerator broke down beyond repair, he has run piping out to the dairy barn cooling system, hooked up to the home evaporator and let the cooling system operate both plants. In the home, and in commercial jobs, he has made many changeovers on refrigerators to use available gases. Right here, Nichols has some good advice to offer others in the service business. In changing from any other refrigerant to methyl chloride, he says, be sure to find out whether the evaporator is made of aluminum. If it is, advises Nichols, don't use methyl chloride because the latter, combined with humidity changes will eat the evaporator and may cause an explosion.

Helps Meat Situation

With meat supplies seriously affected, Nichols hit on the idea of changing the control settings on butchers' refrigerators so that they will defrost at each cycle. This he



Ewing Galloway photo

Dairies and farms reap benefit of serviceman's knowledge.

found helps keep the meat more moist; keeps it fresh longer, and helps hold the weight. After his first job, he was besieged by other butchers who wanted the same adjustments made to their storage plants.

Nichols has still another tip for refrigerator men. In every territory there are old sealed unit outfits going bad, and this New Hampshire dealer can still provide the householder with refrigeration by selling and installing

a rebuilt open type compressor in the basement, and running lines up to the evaporator in customer's cabinet.

Nichols has a large showroom, and a service department in a separate section, lettered "Radio Service Laboratory." He has been very successful in selling refrigerators and radios. He has a few large radio sets on hand.

Nichols has a very orderly method for arranging his repair work. Sets

(Continued on page 44)

Sound is vital to war effort. Shown is unique method of mounting speakers. The work was done by Jess Cole, Providence, R. I., radio man, in collaboration with Modern Radio Shop, Inc., also in Providence.



DENVER, Colo.—Morris R. Silver, Silver Radio Service, is concentrating on repair of home and car radios. Has sold all his stock of radios except 2 combinations and 4 consolettes. Dolls, toys, stoves and ice boxes have been added to fill the gap. Silver salvages all parts he can for rebuilding and reuse. Donates the junk parts to salvage drives. Builds prestige and sales by loaning out public address systems to American Legion and other organizations for use at ball games and other sport events. Silver is also educating the public to make simple repairs and adjustments on radios so they will not have to call on already overtaxed radio repairmen for minor work. Silver is doing a brisk mail order business in tubes and parts as well as some repair work, and does considerable work on portable radios for soldiers in nearby camps. Continues radio and newspaper advertising. Prices are held to 1941 levels.

HOUSTON, Tex.—"We are continuing our advertising even though we have nothing but service to sell, and even that is limited because of labor and parts," says Horace B. Matthews, owner of the North Side's Radio Shop, 3707 Jensen Drive. This dealer explains, "We are going to be ready when we have new radios to sell; so we are continuing to run motion picture slide advertisements in the community shows in our trade territory.

RADIO TODAY—

What Dealers Are Doing to Meet Wartime Shortages of Manpower and Materials

We use a local newspaper and a railroad journal that reaches many of our customers and prospects.

"We have discontinued all deliveries and pick-ups. Our business is about 50-50 between home sets and automobile radios. We do some P. A. system service. On automobile sets, we shift vibrators and tubes and make repair . . . but send out coils, transformers and speakers to be overhauled. We are still getting some batteries and servicing farm sets as we have a pretty good rural trade. Tubes are our biggest problem. We don't change circuits for new customers; however, we do make this change-over for some old customers."

MILWAUKEE, Wis.—Radio repair service is booming in this area. In fact, several places report that it is getting to be too much to handle.

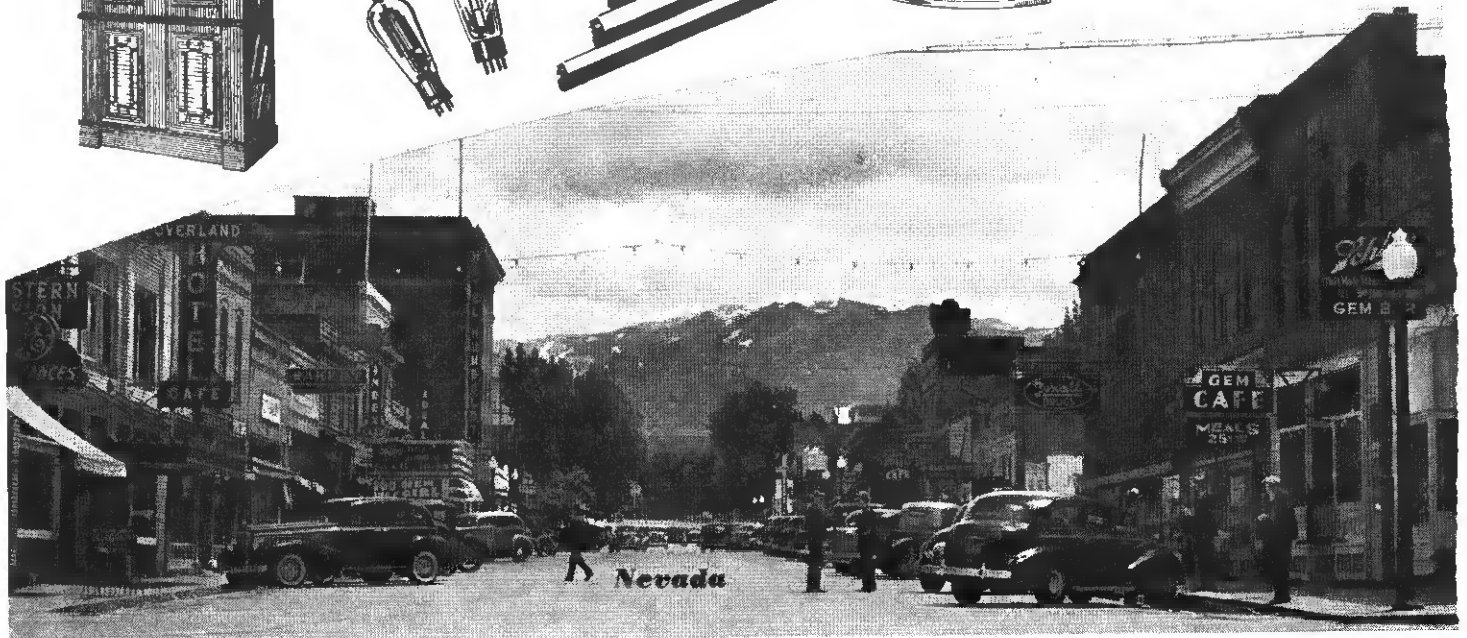
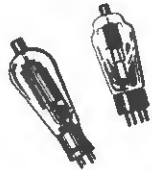
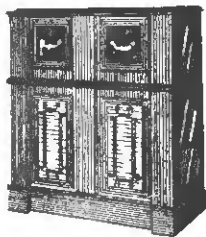
Roy Scanlon, at Scanlon's Radio & Music Shop, 707 W. Wisconsin Ave., told us, "They're bringing in radio sets, phonographs, and flat irons up to 25 years old and expect us to make them like new. We try to scare them out of it by making an estimate that's twice the cost that the repair work

would ordinarily be, but money is flowing so freely, people don't scare easily. We're afraid to touch some of those antiques."

Scanlon's fortunately had a surplus stock of replacement parts built up before the current shortage, which puts them in a position to maintain their standards of repair service, for a time at least. With smaller stores folding up and big department stores running out of merchandise, business is being concentrated in the hands of these merchants who are able to maintain a level of supplies in favorable proportion to pre-war days.

Non-radio merchandise supplementing the curtailed radio sales at Scanlon's includes thermometers, golf balls, baseball bats, bathroom scales, dishes, knives, and other small items.

BIRMINGHAM, Ala.—Home-made cabinets for midget sets for which metal or plastic replacement cabinets cannot be otherwise obtained are being furnished by H. C. Sudduth, proprietor of Woodlawn Radio Shop,



STENOGRAPHIC ROOM
 AVERAGE OF 6 FACTORY LOCATIONS
 10^{-9} ORCHESTRAL MUSIC

ORDINARY CONVERSATION—3 FT. OFFICE
 DEPARTMENT STORE OR NOISY OFFICE

60
 10^{-10}
 AVERAGE OFFICE
 CONVERSATIONAL SPEECH
 QUIET RESIDENTIAL STREET

50
 10^{-11}
 AVERAGE MINIMUM STREET NOISE
 AVERAGE RESIDENCE
 VERY QUIET RADIO IN HOME

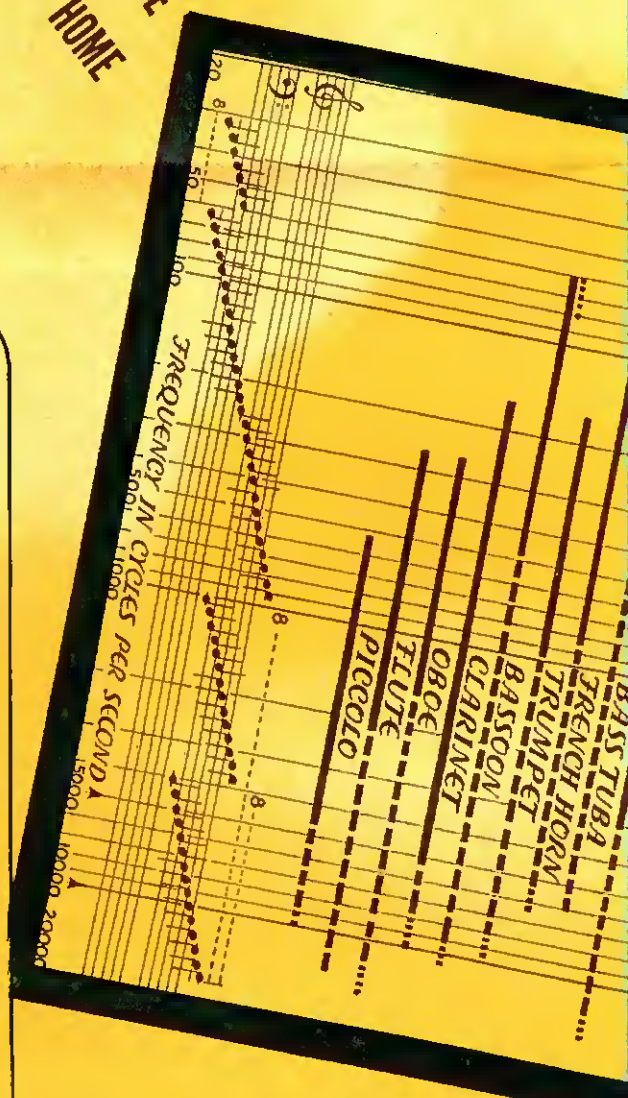
40
 10^{-12}
 AVERAGE MINIMUM STREET NOISE
 AVERAGE RESIDENCE
 VERY QUIET RADIO IN HOME

30
 10^{-13}
 VERY SOFT MUSIC
 QUIET WHISPER—5 FT.

20
 10^{-14}
 QUIET WHISPER—5 FT.
 OUT OF DOOR MINIMUM
 THRESHOLD OF STREET NOISE

10
 10^{-15}
 OUT OF DOOR MINIMUM
 THRESHOLD OF STREET NOISE
 THRESHOLD OF HEARING

0
 10^{-16}
 THRESHOLD OF HEARING
 0.0000204



SOUND BASIC FORMULAS AND CONSTANTS

1) VELOCITY—

331 met./sec } air at 0°C (32°F) and 1 atm.
 1086 ft./sec

1433 met./sec } water at 15°C (59°F)
 4700 ft./sec

1600 to 4000 met./sec } earthquake surface waves
 5250 to 13120 ft./sec

2) RANGE—

Subaudible 0 to 16 cycles/sec
 Audible 16 to 22,000 cycles/sec
 Supersonic 22 to 5×10^5 kilocycles/sec

3) SENSATION LEVEL IN DECIBELS—

$$S = 20 \log \frac{p}{p_0}$$

where p = sound pressure
 p_0 = threshold pressure (2×10^{-4} dyne/cm.²)

4) RANGE OF AUDIBLE INTENSITIES—

132 db (—7 to 125 db)

5) SOUND POWER—

$$J = 2.4 \times 10^{-8} p^2$$

where J = microwatts/sq. cm.
 p = pressure in dynes/sq. cm.

Representative Sound Powers
 Minimum Audible 2×10^{-17} watts/sq. cm.
 (between 3000-4000 cycles/sec)

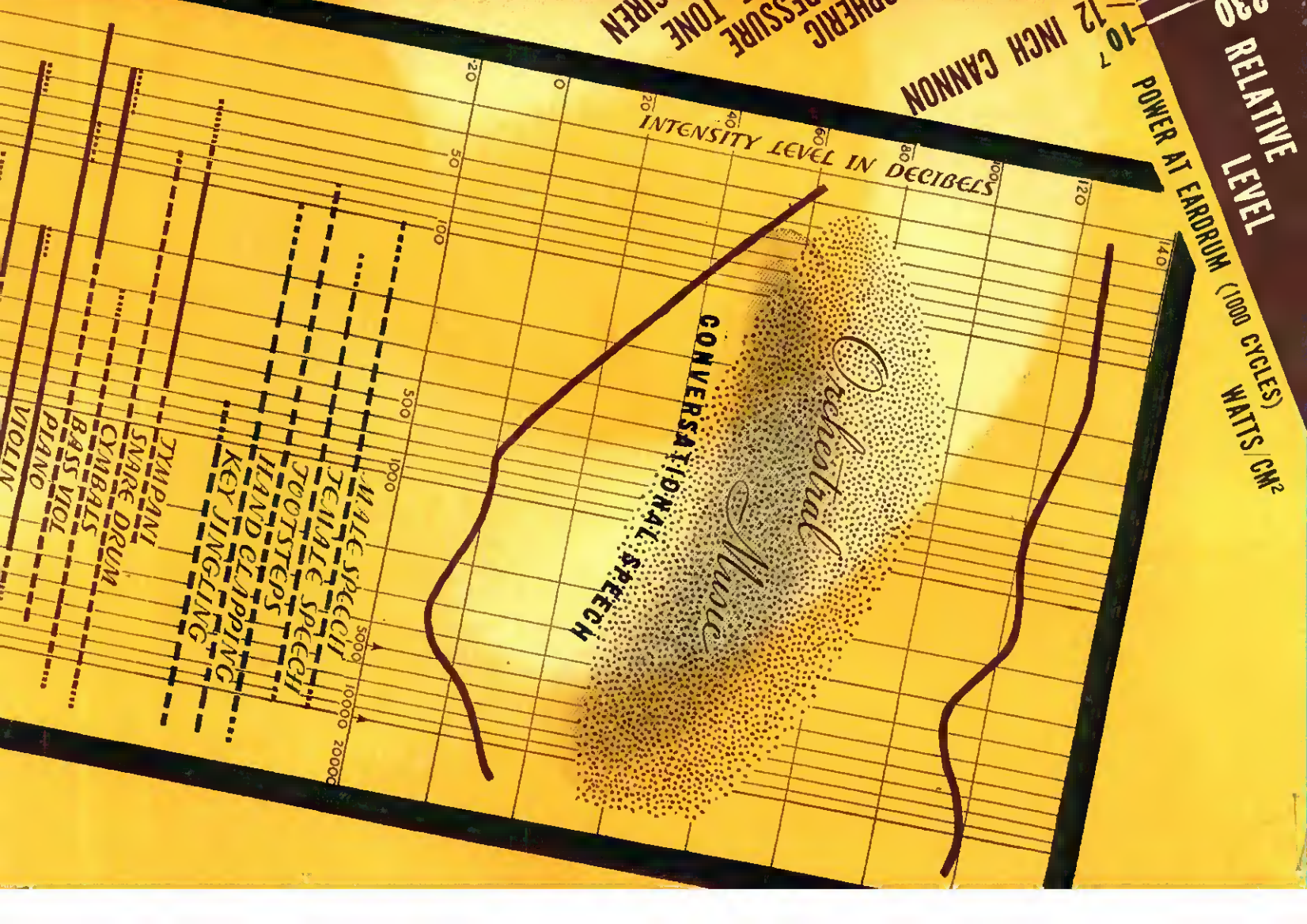
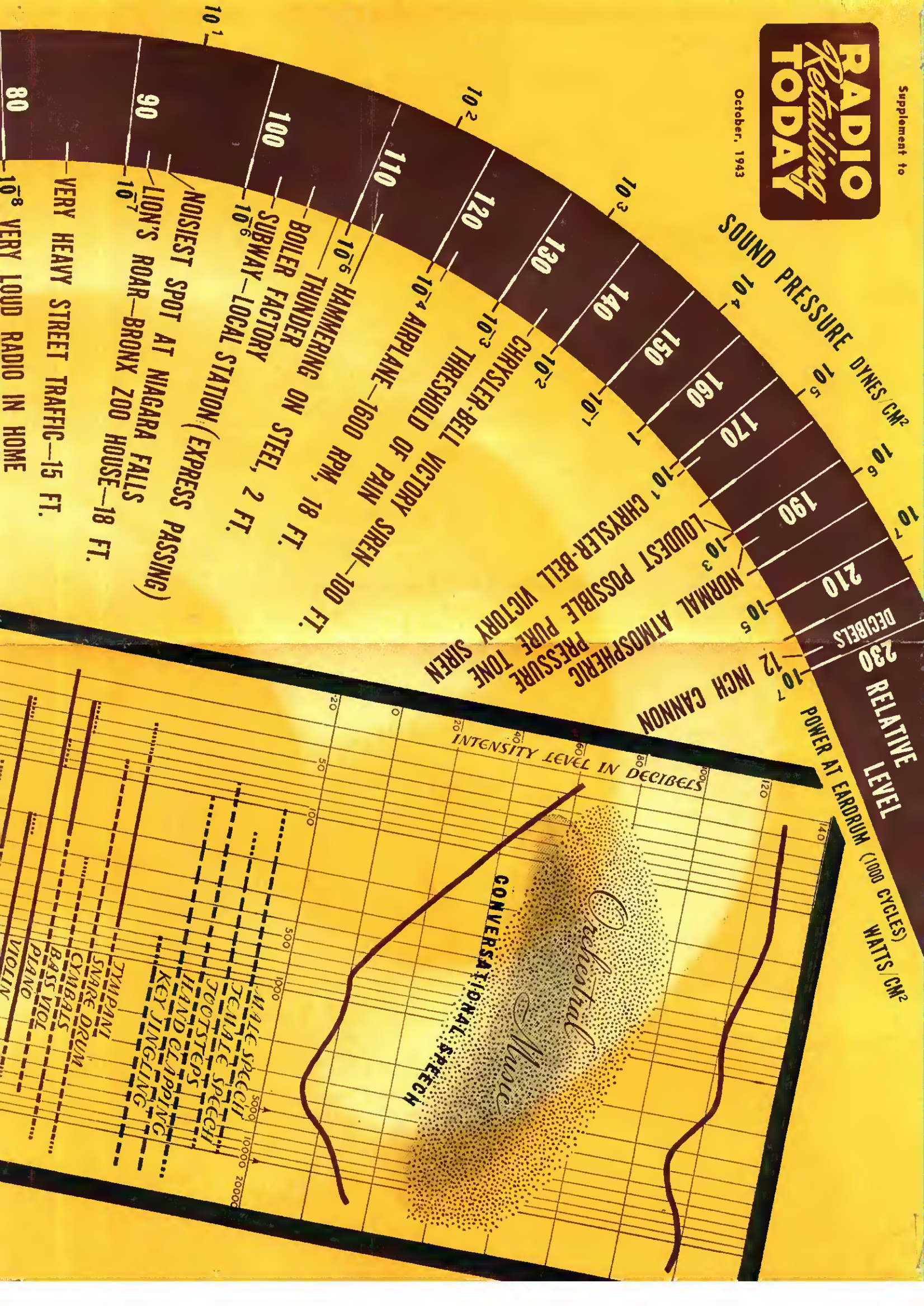
Speech	Average 1×10^{-6} watts	Orchestra (75 pieces)	Average 15 watts
	Peak 2×10^{-3} watts		Peak 65 watts

SOME FUNDAMENTALS OF SOUND

Compiled by "Radio Retaining Today" in cooperation with The Bell Telephone Laboratories

RADIO Retailing TODAY

October, 1943



UNCLE SAM FINDS "SOUND"

"Music in Industry" Studied by War Production Board. Survey Gives

● The usefulness of sound systems in industry is overwhelmingly proved by the results in a survey of a hundred U. S. war plants by the War Production Drive Headquarters, W.P.B. The survey was written by Wheeler Beckett and the following details are from the report.

Highlights of Survey

Foremost is the discovery that the music program is universally liked by the worker. Many plants reported that when music programs were temporarily discontinued because of breakdown or suspension of operation while alterations and improvements were being made, or because they were purposely discontinued for a short while to ascertain the workers' reactions, the demand for their continuance from the majority of workers was instantaneous and emphatic. The survey also shows that music programs were liked equally well by management once they were given a fair trial.

A condensed summary of the answers to the most important questions on the report follows.

Of the 76 plants using phonograph records, 87 per cent claimed that music improved morale. Ten per cent did not know what the effect was beyond the fact that the workers liked it, and only 3 per cent noticed no improvement in morale.

Effects of Programs

A relationship was discovered between the length of the music program and the claims of improved morale. All of the 39 plants which use more than 1 hour of music per shift answered "yes" to the query "Does music improve morale?" In contrast, of the 6 plants having less than ½ hour of music per shift, 3 of them—only 50 per cent answered the question affirmatively, 1 said "no" and 2 were uncertain.

To the question "Do you think music increased production?", 57 per cent of the answers were "yes."

The length of programs seems to have the same bearing upon increased production as it does upon improved morale. Of the 39 plants having over an hour of music per shift, 66 per cent claimed increased production; it was only within this group that percentage figures on how much production actually increased were ventured by management. These range from 5 to 10 per cent.

The survey shows that music is as successful in noisy departments as it is in quiet departments. It appears that if enough of the right type of loud speakers are obtainable

and properly placed, there is practically no machinery noise loud enough to render a music program ineffective, with the exception of riveting and noises of similar quality. The rumble and clatter of machinery which registers as high as 102 decibels in a department at one plant were successfully overcome.

The success of a music program depends upon electrical as well as psychological factors. On the electrical side it appears that two noteworthy improvements could be made. They are: First, increased efficiency in the quality of the sound equipment and the placing of loud speakers. Secondly, the use of phonograph records maintaining a fairly constant level of sound. Records of this type cannot be procured in the open market at this time and recourse must be made to manual or automatic monitoring (controlled to prevent too great a variation in volume) of the records to prevent "blasting" of the loud parts and a fading-out of the softer portions.

The psychological attitude of the workers to the music program is important. For example, in one or two plants the programs were rendered relatively ineffective because the workers suspected that they were "guinea pigs" for a music experiment. On the other hand, very effective programs, such as one in a Vermont plant, were carried out under conditions where the workers were reminded daily that "this is your program—tell us what you want and we will try to give it to you." This attitude, provided care is taken to secure sufficiently large samples of opinion, seems to produce the best results.

Kind of Music

The kind of music played is of paramount importance. A number of plants have issued questionnaires to ascertain what the workers like. A comparison of answers shows that Strauss Waltzes are first in popularity; Hit Parade numbers second; patriotic music third; semiclassical and light salon music fourth; classical music fifth; hymns and Negro spirituals sixth; with hot swing and jitterbug last. Some plants which have experimented by introducing more music of good quality, have been amply rewarded by worker response. In one of these plants 33 per cent of the workers now favor classical music during lunch period. The idea that the only kind of music workers wish to hear is popular swing, turns out to be erroneous, if for no other reason than that variety cannot be obtained without going outside this field, especially variety in tone color.

Without variety, the music program bogs down.

The correct moment to use music varies with the plants, and different kinds of music tie-in better at various times of the shift. In general, it seems advisable to begin the shift with cheerful music, frequently, but not necessarily always, of the "march" type. Whenever possible, music should be carried over into the actual beginning of the work period.

The next installment of music should act as a restorative to the so-called fatigue period, occurring usually toward the end of the first half of the shift; or, if 10 minute rest periods are instituted, 2 or 3 minutes of music should precede and follow news and announcements at this time. Music with meals is generally accepted and liked by the workers if it is not too forceful. During the last half of the shift, short intervals of music may be used with great effectiveness to take the worker's mind off the fatigue of work and make the day seem shorter. It also serves to bridge the after-lunch fatigue period. Where music is not carried right up to the closing time, martial airs used to play the old shift out and the new shift in are very effective.

Cost of Systems

The cost of war plant public address systems suitable for music and other purposes varies from \$250 to \$80,000. The size of the plant, acoustical conditions and the level of machinery noise are the principal price factors.

The average cost may be roughly figured at 5 cents per square foot of the area to be covered by sound. Although this amounts to a considerable sum, the survey shows that most firms would pay it gladly and install public-address systems, if materials could only be obtained. The scarcity of electrical equipment and telephone lines for wired programs, and the difficulties encountered by many plants in obtaining priorities, are the principal factors in slowing down new installations.

Aside from its findings on music, the survey shows that the value of a P. A. System is incalculable. Among its uses are paging, announcements, air-raid alarms, talks by visiting war heroes, radio broadcasts of news and important speeches, and the playing of dramatic recordings available from government agencies and other sources.

To sum up, it appears conclusive from the evidence gathered in 100 plants that the principal value of music in relation to efficiency is not in speeding up the worker to greater

"SOUND" SPEEDS PRODUCTION

Details on Equipment . . . Costs . . . Program Handling for Industrial P. A.

effort, but in relaxing unnecessary nervous tensions and creating a pleasant atmosphere for work.

Sound Equipment for Music

We have already noted that the success of a music program depends upon mechanical as well as psychological factors. Often, music programs have been inaugurated by playing records over a paging system never intended for music. Paging systems are usually designed to operate on a band of from 500 to 2,000 cycles per second. This makes for clarity and crispness in reproducing the vowels and consonants of the human voice. Music broadcast over such a system is deficient in bass notes as well as in over-tones which determine tone quality; thus, the sound of instruments is considerably distorted with harmony often left uncertain because of the absence of a strong fundamental tone.

In as many as 25 of the plants visited, the paging systems have been or were being torn out. New and additional speakers were being installed and amplification stepped up to care for the greater load necessitated by these changes. The broadcasting range was being expanded to in-

clude frequencies lower than 500 cycles and up to 6,000-8,000 cycles.

The problem of the right type of speaker was being studied by many plants. In noisy corners a directional speaker of the trumpet type proved to be better than the flat baffled speaker, while in areas where the machinery noise was uniform, 180-degree speakers spread the music in all directions most satisfactorily. Speakers of too light construction developed an unpleasant buzz which interfered with enjoyment of the music.

Sixty-one per cent of the plants used the public-address system for paging and 65 per cent used it for announcements.

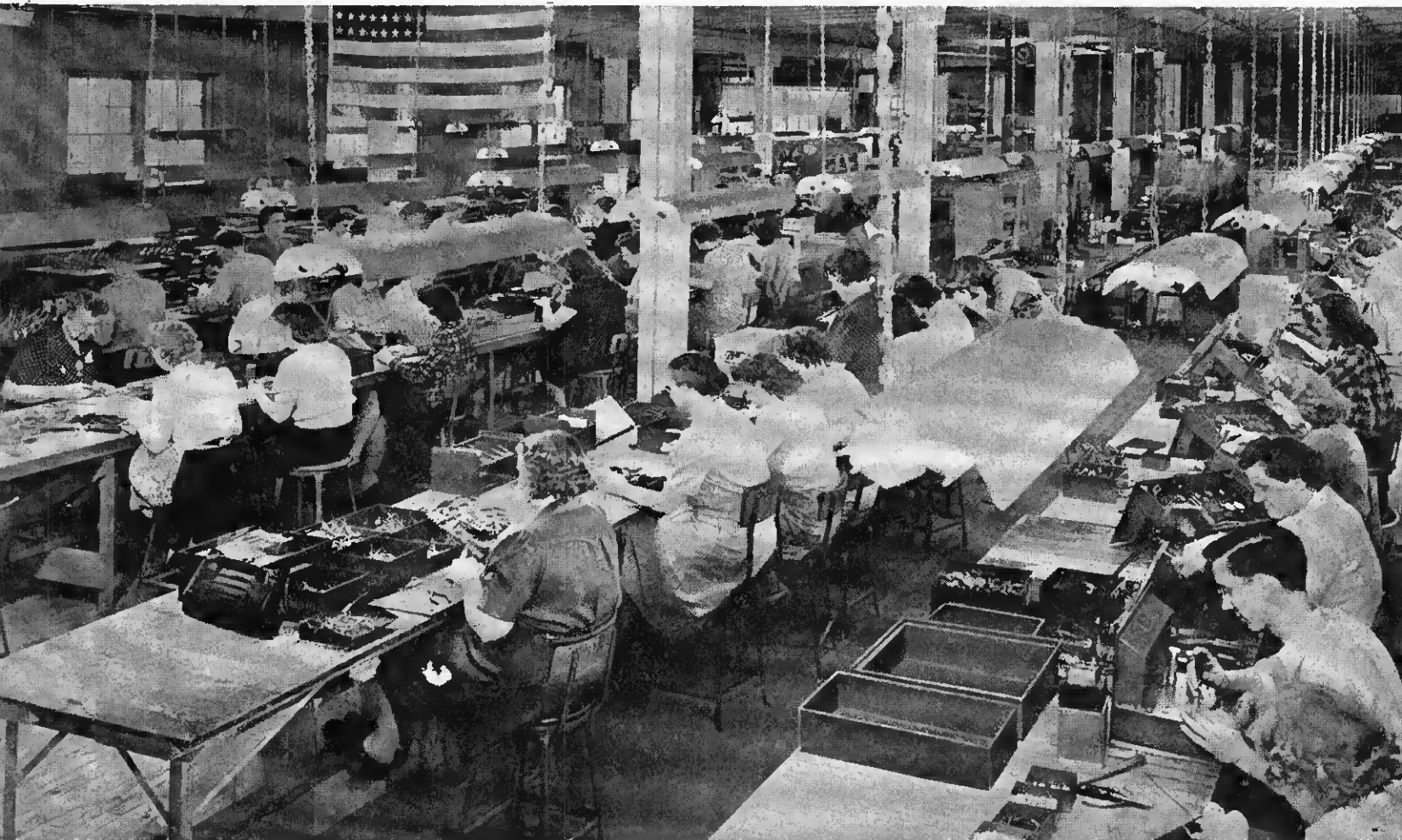
Improving Fidelity

Since paging and announcements are more effective in a narrow broadcasting band of from 500 to 2,000 cycles, mechanical devices have been installed to permit paging within this limited band on the same system that carries music over a wider band. Actually, the most satisfactory paging takes place over a softened background of music. When paging is completed, the music returns automatically to its normal level of in-

tensity. Thus, workers hear the music continually in spite of the paging; in instances where the tunes were stopped altogether during the paging, workers became considerably irritated. For announcements, of course, the music should stop altogether.

A frequent check on the intensity at each loud speaker should be made as these have a way of going awry without apparent cause. The hanging of the speakers should not be too high or too low, and if possible, they should be placed in sheltered positions where they will not be struck by extension ladders wheeled about the plant and used when replacing burned out lights. Proper intensity of the speakers cannot be adjusted by an outsider because the ears of the workers become accustomed to machinery noise in a manner similar to the adjustment of the eye in the motion-picture theater. Conversations with workers show that they are able to hear music satisfactorily when it is tuned down to a point that seems quite indistinct to an outsider. This is because their ears have become adjusted to the machinery noise and any additional sounds become relatively audible. Therefore, adjustment of loud speakers should be made in accordance with this principle.

A little music now and then is relished by the best of men . . . and women too. The monotony of tedious and repetitious tasks is relieved through the medium of music. One firm discovered that the maximum fatigue curves were at 11:15 A.M. and 3:15 P.M., so snappy recordings were used as an antidote.



Across the U.S.A.!

Birmingham. Sudduth said the cabinets were made by his one-time school manual training teacher in his spare time. When he needs a cabinet he gives the teacher the specifications and it is furnished in a couple of days.

BALTIMORE, Md.—With practically no radios to sell, one of the problems facing retailers of this merchandise is how to retain the contacts with customers, contacts which have been developed over a long period of years.

The Hochschild, Kohn & Co., department store, is doing just this, according to H. Blair Smith, manager and buyer for radio, record and kindred lines for the store.

Records, record cabinets and radio servicing are the means employed to retain those contacts, so that after the war when peacetime radios will again be on the market, Hochschild, Kohn & Co., will be well entrenched in the field.

A file of all record, record cabinet and radio service customers is being made, so that when radios are again offered for sale, the radio and record

shop of this store will have a very substantial radio customer list.

The public is buying thousands of records, and judging from the comparatively small number of old records being turned in for scrap, they are keeping them, and for that reason, the Hochschild, Kohn & Co.'s radio and record shop is promoting cabinets in which the customers can provide a suitable place for their records. The store, according to Mr. Smith, is promoting records and albums retailing for \$.95 to \$1.50, and doing an excellent job with them.

According to Mr. Smith, cabinets are suggested to customers as a means of preserving their highly prized records in the face of current shortages.

Sales of both record cabinets and records are moving at an excellent pace, Mr. Smith stated. He also said tubes and replacement parts are being had in sufficient number to provide adequate radio servicing.

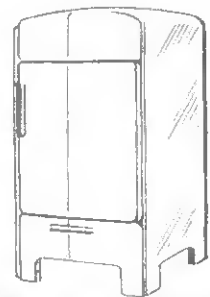
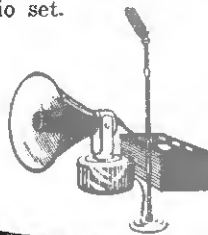
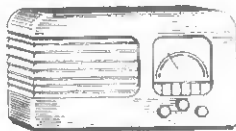
PHILADELPHIA, Pa.—A. G. Radio Parts Co., 3515 No. 17th Street, is now specializing in wood cabinets. A large selection in stock covers most any small set. Also carried are uncut cabinets designed for any small radio set.

The Philadelphia Radio Service Men's Association, inactive all summer, held its first meeting on September 21. Plans were formulated at that time to try to ease the tube and parts situation.

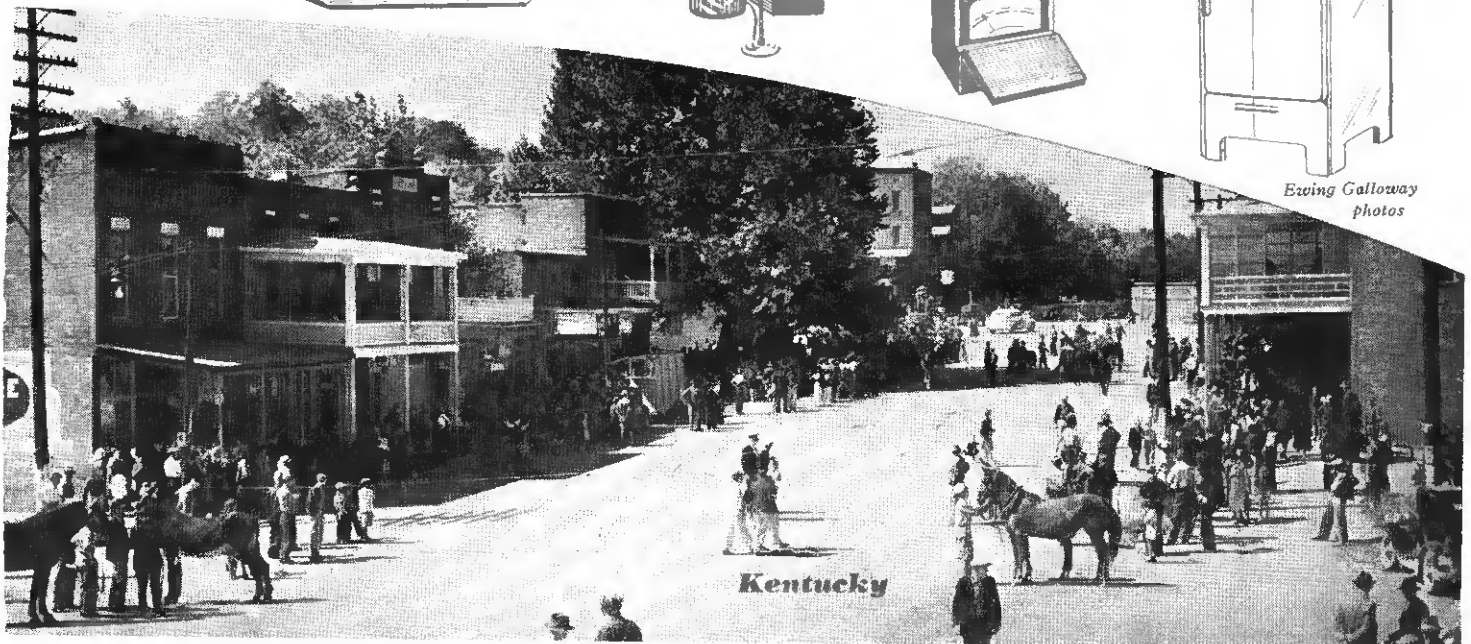
BIRMINGHAM, Ala.—Prince Bros. Radio Company has an electric eye installation rigged up at the entrance door. When someone enters and breaks the circuit, a bell rings and lights flicker off and on. This installation was made after H. M. Prince, proprietor, found that customers sometimes came into the shop unnoticed while employees were at work on radios. Now no matter how much noise the radios make, the mechanics notice the flickering lights, even though they may not hear the customer or the bell ringing.

HOUSTON, Tex.—The scarcity of tubes handicaps the service business for the Hurlburt-Still Electric Company, 1207 McKinney. This is a pioneer radio firm in Houston, and W. H. Still says, "Because tube stocks are really scarce, we lose many good repair jobs. It is hard to keep good mechanics, too. We repair only home sets. We don't repair automobile radios. We are able to get about 75% of the radio parts we need. We do a lot of service work on home ironers and fans, but these parts are

(Continued on page 49)



Ewing Galloway photos



Kentucky



Dealer Smith and his daughter, Mrs. Oscarson, view the window dresser's setup of Mr. Smith's ideas.

method of augmenting sales and is continually supervising readjustment of this department to the most advantageous merchandising of discs and albums.

This department has 8 air-conditioned listening booths. New slanting wall racks of Mr. Smith's own design are planned for alternate placement between booth entrances. These, in addition to the counter self-service display at left of store entrance, complete the "popular" section. To the right at the entrance is a wall of shelves housing the classics, where the "listening" albums are kept alphabetically by composer. Each composer's recordings are grouped into

From TYPEWRITERS to

Records and Sheet Music Good Companions to Radio and Maintenance Lines

• A business carefully built over a long period of time has brought success to David Dean Smith, New Haven, Conn., music dealer. Originally district representative for a typewriter company, Mr. Smith rented counter space in 1916 from one of New Haven's most popular book stores, Whitlock's, near Yale University. There he continued to display typewriters, but added phonographs and records. Later Mr. Smith bought into the Whitlock store, and soon discontinued his typewriter line entirely, to deal exclusively in music. 1934 saw him operating his business under his own roof for the first time, at 262 Elm St. He is still there, and now owns the entire three-story building.

Mr. Smith's experience in dealing with his public has taught him several major lessons for success in his particular location. "Get and keep the customer's confidence. Never under-charge and never over-charge. Never sell on installment. Never advertise price . . ." he claims. Result: His customers come to buy—not to shop.

Another of Mr. Smith's more subtle selling points is the atmosphere he has developed in his store. Located near the university buildings and the New Haven Hospital, he numbers many educators and doctors among his clientele, as well as students. By the use of simulated pine-panelled walls, white woodwork, and a colonial-type central staircase, his place of business has the pleasant atmosphere of a New England country house. Reproductions of the various album covers framed in natural wood are charming wall decorations, and further create an air of cordial hospitality. In these friendly surroundings, Mr. Smith does a very efficient business in records, radios, radio repair and sheet music.

Records a Specialty

Records and record accessories occupy the first floor. His two daughters, Mrs. Mildred E. Oscarson and Miss Marion Smith, competently run this department. An advocate of self-service in record sales since the middle 1920's, Mr. Smith uses this

his concertos, sonatas and symphonies. The remaining wall space further back in the store holds shelves of albums segregated into organ music, operas, chamber music, etc.

All record stocks are relegated to the basement, where dumbwaiter service directly behind the sales counter



And here's Mr. Smith behind the counter with his daughters, Miss Marion Smith and Mrs. Oscarson—both able record sales assistants.

brings the required disc or album, fresh and unused, for the customer's purchase. "Recordaide" mounted on a reading rack just over the popular self-service counter helps customers find various discs by their favorite artists, should one particular recording be out of stock.

Mr. Smith's basement is as attractive and orderly as any of the selling sections of the store. It contains one of the largest record stocks in New England, scrap, and his stock of radio-phonograph combinations, and last but not least, one of Mr. Smith's most important employees. Mr. Edwards keeps the stock in apple-pie



TCHAIKOVSKY

order, fills the record dumbwaiter requests, keeps account of scrap and handles shipments.

Record scrap has been competently campaigned for by Mr. Smith. A large sign prominently displayed in the record department reminds record buyers that they must have old scrap

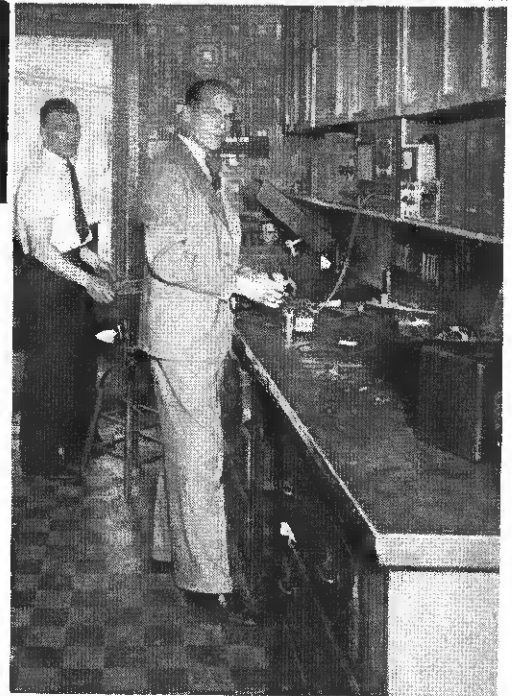
in order to get new stock and that priorities on shellac do not extend to manufacturers. Enlistment of the city's school children this past Spring brought in enough scrap to fill a good part of the basement.

Sheet Music and Record Tie-ins

First floor signs direct the customer to the second floor for sheet music, radios and radio repair. Climbing the colonial stair, the customer finds himself in an attractively displayed sheet and book music department. Mr. Smith's enterprise in "buying out" another merchant's sheet music department not only brought him a very complete stock, but also the services of Mrs. Loretta Loro. Her excellent merchandising experience in this field is coupled with a musical background. One quickly learns that music is her business!

Sheet music has proved a lucrative additional line for Mr. Smith and it rounds out the record and radio business. All the music, Mrs. Loro explains, is catalogued on cards: Sheet music by title; book music by title

Mrs. Loro in action (right). Sheet music sells readily to record customers.



In the radio maintenance department of the David Dean Smith store. Manager James (foreground) and assistant.

and composer. Files in steel cabinets correspond to this card system. Floor and wall racks are used for display, and self-service is encouraged in the same manner as with records.

The regular sheet music stock is extended by carrying tie-ins with the sale of records and with current music trends. For instance, a score catalogue is given every purchaser of a classic album. The purchaser of

(Continued on page 36)



RECORD

QUIZ



Paul Southard,
Columbia Recording Corp.
Vice President

• In the further interest of its readers, RADIO RETAILING TODAY presents the following interview with another of the leading recording companies' top men, Paul Southard, Columbia Recording Corporation's vice president. Mr. Southard, long a leader in record merchandising and since 1939 in charge of the company's sales activities, has a vital interest in the dealer's future in the record business. We believe his keen knowledge of the record merchandising field will be of interest to disc retailers.

Q. Will record sales slump after the war?

A. I have not heard any statement to the effect that the current record increase is for the "duration" only. The increase in the demand for records was promoted by the record manufac-

urers starting back in 1933, and the demand has been steadily increasing every month since then. The record business did not need the war to give it a "shot in the arm." In fact, the actual volume would be much greater today if it weren't for the war, because record manufacturers would have unlimited output and thereby be able to increase the demand still further.

Q. How can dealer insure postwar record sales?

A. The same merchandising rules which have promoted record business for the dealer for the last twenty years are the rules which today form the best insurance for further increased record business on a permanent postwar basis. The only thing

which can damage a dealer's postwar record volume is a cessation of regular mailings, advertising and display on the fallacious grounds that since the current demand is four or five times the supply, no selling effort is necessary.

Q. What will public buy this Christmas?

A. The public will probably want the same Christmas music and popular gift albums they have purchased for the last several years, but how a dealer can accumulate any stock on these items I do not know, since none of the manufacturers or distributors have any inventory to speak of and current sales are far exceeding the daily output.

(Continued on page 49)



THE UNCHARTED COURSE

The pioneer follows no charted course or broken trail. Wilcox-Gay struck out away from the beaten trail when they originated home recording by the famous radio known as Recordio. Although now busy with war problems, they look forward to new peacetime developments of Recordio features and electronic equipment that will serve millions.



WILCOX-GAY CORPORATION

CHARLOTTE, MICHIGAN

Pioneer Manufacturers of Electronic Equipment



The Song Spinners, exclusive Decca recorders, made a hit with the "Johnny Zero" — "Comin' in on a Wing and a Prayer" platter (No. 18553).

Around the Disc

And the customer thus can limit his search to the type of merchandise he specifically prefers.

One store-owner offers a glossy print of Frank Sinatra free with a purchase of three records. The owner turns out the prints at a low cost because he has his own developing equipment.

The idea is fine as far as it goes. But it does not go far enough. The sign is relegated to a dusty, insignificant rear of the store; our observer did not see it until the owner pointed it out to him!

New Victor Catalogue

One of the best jobs of cataloging we have seen in a long time in any field is the new Victor-Bluebird catalogue, recently issued to dealers by the RCA Victor Division of the Radio Corp. of America. If you by any chance have not received your copy, be sure to send for it. Interestingly illustrated throughout, it is not only a listing, but has definite sales appeal as well. Just thumbing through it casually we wanted to buy all sorts of single discs, and albums for ourselves and for gifts. The great variety of tastes catered to in this vast collection opens one's eyes to new fields of musical interest.

In addition, a dealer might study well the method used in cataloging of the huge Victor-Bluebird combined stock, and endeavor to apply its helpful divisioning to the arrangement of his own record display. If you are using "self-service" in merchandising your records, as most retailers are, you might find your own most appropriate answer to "How shall I group my records?"—a question most asked by many retailers—and a vital point in the successful merchandising of discs to a music hungry public with plenty of money to spend for entertainment.

• Radio retailers look chiefly to records to fill the merchandise gap caused by the lack of radios. They declare that records are being delivered to them in sufficient quantities; sometimes they do not obtain all selections, but they do receive enough to satisfy most customers.

Yet often retailers do not bother to merchandise records sufficiently. They are content to limit themselves to infrequently-changed manufacturers' displays. Some are smug in the belief that they cannot possibly improve upon their system of sales—by self-service wall racks—for their sheet music and records.

Yes, the self-service racks accomplish their purpose admirably: they cut down selling time. But selling time—and consequently larger turnover for each salesperson—can be reduced still further.

One or more signs (which can be prepared in several minutes by the use of a stencil-outline lettering outfit) might ask the onlooking customer:

Which Do You Prefer—
Sweet Or Jump?

Then the merchandise can be classified into "sweet" and "jump" bins.

New Automatic Album



Record artist Mary Small demonstrates the Albumatic Record Caddy. It holds 50 ten-inch discs and is 21" long. Push the lever down and out comes the wanted record. Manufactured by Albumatic Co., 11 West 42nd St., New York.

tomer is not lost in a maze of confusion from that point on. See how Victor does it:

FAVORITE CLASSICS are listed by

- 1 ARTIST then under that group there are subdivisions of types (a) Orchestras (b) Vocal Artists (c) Pianists (d) Violinists (e) Chamber Music (f) Organists (g) Cellists (h) Bands (i) Varied Instrumental Artists (j) Dramatic Readers
- 2 by COMPOSER (by title under each)
- 3 by FOLK MUSIC (by Nationality)
- 4 SYMPHONIES—by Composer
- 5 SYMPHONIC WORKS OTHER THAN SYMPHONIES—by Title
- 6 LIGHT CONCERT ORCHESTRA FAVORITES—by Title
- 7 SONGS—by Title
- 8 OPERA—by Title
- 9 LIGHT OPERA—by Title
- 10 PIANO MUSIC—by Title
- 11 VIOLIN MUSIC—by Title
- 12 by ALBUMS—by Title (called Library Builders)
- 13 CONCERTOS—by Composer
- 14 CHAMBER MUSIC—by Title
- 15 ORGAN MUSIC—by Title
- 16 CELLO MUSIC—by Title
- 17 BAND MUSIC—by Title
- 18 VARIED INSTRUMENTAL MUSIC—by Instrument
- 19 CHILDREN'S MUSIC—by Title
- 20 EDUCATIONAL MUSIC—by Title
- 21 DRAMATIC READINGS—by Title
- 22 CHRISTMAS MUSIC—by Title

POPULAR DANCE & NOVELTIES are grouped by

- 1 POPULARS—by Artist
- 2 POPULARS—by Title
- 3 by ALBUMS—by Title (listed as Victor Smart Sets)
- 4 OLD FAMILIAR TUNES (a) by Artist (b) by Title
- 5 RACE ENTERTAINMENT (a) by Artist (b) by Title
- 6 MEXICAN POPULAR MUSIC (a) by Artist (b) by Title



BUT of the hail of bullets and flak, the Flying Fortress limps into port—coming home on a wing . . . a prayer . . . and an additional factor that the Axis didn't count on. This factor is the extra measure of stamina possessed by both pilot and plane.

An extra measure, too, has played an important role in building the Garod reputation. We've always been somewhat more painstaking in designing and manufacturing our radios. We've always been somewhat more critical in selecting our personnel and materials. But, of paramount importance, we've made sure to include an extra measure of effort in everything we do. Because of this, Garod radios give greater satisfaction and longer life.

Currently, Garod is building some of the finest equipment for the military services . . . all of it reflecting our extra measure of effort. It's too early to talk about Garod's plans for the post-war market. But, of this you may be sure . . . we'll continue to make what we know best, and, as always, we'll put our best into it.

GAROD RADIO

FOR THE EXTRA MEASURE



Buy an extra measure of security . . . invest in war bonds

GAROD RADIO CORPORATION • 70 WASHINGTON STREET • BROOKLYN 1, N. Y.

Uses P.A. to Make

System Plugs Sheet Music, Too

• Wondering what to sell in place of the diminishing stock of radios, the Mont Clare Music Shop, 7115 West Grand Ave., Chicago, installed records and sheet music.

Owner-manager Lewis Tomaso after a year's trial says the record and sheet music departments will definitely be a permanent addition to the shop. "Even when radios return in abundance after the war, I am convinced our store will maintain the two new departments in conjunction with radio sales," he said.

The profitable record department consists of stocks of populars, albums, and a good representation of the classics. Albums afford a handsome margin of profit. Although there is a scarcity of some records, the supply situation is still far from alarming.

For the promotion of record sales, which incidentally helps the sale of sheet music, Mr. Tomaso uses a public address system. The amplifier and playback are located in the rear of the shop, and the music is piped to a large loudspeaker on the outside of the store above the entrance. Mr. Tomaso suggests that dealers make use of an outside loudspeaker for securing inexpensive publicity for their shops, and to boost sales of Christmas records.

Not only during Christmas time does the amplification system cause record sales to skyrocket, but a high level is maintained throughout the entire year. Popular numbers are continually played over the loudspeaker.

"That loudspeaker system is worth its weight in gold," Mr. Tomaso commented enthusiastically. Since this shop customarily did a large volume in radio sales, the service department is now very busy and does approximately \$800 worth of work per month.

The shop's sheet music department



Radloman Tomaso . . .
made a record hit with
platters and sheet music.

is served by a cooperative package distributor who takes back sheet music numbers on specific dates. In Mr. Tomaso's opinion this return privilege is tops. "The distributor keeps tab on all numbers which are being readily absorbed by the public. Those that aren't moving are called in, and numbers which are selling are put in their place," he said.

Small Investment Feature

Another point brought out by the manager was that since the distributor keeps tab of all numbers, there is not much money tied up in stock. Only those numbers are kept which are selling. Of course the investment in stock is there but what Mr. Tomaso stresses is the fact that it is a quick turn-over stock. Sheet music is not a standstill item.

Displays for the music numbers were secured from the distributor and these, back to back, occupy a prominent position in the center of the shop. The attractive racks automatically solve the display problem. This colorful attraction breaks down the sales resistance of the customer.

Initial investment outlaid a year

ago to install the sheet music department amounted to \$100, including the display racks. At present the shop carries an inventory of \$350.

For dealers who wish to stock sheet music, Mr. Tomaso advises a gradual stock up, instead of making a big dip at once. There is no priority on sheet music and plenty will be available in the future. Mr. Tomaso suggests that a dealer start out with an investment of \$50 exclusive of the cost of racks. Then increase the inventory as fast as sales warrant. Use care, said Mr. Tomaso, in choosing the distributor. Be sure he is cooperative, well-established and offers a return privilege.

Some distributors are finding it difficult to supply display racks. If such is the case, the simplest way is to make them yourself. Many sheet music dealers have constructed their own displays.

Summing up the lines which will maintain the Mont Clare Music Shop at the same location until Victory, we have: "Records, sheet music, and radio service"; and Mr. Tomaso is satisfied with the profits derived from them during this period.

WITH SWEAT AND TEARS!



Photo by U. S. Army Air Corps

THE war record of America's radio tube engineers is an impressive one. Yet these able and ingenious men, too, have their "problem children".

In this category are the miniature tubes used by our combat troops in communication radio sets. Admittedly these tubes are tough little "hombres" — especially "tough" for that selected group of engineers whose responsibility is to produce them by the tens of thousands. Only because of the sweat and tears of these men has the flow of miniatures to our armed forces been maintained and steadily expanded month after month.

That National Union is one of the nation's important manufacturers of miniatures is evidence of the success of N.U. engineers in helping to solve one of this Industry's most difficult war production problems. Thus do research and development experiences in wartime build a reservoir for post-war accomplishment.

For the advanced types of tubes and application data you'll be wanting when peace returns with its new opportunities, *count on* National Union.

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



NATIONAL UNION

RADIO AND ELECTRONIC TUBES

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

TYPEWRITERS TO TCHAIKOVSKY

(Continued from page 29)

Cesar Franck's Symphony in D Minor, for example, will see that he can buy Boosey & Hawkes' book score of that music to enhance his listening pleasure. A complete stock of these scores is carried, Mrs. Loro explained, which sell from 50 cents a piece up.

Also sold in connection with records are the simplified classical themes for piano. A sample of this is "Theme Melodies for Piano from Famous Composers" arranged by Maxwell Eckstein (Carl Fischer, Inc., New York) selling at 60 cents.

Boogie-Woogie Piano Lessons

The current demand for "boogie-woogie" music, Mrs. Loro continued, has invaded the field of piano students' purchases. Bernard Whitefield's "Boogie-Woogie for Beginners" (Boston Music Co.), retailing at 75 cents, is a popular seller, also Whitefield's "The Story of the Alligator—Boogie-Woogie Suite," selling at 50 cents. Advanced piano students of this type music readily pay the \$1 that buys Frank Paparelli's "8 to the Bar" (Leeds Music Corp., New York).

"Populars" sell themselves in these days of record shortages, Mrs. Loro said. Many a request for an unobtainable popular record has been turned into a popular sheet music sale.

The popular sheet music is bought from jobbers, and book music direct from the publishers. Return privileges in both instances are good. Distributors of popular sheet music issue lists monthly, quoting a return date for pieces whose popularity is on the wane. Publishers of book music permit a return on all new issues within 90 days.

Sheet Music Promotion

Efforts to get new and increased business for this department are varied and enterprising. Lists of new issues are enclosed with all monthly statements to charge customers, and are sent as solicitations to schools, churches, clubs, etc.

When the department first opened,

Mr. Smith ran a series of four nightly lectures, held at the store after closing, for the music teachers in the city. Frank Stratton of the music publishers, Carl Fischer, Inc., spoke on material for piano courses. On the fourth evening refreshments were served, and a meeting of musical minds was invited. More recently Dr. Felix Guenther, editor of the E. B. Marks Music Corp. of New York, who gave a series of lectures on composers and symphonies at the State Teachers College in New Haven, was obtained to address a gathering of music lovers at the David Dean Smith store one evening during his lecture stay.

Records Help Future Radio Sales

Another section of the second floor is devoted to radios and radio-phonograph combinations. A Magnavox dealer, Mr. Smith originally stocked the combinations, and carried only the small radios as companion to this line. The showroom is attractive and comfortable. Thickly carpeted and softly lighted, it might easily be one's own living room at home.

The balance of this floor is occupied by three additional listening booths, a studio piano for sheet music trials, and also houses the radio service department.

A. C. James, radio engineer and

manager of this department, stresses the importance of a thorough-going good repair job—never the kind of servicing that could be called "patch-work."

Service De Luxe

Like others in his field, Mr. James is equally handicapped by help shortages and limited parts. Originally operating with four men, he now works with two. His men have engineering background and are encouraged to attend all manufacturers' meetings on service work whenever possible. Expenses are allowed for these trips, and the best equipment in machines and technical reading material is obtained for his workers on their recommendation.

Mr. James uses one distributor in the nearest large city who handles all lines and can make weekly calls and deliveries of parts and tubes. Small set repair has had to be dropped, and Mr. James' department concentrates on repair of the combinations, automatic changers, and the installation and adjustment of FM sets. All FM installations are personally overseen by Mr. James, and no repaired radio is released from the shop until it has been checked on the oscillator for complete alignment. "The news that you do reliable servicing gets around!" states Mr. James. And his statement is borne out by the fact that they answer calls from all over the state.

The American Will-To-Do!

"What's on the third floor? That will be my radio showroom when war restrictions no longer limit their sale," concluded Mr. Smith, "and I shall certainly remain in the music business after the war."

More apparent now than ever, the continued success of America's independent retailers is proof of the continued success of our nation as a democracy. We salute you, David Dean Smith, and all the many other American record and radio retailers who are continuing to build individual successes, despite our country's current difficulties.



"Save him first—he's a trained radio-man. . . ."



Planning and SCHEDULING

FROM BLUEPRINT TO DESTINATION

Today there are more than 700 people devoting full time to Planning and Scheduling at Crosley—six times as many as 3 short years ago. Beginning with engineering specifications, it is the responsibility of these people to plan every step of manufacturing.

They see that facilities are ready, tools and dies completed, parts available. They supervise production schedules, make sure that the needed personnel is available, start a pilot line. They contact other manufacturers and our 3,000 suppliers, and Government agencies. They carry the finished product through the plants until they reach their destinations.

Without this supervision it would not have been possible for Crosley to attain a volume-rate of \$100,000,000 a year.

This is the third of a series describing the various departments working together as a team in the Manufacturing division of Crosley. The subject of this advertisement is Planning and Scheduling.

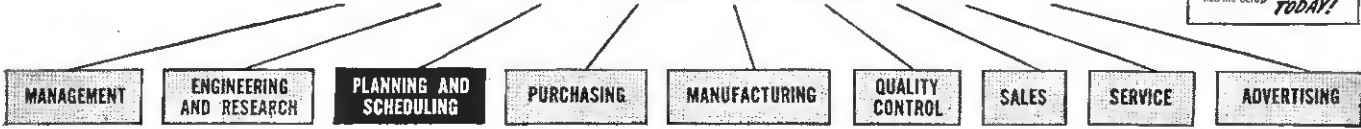
CROSLEY

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

SCRAP IS POWER

YOU HELP
 ... the War Effort
 ... Your Customers and Yourself
 ... when you Salvage, in accordance with your Manufacturer's Instructions, all inoperative parts containing ...

CRITICAL MATERIALS
 Cooperate with your industry!
 Put vitally needed scrap back into the Scrap **TODAY!**



Wholesalers Are Essential

Tomorrow Looms Their Greatest Opportunity

by **O. W. RAY***, Vice President of Times Appliance Co., Inc., New York

• These are the words of Max McGraw, President of National Electrical Manufacturers Association, also President of McGraw Electric Company, manufacturers of Toastmaster:

"Lieutenant Commander Mildred McAfee, organizer and leader of the WAVES, humorously told her first class of Navy girls, 'Women are very essential—sometimes.' By 'sometimes', she doubtless meant wartimes and peacetimes—which is just another way of saying all times.

"In the same way, I contend that the electrical wholesaler is 'very essential—sometimes' . . . in war, in peace, and any other time you can think of. To me, the fact is so self-evident that I wonder how any contrary opinion can still persist. But it does, to some extent. I was conscious of it through all my twenty-five years as an electrical wholesaler. I have seen the question cropping up during the recent years of economic experimentation, along with discussions of grade labeling, consumer co-operatives, and the abolition of advertising. And I have seen many of my good wholesaler friends honestly disturbed—wondering whether their business really was essential."

Yet, in spite of such clear thinking

and speaking as this, the professorial economists are again dragging out their old bromide, "Cut out the middle man and lower prices to the consumer."

The "Middle Man"

In such attempts as this does bureaucracy rear its ugly head and attack our democratic way of life. But democracy always stands up against such crises and rights itself and goes on just as before. The distributor, I believe, will continue to be an integral part of American industry just as he always has been. He's the logical central—the "middle"—agency for economically distributing products of radio and other appliances, and electrical manufacturers. When you cut out the wholesaler—you cut out the center of distribution, too.

Practically all of the functions performed by a distributor are necessary and have to be performed regardless of the setup.

The efficient wholesaler today carries a diversification of products

which is effective in reducing the overhead and handling costs applied to each product. The wholesale distributor is best equipped to do the sales promotion work necessary to develop volume sales at the least cost.

The larger the industry the greater the necessity for wholesale distribution to secure complete coverage of the market, so that the public may be well served.

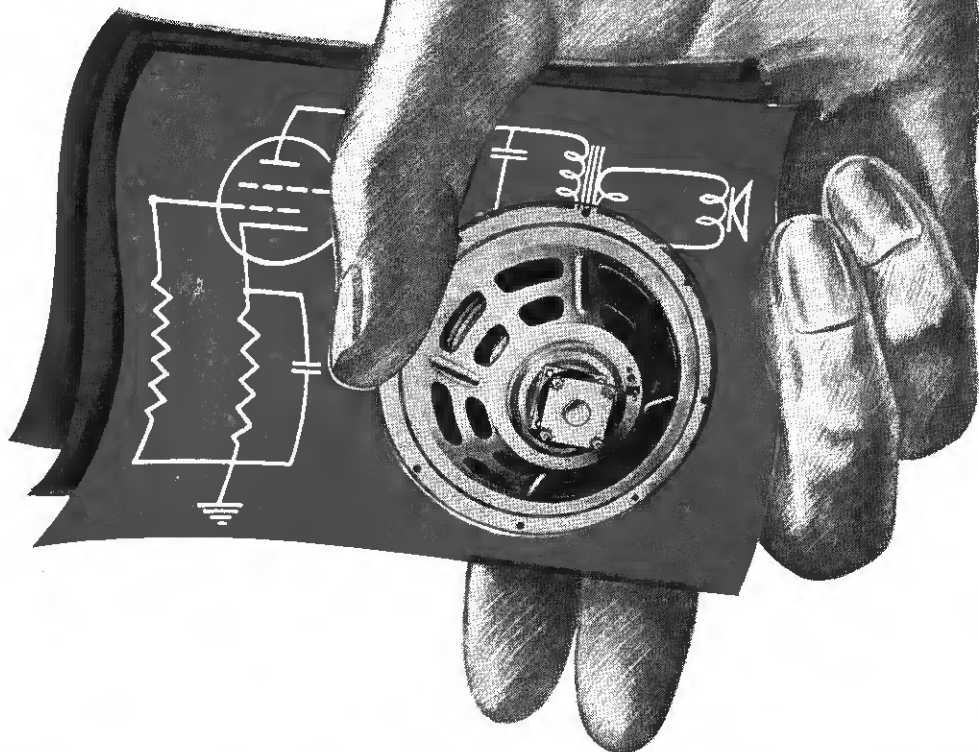
The distributor is perhaps somewhat like that other pleasant association—the feminine sex—you may not always be able to live with them, but you can't live without them.

* Mr. Ray is also president of Photographic Manufacturers and Distributors Bureau, Inc.

Oscar Willard Ray presiding over a sales meeting at the Times Appliance Co.'s offices in New York.



Remember radio's first Dynapower Speaker?



Another General Electric "first" that helped sell hundreds of thousands of radios . . . and, after the war, General Electric's new and improved speaker will be an even greater sales feature for you!

Of course, you remember that first G-E Dynapower Speaker. It made radio history in 1939, helped sell hundreds of thousands of home sets.

But wait—until after the war—and General Electric will bring you home-radio loud-speakers that beat anything you've ever heard.

The speaker you will find in the General Electric home radio of tomorrow will give far more power . . . will give both the largest and smallest home set a superior tone quality.

And there will be many *other* important improvements—many surprising additions—when G.E. brings out its post-war FM radios for the home.

Wait 'til you see what this profit-building radio line will do for *YOU!* *Electronics Department, General Electric, Bridgeport, Connecticut.*

Tune in "THE WORLD TODAY" and hear the news direct from the men who see it happen, every evening except Sunday at 6:45 E.W.T. over CBS network. On Sunday listen to the G-E "All Girl Orchestra" at 10 P.M. E.W.T. over NBC network.

GENERAL ELECTRIC

175-B11

GENERAL ELECTRIC IS BUILDING MORE MILITARY RADIO EQUIPMENT THAN ANY OTHER HOME-RADIO MANUFACTURER

RADIO Retailing TODAY • October, 1943

39

Calling All Lines!

Milwaukee Radioman Stocks Anything That Sells

• Shortly after Pearl Harbor a friend told Stanley Huras, owner of the Huras Co., 505 W. Mitchell St., Milwaukee, "Stan, you'd better take a job in a war plant, now that you won't get any more radios and other appliances to sell."

"If the government needs me in a war plant, I'll go if I am called," returned Huras, "but in the meantime I am going to stick at my business. Folks have radios and appliances that need servicing, too, and maybe I can find some other lines to sell."

With this enterprising frame of mind, Huras set to work. He found that he got quite a flood of repair work on radios and appliances, but that he could not get any regular service men. They had all gone to work in war plants or into the army. So Huras began to repair as many of his appliances as he could, in between sales and delivery calls, and he also farmed out some of the work to two war plant workers who were willing to do some repair work a couple of evenings a week. With this kind of setup, Huras was able to handle his service problem, and is still operating on this basis. His greatest shortage at this time is tubes, he states, although he had a good stock on hand early in the war.

Huras then turned his spare attention to new lines. He put in a sizable paint department. He also added linoleum yard stock and rugs. His other departments consisted of a sheet music, record and a band instrument and supplies section. Sales were restricted on the latter line, but sheet music and records moved very briskly. Huras also hired a girl to handle store sales work for him afternoons and evenings—a very good move, because many war workers like to shop at night. Most other stores are closed after 6 p.m., but Huras is open six

nights a week and does a good share of his business at that time. Records especially move well as men and women workers come in at night, after work, to make purchases.

The last line which Huras recently added was coal and wood stoves, and a few oil burners. While stoves are now rationed, Huras sold and installed many of these stoves in 1942 and 1943. Even now, with rationing, he still gets a large volume of business, for ration certificates are issued by boards where need of such stoves can be proved. There is a good margin of profit in stoves. Huras likes to sell and install them, because it not only makes profit, but keeps up his contacts with home owners.

For nine years, Mr. Huras has conducted a regular Polish radio hour over WRJN, Racine, Wis. (30 miles south of Milwaukee). This program has proved very popular and has helped Mr. Huras sell many records and appliances and service to the Polish speaking people. On this radio program lasting one full hour, and sometimes scheduled five days a week, Mr. Huras sells spot advertisements to other merchants interested in reaching the Polish-Americans, and thus he finances the program and gets his own advertising free. This radio program has made him well known in Milwaukee and Racine, and the entire southeastern Wisconsin area. It is said to be the most popular foreign language program in the district. Often it has local talent appearing on it, too.

After nine continuous years of operation of this program, Mr. Huras has decided to stop it for the duration very soon, as few merchants have enough surplus goods to sell and advertise. However, the moment the war is over, he will resume this program, he says, as thousands of people like it and write letters to him about the broadcasts.

"I'll handle anything I can sell during this war period," says Huras, "because I want to stay in business and be ready for the postwar boom in radios and other appliances."

Top to bottom: Stanley Huras checks a set in his repair department; Linoleum makes a background for appliances. Paint makes a colorful display, and pays a profit too. Truck in front of the busy store. Note the sign advertising a sale on coal heaters.

RADIONICS

with its subdivisions of Electronics, Radio, etc.,
says "Look into the record of Portable Supremacy."

THIS IS THE FIFTH OF A SERIES of radio merchandising questions on post war planning.

It covers the subject of PORTABLE RADIOS.

Portable radios have grown to be a big volume factor in every aggressive radio dealer's selling picture.

Zenith recognized this fact EARLY. Zenith has consistently LED THE INDUSTRY in percentage of its famous Wave-magnet portable sales—to the industry's portable radio sales. Indisputable figures prove that fact.

Zenith created a sensation when it brought out its Transoceanic Clipper at \$75.00 retail.

Immediate and amazing acceptance proved to the country's radio merchants that portable business need not mean small unit of sale.

Portable value never before given . . . portable performance never before engineered . . . and portable unit price never before dreamed of—combined to achieve the greatest world-wide acceptance ever accorded *any radio receiver*.

That's history—not claims . . . and you know it! It hardly seems necessary to frame the questions. Nevertheless, in your post war planning, please be sure to add this check-up to those which Zenith has been giving you in previous advertisements of this series. If you haven't seen them, we shall be glad to mail them to you on request.

Questions:

1. What radio manufacturer has the greatest reputation for extreme value, amazing performance and reliability in the portable field?
 Write name of corporation.

2. What is the best known individual portable model in the country?
 Write brand and name of model.

3. What is the highest priced nationally sold quality portable on the market?
 Write brand and name of model.

We hear you saying: "Why ask when we know?" It is good for you to see your *own answers* in black and white. Put them down!

They should fix indelibly in your mind the phrase "Zenith Has Portable Supremacy." Figure that after the war Zenith Portables *must be* "SUPREMACY PROTECTED!"—by astonishing innovations—

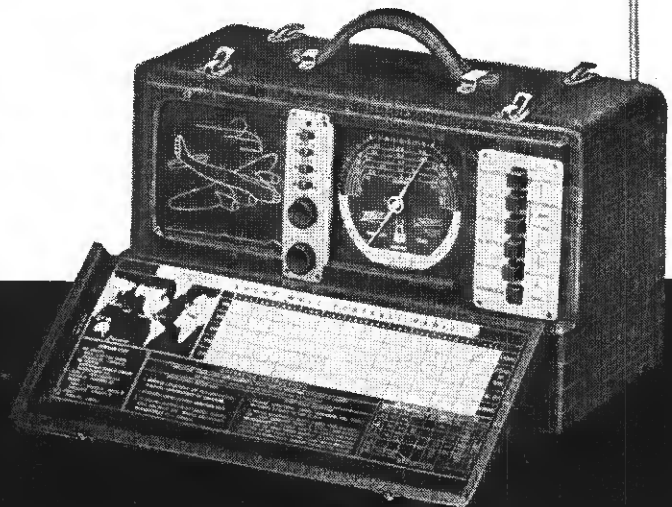
—and you will have the answer to YOUR POST WAR PORTABLE POTENTIAL.

ZENITH RADIO CORPORATION, CHICAGO 39, ILLINOIS



BETTER THAN CASH
U. S. War Savings Stamps and Bonds

ZENITH
• LONG DISTANCE • **RADIO**
RADIONIC PRODUCTS EXCLUSIVELY—
WORLD'S LEADING MANUFACTURER



Washington Wavelength

Copper Wire Now Available to Retailers

For the purpose of providing copper wire to meet the minimum repair needs of the general public, a new regulation, CMP 9, has been announced by the War Production Board. Under its terms, qualified persons may buy and sell copper wire without priority ratings.

The following questions and answers have been compiled by *Radio Retailing Today*:

What retailers may buy copper wire under this regulation? Ans: Radio, electrical, hardware, department and general stores and others who sell such wire to the general public may buy it.

What repairmen may buy copper wire? Ans: Radio servicemen, electrical appliance repairmen and electricians may do so, unless any such repairman has received an allotment of copper wire under any other Controlled Materials Plan regulation.

What kind of copper wire is designated? Ans: Regulation applies to all bare or insulated copper wire for electrical conduction.

How may retailers and repairmen buy this wire? Ans: By placing an order with any supplier or wire mill, accompanied by the following signed certificate:

CMP allotment symbol V-3—The undersigned certifies subject to the criminal penalties of section 35 (A) of the U. S. Criminal Code, that he is a retailer or repairman entitled under CMP Regulation No. 9 to buy the copper wire covered by this order.

May wholesalers and other suppliers buy copper wire under this regulation? Ans: No. Industrial suppliers, mill suppliers, plumbing supply houses, electrical wholesalers and others distributing such wire may not buy under CMP 9.

Are retailers and repairmen permitted to buy copper wire from other retailers and repairmen? Ans: Yes. They may do so without certification or other formalities.

Are mills and suppliers required to fill orders under this regulation? Ans: Yes. They are required to fill them in the same way as orders from persons who have copper allotments under the Controlled Materials Plan.

May retailers sell copper wire free of ratings? Ans: Yes. They may do so unless they know or have reason to believe that customer will be violating an order or regulation of WPB in receiving or using such wire.

What wire orders must retailer fill

under this regulation? Ans: He must fill orders supported by farmers' certificates as provided in Priorities Reg. No. 19. He need pay not attention to controlled materials orders and to priority ratings, except AAA. He is requested not to sell copper wire to persons who have received allotments under the Controlled Materials Plan, who are listed in Schedules 1 or 2 of CMP Reg. No. 5, or persons otherwise entitled to place authorized controlled material orders with suppliers or mills, except in case where such purchasers need small quantities.

How much wire may be bought? Ans: Retailers and repairmen may order \$100 worth of wire in any calendar quarter, or one-eighth of the amount they sold or used during the year 1941, provided, however, such persons were in business prior to Aug. 1st, 1943.

Suppose more wire than above authorized is needed? Ans: Retailers and repairmen who need to buy more wire than is permitted in the regulation may apply for authorization from local WPB office.

If repairman or retailer went into business after Aug. 1st, 1943, how may he obtain wire under this regulation? Ans: He may ask for authorization from local WPB office.

Are inventories restricted? Ans: Yes. Inventories are restricted to a 30 day supply for dealers and a 15 day supply for repairmen.

Suppose repairman's customer has other means of getting wire? Ans: Then do not procure wire under this regulation, if authorized to use customer's allotment symbol.

TUNE-INS

"If our system of competitive enterprise is to continue after the war, we must see to it that the small business man is kept alive during the war. If he is squeezed out, we will find competitive enterprise eliminated after the war is over." Assistant Attorney General Wendell Berge, Small Business Section of the Department of Justice.

"Tubes are still scarce. But the statistics show that 1,700,000 civilian tubes were delivered in June. This is the same old story. If the factories boxed 1,700,000 MR tubes in June, THE RANK AND FILE DISTRIBUTORS DID NOT GET THEM." George D. Barbey, president National Electronic Distributors Assn.


After ordering restrictions on all wholesale and retail motor truck deliveries in the nation, effective Oct. 11th, similar to the ones in effect in the 12 Eastern states and the District of Columbia since last spring, Joseph B. Eastman, Director of Defense Transportation, said: . . . "It is not the purpose of ODT arbitrarily or needlessly to restrict the operations of the Nation's trucks, but to safeguard the continuance of their necessary operations in the face of serious and growing wartime shortages."

NATIONAL UNION WINS AWARD



President S. W. Muldowny receives the Army-Navy "E" Award for the National Union Radio Corp. of Newark, N. J. Left to right: Lt. Ralph E. Whitney, USNR, Mr. Muldowny, Lt. Col. Kenneth D. Johnson, Elmer Chamberlin.



 **The record that money can't buy**

Remember, Bob, that night at the U. S. O. . . . you made a record to send to the folks back home. You could just see the family listening to it for the first time!

Mom smiling through it all—with a far-away look in her eyes. Sis, wide-eyed because it's her big sailor-brother's voice coming over the speaker. And Dad, trying not to show his excitement—at least, not too much. You thought the whole business a huge lark. You *couldn't* know the immeasurable

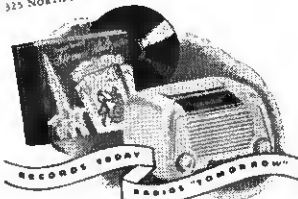
thrill you'd give Mom and the folks—how precious that little disc would become—how often it would help dispel deep loneliness and the heart-catching fear that's always present—along with pride in their boy!

It seemed that Bob was right there in the room, so faithfully did the SONORA Radio-Phonograph reproduce his words.

Tone fidelity of such matchless purity is an engineering achievement for which SONORA has been especially noted through the years.

This unique mastery of tone will be yours to enjoy just as soon as America's war needs are satisfied.

SONORA RADIO & TELEVISION CORPORATION
325 NORTH HOYNE AVENUE, CHICAGO, ILLINOIS



Sonora
Clear as a Bell

FOR VICTORY BUY WAR BONDS

RADIOS • PHONOGRAPHS • RADIO-PHONOGRAPHS • RECORDS • RADIO-PHONO-RECORDER

MR. RETAILER: Right in your town, the folks who read the American Weekly, Esquire, The American Magazine and other favorite national publications, such as Life, Redbook, Cosmopolitan, Time, American Home—already have seen this striking SONORA advertisement.

IT'S AD NUMBER TWO in a compelling campaign of full page, full color *demand builders*

that are lining up sales you'll cash in on just as soon as we can start turning out radios for you to sell.

ASK YOUR JOBBER . . . to tell you why our over-the-counter "Package" Plan will make SONORA as easy to handle as any minor appliance . . . and just as trouble-free.

SONORA RADIO & TELEVISION CORPORATION
325 North Hoyne Avenue • Chicago, Illinois

THE ONLY NATIONALLY ADVERTISED JOBBER-DEALER RADIO

Sonora
Clear as a Bell 

HEALTH AND MORALE

(Continued from page 21)

waiting for parts, sets to be tested and repaired and sets completed are segregated to eliminate confusion. The refrigerator service department is in the rear of the showroom.

Mr. Nichols believes that all radio dealers in agricultural sections are in line to do a very big job on electric cold storage plants for farmers when the war is over.

Providence Firm Is Rushed

Modern Radio Shop, Inc., 181 Broadway, Providence, R. I., owned by Tom Geary and Al Bagley is loaded with repair work. This enterprising firm has been doing subcontract war plant work, and other important services to police radio stations in Rhode Island and Massachusetts. Modern has repaired diathermy equipment for physicians, done work for the veteran's bureau and worked on radios in the cars operated by the R. I. Division of Roads and Bridges, whose sets are tuned with the state police stations. Four servicemen are employed by Modern.

This firm specializes in that bugaboo of all radio men, the auto radio. They maintain a drive-in service business and they like to work on these receivers.

The importance of the radio receiver to the morale in the home is well known to this firm, and Tom Geary and his partner do all they can to keep the sets in operation, service vitally important electronic devices and keep service charges at a reasonable level. They do not make a charge to examine a receiver brought into their shop.

One Man—150 Dead Radios!

George Siddall, the radio technician at Johnny Siddall's, 20 Railroad Ave., Attleboro, Mass., was so busy when RADIO RETAILING TODAY's representative called! No further comment is necessary to qualify the "so busy" except to say that George had about one hundred and fifty radios ahead of him to repair. And he is tackling the job all alone! He also goes out and does service work, and has sold sound equipment to war plants, and is now maintaining one such installation



having 100 speakers in the system. Siddall's sold radios, gas refrigerators and other appliances before the war. Siddall's also maintains a gas and auto service station operated by the radio man's brother.

In line with most of the radio men in this section of New England, George Siddall has not raised radio repair prices, believing that this policy will help make people regard him favorably after the war is over, and he also feels that radio is such a great necessity to uphold morale in the home, that to take advantage of the customer with a dead radio is unpatriotic, and is damaging to the radio industry.

The Flood Can't Stop Them

The Randolph Radio & Refrigerator Co., 718 Oak St., Toledo, Ohio, operated by Mr. and Mrs. Roy L. Randolph, rendered valuable services to householders when recently flooded basements damaged home appliances. Many washing machines were put back into operation. This organization reports the service bottleneck terrific, with refrigerator calls alone averaging about one an hour. Radio repair work, however, leads in volume.

War Plant Sound Work

Weaver Piano Co. in York, Pa., a city of 75,000, is definitely aiding the war effort through the installation of sound equipment in war plants, having made about a dozen installations thus far. They recently sold a system in a huge factory employing over 800 girls. Operadio and RCA equipment is used. This dealer was very successful in the Capehart line before the war. Also, Weaver Piano Co. was once extremely active as a distributor of records and phonographs. Today, the retail store spe-

cializes in records and other musical merchandize.

W. L. Bond, secretary and treasurer of the Weaver Co., feels that the sale of hearing aids not only is good business, but aids both health and morale in general. The company has recently taken on the agency for Aurex, and through newspaper ads and window cards has done considerable business. "I strongly advise the radio dealer to consider handling hearing equipment," said Mr. Bond. He pointed out that the established retail organization can render a definite service to the hard of hearing because most present sales and service methods used in connection with this equipment, are maintained in offices or in homes, and that persons have to make appointments with the agents. In handling batteries, parts and equipment, the dealer can establish a genuine service which will be greatly appreciated by his customers, stated Mr. Bond.

Electronic Organ Specialists

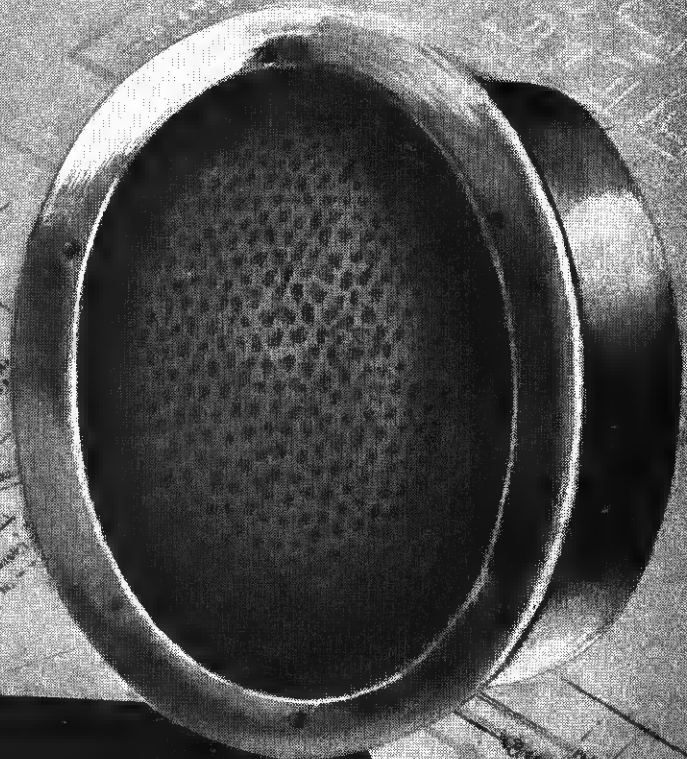
That religion is necessary to the preservation of morale is too well an accepted fact to need elaboration. The Kirk Johnson store, 16 West King St., Lancaster, Pa., specializing in radio, records and musical merchandise, sells and services electronic organs, the Organtron. Many of these are installed in churches, and the radio repair department keeps them in good order. Not all the organs are installed in churches. Some are in clubs and a number in private homes. The radio repair department is flooded with work.

The record department in the Kirk Johnson store has grown steadily in importance. In 1938 there were 2 listening booths—now there are 8. An inventory of about \$8,000 in records alone is now being carried. Sheet music features importantly in sales also. This store is a subsidiary of the old established Steinman Hardware Co., and the latter handles the refrigerator service for customers. Kirk Johnson occupy 6 floors, with 40,000 square feet of space in this thriving city of 58,000. M. Wike, one of the department managers, stresses the value of music to maintain morale in the home, and Kirk Johnson play an important part in the community in keeping up this morale.

Another Future Speaker

*— already tested
and proved!*

*This new speaker, recently developed
by JENSEN engineers, is but one of many improved
types now being manufactured for military uses.
Thus another loud-speaker is ready for expanded fields
of operation after the war.*



Jensen

RADIO MFG. COMPANY

6501 SO. LARAMIE AVE., CHICAGO



Majestic Controlled Distribution Plan *protects dealers' profits!*

- *How often have you made radio sales without enough margin to cover your normal expenses?*
- *WHY was it necessary to pay a price for making a sale that should have paid you a fair profit?*

Trace back the cause of profitless sales and you will inevitably reach the conclusion that they flourish in the soil of uncontrolled distribution and are nourished by manufacturer's errors in sizing up what, and how much, the public wants.

The manufacturer who errs in establishing his designs, prices and quotas, invites sales at the price of his dealers' profits through the operation of a vicious circle. Accumulated excessive inventories resulting from mistaken judgment impose over-optimistic quotas on the manufacturer's distributors. Striving to achieve these quotas,



Majestic

MIGHTY MONARCH OF THE AIR

In Wartime As In Peacetime

MAJESTIC RADIO &

2600 WEST 50TH STREET, CHICAGO

the distributors may open questionable dealerships and thus create destructive inter-dealer competition on trade-in allowances, under-cover margin-slicing, and other all-too-familiar cut-price evils.

The Majestic Controlled Distribution Plan starts with control at, and by, the factory. The executive who decides designs and prices by actual contact in the field is also responsible for deciding production schedules and quotas, likewise by intimate knowledge gained in the field, and by cooperative agreement with distributors.

Dealers are not required to sell only Majestic, but they are scientifically selected and approved to prevent destructive inter-dealer competition and to create an orderly marketing system with fair profits to distributors and dealers.

The Majestic Controlled Distribution Plan means that Majestic sales will not be purchased at the price of dealers' profits!

E. A. Tracey
President

\$ 1000

**PRIZES IN WAR BONDS
FOR MOST HELPFUL ANSWERS
TO THESE THREE QUESTIONS**

1st Prize, \$500 maturity value; 2nd Prize, \$250 maturity value; 3rd to 13th, \$25 maturity values. Every one is eligible. Contest ends December 31, 1943.

To stimulate YOUR post-war thinking, and to check OUR post-war plans, Majestic offers prizes for the most helpful answers to these questions:

- (1) What types of radios will be in large demand in YOUR locality immediately following victory?
- (2) In what new features or new merchandising policies are you most interested at present?
- (3) What kind of advertising support do you believe will be most helpful to you?

Competent judges will read your answers. It's facts and ideas, not rhetoric, that will count. If any two prize winning letters are considered by the judges to have equal merit, duplicate awards will be made. Write your answers to these three questions—mail them to me personally, today!

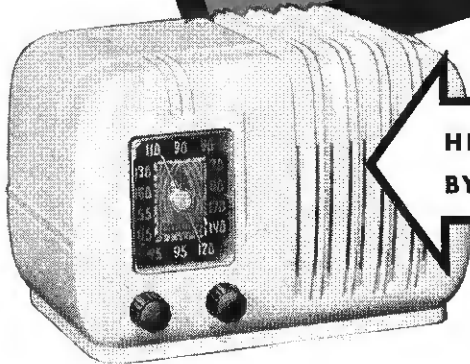
E. A. TRACEY, President

 **TELEVISION CORPORATION**
BUILDERS OF THE WALKIE-TALKIE, "RADIO OF THE FIRING LINE"

ARVIN

A NAME TO KEEP IN MIND FOR

Fast Selling Radios
AFTER THE WAR



HERE'S ONE OF 500,000 GOOD LITTLE RADIOS BUILT BY THIS COMPANY DURING THE LAST PEACETIME YEAR

ARVIN is the name on
Peacetime Products of
NOBLITT-SPARKS
INDUSTRIES, INC., COLUMBUS, IND.

Home and Car Radios

Hot Water Car Heaters

*Metal Furniture
and other metal houseware*

*Bathroom Electric Heaters
and other
electrical houseware*

SINCE THEN, we've made many additional thousands of entirely different radios for war—precision-built, intercommunication sets—some of the finest that are being used in the war planes and on the battle fields.

But you want to know what our experience will bring to you in radios, as soon as possible after the war. Here's what you can expect:

We'll have some good radios for you—the first few months after war restrictions end. Attractive, well-built sets, of course—the kind that sell fast, at low prices.

Beyond our "early production" we're planning to keep in step with your market trends and desires. And you can rely on us for sound policies, with helpful sales support.

ARVIN A GOOD NAME TO REMEMBER
FOR POSTWAR PROFITS!

RADIO Retailing TODAY • October, 1943

RADIOMAN EXPANDS

(Continued from page 17)

radio and comes in over his public address system.

Recently, a news flash of extreme interest was piped out to the sidewalk audience by Sutter Radio Service. This broadcast was followed by a commercial advertising a headache remedy. After this was over, the crowd heard an announcement something like the following: "If your radio gives you a headache, you need Sutter Radio Service." Telephone numbers and addresses of both places are stressed to the audience.

Sutter Radio Service has a good supply of parts and tubes on hand. "There is no complaint about parts," says Horowitz. "The tube situation is as bad with me as it is with the other fellow, I guess, but it could be worse." Speaking of parts, he states that it is extremely important for the present-day servicer to connect with a good distributor.

Can Repair Any Receiver

Asked for some comment on the rumored big cut in radio audiences due to inability of servicers to get help and parts, Horowitz said that he felt that this rumor was entirely without foundation, and said that even in normal times there are always a small number of homes totally without radio, and that he didn't believe that this number had increased at all. "If the cost of such a repair is not a factor, the average radio serviceman can put *any* radio receiver into operation in a short time with parts and tubes he has available for substitution. In many cases, of course, the charge would be entirely out of line, therefore the customer wouldn't authorize the work." In other words, unfounded rumors to the contrary, the American electronic maintenance man can make *any* receiver operate if the customer feels like footing the bill.

So Sutter Radio Service joins the parade of optimistic radio dealers with an outstandingly successful business, and with the boss's eyes open for more opportunities to expand now and tomorrow—and with the desire to get in more service work to do even if the shelves are filled now.

"We'll get them out somehow, and it won't take too long," explains the owner.

RECORD QUIZ

(Continued from page 30)

Q. How are manufacturers supporting continued record sales?

A. We are promoting the profitable continuance of record sales by encouraging the present record buying habit. This we are doing by the continuity of our regular monthly full-color ads and by supplying dealers with even more point-of-sale material than ever before. We are backing this up by allocating all merchandise as equitably and intelligently as we possibly can, in order to protect each market in direct proportion to the demands.

Q. What is the chief advantage of "self-service"?

A. The best feature of self-service is the fact that hundreds of attractive illustrated albums are displayed for the customers' perusal whereas formerly only the backs of the albums showed, making it necessary for customers to specifically request each number from a catalog or listing.

Q. What are its pitfalls?

A. While self-service is a boon to dealers in these times of shortage of sales help, I believe it could be carried too far and in normal times it would never replace the suggestive selling effort of an intelligent record salesgirl.



"If you don't have my radio finished by tomorrow I'll write to Mrs. Roosevelt!"

Q. What is best floor plan for "self-service"?

A. It is impossible to plan a store layout which is applicable to every type of store because of the infinite variety of dimensions. However, generally speaking, self-service is at its best when the merchandise is displayed in islands and against the wall, making a comfortably wide aisle so that a number of customers can "look" at hundreds of albums at the same time.

Q. How can the sale of home record-players be increased?

A. The number of record-players can be increased in American homes, in my opinion, by putting out a postwar record-player which will far exceed anything we have seen up to this time for quality and range of reproduction. There is far more quality and range engraved in the better type of records than any of the present record-players have been able to pick up. Actual tests show that records are still far ahead of reproducing instruments in advances in high fidelity reproduction.

RADIO TODAY ACROSS THE USA

(Continued from page 23)

even harder to get. Along with our radio business, we have always done electrical contracting, but that, too is limited because of priorities."

MILWAUKEE, Wis.—Attempting to acclimate its radio department to wartime conditions, the Boston Store has recently placed increasing amounts of emphasis upon the record division of the department. A special counter has been set up displaying advantageously record accessories such as cleaners, better needles, needle sharpeners, record holders, etc.

"We're just biding our time," they told us at Radio Doctors, 213-15 West Wells Street, although we did notice prominent displays of non-radio goods such as glassware and coffee makers. Radio Doctors have more repair work than they can handle with only two men left out of a staff of five repairmen, and although they are making no efforts to solicit additional repair business, it seems to be growing every day. The disc department here has been part of the business for over three years but is now seeing an unprecedented boom.

How To

RADIO-ELECTRONIC MAINTENANCE

*Devoted to repair, adjustment,
and installation of radio,
electronic, and
sound equip-
ment.*

"Sound thermome-
ter" lights up neon
bulbs and indicates noise
volume.

Photo courtesy of Sonotone



• Sound systems in war plants, camps, city air-raid protection units, as well as all the more normal applications in schools, auditoriums, etc., are doing an A-1 job boosting production and morale. The scientific application of public address equipment to needs of war factories has been a proven element in the achieving of production goals.

Included as a supplement to this issue of Radio Retailing is a chart of sound fundamentals. Grouped here are the basic facts covering speech, music, loudness levels, and important formulas.

The main scale of this chart is an important relationship among sound pressure, power, and a decibel reference scale. When air, water, metal or many other substances, are mechanically disturbed in a sufficient amount at some rate between 16 and 18,000 times per second, the disturbance is carried to the human ear and the effect on the ear is called sound. In dealing with air, the human vocal cords, loud speakers, and many other devices act to produce the disturbance in the surrounding air pressure which is the sound that is heard. In other materials, such as steel, the earth, etc., the disturbance is caused by mechanical vibration or shock.

The sound waves, for sound is a traveling wave of high and low pressure regions in air, travel at different velocities in different materials. The speed is about 1000 feet per second in air, and almost five times as fast in water. The speed of sound determines the reverberation and echo effect which is objectionable in many P. A. systems. Thus in an installation where the speakers are located say 100 feet in front of the speaking platform, the sound from the speakers will reach the audience about 1/10 second before the original un-amplified sound travels a 100 feet. This produces a reverberation or echo effect. Remember that the electrical energy representing the sound travels through the wire circuits almost 186 miles during the time the sound waves travel one foot.

Frequency Ranges

The frequency range of sound is divided into three approximate groups. Subaudible, 0 to 16 cycles per second; audible, 16 to 22,000 cycles; and super-sonic, 22,000 to about 500,000

Handle Sound Jobs

Facts on Sound. How to Estimate Gain Needed from Amplifiers. Impedance Matching Fundamentals.

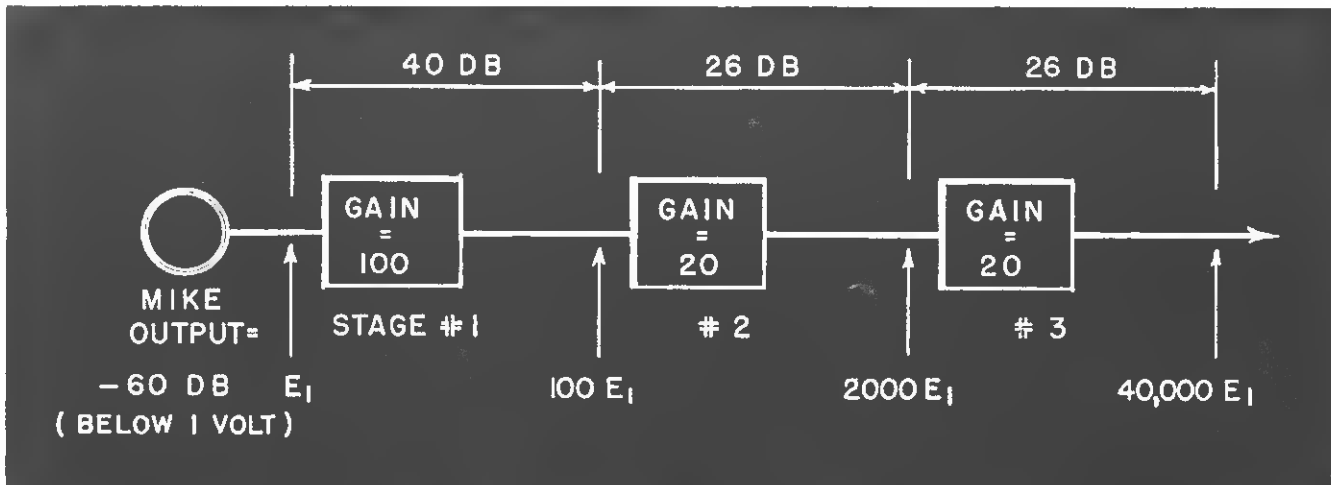
cycles. The ear is not equally responsive to all frequencies in the audible range. As shown on the supplement chart, the threshold of hearing curve (lower of two curves in upper right-hand corner) dips the lowest at about 3000 cycles. This curve represents the minimum sound intensity audible to the average individual over the range of audible frequencies. From this curve it is obvious why bass frequencies must be boosted above the "middle" range in order to be heard. For example, at 100 cycles a 40 DB boost is required to produce a sound equal in volume to a 1000 cycle tone of the same initial energy. Frequencies

above 5000 cycles also require a boost in order to compensate for the shortcomings of the human ear. As the sounds become louder, the human hearing system becomes more linear and equal intensity sounds are heard about equally well. The heavy black line at the top of the upper right-hand diagram is the "threshold of pain" level where sounds are so loud they produce pain sensation.

Also included in the section of the diagram at the upper right-hand corner is the average range in frequency and volume of conversational speech and orchestral music. When speech and music are amplified, the volume level at which they are reproduced affects the quality. Thus a program reproduced at a lower level than it was created will not sound the same even if the equipment were perfect in all respects. Usually the sound is reproduced at a lower level and thus extra boost is necessary for the low and for the very high frequencies because of the ear characteristic.

The average threshold of hearing for humans is established as a reference pressure level of 0.000204 dynes per square centimeter. This is also given a relative level of 0 DB. The decibel is a number with no units such as watts, volts, amperes, etc. It is constant times a logarithm of the ratio of two powers. Decibels can be used to express the ratio between two electrical powers, two mechanical powers, or two sound powers. Decibel values are calculated from the following relations:

$$DB = 10 \text{ Log } \frac{W_2}{W_1} \text{ where } W_1 \text{ is}$$



Also included in the section of the diagram at the upper right-hand corner is the average range in frequency and volume of conversational speech and orchestral music. When speech and music are amplified, the volume level at which they are reproduced affects the quality. Thus a program reproduced at a lower level than it was created will not sound the same even if the equipment were perfect in all respects. Usually the sound is reproduced at a lower level and thus extra boost is necessary for the low and for the very high frequencies because of the ear characteristic.

The main scale of the chart gives the relative levels of common sounds in combination with scales of sound pressure in dynes per square centimeter, and the sound power in watts per square centimeter. A dyne is a unit of force and 448,880 dynes are required to equal one pound. The power is indicated per square centimeter since the energy contained in the original sound is radiated in all directions and the amount per unit area becomes smaller as the distance from the source becomes greater.

the reference power in watts, and W_2 is the power to be compared to the reference.

DB can also be calculated from the relation:

$$DB = 20 \text{ Log } \frac{P_2}{P_1} \text{ or}$$

$$DB = 20 \text{ Log } \frac{V_2}{V_1} \text{ where } P \text{ is the}$$

sound pressure, and V is the voltage. In order to use these last two expressions for decibels, it is necessary that the velocity of the sound propagation be the same in the former and the resistance across which the voltages appear in the latter also be the same.

Calculating DB

As an example, find the DB level of a power of 10^{-6} watts above the reference level of 10^{-16} watts. DB =
(Continued on page 56)

SOUND FUNDAMENTALS CHART—

See the supplement chart on basic sound facts included with this issue and read the accompanying article for details on how to apply it to your P. A. jobs.

"SOUND" SELLING TIPS

Public Address Veterans Point Way to Profits—See Bright Future

• "With conditions as they are today, it's difficult to advise the radio man who's never been in the public address end of the business, how to proceed if he's contemplating entering this field," Samuel B. Case told a representative of **RADIO RETAILING TODAY**. The founder and head of the Case Radio & Electric Co., 245-247 So. Broadway, Yonkers, N. Y., is a pioneer and an outstanding "sound" man in Westchester County.

Before the war he employed fifteen expert servicers in his business; now he's operating with but two, and in addition to his public address work, he has a large accumulation of radio sets in the process of repair. Case has done a lot of Army-Navy "E" award work; has serviced about ten warplant rallies, as well as furnishing PA for bond and community welfare gatherings. He has also donated the use of equipment for patriotic meetings of various kinds.

Installations sold by Case include such well known places as New York's Roseland ballrooms, amusement parks, factories, night clubs, and he was the man who furnished the first sound equipment in Ebbets Field, Brooklyn. At present he has two sound trucks, but has had as many as fifteen out at one time. He has done lots of political campaign work with PA.

"The dealer who has suitable contacts in his locality with operators of war plants may be in a position to

sell and maintain public address equipment now," says Mr. Case. "Of course the plant has to have high enough priority ratings for the dealer to be able to obtain the material." More advice Case has to offer the man who is thinking of renting and selling public address equipment, is to watch out for the individual who "pumps" him for all sorts of information about the equipment, and having thus armed himself with all the necessary data, goes out and buys it himself, often calling on his own employees to install it.

How Others Do It

Beaucaire of Rochester, N. Y., reports that industrial sound activities in small plants is occupying much of its time, and recommends making a canvass of all plants in the dealer's locality as a means of bringing in extra revenue.

Ben De Young, Ithaca, N. Y., head of The De Young Radio & Television Shop, has been selling sound to factories. He recommends calling on prospects, and suggests that where it is impossible to get priorities, the radio man can often pick up suitable used equipment and rebuild it to his needs. De Young first measures the job, makes a plan, and then lays out the work in his shop, cutting all the wires the right length, and doing as much of the drilling and fitting work as is possible away from the plant. He

finds this saves much time and confusion.

Another Eastern dealer is specializing in selling and hiring sound. He has rented and operated equipment for about 75 "E" award jobs and has sold over fifty PA installations. This dealer operates in three states, and he, too, feels that a big job can be done by the man who has the opportunity to solicit this business.

A Business in Itself

"The sales and contact end of a successful public address operation is a business in itself," says Al Gutman, head of Temple Sound Equipment Co., 4456 Park Ave., Bronx, N. Y., who has been in the radio and public address field for a quarter century. Now, of course, he is up against the help situation, and is operating his business alone, specializing in maintenance. Temple has always designed and built much of the special equipment it used. This organization has been very successful in work for schools, churches, theatres and night clubs, and is known all over for its work with traveling orchestras. Among the clubs in New York where Temple equipment was sold are La Conga, Copacabana, Latin Quarter, Hurricane, 18 Club, Zanzibar, etc., and for such orchestras as Johnny Long, Jimmy Lunceford, Lionel Hampden, Andy Kirk and Shep Fields. Temple has many other important installations, to its credit as well.

As the owner of Temple points out, a job such as it has done in the past, requires the capital and ability to permit the radio man to specialize. He must have a sales and service organization, says Mr. Gutman, large enough to take care of the job efficiently.

A number of distributors interviewed by **RADIO RETAILING TODAY** expressed a desire to work with radio

(Continued on page 56)

Yonkers, N. Y., dealer has "gone to town" with sound. Left, S. B. Case truck on political job.





Fritz Kreisler Another portrait for the Magnavox series of famous musicians painted by Boris Chaliapin

Great man of music . . .

TO salute him as the world's greatest violinist does not do justice to Fritz Kreisler. He is also a *great man*—a philosopher and a humanitarian—one whose life may truly be called *noble* because it has been devoted to increasing the happiness of his fellow men.

Musical talent of a high order manifested itself in Kreisler at an early age. At fourteen he came to America to make his first concert tour. Today his unrivaled mastery of the violin is a source of inspiration and delight to millions . . . and his many fine recordings are bringing the solace and comfort of great music to the men of our armed forces.

There are two ways to appreciate to the full the rare beauty that Fritz Kreisler evokes from

a violin. One is to hear him in person. The other is to listen to one of his many fine recordings over a Magnavox Radio-Phonograph. Because of its magnificent tonal qualities and incomparable clarity, Magnavox is the instrument that Fritz Kreisler and many of music's *immortals* have chosen for their own homes.

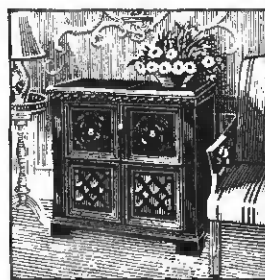
If you are not now the fortunate owner of a Magnavox, you still have the opportunity to become one. Some Magnavox dealers still have a few models available.

* * *

Immediately after war was declared, the Magnavox Company discontinued the manufacture of these superb

instruments for civilian use. Our experience and facilities are now devoted to the production of electronic and communication equipment and music distribution systems for warships. Countless letters from fighting men tell of the relaxation and pleasure that music has brought to them. See your Magnavox dealer for a wide selection of records to send to *your* soldier or sailor.

BUY WAR BONDS TODAY FOR VICTORY AND SECURITY



The fine craftsmanship which won for Magnavox the first Navy "E" award (and White Star Renewal Citation) among instrument manufacturers has made these radio-phonographs the first choice of discriminating buyers.

The Magnavox Co., Fort Wayne, Ind.

Magnavox

THE GREAT VOICE OF RADIO

This is one of a series of Magnavox advertisements featuring great contemporary musicians and appearing monthly in such "class magazines" as TIME, NATIONAL GEOGRAPHIC, ATLANTIC, HOUSE BEAUTIFUL, HOUSE & GARDEN, NEW YORKER and TOWN & COUNTRY.

RADIO Retailing TODAY • October, 1943

Service Notes

I.R.C. Booklet "Here's How" Brings Useful Service Data

The recent contest, sponsored by International Resistance Co., gave War Bond prizes to radio servicemen for ideas on using standard volume controls to replace discontinued "special" types with non-standard shafts, tapers, tap values, etc. Ten of tested ideas from the many received during the contest, have been prepared in a handy booklet available free to radio servicemen through IRC distributors, or direct from International Resistance Co., 401 N. Broad St., Philadelphia, Pa. The contest judges were

volume control ganged with a shunt tone control is replaced with a single control. The diode load is replaced with a pair of 120 M fixed resistors and the new control is a 2 meg. bass boost tapped control.

One solution to the special shaft problem is shown in Fig. 3. Here the old special shaft is cut from the bad control as well as a section of the threaded bushing. The new control shaft is filed flat as shown. The old shaft cut and notched in order to hook over the new control shaft. The section of bushing is slipped over the joint in a force fit. The old shaft is filed flat as shown. The old shaft cut and notched in order to hook over the new control shaft. The section of bushing is slipped over the joint in a force fit. A short piece of wire looped through the grooves at the ends of the joint prevent the bushing from shifting.

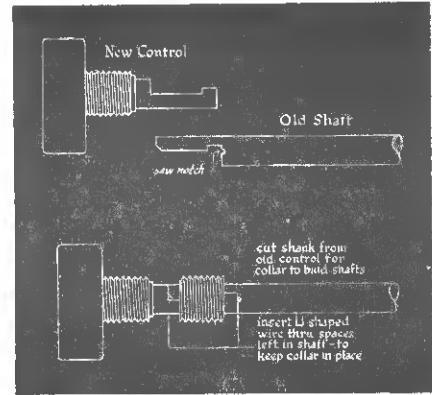


Fig. 3—Old special shaft can be grafted to new control with scheme shown here.

Other useful information in the booklet includes data for figuring series and parallel resistance values, color codes, and preferred resistance values.

New Sprague Manual

A very interesting and instructive booklet, "Manual of Radio Interference Elimination" has been issued by Sprague Products Company, North Adams, Mass. This booklet contains complete information, diagrams, etc., for eliminating radio noises at the source. Chapter headings include Reducing Man-Made Interference, Interference Originating in the Customer's Location, Locating Interference Outside the Customer's Home, Characteristic Interference Sounds, Elimination Procedure Charts, etc. The work is illustrated. The introduction points out that "even the finest radio broadcasts or the performance of the most costly radio receiver may be ruined—and very often is—by a factor over which neither the broadcaster nor the radio manufacturer has any control. This factor is man-made interference." The booklet sells for 25c.

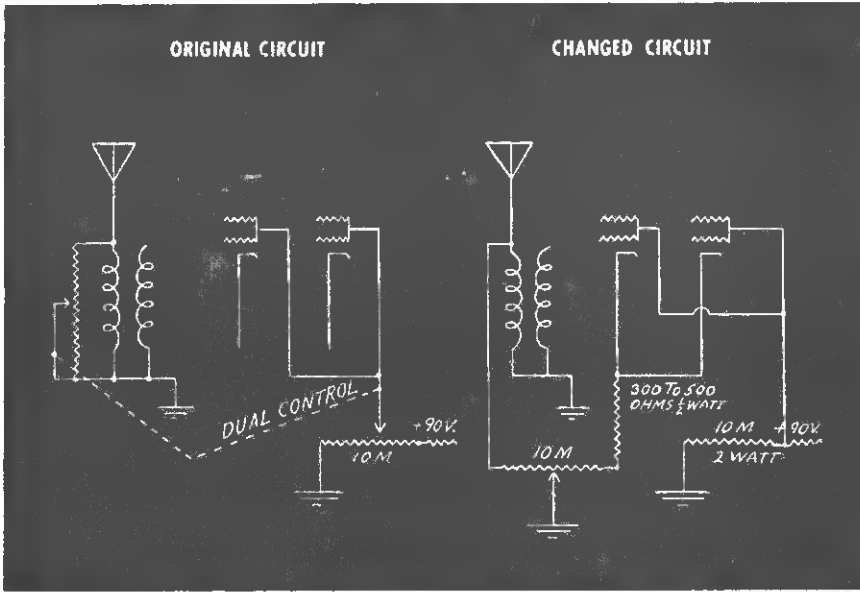
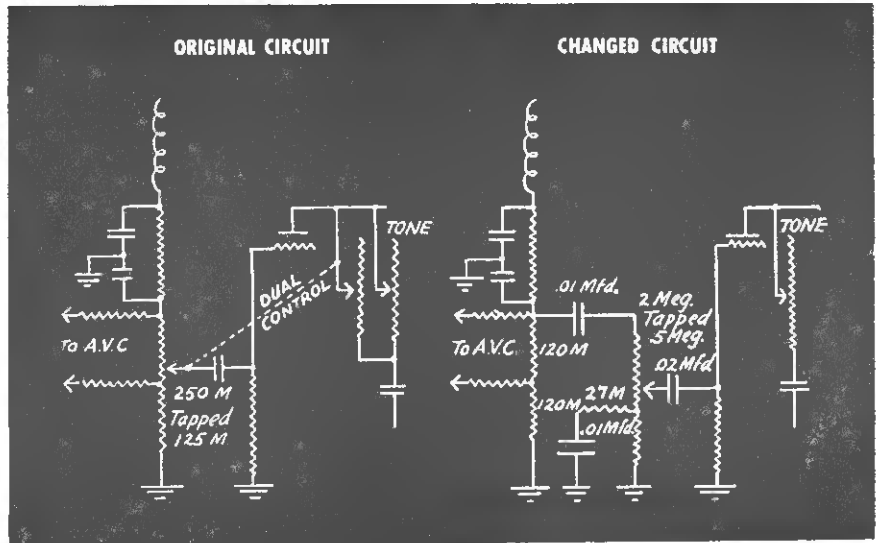


Fig. 1—Circuit changes recommended in the IRC booklet to handle ganged antenna shunt and bias volume controls. Fig. 2—Below is ganged volume and tone control revision.

William E. Moulic, technical editor of RADIO RETAILING TODAY, Joe E. Kaufman, Director of Education for National Radio Institute, Jesse Marsten, chief engineer of IRC, and Ed Johnson, IRC engineer.

Three of the many ideas in this booklet are shown in accompanying diagrams. The circuit shown in Fig. 1 is a solution to the dual control of antenna shunt and screen grid voltage. The new circuit uses a 10M ohm pot. as a combination antenna shunt and bias control. The screen circuits are supplied by a voltage divider. A fixed limit bias resistor is used in the cathodes to prevent overloading when the control is in maximum position.

The second circuit in Fig. 2 is another solution to the dual control problem. Here a tapped diode load





"Bazooka"

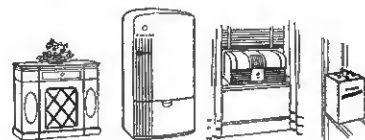
**ANOTHER SECRET WEAPON
THAT TELLS THE STORY OF
PHILCO AT WAR!**

NOW comes news of another American secret weapon . . . the "Bazooka"! It's an amazing rocket gun that's as easy to carry as a rifle and can shatter the heaviest enemy tank like a howitzer.

And now we are permitted to tell *another* fascinating part of the sensational story of Philco at war. The Philco Metal Division, whose huge presses produce the metal parts of peacetime Philco radios, is today building the projectile of the Army's newest secret weapon.

The "Bazooka" makes a two-man soldier team a tornado of destruction. It consists of a launcher and a rocket-propelled projectile. Operated by two men, one loads and the other fires. Tanks, pill-boxes, buildings, bridges and railroads wither under the fire of its deadly, rocket-propelled projectile. Conceived and developed by the engineers of the Army Ordnance Department, Philco is proud of having been chosen for a leading part in its final perfection and production.

This is one more example of how the diversified Philco research, engineering and production facilities are serving almost every branch of the Army and Navy. It is a promise, too, of the future . . . when the Philco "All Year 'Round" franchise will bring you again the greatest sales opportunities in the appliance field.



Philco—the quality name in millions of American Homes.

**PHILCO
CORPORATION**

FUNDAMENTALS OF SOUND

(Continued from page 51)

$$10 \text{ Log } \frac{10^{-6}}{10^{-16}} \text{ or } 10 \text{ Log } 10^{10} \text{ or } 100 \text{ DB.}$$

As an example, find the relative level in DB of two sounds each with a power of 10^{-8} watts. The total sound power in this example is 2×10^{-8} watts. The DB level is

$$10 \text{ Log } \frac{2 \times 10^{-8}}{10^{-16}} \text{ or } 10 \text{ Log } 2 \times$$

$10^8 = 83 \text{ DB.}$ Notice here that the new sound level was not 80 DB plus 80 DB. Two sound of equal loudness are only 3 DB louder than one alone. Four sounds of equal loudness would be only 6 DB louder than one and 8 sounds would be 9 DB louder. It is convenient to remember that 2, 4, and 8 have logarithms or 0.3, 0.6, and 0.9 (approximately) respectively.

When dealing with voltages or pressures the procedure is the same with the only exception that the constant of 20 is used to multiply the logarithm.

As a further example of the use of DB, consider the block diagram shown. A microphone has an output of -60 DB below one volt and is fed into a three-stage voltage amplifier. The first stage has a gain of 100, the second, 20, and the third, 20. Find the total gain of the amplifier in DB and the output voltage. The microphone rating is for a given value of sound intensity. The voltage output under this condition is found as follows:

$$-60 \text{ DB} = 20 \text{ Log } \frac{E_1}{1 \text{ volt}} \text{ or}$$

$$-3 = \text{Log } \frac{E_1}{1}$$

A number whose log is -3 is 0.001, therefore, E_1 is 0.001 volts.

Adding Decibels

Since the amplifier stages multiply the voltage input, the total voltage amplification is $100 \times 20 \times 20$ or 40,000. The output voltage will be 0.001 volts \times 40,000 or 40 volts. This answer can be obtained in another way. The gain of each amplifier stage can be expressed in DB thus: the first stage with a voltage gain of

$$100 \text{ has a DB gain of } 20 \text{ Log } \frac{100}{1}$$

or 40 DB. The second stage with a voltage gain of 20 has a DB gain of

$$20 \text{ Log } \frac{20}{1} \text{ or } 26 \text{ DB.}$$

The third stage has a similar gain. The total gain of the three stages is $40 + 26 + 26 \text{ DB}$

or 92 DB. (Note that while the voltage gains of the three stages were multiplied together, the DB gains are added.) Since the input is -60 DB below one volt and the gain of the amplifier is 92 DB, the output voltage should be $92 - 60$ or 32 DB

above one volt. $32 = 20 \text{ Log } \frac{E_o}{1}$, or

$$1.6 \text{ is the Log of } \frac{E_o}{1}. \text{ The number}$$

whose log is 1.6 is 40 and the output of the amplifier is 40 volts as obtained by the first method

It is convenient to remember that an increase of 6 DB is equivalent to doubling the voltage while a loss of 6 DB is equivalent to a loss of one-half the voltage. Thus a gain of 18 DB would be equal to three times the original voltage. In power, a gain of 3 DB is equivalent to doubling the power. Similarly a loss of 3 DB is equal to a cut of fifty per cent in power.

Impedance Matching

Another important problem in PA work is impedance matching. This subject is a problem for many radio-electronic maintenance men. Fundamentally, impedances are matched for the purpose of giving the best transfer of power, from the generator to the load. The maximum power is transferred in a circuit when the resistance of the load is equal to the internal resistance of the generator and reactance of the load is equal but

opposite in type to the reactance of the generator. An additional reason for matching impedances in amplifier work is the important one of reflecting the proper load to the amplifier tubes. The amount of distortion in an amplifier is held to a minimum by the correct value of load resistance. If the load on the secondary of the output transformer is not correct the load to the tubes will be wrong and distortion may result.

In the general case of a loud speaker load, the impedance match is obtained at a very limited range of frequencies. Since the impedance of the speaker changes with its wide frequency range, the matching is not uniform. This does not produce great difficulty since exact matching is not essential.

In general, several speakers are employed in a PA set-up. The question arises as to series or parallel operation of the speakers. When the distances to the speakers are short (15-20 feet) the voice coils of two or three speakers may be operated in parallel. For longer distances, series operation of the voice coils can be used. Remember that even a 10-watt speaker may have several amperes current in the voice coil and that long leads in this circuit will produce a sizeable voltage drop. It is best practice to use separate line matching transformers at each speaker and bring the voice coil impedance up to 250 or 500 ohms and supply them with a line from the amplifier at that level. In the case of a large number of speakers it is necessary to work out a series parallel combination of line to speaker transformers to keep the total value correct to match the output transformer in the main amplifier.

MAJESTIC SALES DIRECTOR



Parker H. Ericksen, long associated with radio business, named director of sales. Majestic Radio & Television Corp., Chicago, by E. A. Tracey, Majestic head.

DEALERS IN SOUND

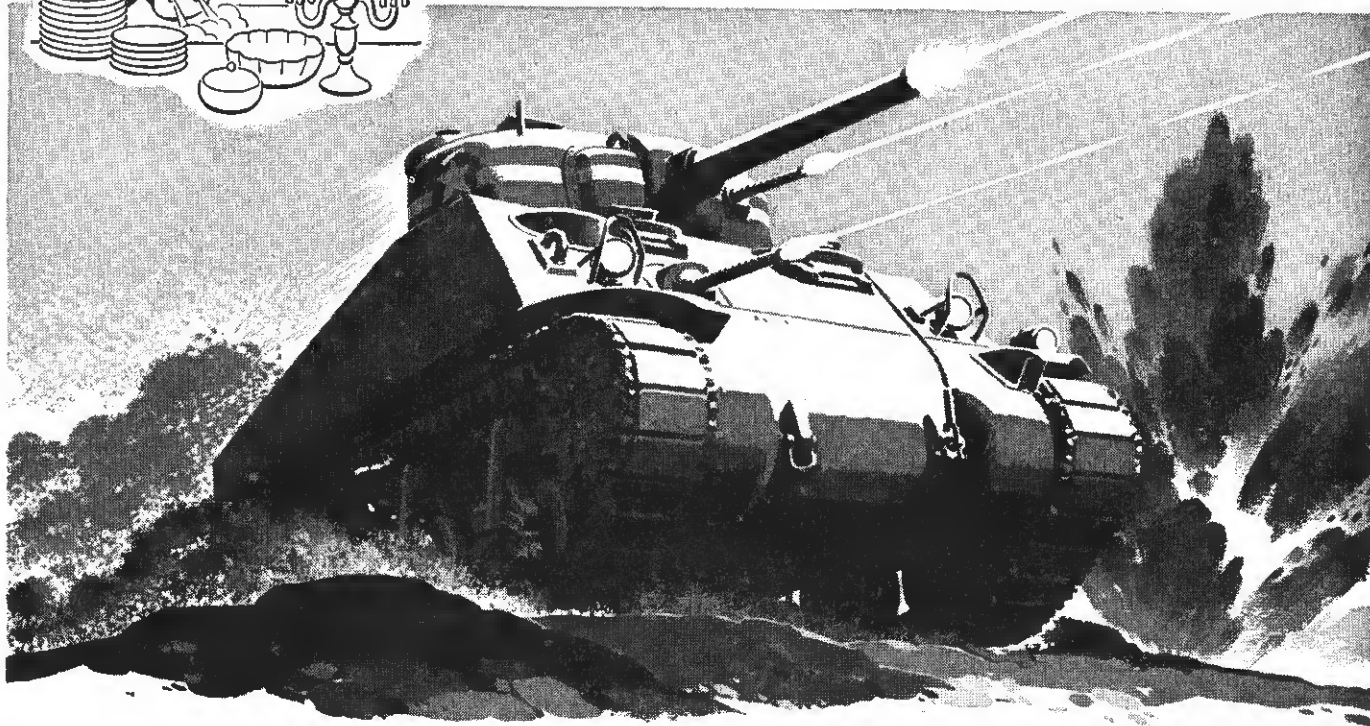
(Continued from page 52)

men in the securing of sales. Many of these distributors offer expert technical advice, plans and layouts, and often are willing to provide salesmen, experienced in the field, who will call on prospects with the radio dealer.

A number of manufacturers offer the same service, and both the manufacturer and the distributor are equipped to guide the dealer in the complex priorities situations.

Public Address is being sold today. Its future aspect is brighter than ever, and those who can get the help, and are now in a position to enlarge their business, will do well to consider the "sound" picture as a sound business today—and a sure-fire bet for peacetime.

Bull in a China Shop—



AND HOW HE WAS TAMED

Offhand, the thought of putting a delicate radio set in a lunging, thundering war tank is reminiscent of the dainty china and the proverbial bull.

You expect parts and pieces to start flying.

But they don't. And the story of how these sensitive instruments are able to stand war's mauling—jarring shocks, the concussion of artillery fire, electrical interference, tropic heat and Arctic blizzard—is partially the story of Delco Radio's experience in automotive radio. For years, Delco Radio technicians have been tackling and licking the parallel problems that once made automotive radio impossible. And as a result, when war struck, Delco Radio had a head-start on these old foes of "radio in transit."

Refining and extending its manufacturing and testing methods in cooperation with

military technicians, Delco Radio has helped to provide practical radio communication for war vehicles . . . in large quantity and on time. Thanks largely to years of pioneering research during prewar times, the old foes that once wrought havoc with radio reception in motor vehicles have been subdued. Delco Radio Division, General Motors Corporation, Kokomo, Indiana.

**Back the Attack—
WITH WAR BONDS**

Delco Radio
DIVISION OF
GENERAL MOTORS



He *Can* Be Everywhere At Once

No need to interrupt a busy conference to get information when Teletalk Amplified Intercommunication is at the elbow. No need to wait for messengers to bring cost or production figures wanted right now. Just flip a convenient key and ask for them . . . and get them . . . instantly.

That's the magic of time and energy saving that Teletalk is bringing to thousands of harried executives these war-pressed days. It is why you should be selling them Teletalk, showing them how they can be any place they wish . . . in three seconds . . . keeping in touch with their entire organization.

Show them how Teletalk's modern, direct short cut to inter-office and inter-departmental communication quickly pays for itself through the elimination of needless steps, wasteful waiting and costly errors.

There is a Teletalk Amplified Intercommunication System to exactly fit the needs of the large or small office . . . available in standard units of from 5 to 24 stations.

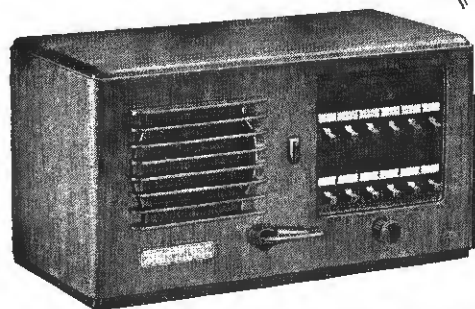
Teletalk Amplified Intercommunication is easy to install, operates from the light circuit. Investigate Teletalk today. It will be a profitable addition to your business.

Write us for full information.



BUY MORE WAR BONDS

Licensed under U. S. Patents of Western Electric Company, Incorporated, and American Telephone and Telegraph Company



WEBSTER ELECTRIC COMPANY, Racine, Wis., U.S.A. • Established 1909 • Export Dept: 13 E. 40th St., New York (16), N. Y. • Cable Address: "ARLAB" New York City

WEBSTER ELECTRIC

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Kaar and Nevin Named by General Electric

According to announcement made by Dr. W. R. G. Baker, vice president in charge of General Electric's electronics department, I. J. Kaar and G. W. Nevin have been appointed managers of the receiver and tube divisions, respectively. The receiver department is located in Bridgeport, Conn., while the headquarters of the tube division are in Schenectady.



I. J. KAAR

Mr. Kaar, who was formerly managing engineer of the receiver division, joined the G. E. organization in 1925, and has been prominently associated with development work on radio receivers and high-power transmitters.

Mr. Nevin has been with the company since 1929 in various important accounting capacities.

Stromberg-Carlson Honored

For continued excellence in production, Stromberg-Carlson Co., Rochester, N. Y., has been granted a renewal of its Army-Navy "E" award for an additional six months' period by the U. S. Navy Board for Production Awards, Wesley M. Angle, president of the firm, announced recently.

Belmont on Memphis Belle

The War Department has notified the workers of the Belmont Radio Corp., Chicago, that Belmont radio equipment produced by them was carried aboard the Memphis Belle, famous flying fortress that completed 25 history-making raids over occupied France and Nazi Germany. The plane is now being exhibited in this country to promote bond sales and Air Force enlistments.

Belmont radio equipment for military aviation service was also displayed at the recent Air Power Show sponsored by the Chicago Tribune.

SPRAGUE TRADING POST



A FREE Buy-Exchange-Sell Service for Radio Men

MAGAZINES WANTED—Want "Service" magazine, all issues prior to 1937. List dates, condition and price. Philip Ross, 280 Wadsworth Ave., New York 33, N. Y.

EQUIPMENT FOR SALE—Supreme tube tester No. 505; Supreme signal generator No. 570; Supreme combination tube and condenser tester No. 502; Supreme analyzer No. 540. All in perfect condition. Complete lot packed for shipment collect \$200. D. W. Murray, Bond, Miss.

WANTED—Copy of roll chart for No. 1611 Triplett robot tube tester and V-O-M. Will pay up to \$3. Have Rider's Manual Vol. 111 for \$7. Herb's Radio Service, 126 Walnut St., Springfield, O.

WANTED—5 lbs. or more No. 40 enamel wire in 1/4, 1/2, 1 lb. or 5 lb. spools. Must be new. State price. W. P. Haughton, 3029a Rutger St., St. Louis, Mo.

FOR SALE—Meissner signal shifter with tubes and coils for 10 to 160 meters. Valpey V5 1815 kc. crystal in holder. Both items in A-1 condition. Carlyle Stockslager, Radio Service, Lewisburg, O.

WANTED—Tube tester and V-O-M needed immediately. Moore Radio Service, Ashland, Ky.

WANTED—Solar QCA condenser analyzer. State cond. & price. Plourds Service, McCook, Nebr.

WANTED—Used 902 cathode ray tube in good condition. John Norman, 901 Isabella, Houston 6, Texas.

FOR SALE—One 110 V. DC to 110 V. AC converter, model RHA, Type 110B; also one DC 110 V. Atwater Kent Model 469D radio. Ernest W. Moad, 87 Union St., So. Hamilton, Mass.

SELL OR TRADE—No. 10 Chemcraft chemistry set; No. 3 1/2 Gilbert microscope and some chemistry lab eqpt. slightly used. Will trade for radio parts, eqpt. or radio books. Edsel Hank, Star Route 1, Littlefield, Texas.

WILL SWAP—Instructograph, spring-wound, 10 rolls tape, built-in battery oscillator. Want good multimeter and will make cash adjustment. Maurice Rushworth, 531 South Longwood St., Baltimore 23, Md.

WANTED—Late type tube tester, also signal generator and recorder-play back unit. Albert Foth, c/o Fire Station No. 1, Newton, Kans.

WANTED—Tube tester of any make or model in good condition. C. P. Brown, 622 Fremont St., Lancaster, Pa.

WANTED—Stromberg-Carlson 403-A A audio power unit; 403-B ditto; 403-A ditto; Supreme 585 diagnometer; also copies of Radio News from 1918 to 1925. H. H. Piper, Truitt Ave., Milford, Dela.

FOR SALE OR TRADE—Supreme analyzer No. 562, like new with instructions, \$60 cash. Would trade for Supreme No. 546 'scope in A-1 condition. What have you? A. B. Moore, New Madrid, Mo.

WANTED—Late model V-O-M, preferably Precision EV-10, Hickok 202, or Jackson 642. Also want good tube checker. Andrew Beaty, Rt. 2, Box 228, Plant City, Fla.

WANTED—Late model Precision V-O-M, tube tester combination (portable). Must be in good condition. Cash. L. E. Berkheimer, 4627 So. 36th St., Fairlington, Arlington, Va.

WANTED—Tube tester and set analyzer. Have plenty of tubes and typewriter for trade. Sam Bereubhem, Greenwich, Conn.

NEEDED AT ONCE—Six 35L6 tubes, also 12 SK7; 12 SA7; 12 SQ7; 1 ATGT; 1 H5GT; 1 N5GT. State quantity and price. M. L. Heineken, Aircraft Radio and Engineer, Bristol, Va. (P.O. Box 466).

WANTED—Late model Triplett or Supreme tube checker to test all types. Cash. I have tubes, O-1 MA, Clough-Brengle osc.; Seeburg 10" recorder and changer; Knight 14-watt amplifier complete, and various parts. Victory Radio Service, 1921 So. 7th St., Waco, Texas.

WANTED FOR CASH—Precision series "S" socket selector unit. Ward Radio, 343 E. 86th St., New York 28, N. Y.

WANTED FOR CASH—Precision EV-10 V-T multitester; Hickok No. 155 traceometer; Hickok No. 4800-S zero current voltmeter tester; Hickok 210X zero current tester; Hickok 110 universal V-T voltmeter; RCP 661 V-T multitester. C. F. Carrick Radio Service, 420 Sherman Ave., Coeur D'Alene, Idaho.

S.O.S.—Want tube tester and signal generator in A-1 condition. Prefer Precision 912-MCP or Jackson 640. All letters answered. Chas. Paddock, Kingsville, Mo.

WANTED—Tube tester and multi-meter, or combination for cash. Frank Tabor, Valley Station, Ky. (R. R. No. 1).

TUBES FOR SALE—Following types: 0Z4; 1A6; 1C7; 1Y1; 2A7; 3A8; 6R7S; 9; 17; 31; 46; 82; 1A1; 1B4; 1D1; 1Z1; 2B7; 5X4; 6A3; 10; 18; 33; 52; 57; 89; 1A5; 1C1; 1E5; 2A6; 2E5; 6C7; 6A5; 15; 19; 34; 53; 79; 6C5; 6B8; 182B; 99X; V199; X199; 4; 6; 22; 48; 55; 81. Travel-tone Radio Co., 2014 Broadway, New York, N. Y.

WANTED—Rider Manuals Vols. 1 to 5 and Vols. 8 to 13. Also want output meter. Theodore Loehr, 140-28 247th St., Rosedale, L. I., N. Y.

FOR SALE—Hallicrafter SX-17 receiver and speaker. Used very little. Original factory cartons. Best cash offer. R. Rex Roberts, Box 1088, Glendive, Montana.

WANTED—The following tubes; 25A7; 12A7; 70L7; 0Z4; and 80. Also want 4-watt phono amplifier & speaker and late model 3" oscillograph. Michael Chattinger, 3546 Canfield E., Detroit 7, Mich.

WANTED—Good multitester by bed-fast patient whose livelihood depends on learning Radio. Cannot pay cash, but will trade G-E table model No. 60 radio and a Schick "Flyer" electric razor. Harry Keith, Elliott, Ill.

WANTED—A good voltohmmeter AC-DC volts. Urgently needed. Melvin Gunderson, New London, Minn.

WANTED—Good V-T-M or V-O-M, or 0-1 Triplett or Weston milliammeter. Harold Meade, 342 Summit St., Manchester, Conn.

WANTED—Howard 430 or Hall-crafter EC1 for cash. Describe fully. Pfc. M. W. Shuster, 67th Base Hq., Mather Field, Sacramento, Calif.

TUBES WANTED—Need 50 ea. of: 12SA7; 12SQ7; 12SK7; 50L6; 35Z5; 6SA7. W. H. Miller, 1017 Westgate, Troy, Ohio.

FOR SALE—Portable phono motor AC; RCA crystal pickup, brand new, and 30-watt 6L6 P.P. amplifier with 5 tubes. Handles 2 speakers. \$20 plus postage takes all. W. F. Oeder, Rt. 1, Box 389, Kimmiswick, Mo.

SWAP OR SELL—Amperite high-velocity microphone. Want code practice oscillator model MS-700 master oscillogone for use on either AC or DC. Ted Wasek, Mt. Kippe, Glen Gardner, N. J.

TRADE OR SELL—Supreme No. 546 'scope; Superior No. 1280 tube-set tester; Solar CC-1-60 capacitor analyzer, and 0-1 mil. meters. Want Hickok, Jackson or equal signal tracer, tube tester, and V-O-M. LeRoy Green, 402 N. Gloster St., Tupelo, Miss.

WANTED AT ONCE—Tube tester; signal generator; V-O-M; and condenser tester. Name price and condition. Irby Kolb, 319 N. Bainbridge St., Montgomery, Ala.

TUBE TESTER WANTED to replace mine which has been stolen. Need late model to test latest types. Cash. Anthony Vital, 317 Linden St., Camden, N. J.

▶ YOUR OWN AD RUN FREE! ◀

The "Trading Post" is Sprague's way of helping radio servicemen obtain the parts and equipment they need, or dispose of the things they do not need during this period of wartime shortages. Here then are a few hints which may help you benefit from it: Answer interesting ads while they are "fresh." Don't wait until the magazine is several weeks old. Don't send letters in reply to advertisements to Sprague. Write direct to the advertiser.

Study the "For Sale" ads first to see if what you need is listed **BEFORE SENDING IN YOUR "WANTED TO BUY" AD.** The Trading Post appears regularly in Radio Retailing Today, Radio Service Dealer, Radiocraft, Radio News, and Service. Please do not specify the magazine in which you would like your ad to appear. We'll do our best to get it in one of the leading publications, but it only complicates matters when a certain publication is specified.

Please don't ask us to run an ad in which you ask more than the normal price for parts or a piece of equipment.

Don't offer to accept C.O.D. telegraphic or tele-

phone replies to your ad. Some individual Trading Post classified advertisements have pulled as many as four and five hundred answers!

Answer ALL inquiries to your advertisement promptly—even though some of them may have arrived too late. This is only common courtesy.

When sending your ad to Sprague, please address it to the department number shown below. This serves as a valuable guide to our advertising department.

Obviously, ads featuring equipment "For Sale or Trade" generally bring better results than those wanting to buy hard-to-get equipment. Preference will thus be given to ads offering parts or equipment for sale.

Write your ad carefully, clearly, and keep it short. Many ads received are unintelligible or hard to decipher—and this causes unnecessary trouble.

"Emergency Ads" will receive first attention and Sprague, of course, reserves the right to eliminate any ads which do not seem to fit in with the idea behind this special wartime emergency advertising service.

Dept. RRT-310

SPRAGUE PRODUCTS CO., North Adams, Mass.



SPRAGUE CONDENSERS KOOLOHM RESISTORS

Obviously, Sprague cannot assume any responsibility, or guarantee goods, services, etc., which might be exchanged through the above advertisements



INTEGRITY of DESIGN

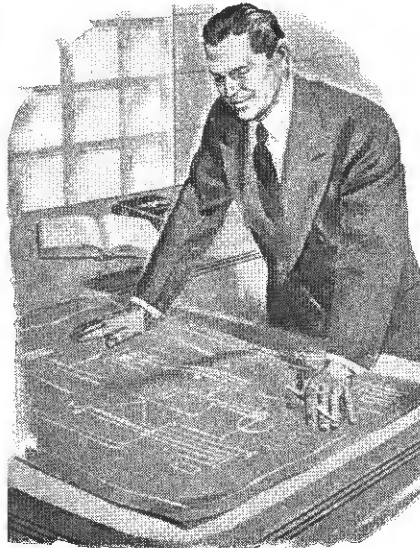
... a plus feature of all

JACKSON Instruments

NO MATTER what your requirements for measurement of voltages, currents, and other values, the JACKSON Model 642 Multimeter will serve you well. This highly sensitive DC volt meter has ranges up to 5,000 volts . . . also complete AC voltage ranges; also provision for ohm measurements up to 30 megohms. Other ranges are DC milliamperes, DC microamperes, DC amperes and decibels.

In daily use, in Industrial and Development Laboratories—as well as in the Armed Services the world over—the INTEGRITY of DESIGN, and basic high quality of this Instrument, has been thoroughly proved.

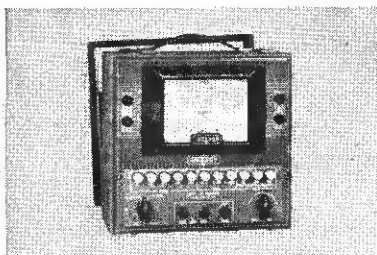
Another triumph of JACKSON engineering and INTEGRITY of DESIGN (also shown below) is the Audio Frequency Oscillator Model 652. This Instrument operates on the resistance-capacity tuned principle . . . has splendid stability . . . continuous frequency range from 20 to 20,000 cycles with excellent wave form. Model 652 is simple in operation, gives positive, trouble-free results; and is fulfilling a critical, full-time war job.



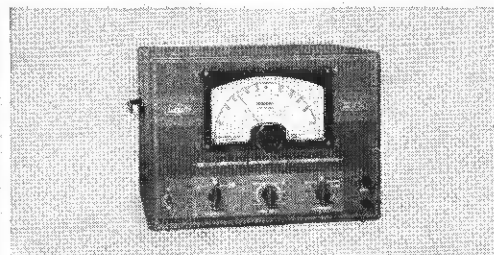
Production of JACKSON Instruments has been vastly increased to meet urgent military needs. All JACKSON equipment continues available, subject to W.P.B. regulations. Write for catalog—and for an explanation of the full meaning of INTEGRITY of DESIGN.



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



Model 642 Multimeter



Model 652 Audio Oscillator

JACKSON

Fine Electrical Testing Instruments

JACKSON ELECTRICAL INSTRUMENT COMPANY, DAYTON, OHIO

Nance Sees Postwar as "Salesman's Paradise"

J. J. Nance, vice president of Zenith Radio Corp., and newly elected member of the committee in charge of postwar planning of the RMA, speaking before a recent meeting of the Sales Executives Club of Chicago at the La Salle Hotel, prophesied that the postwar era will be a "salesman's paradise."

Predicting a peacetime era of unprecedented prosperity, Mr. Nance said:

"The public will be longing for products it has had to do without, dealers will be screaming for something to sell, and they won't be too particular about teardrop designs versus streamlining or whether the product has every gadget of the never-before-seen variety. Just think of the thousands of customers who will need replacements and who, unless poisoned by fantastic and futuristic types of advertising and propaganda, will be delighted to have whatever models can be produced quickly." In this connection he urged his hearers to keep before them the distinction between sound planning and crystal gazing, and stated that American business must "keep its feet on the ground."

Reconversion a Problem

"After the war," he said, "the people of this country will stand on the threshold of a time more rich and productive and serviceable to all than the world has ever known. The problem of business is to apply its facilities in such a way as to bring these possibilities into fruition. Following the psychological boom that will be brought about by the armistice, there will probably come a lull. That readjustment period represents, in my humble judgment, the real challenge to postwar planning. That's when we are going to face the problem of reconversion in our factories and plants. And that will be no easy task. To establish the proper viewpoint toward that, just remember how long it took American industry to get converted to the production of war material. And that job was done under forced draught."

Ben Miller Appointed

Herman Smith, president of Radio Essentials, Inc., has announced the appointment of Ben Miller as manufacturer's representative for the southern Wisconsin and Illinois territory, with headquarters at 149 W. Ohio St., Chicago. Mr. Miller, who has been in the radio business for the past 20 years, was formerly sales manager for Meissner Mfg. Co.

President Smith, formerly with the Lafayette Radio Corp. and Radio Wire Television, Inc., has also named Irving Rosen as his representative to contact distributors in metropolitan New York.

This message has been prepared as a tribute to America's fighting men and in the hope that it may hold a measure of inspiration for those who must carry on the battle here at home.



CAN YOU LOOK HIM IN THE EYE?

They found him slumped by his gun on the cartridge-strewn ground he had so fiercely defended, as still as the enemy dead huddled there around him. Though three times wounded, he had kept on firing until unconsciousness dragged his finger from the trigger.

He wouldn't quit then. And he won't quit now! In a few more weeks, when his wounds have healed, he'll go back to help finish that job in the jungle. Can you look him in the eye and truthfully tell him that you, too, are doing all that you can to finish the job?

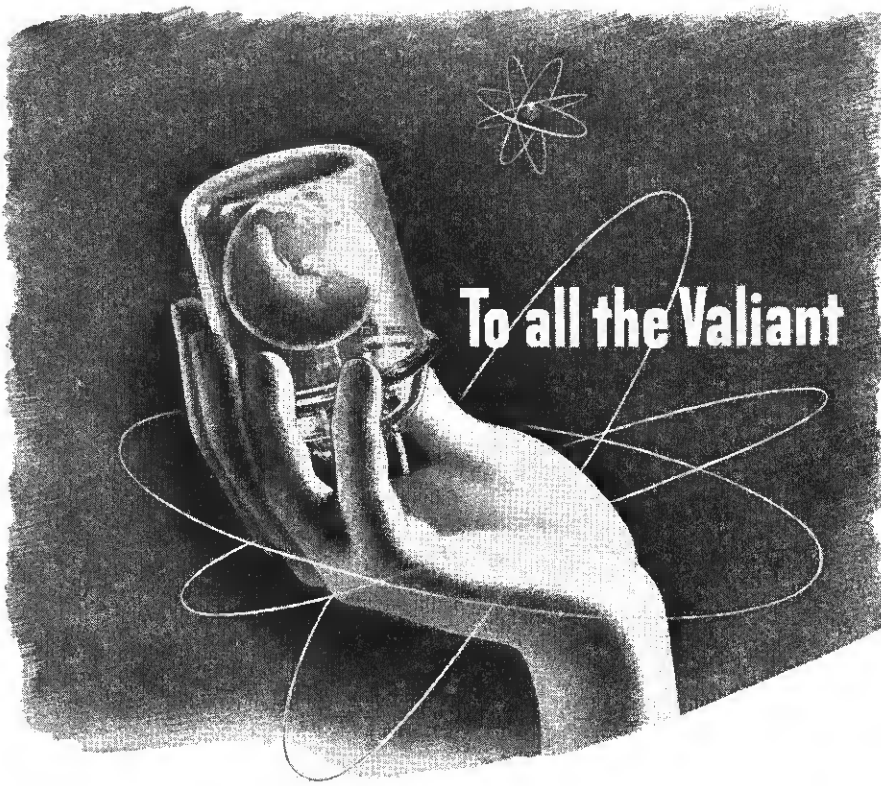
In the days ahead, can he count on you to stick to your war post as faithfully as he sticks to his? Can he expect you to buy War Bonds in the willing spirit he shows when he steps to the front as a volunteer? Can he rely on you to give a little blood to the Red Cross as ungrudgingly as he gives up his on the battlefield? Can he really depend on you to fight inflation over here while he is fighting oppression over there?

When your conscience tells you that you're worthy of the sacrifices he's making for *you*—only then can you proudly look him in the eye!

 **Belmont Radio**
TELEVISION • F-M • ELECTRONICS

Belmont Radio Corporation, 5921 Dickens, Chicago 39, Illinois

KEEP BUYING MORE WAR BONDS!



To all the Valiant

To the hams to the engineers to the technicians
still in mufti to the old hands at the new games
of war

To all the valiant brothers and sisters fashioning
victory in the labs and assembly lines

Ken-Rad dedicates its complete effort to war for
an early Peace

KEN-RAD

TRANSMITTING TUBES
CATHODE RAY TUBES

INCANDESCENT LAMPS
FLUORESCENT LAMPS

SPECIAL PURPOSE TUBES
METAL AND VHF TUBES

OWENSBORO KENTUCKY U S A



Uncle Sam's Boys Use VACO
Shock-proof Break-proof **SCREW DRIVERS** AMBERYL HANDLE

For Signal Corps trainees . . . for a host of other activities in the war effort, Vaco is supplying screw drivers and small tools designed for efficiency, and to speed up work in the radio and electronic field. Over 173 sizes and types. Write for catalog.

Vaco's ability to create special drivers and small tools is aptly illustrated in the panel at left, showing some of our unusual developments.

VACO
Products Company
317 E. ONTARIO ST.
CHICAGO, ILL.

Dr. Baker Heads Radio Technical Planning Board

Dr. W. R. G. Baker, vice president of the General Electric Co., was appointed chairman of the new Radio Technical Planning Board at the joint meeting of the Radio Manufacturers Assn. and the Institute of Radio Engineers, held recently in New York. The meeting had been called by President Paul Galvin of RMA and President Wheeler of IRE.



Dr. W. R. G. Baker
G.E. Official Named to Important Post

Representatives and alternates from the following industry and service groups were present: American Institute of Electrical Engineers, American Radio Relay League, FM Broadcasters, Inc., Institute of Radio Engineers, International Association of Chiefs of Police, National Association of Broadcasters, National Independent Broadcasters, Radio Manufacturers Assn., and Aeronautical Radio, Inc.

National Union Wins "E" Award

In impressive ceremonies held in the Mosque Theatre, Newark, N. J., recently, 3000 employees and guests witnessed the presentation of the Army-Navy "E" burgee to the Newark divisions of the National Union Radio Corp.

Lt. Col. Kenneth D. Johnson, of the office of the Chief Signal Officer, Washington, D. C., in making the presentation, said: "National Union has increased production six times with four times the floor space, three times the engineering staff and three times the total personnel. That is indeed an excellent record of achievement, one that stands high in the official records of this war."



Twenty-four Hour Vigilance

... the **SUPER-PRO** "SERIES ♦ 200"

TWENTY-FOUR hours every day Hammarlund radio receivers aid in defending the United Nations against air attack. Sound electrical and mechanical design, together with accurate workmanship, make the "SUPER-PRO" superior in performance under the most adverse operating conditions.

THE HAMMARLUND MFG. CO., INC.
460 West 34th Street, New York, N. Y.



HAMMARLUND

BUSINESS FOR TODAY

You can help vital war plants increase efficiency **now** by offering them the proved advantages of these two types of BELL Sound Equipment — as advertised below in leading business and industrial papers. Make this active market a part of your business **today**.



TWO WAYS TO GET FASTER COMMUNICATION in your plant

Instant speaking contact between any two or more executives in your plant — as provided by BELLone Intercommunication Systems — will save time, steps, and errors, reduce telephone tie-ups, end switchboard delays. You just press a key and converse immediately.

You can "broadcast" bulletins, reports, and musical programs to all your employees — and speedily "page" any individual in your plant — with the new BELL Industrial VOICE Paging Equipment. Heavy-duty standard units combine to fill any need, are easily altered or expanded.

Write for details on

BELfone
INTERCOMMUNICATING
SYSTEMS

Write for details on

BELL
INDUSTRIAL
VOICE PAGING
EQUIPMENT

BELL SOUND SYSTEMS, Inc.
1186 ESSEX AVE., COLUMBUS 3, OHIO
Export Office: 4900 Euclid Avenue, Cleveland 3, Ohio

Work to Defer Civilian Radio Repairmen

Because of the great inroads the Selective Service program was making on the radio servicing field as well as the major appliance service group, the Electric Institute of Washington, D. C., decided to initiate steps to save as many servicemen as possible to service radios and major appliances for civilian use in the territory. For this purpose it launched an intensive program designed for that end. It conducted an intensive survey on the status of all servicemen, especially those within the service age brackets. This survey included the number of service men with all retail stores and service groups, their age, their marital status, their draft status, their years of technical service and other pertinent data.

Armed with this data, the Electric Institute went to the District Selective Service, with the request that its repair and service industry replacement schedule be given approval. The comprehensiveness of the data presented won the full approval of the District Selective Service Board. This is the first trade representative group in the country to be granted full approval for its replacement schedule on the repair and service industry.

It marks a signal victory for the Institute and full credit is to be given its managing director J. S. Bartlett, and its service director Joseph A. Doyle.

Membership in the Electric Institute of Washington includes all representative radio and appliance retailers, manufacturers and distributors.

The radio and appliance repair and service industry affected by the replacement schedule for it, will affect some 500 men throughout the area served by the Institute.

Majestic Names Expert

E. A. Tracey, president and general manager of Majestic Radio & Television Corp., Chicago, has announced the appointment of Carlos V. del Mercado as export sales manager of Majestic. Mr. del Mercado is one of the outstanding men in the radio export field, possessing a unique knowledge of markets and radio requirements in foreign countries.

14 NEW STANCOR Victory Model TRANSFORMERS and CHOKES are NOW AVAILABLE!

SEE YOUR STANCOR JOBBER OR SEND FOR THIS ILLUSTRATIVE FOLDER NOW!

No priorities are necessary to buy Stancor Victory Model Transformers—the L-265 Certification, is the only requisite. Send for full information today.

Write for Stancor Victory Model Folder No. 302-A

STANDARD TRANSFORMER CORPORATION
1500 N. HALSTED STREET • CHICAGO, ILLINOIS



Even the Big Inch Needs IRC RESISTORS

Vital arteries of supply in this mechanized war are America's pipelines. To maintain capacity flow, sludge and gummy deposits must be cleaned out at intervals. For this purpose a screw-type

ANOTHER **IRC** DEVELOPMENT

scraper propelled by the oil pressure is employed. When occasionally the scraper becomes stuck and plugs the line, the point of stoppage must be located to release the flowing oil. But where—and how?

With the use of the Geiger-Mueller Counter, hours—and sometimes days—of search are saved. Modern scrapers contain radio-active metal which constantly emits an impulse message.

When trouble occurs, these signals are picked up by the Counter, as the line is checked. At the point of greatest intensity the pipeline is tapped and the obstruction cleared away.

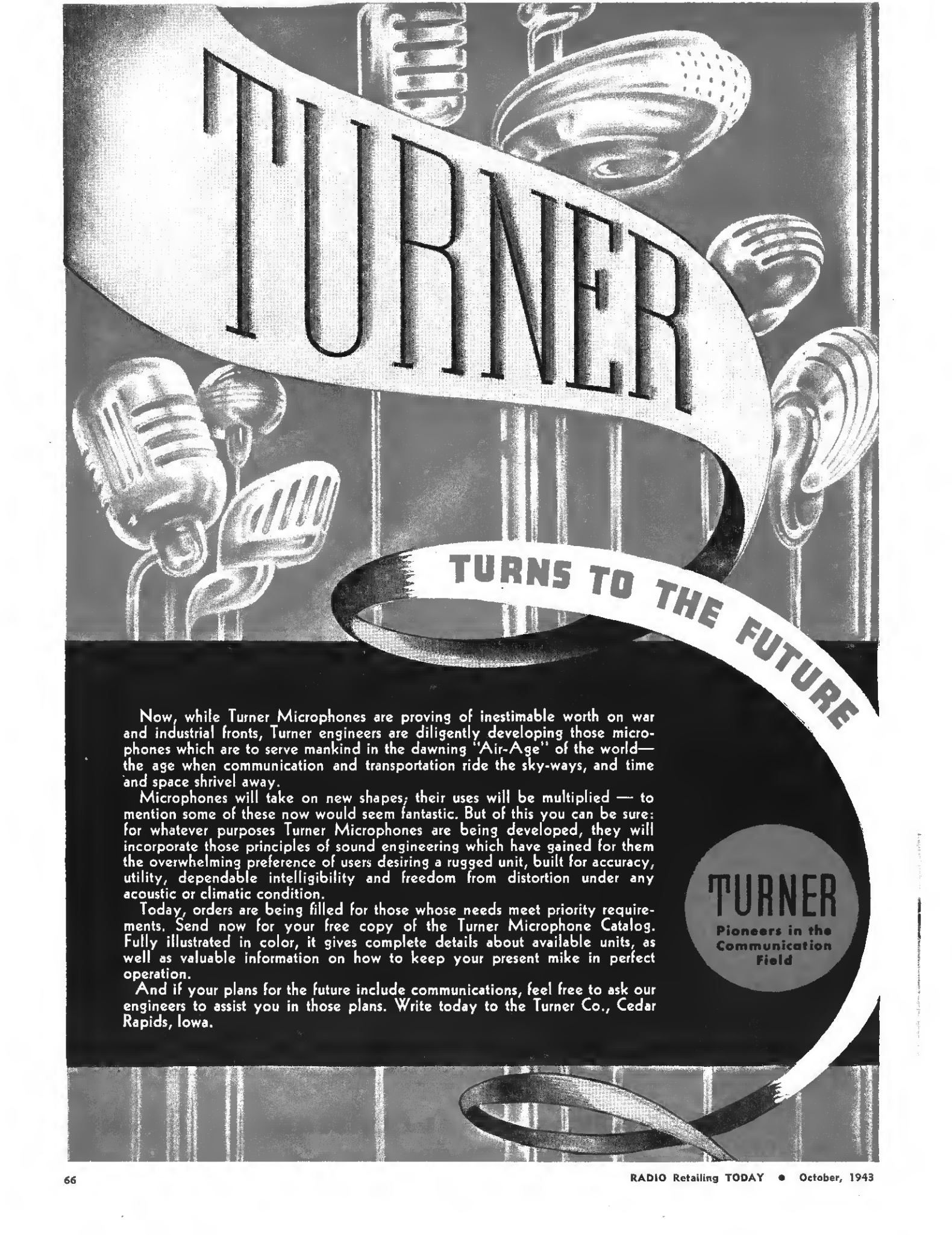
IRC engineering ingenuity plays an important part in the functioning of Geiger-Mueller Counters. Many specially designed IRC resistors and controls are employed in their carefully adjusted circuits.

Alert Service Men know that the resistance units overwhelmingly preferred for performance by Uncle Sam today are the same components that will be preferred by industry tomorrow. Already engineering evidence clearly indicates that IRC resistors and controls will be specified as standard in many of the post-war electronic devices which will find a ready civilian market of vast proportions.



INTERNATIONAL RESISTANCE COMPANY

Dept. P • 401 N. BROAD STREET • PHILADELPHIA 8, PA.



TURNER

TURNS TO THE FUTURE

Now, while Turner Microphones are proving of inestimable worth on war and industrial fronts, Turner engineers are diligently developing those microphones which are to serve mankind in the dawning "Air-Age" of the world—the age when communication and transportation ride the sky-ways, and time and space shrivel away.

Microphones will take on new shapes; their uses will be multiplied — to mention some of these now would seem fantastic. But of this you can be sure: for whatever purposes Turner Microphones are being developed, they will incorporate those principles of sound engineering which have gained for them the overwhelming preference of users desiring a rugged unit, built for accuracy, utility, dependable intelligibility and freedom from distortion under any acoustic or climatic condition.

Today, orders are being filled for those whose needs meet priority requirements. Send now for your free copy of the Turner Microphone Catalog. Fully illustrated in color, it gives complete details about available units, as well as valuable information on how to keep your present mike in perfect operation.

And if your plans for the future include communications, feel free to ask our engineers to assist you in those plans. Write today to the Turner Co., Cedar Rapids, Iowa.

TURNER
Pioneers in the
Communication
Field

**Dr. de Forest Climbs
14,495 Ft. at 70**

Dr. Lee de Forest, who has just celebrated his 70th birthday, continues so active physically that three times during the present year he has climbed



Dr. Lee de Forest

14,495-ft. Mt. Whitney, near his Los Angeles home. For several years past, Dr. de Forest has made it a ritual on each birthday anniversary to scale Mt. Whitney which is the highest mountain in the continental United States.

**Emerson Stock Issue
Greatly Oversubscribed**

According to information provided by Ben Abrams, president, the recent public offering of a limited issue of the Emerson Radio & Phonograph Corp. was oversubscribed within a few days following the announcement.

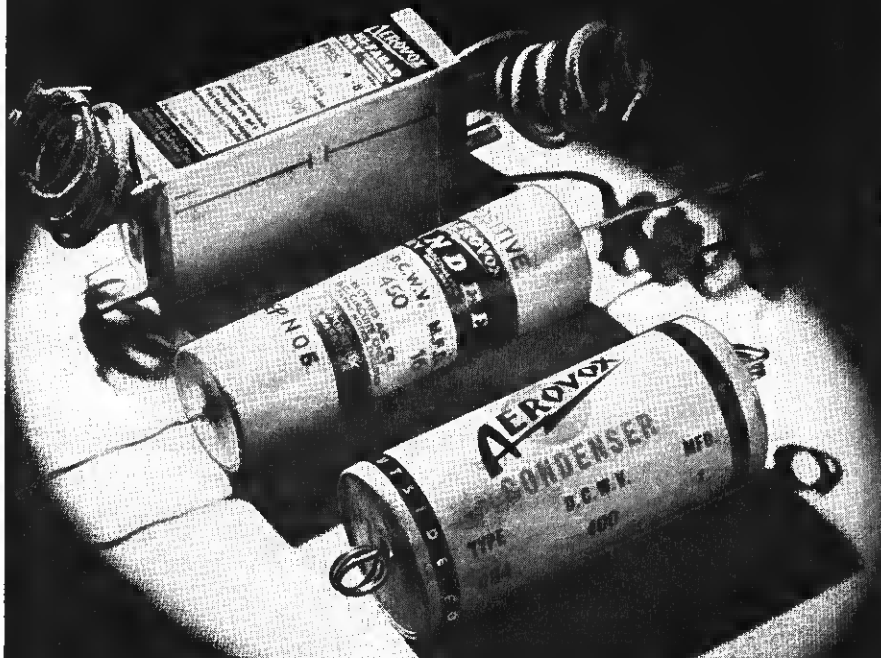
Mr. Abrams, who with his associates, retains the majority of stock, stated that the management, policies and methods will continue substantially as before, except that the company plans expanded production and promotion programs for the future.

According to Mr. Abrams, Emerson, while specializing in the production of broadcast receivers after the war, plans to design and produce other electronic products of its own.

Acquires New Building

Universal Microphone Co., Inglewood, Cal., recently purchased a one story warehouse within the city limits, according to an announcement made by Cecil L. Sly, vice president. The miscellaneous stores department will be transferred to the new building.

Serving on the
HOME FRONT...



**GENERAL-PURPOSE
REPLACEMENTS**

Type PBS Cardboard-Case Electrolytics in single, dual and triple section units. 25 to 600 v. D.C.W. Wide choice of capacities and combinations. Adjustable mounting metal flanges.

Type PRS-V or wartime Dandees. Single-section units in 25 to 450 v. D.C.W. 4 to 100 mfd. Dual units: PRS-A concentrically-wound, three leads, 25 to 450 v. D.C.W. 8-8 to 20-20 mfd. PRS-B separate sections, four leads, 150 to 450 v. D.C.W. 8-8 to 20-20.

Type '84 Paper Tubulars. In 400 v. .01 to 1.0 mfd.; 600 v. .001 to .5 mfd.; 1000 v. .001 to .1 mfd.; 1600 v. .004 to .05 mfd.

• There's still a satisfactory Aerovox capacitor replacement for servicing most radio sets—regardless of growing shortages, curtailment of critical materials, banning of previous types.

In order to take care of upwards of 90% of usual radio service calls, Aerovox has been offering these three popular capacitors—Type PBS cardboard-case electrolytics, Type PRS-V tubular electrolytics, and Type '84 paper tubulars. These three types have been doing a real wartime job on the home radio front.

Ask Our Jobber . . .

He can advise you regarding your wartime servicing and maintenance replacement problems. Ask him for our latest catalog—or write us direct

AEROVOX Capacitors

INDIVIDUALLY TESTED

AEROVOX CORPORATION, NEW BEDFORD, MASS., U. S. A. • SALES OFFICES IN ALL PRINCIPAL CITIES
Export: 100 VARICK ST., N. Y. C. • Cable: 'ARLAB' • In Canada: AEROVOX CANADA LTD., HAMILTON, ONT.

RadioGram
**RUSH! BATTERIES
 FOR INVASION!**

"WE'LL GET 'EM THERE!"

"INVASIONS SURE DEMAND PLENTY OF PORTABLE POWER for lights and communications," says Homer G. Snoopshaw. "The needs of our Armed Forces pinch civilian quotas pretty hard sometimes, but we're working day and night turning out batteries as fast as we can. We appreciate your help in distributing the supply fair and square to those who need them most."



Free CONSERVATION AIDS. You can help battery users conserve the critical war materials in dry batteries and get maximum service from them. Write for a supply of Burgess "Battery Savers."

BURGESS BATTERY COMPANY, FREEPORT, ILLINOIS

**BURGESS
 BATTERIES**



**DON'T HOLD UP JOBS FOR TUBES
 SUBSTITUTE**

The booklet "Wartime Substitutions" describes in detail nearly 200 substitutions worked out in our shop, including all the hard to get types.

Written by the author of "Practical Noise Suppression" in the current MYE Technical Manual. You can't afford to take the time to work them out yourself.

\$3.00 per copy postpaid

CITY RADIO COMPANY

The RADIO CITY of PHOENIX, ARIZONA
 504-6 East Washington Street

**Protests Making Buyers
 "Dream Model" Conscious**

Stating that its advertising is aimed to allay "fantastic dreaming about super-duper radios with secret electronic departments for doing all sorts of miraculous things," Paul V. Galvin, president of Galvin Manufacturing Corp., declares that the big advertising campaign planned by his company will explain what electronics is; will agree that the future is bright with promise, but will avoid "star-gazing" and dreaming.

"For the radio industry," says Mr. Galvin, "the number one mass market for electronics after the war will be radio and radio-phonograph sets. It will be a big market if it is not messed up with false promises that will only be met by stubborn consumers anxious to buy a dream model that just won't be forthcoming."

Wanted "Electronic" Radio

"In a recent questionnaire circulated among home owners, a lady, when asked what she was going to buy first after V-Day, promptly replied that she was going to buy 'one of those new electronic radios.' Asked what she meant, she couldn't quite answer. Asked if she had ever owned an electronic radio, she said, 'No, but I'm going to get one after the war.' When told that the radio she owned was an electronic instrument, she was flabbergasted. She didn't know that the tube in her 1938 console model was the heart of all electronic development."

Motorola's newly expanded national advertising schedule for Fall 1943 includes The American Weekly, the American Magazine, National Geographic Magazine, Popular Mechanics, Saturday Evening Post, Collier's, Cosmopolitan, Movie Radio Guide, LIFE, Michigan Motor News, and 113 Metropolitan Newspapers. A large program is being developed for 1944.

**Clarostat Moves
 Into New Offices**

Clarostat Mfg. Co., Inc., manufacturers of resistors, controls and resistance devices, has moved its general offices to 130 Clinton St., Brooklyn, N. Y.

Recent expansion necessitated larger quarters for the general offices which now occupy the entire ninth floor of the modern office building. For the convenience of its many customers, Clarostat has consolidated all business departments heretofore spread out in the three Clarostat plants, at the new address. All correspondence, requests for deliveries expediting inquiries, etc., are being handled at the new address.

This latest expansion follows close on the opening of the third Clarostat plant last spring. All Clarostat plants are located in the Greenpoint section of Brooklyn.

BATTLE STATIONS *-on the double*

There goes the air raid alarm. And here they come, the fighter pilots . . . scrambling madly for their waiting planes. You'd hurry too if you were in their shoes, because time grows mighty important right then. Only a split second can make all the difference between getting upstairs in time, and maybe not getting off at all.



Speed is vital, too, in the building of all the tools and weapons our fighting men need. Speed, that is, consistent with good workmanship.

The young lady pictured at left is helping to send electrical instruments to battle stations faster, and in greater volume, than ever before. Hers is the delicate task of fastening the top hair spring to the armature. Note how the specially designed jigs not only speed her work, but insure accurate, precise assembly.

This single operation, all by itself, can not materially reduce the time required to build an instrument. It does serve, however, as a small indication of the many new ideas and refinements that have enabled Simpson to make such great strides in instrument manufacture.

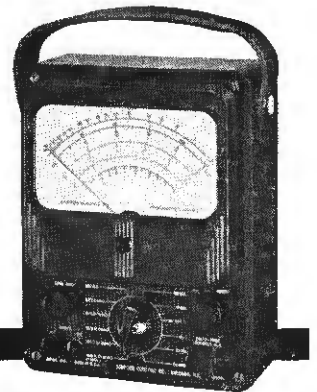
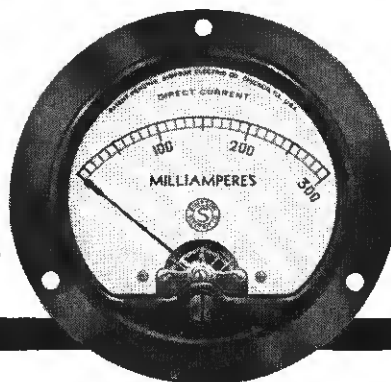
In all Simpson instruments and testing equipment you will find a basically superior type of movement which required a slow and costly method of construction only a few years ago. Today, in the Simpson plant, this greater accuracy and stamina is a matter of mass production.

SIMPSON ELECTRIC CO.
5200-5218 W. Kinzie Street
Chicago 44, Illinois

Simpson

INSTRUMENTS THAT STAY ACCURATE

Buy War Bonds and Stamps for Victory



"THE HELP SITUATION" by Larlar



FED up on trying to hire competent help? Worn out from training beginners? Here's relief. Here's help that doesn't need training, help that will stick. Help that will work as long and as hard as you.

Rider Manuals reduce to a minimum, the time required to trace troubles in faulty receivers. Rider Books tell how to speed servicing work by means of modern, short-cut techniques. In making it possible for fewer men to produce more work they are contributing to the solution of the "help" problem for servicemen all over the world.

When you need help—competent help—remember Rider Manuals and Rider Books—they are ready to provide the extra help you need—"The Extra Hand" you must have if you are to meet your patriotic duty to "keep 'em playing."

ORDER YOUR RIDER BOOKS—TODAY

HERE'S HELP
YOU DON'T
HAVE TO TRAIN!

RIDER MANUALS

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

OTHER RIDER BOOKS YOU NEED

The Cathode Ray Tube at Work
Accepted authority on subject\$3.00
Frequency Modulation
Gives principles of FM radio 1.50
Servicing by Signal Tracing
Basic Method of radio servicing 3.00
The Meter at Work
An elementary text on meters 1.50
The Oscillator at Work
How to use, test and repair 2.00
Vacuum Tube Voltmeters
Both theory and practice 2.00
Automatic Frequency Control Systems
—also automatic tuning systems 1.25
A-C Calculation Charts
Two to five times as fast as slide rule.
More fool-proof. 160 pp. 2 colors 7.50
Hour-A-Day-with-Rider Series—
On "Alternating Currents in Radio Receivers"—
On "Resonance & Alignment"—On "Automatic
Volume Control"—On "D-C Voltage Distribution"
90c each

JOHN F. RIDER PUBLISHER, INC.
404 Fourth Avenue • New York City
Export Division: Roeca-International Electric Corp.
13 E. 40th Street, New York City Cable: ARLAB

RIDER MANUALS
GIVE YOU THE HELP YOU NEED!



★ ★ BUY ★ ★
WAR BONDS
★ AND STAMPS ★

Philco Issues New Refrigerator Manual

A service manual for distributors and dealers, covering all Philco refrigerators in the hands of the public, has recently been published. According to announcements received, the manual is issued as part of Philco's wartime service plan to keep all electrical appliances in use as long as possible.



Robert F. Herr, Philco vice president in charge of service, right, shows new manual to Thomas A. Kennally, vice president in charge of sales.

"Issuance of this manual, which is being made available to distributors and dealers, is one of the things Philco is doing to help its dealers in wartime," Robert F. Herr, vice president in charge of service, explained. Mr. Herr also states that lengthy explanations have been eliminated in favor of short, direct statements so arranged and illustrated that they may be located quickly and easily, and that the manual should be of help equally to the established serviceman and to the newcomer in the refrigerator service field.

Manuel Vice President

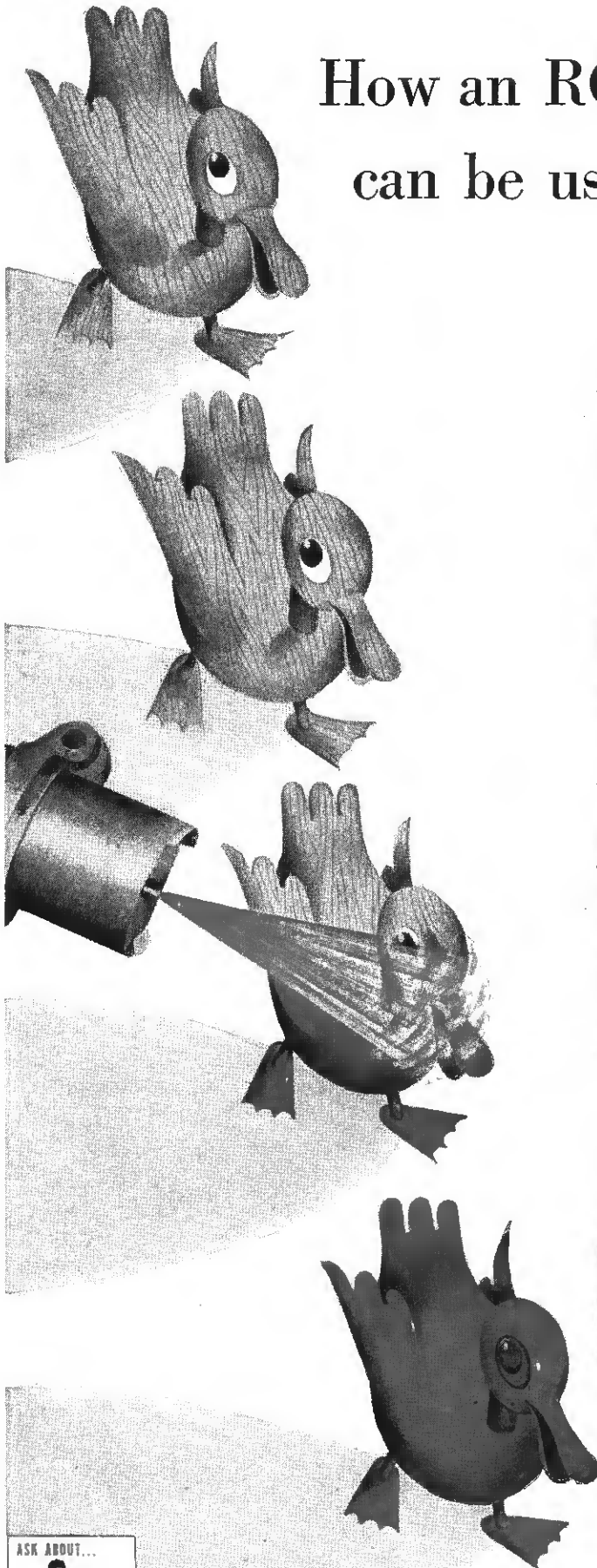
Burrell S. Manuel, southern California district manager of the Westinghouse Electric Supply Co., with headquarters in Los Angeles, has been elected vice president of the company by its board of directors.

Mr. Manuel has been associated with various Westinghouse enterprises since 1918, and is widely experienced in the electrical appliance field.

New Emerson Directors

Ferdinand Eberstadt of F. Eberstadt & Co. and Richard C. Hunt of Chadbourne, Hunt, Jaekel & Brown, have been elected directors of Emerson Radio & Phonograph Corp. Charles Robbins, now on temporary leave with the U. S. Signal Corps, has been elected vice president, according to an announcement made recently by Ben Abrams, Emerson president.

How an RCA Electron Tube can be used to save paint



It's been said that the Electron Tube can do more extraordinary things than any other device yet created by man.

And we don't mean the wild-eyed, sleight-of-hand sort of thing so many people have in mind when they talk about "The World of Tomorrow."

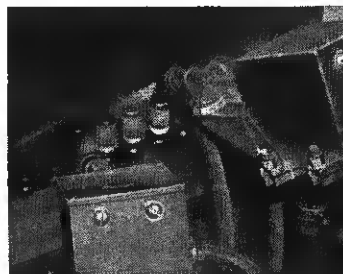
We mean cold, hard, practical things—like saving a manufacturer time and money—*today*, not day-after-tomorrow!

Pictured below, for instance, is a device used by RCA to save paint while spraying metal tubes. A conveyor carries the unpainted tubes in front of two spray guns and on into the baking oven. A control mechanism, built around an electronic switch, makes certain that the guns spray each tube completely but withhold the spray if, as occasionally happens, two or more successive tubes are missing from their sockets.

The principle behind this device can be used by any manufacturer who is interested in paint-spraying economies.

When you Distributors and Servicemen consider the opportunities the Electronic Age can open up for you, keep two points clearly in mind. (1) The electronic equipment you may be selling and servicing will use circuits, tubes, and parts largely familiar to you because of your radio experience. (2) The Magic Brain of all electronic equipment is a tube—and the fountain-head of modern tube development is RCA. RCA Victor Division, RADIO CORPORATION OF AMERICA, Camden, N. J.

TUNE IN "WHAT'S NEW?" Radio Corporation of America's great new show, Saturday nights, 7 to 8, E.W.T., Blue Network.



The Magic Brain that operates this device (used in spraying RCA metal tubes) is itself an RCA Electron Tube—2050. By seeing to it that a minimum amount of paint was wasted against non-existent tubes, it justified installation costs within a very short time.



RCA ELECTRON TUBES



★ BUY MORE WAR BONDS



YESTERDAY'S MODELS in TOMORROW'S WORLD

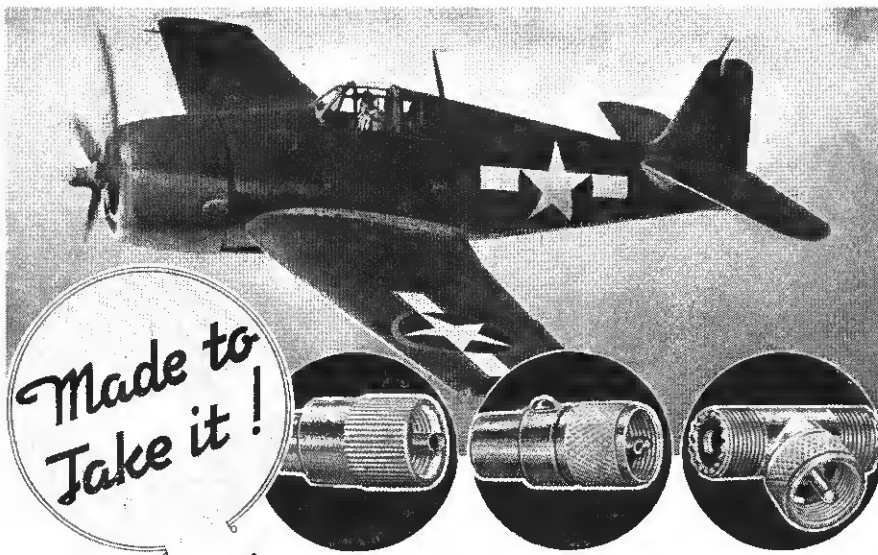
The buying public will expect wartime progress to be reflected in future peacetime products. Your prewar models will be thrust aside unless engineered to postwar standards.

The engineering experience of THE ERWOOD COMPANY qualifies it as the logical consultant on your difficult technical problems.

THE ERWOOD COMPANY

223 WEST ERIE STREET

CHICAGO, ILLINOIS



AMERICA'S speediest and most maneuverable fighter war-plane, the new Grumman "Hellcat," carries Astatic Co-axial Cable Connectors on every aerial adventure as part of its radio equipment. The success of each mission . . . the safety of each pilot . . . depends largely upon radio operating efficiency. Astatic Radio Cable Connectors are "made to take it," insuring the fullest measure of dependability under the most trying conditions. Designed and manufactured to meet exacting government standards, Astatic Connectors are extensively used and highly praised by leading manufacturers of wartime radio equipment. Increased manufacturing facilities insure prompt shipments.

ASTATIC

IN CANADA:
CANADIAN ASTATIC, LTD.
TORONTO, ONTARIO

THE ASTATIC CORPORATION
YOUNGSTOWN, OHIO

Westinghouse Has "Better Homes" Plan

With the immediate aim of coordinating the company's activities in helping to house war workers, and with the ultimate objective of developing postwar housing markets for the contributions which electricity is making toward better living, Westinghouse Electric & Manufacturing Co. has announced the creation of a "better homes department."

According to the announcement made by B. W. Clark, vice president in charge of sales, Irving W. Clark, who since 1934 has been associated with the company's kitchen and housing activities, has been appointed manager of the new department.

Definite Program Planned

The department's role is defined as seeking to establish a unified company relationship with the housing industry; to work out plans such as wiring layouts, lighting and kitchen planning for architects, builders, engineers and home owners; to coordinate sales and promotion programs, and to advise and consult with the product divisions and subsidiaries as to housing trends.

Finds Consoles Still in Stock in Some Areas

Returning from a trip of several thousand miles through the middle west, in which he contacted distributors and dealers in key centers in connection with postwar research and planning, Jack Geartner, assistant sales manager of Emerson Radio & Phonograph Corp., made the following statement:

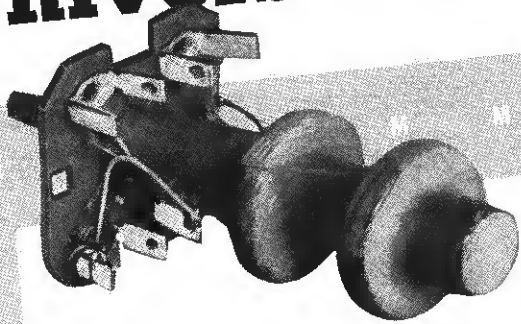
"It is highly significant that table model radios are nowhere to be found, yet in some areas console sets are still in stock by many dealers, despite the abnormal shortage of receivers that has prevailed for many months. This is indicative of the large popular demand for table model radios, in which field Emerson has been the industry's leading exponent for years."

Garod Workers Exceed Bond-Buying Goal

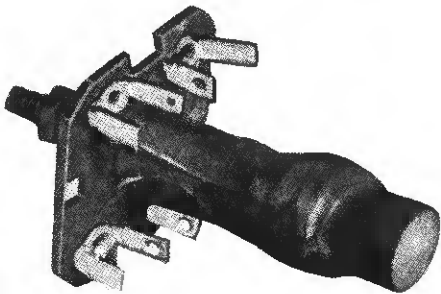
According to an announcement made by Louis Silver, sales manager, employees of the Garod Radio Corp., New York, exceeded the quota of \$75,000 originally established by themselves in the Third War Loan drive, and that already over \$110,000 has been subscribed. This is enough money to supply the armed forces with an airplane ambulance.

In recognition of this cooperation, the Treasury Department will award the company a citation of merit, and will permit Garod to name the ambulance which their subscriptions have purchased.

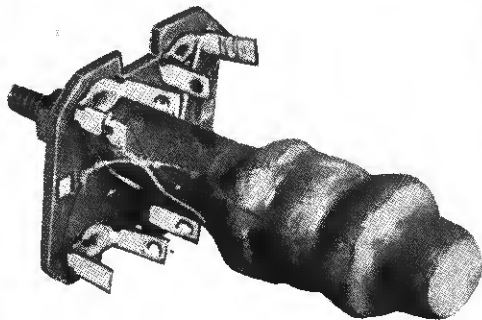
Replace with Meissner Universal Adjustable Coils!



Adjustable R. F. Coil



Adjustable Oscillator Coil



Adjustable Antenna Coil

M EISSNER Adjustable Inductance Ferrocart (iron ore) coils are designed to replace the Broadcast band coils in practically any receiver. When an antenna, R.F. or Oscillator coil requires replacement use a Meissner Universal Adjustable Coil.

Universal Adjustable Coils are continuously variable in inductance over a wide range, the coils will accurately "track" with the other coils in the receiver when properly adjusted. The exact inductance of the old coil is easily matched by a very simple adjustment regardless of the value of the tuning condenser.

Universal Adjustable Coils are available at your MEISSNER distributor.



Meissner
MT. CARMEL, ILLINOIS

"PRECISION-BUILT ELECTRONIC PRODUCTS"

WOMAR

Manufacturers of
RADIO, ELECTRICAL AND
ELECTRONIC COMPONENTS

ELECTRONIC PRODUCTS MFG. CORP.
DEXTER, MICHIGAN



- Steatite Insulators
- Ceramic Trimmers
- High Frequency Circuit Switches
- Volume Controls
- Ceramic Capacitors
- Wire Wound Controls
- Sound Projection Controls

Parts
by
Centralab

Div. of Globe-Union Inc., Milwaukee, Wis.

Electronic Parts Group Holds Meeting in Chicago

At the recent Chicago luncheon meeting of the Association of Electronic Parts and Equipment Manufacturers, a trade association comprised of over fifty manufacturers located in the middle west, its executive secretary, Kenneth C. Prince, was honored and election of officers was held.

Mr. Prince is now training at Princeton University as a lieutenant (jg) in the U. S. Navy.

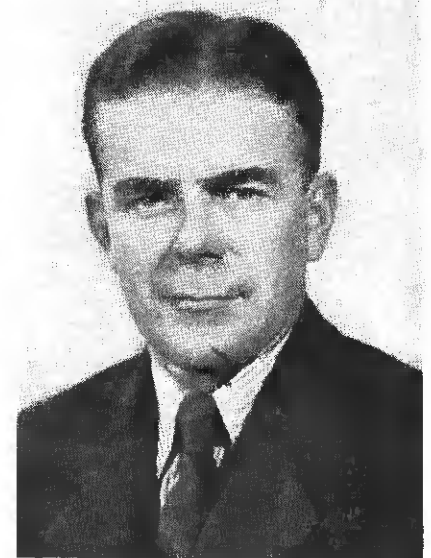
Lt. Col. John M. Niehaus, labor officer, U. S. Army Signal Corps, and Albert A. Epstein, assistant director of the Sixth Regional War Labor Board, friends of Lt. Prince, addressed the members and explained the functions of their respective offices.

P. H. Tartak, president of the Oxford-Tartak Corp., Chicago, was elected chairman of the Association. E. G. Shalkhauser, president of Radio Manufacturing Engineers, Inc., Peoria, Ill., was named vice chairman. Miss Helen A. Staniland, vice president of Quam-Nichols Co., Chicago, was re-elected treasurer. Lewis G. Groebe, associated with Lt. Prince in the practice of law, was elected secretary pro tem, and will perform the functions of executive secretary pending the return of Lt. Prince from active duty.

RCA Wins Third Star

A third star for its Army-Navy "E" pennant has been awarded the Camden plant of RCA Victor Division of Radio Corp. of America. The announcement was recently made by Arnold K. Weber and Edward Galvin, chairman and vice-chairman, respectively, of the plant's war production drive committee.

William J. Cashman



Newly appointed director of promotion and publicity for Landers, Frary & Clark, New Britain, Conn., is well-known as electric appliance merchandiser.



They Won't Forget "Rola"

RIGHT now manufacturers of war materials can be making friends for tomorrow's products, products that do not yet exist . . . that may not even have reached the blueprint stage. For if what a Company makes for. War gives good account of itself, isn't there likely to be a greater confidence in the Company's peacetime products?

Take Rola for example. In leading factories throughout the country skilled mechanics are building thousands of communications systems for the Army-Navy Air Forces . . . using various important parts made by Rola. In countless places all over the world technically trained military personnel are installing and maintaining these systems, again with Rola equipment.

When their wartime job is done, most of these men will continue in their chosen field and will occupy positions of importance and influence in all branches

of Radio and Electronics. We firmly believe that into their peacetime jobs these same men will carry the highest regard for everything that bears the name "Rola", a regard born of the first-hand knowledge that a Rola product . . . whatever it may be . . . is a Quality product.

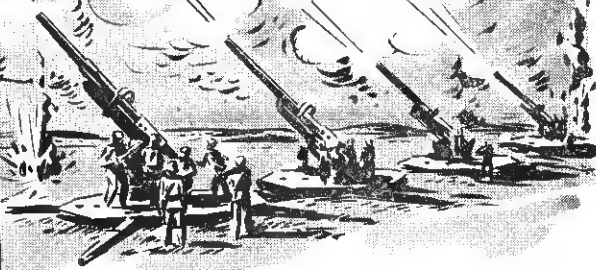
At least we can think of no way to make more certain "they won't forget Rola", than to continue to provide the very best equipment it is possible to make. THE ROLA COMPANY, Inc., 2530 Superior Avenue, Cleveland 14, Ohio.

New applications constantly are being found for Rola's diversified equipment and broad manufacturing experience. If your production problems involve anything related to our field, we believe you should see what Rola has to offer.

★ **ROLA** ★

MAKERS OF THE FINEST IN SOUND REPRODUCING AND ELECTRONIC EQUIPMENT

WHEN THE GUNS CEASE FIRING!



★ When the "cease firing" order is flashed to our fighting men, we'll get to know in detail the vital part that radio played in winning the Victory. Then, the same dependable performance given on the battlefield by Sentinel-built equipment will be reflected in new peacetime models... models which will flow from Sentinel's factory lines, now fully utilized for war production. Then Sentinel dealers once again will be able to supply outstanding values in the radio and electronic field — battle-tested equipment in modern-astomorrow designs that will please and sell.

SENTINEL RADIO CORPORATION
2020 Ridge Avenue, Evanston, Ill.



QUALITY SINCE 1920

Sentinel RADIO

RCA Victor Wholesalers, Officials Hold Meetings

In a recent series of four meetings held in New York, Chicago, San Francisco and New Orleans, RCA Victor distributors for all RCA products including radios, phonographs, records, tubes, parts and commercial sound, met with officials of the RCA Victor division of the Radio Corp. of America, to hear discussions on mutual problems and current thinking on postwar distribution for the company's various products.

Speakers at all the meetings emphasized that RCA's chief concern now is to continue doing everything possible to bring the war to a victorious end, but that meantime, the meetings were called for the purpose of reviewing mutual problems, plans and policies, which are likely to have a considerable bearing on postwar commercial activities.

J. A. Kerr Appointed Tube Representative

According to a recent announcement by A. A. Brandt, general sales manager of the General Electric electronics department, Joseph A. Kerr, former radio representative with the General Electric metropolitan distributing branch, New York, has been appointed tube representative for the General Electric electronics department, and will cover the eastern region of the United States.

In 1929, Mr. Kerr became a radio specialist for the G.E. Supply Corp., New York. He later joined the Royal-Eastern Electrical Supply Co., a G.E. distributor of radio and major appliances. Since 1936, he has been with the G.E. metropolitan distributing branch, New York.

Mr. Kerr's new headquarters are at Room 3201, G-E Building, 570 Lexington Ave., New York City.

Hotpoint-Operadio "Gun" Big Ammunition Saver

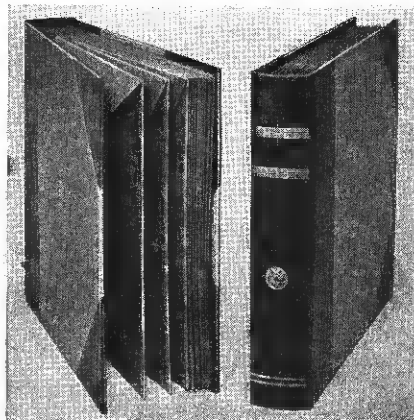
A machine gun trainer that saves \$10,800 every hour in ammunition costs has been developed by Edison General Electric Co., and Operadio Manufacturing Co., jointly. The Army War Show of the Sixth Service Command now on tour, has one of these trainers as its prize exhibit. There are about 1,000 of these devices in use, and it is estimated therefore that Uncle Sam saves about \$10,800,000 worth of ammunition every hour they are used for training purposes.

Hotpoint engineers worked out the electro-hydraulic machine gun, and Operadio's laboratory developed the sound amplifying equipment that reproduces the report of an actual 50-calibre machine gun with background noises of tanks, dive bombers, screaming bombs and bullets, and heavy guns.

PEERLESS ALBUM

Design FOR SELLING

In these times turning a disadvantage into an advantage is good business. It is no news that Record Albums are scarce . . . becoming scarcer. When you sell a set of records that lacks an accompanying album . . . suggest the purchase of a separate album of comparable quality. This way, instead of losing the original sale, you make an additional sale!



FEATURE PROTECTO - FLAP

Peerless Album Co., Inc.

38-44 West 21st Street

New York, N. Y.



Again, the IMPOSSIBLE is done!

ACCEPTANCE OF AWARD

By
G. F. BEHRINGER, President

Col. Evans and Honored Guests,
Fellow Employees and Friends:

Under Secretary of War Patterson stated in his letter September 18th that our accomplishments have been greater than once seemed possible. Evidently the original estimate of our productive capacity was made without giving due consideration to the fact that the trade name of our product, DEFIANCE Condensers, was selected as typifying that spirit, so aptly expressed by General Anthony Wayne in naming Fort Defiance, of defying all the devils in hell to interfere in any way with our march to Victory along our chosen path.

This Award which the Army and Navy are bestowing upon us today is an acknowledgment that so far in this present world conflict our Company has lived up to its well established reputation of surmounting all obstacles and fulfilling all customer obligations **ON TIME.**

We shall not, however, consider our hard work ended with this Award which as we know is only for the winning of the first battle. We realize that like our Armed Forces we are only well started along the road to final and complete Victory and that even greater effort will be required of each and every one of us to merit subsequent awards of stars on our flag without which it would lose much of its significance.

Col. Evans, it gives me the greatest pleasure to accept this Award in behalf of the Men and Women of The American Steel Package Company and to extend, thru you, to our Army and Navy the sincere appreciation of not only these Men and Women, but also of each and every citizen of the Democracy of Defiance.

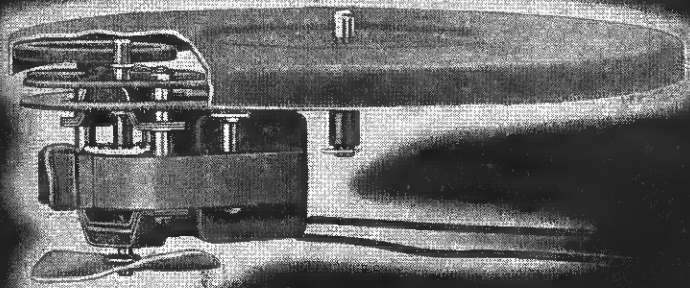
We are proud to announce to the radio and electronic industry, the award of industry's badge of honor to the employees of

AMERICAN STEEL

•
Manufacturers
of
AIR TRIMMING CONDENSERS
VARIABLE CONDENSERS
•

AMERICAN STEEL PACKAGE COMPANY, DEFIANCE, OHIO

remember **ALLIANCE** Phono-motors?



Let's Swing

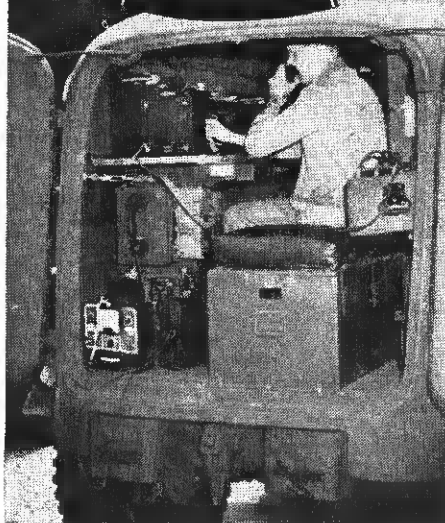
Hitler and his gang from a sour apple tree! . . . we're doing our part by putting Alliance dependability and skill into Dynamotors and other types of precision motors for our flying fighters. Alliance is serving on all fighting fronts. After we Win, and when joy again is unconfined, we'll tell you about some new and startling ideas in Phono-motors—Ideas that will help you in Peace as you are now helping in War. Why not put that in your notebook now? . . . under A. **REMEMBER ALLIANCE! . . . Your Ally in War as in Peace!**

ALLIANCE MANUFACTURING COMPANY
ALLIANCE, OHIO



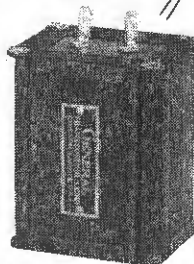
FIRST ON ALL FRONTS

SCR-299



One of the Army's most valuable "weapons" in winning this modern war is the SCR-299 high-powered mobile radio communications unit built by the Hallicrafters Company. Equipped with GTC transformers, this versatile unit has served its indispensable "first line" where the fighting is thickest in the Aleutians, Europe, the South Pacific, in China—wherever the Allies are on the move.

The selection of General Transformers to form a part of this indispensable unit is mute proof of its precision fabrication and never-failing, dependable service. We are proud to enlist our entire manufacturing facilities, our engineering ingenuity and assembly lines to aid our Armed Forces. You are assured of these same services for your post-war planning.



GENERAL TRANSFORMER COMPANY
1250 West Van Buren Street Chicago 7, Illinois

Scophony Perfects Large-Screen Television

Large-screen television perfected for motion picture theatres, homes, schools and churches, in black and white and in natural color, will be available commercially after the war as a result of basic patents issued recently to the Scophony Corp. of America, is the announcement of Arthur Levey, president. Scophony, with offices at 527 Fifth Ave., New York, is associated with Television Productions, Inc., a subsidiary of Paramount Pictures, and General Precision Equipment Corp., which in turn is associated with Twentieth Century-Fox Film Corp.

The basic U. S. patents were issued as part of the group of patents covering the Skiatron system, a new television projection apparatus expanding Scophony's basic television methods. It was described by Mr. Levey as having characteristic features in common with cinematography by which it will be possible to project a large-screen television picture up to full-sized theatre screens 20 feet in width or more, with brilliance equal to motion picture standards.

Eye Strain Prevented

Mr. Levey's announcement said in part:

"This new and revolutionary invention, which is the work of Dr. A. H. Rosenthal, director of research and development of SCA, has the same basic significance to television as the standard motion picture projector has to cinematography. No longer will television viewers have to strain their eyes to see boxing, baseball, football, racing, tennis, hockey, etc. Instead, the observer now may relax and from an armchair have a ringside view of thrilling events as they actually occur."

New "Reps" Committees

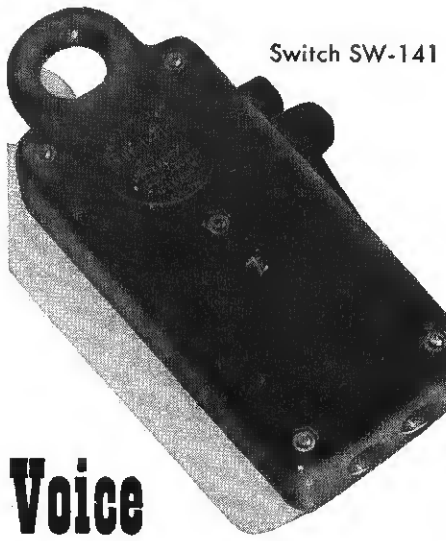
The Los Angeles Chapter, Representatives of Radio Parts Manufacturers, announces the appointment of the following committee chairmen:

Carl Stone—program and meetings.
George S. Tivy—code of ethics.
Lou Brittain—membership.
Don C. Wallace—press.

David Grimes Killed

David Grimes, vice president in charge of engineering for Philco Corp., who was abroad on a special war mission, was killed Sept. 4th, when the transport plane in which he was traveling with Commodore James A. Logan, commandant of the United States Naval operating base at Londonderry, crashed into a mountain in northern Ireland.

Mr. Grimes, well known as a pioneer in radio, was 47 years of age. He joined Philco in 1934 as engineer in charge of home radio set research and engineering.



Switch SW-141

Voice Communication Components



Plugs PL-54
and PL-55



UNIVERSAL high quality plugs, jacks and switch assemblies have been made available to prime and sub-contractors for earliest quantity deliveries. Catalog No. 830 contains complete details.

Universal Microphone Co. Ltd.

INGLEWOOD, CALIFORNIA

FOREIGN DIVISION

301 Clay Street, San Francisco 11, Calif.

CANADIAN DIVISION

560 King St. W., Toronto 2, Ontario

Authority Writes About Tube Production

Editor, Radio Retailing Today:

There seems to have been some confusion as to how much of the present shortage of tubes was due to prohibition of production of those types for civilian use as contrasted with non-production due to low demand. I have had occasion to make a check on the list in the WPB Limitation Order L-76, comparing this list with the receiving tube types actually in peace time production.

Analysis of this list shows that it consists of 33 ballast tubes, 18 foreign tube types with American numbers which were not made in this country, 46 numbers which were typographical errors or numbers where there is no record of the announcement of tube types, 89 tubes which were so obsolete that they had been previously discontinued or were alternative brandings of types not prohibited and 4 tubes which are prohibited with low loss bases. This leaves 146 receiving tube types actually prohibited.

ALAN C. ROCKWOOD,
Tube Design Department

Raytheon Production Corp.,
Newton, Mass.

Kelvinator Promotes "Idea Exchange" Plan

The Nash-Kelvinator Corp. has made public full details of a new project designed to broaden the exchange of timely suggestions and ideas for solving wartime problems in the home.

Each month Kelvinator will announce to the nation's home economists, through a four-page front-of-the-book supplement in the magazine, "What's New in Home Economics," a timely project selected in advance by a panel of Washington authorities. Forty war bonds are offered the home economists who offer acceptable ideas and suggestions on the current subject. A number of well known authorities will act as judges.

Aero Opens New Office

Aero Needle Co., Chicago makers of the new Aeropoint Long Life Phonograph Needles, has opened its new general sales offices at 737 No. Michigan Ave., Chicago.

New Crosley Distributor

J. H. Rasmussen, commercial manager of the Crosley Corp., has announced the appointment of the H. M. Tower Corp., New Haven, Conn., as exclusive Crosley distributor in the Connecticut territory. The Tower organization operates an experienced group of wholesale representatives in the distribution of radios, refrigerators, ranges, washers and other household appliances.

Serving

UNCLE SAM

WITH THE NEW **DUMONT**

VICTORY MODEL TE

SUPERCAPS

Dumont Electrolytic tubulars for the duration have the following special features..and are guaranteed to give the same high quality performance for which all Dumont Electrolytic Tubulars have a reputation.

★

SELF HEALING
LONG LIFE
ECONOMICAL
VARNISHED TUBES
DOUBLE SEALED
SMALL SIZE
FULLY GUARANTEED

★

**DUMONT
ELECTRICCO.**


MFR'S OF
CAPACITORS FOR EVERY REQUIREMENT


34 HUBERT STREET
NEW YORK, N. Y.




ORDER OF THE DAY





Keep your sights fixed on the editorial horizon. Big things are looming — new benefits from the merger  of Radio Retailing and Radio Today which gave you one dynamic, dominant magazine. Many readers have sensed what's coming, as new subscriptions are pouring in.

Forthcoming issues will glow  with new helps and services. You'll see that we've done no



napping. No thumb-twiddling. While paper and manpower are both scarce, we've nevertheless enlarged our staff and expanded our editorial service. 

One example was the September feature on opportunities  in radio electronic installation and maintenance. You'll find many others in this and subsequent issues.

We're establishing a beachhead  from which you can soon start a big-scale merchandising offensive.



The Publishers of
RADIO RETAILING TODAY

Repair Plan Boosts Sales

Two plans are offered the radio retailer who's wondering how, in face of shortages, he's going to do a Christmas business of satisfactory volume. These plans tie in with current advertising of utility companies and individual dealers, and may be worked in large or small communities.

The first idea provides additional repair work for the retailer, and helps solve the customer's gift-giving problem. Solicit your customers through local advertising, telephone canvass, etc., to bring in unwanted appliances to your shop for repair. When these appliances have been put in working order, and cleaned, they are returned to the customers who distribute them as gifts.

Remind the customer that he undoubtedly has friends or relatives who are badly in need of certain appliances. Even if they're used, such appliances, skillfully repaired and re-finished, make welcome gifts.

The second plan is to offer to buy unwanted or inoperative appliances. Having secured these, put them in the best possible condition and offer them for sale as gifts.

Do A Thorough Job

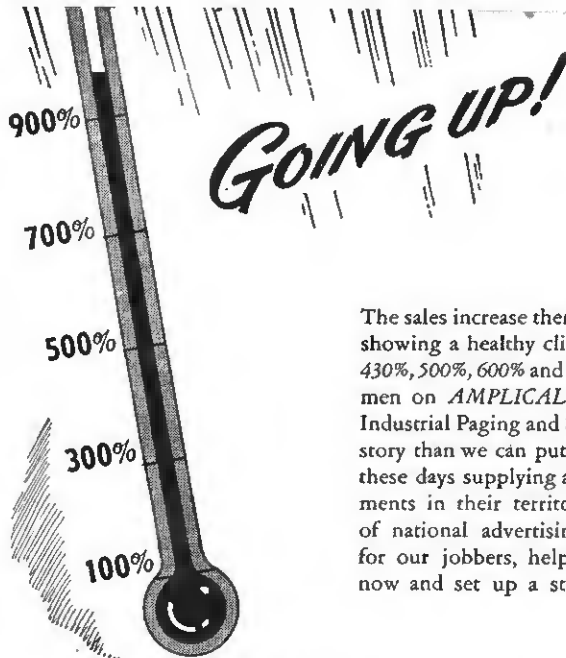
In normal times operations such as these would be fantastic to consider, but a householder without an electric iron at this time will certainly welcome one as a gift, even if the iron has been reconditioned. The same holds true of a number of other necessary items which the modern home has been accustomed to use.

Efficiently repaired radios make splendid gift items. The family having no second set for the youngsters to enjoy, will solve a gift problem if able to pick up such a receiver.

In operating under one or both of these plans, there are two important things to do. 1. Be sure the appliance is repaired properly. 2. Be sure that the appearance of the appliance has been enhanced.

Due to abnormal conditions, there is some leeway allowed in repair methods, and in this connection, the repairer will have to let his conscience be his guide. In deviating

(Continued on page 82)



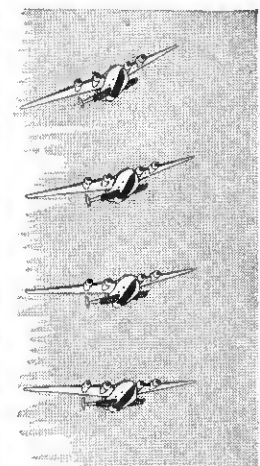
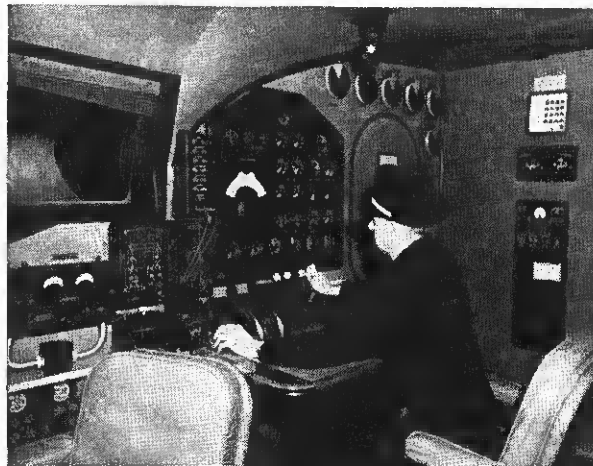
The sales increase thermometer of RAULAND jobbers is showing a healthy climb these days. Reports of 238%, 430%, 500%, 600% and 950% sales increases by RAULAND men on *AMPLICALL's* quality Intercommunication, Industrial Paging and Sound Equipment tells a far better story than we can put into words. They're plenty busy these days supplying army, navy and war plant requirements in their territories. And RAULAND's program of national advertising is opening up new contacts for our jobbers, helping them set new sales records now and set up a steady after-war business as well.

THE RAULAND CORPORATION . . . CHICAGO, ILLINOIS

• *Electroneering is our business* •



RADIO . . . SOUND . . . COMMUNICATIONS



PAN-AMERICAN SAFETY SUPPORTED BY THORDARSON QUALITY

Coordination of effort in building airplanes . . . in flying them over the skyways, and in landing them at the airports of the world is the secret of the fine record for safe flights made by PAN-AMERICAN airways.

By the same token, the use of only the finest quality parts in building every plane and in constructing the mechanisms which direct its comings and goings, is another very important factor in promulgating complete safety.

That is why Thordarson transformers were

selected by PAN-AMERICAN airways for important uses in the planes themselves as well as for use in control tower operations, where dependability and quality of material are of such great importance.

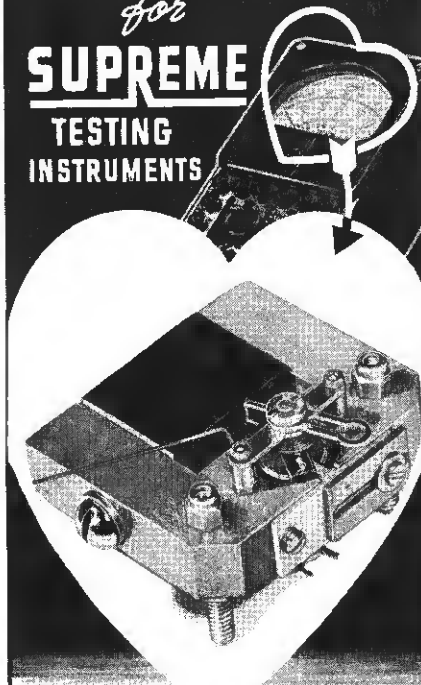


ELECTRIC MFG. COMPANY
500 WEST HURON ST., CHICAGO, ILL.



Transformer Specialists Since 1895
.. ORIGINATORS OF TRU-FIDELITY AMPLIFIERS

Announcing a
NEW HEART!
for
SUPREME
TESTING
INSTRUMENTS



SUPREME METERS
DURABLE *Hairline* ACCURACY

A test instrument without a dependable, accurate meter is about as useful as a gun without bullets. The meter is the essential part . . . the heart of any testing device. NO TESTING INSTRUMENT CAN BE BETTER THAN ITS METER.

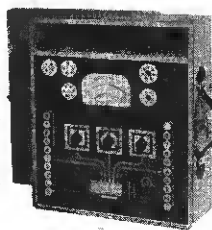
And now SUPREME INSTRUMENTS have a new heart . . . a meter manufactured under Supreme supervision and by Supreme methods in Supreme's factory.

The Supreme-built meter movement pictured above is designed to take it when the going is rough.

- FEATURES:** 1. New Magnet Construction, Saves Critical Material. 2. Top and Bottom Metal Bridges. 3. Simplified Rigid Core Support. 4. Separate Scale Mounting. 5. High Torque, Reduces Friction Troubles. 6. Rugged Pointer. 7. Reduced Weight.

Strictly a "war meter" worthy of a "war job" . . . and that means it's worthy of ANY job. A meter that meets Army standards has to be good. Supreme Testing Instruments incorporating Supreme-built meters will be more durable, more dependable, more accurate than ever.

For the duration all Supreme Testing Instruments and Supreme Meters are going to our fighting forces. Post-war Supreme models—test equipment and meters—will be worth waiting for. (Right, Supreme 504-A Tube and Set Tester).



SUPREME INSTRUMENTS CORP.
Greenwood, Miss., U. S. A.

from accepted practices in emergency repairing, there are two factors to consider. One is, can the repair be made safely, and the other is, will the repair stand up for a reasonable length of time. It is not good practice to "jump" the thermostat of an iron. As a rule, automatic irons are of high wattage, and as it is difficult to explain to the user why the iron will overheat, and as there is always the possibility that others, not familiar with the work done, may use them, such repairs are not recommended. Splicing of elements, either coiled or ribbon type, in miscellaneous heating appliances, is also to be frowned upon. However, if the break is near the terminal post, it is often possible to stretch the coiled wire to such post, or in the case of a ribbon element, to unlace a small section and refasten it to the post.

Hand Irons ARE Scarce

Electric hand irons are the scarcest appliance today, and you will be performing a real service in repairing them and placing them in the hands of housewives who need them so critically. A large percentage of the irons brought in will have nothing more serious than cordset trouble. You can check this trouble through an electric lamp wired in series. In this manner you can test for breaks and grounds. If the cordset checks all right, and you can't get a light by putting the prods on the iron terminals, the trouble is: 1, A "burned out" element; 2, element disconnected from terminal or terminals; 3, if automatic iron, any of the foregoing or disconnected or "burned out" thermostat. Should you get a light by placing one prod on one terminal and one on frame of iron, and alternating the procedure, then the iron is grounded. If exterior terminals are pitted, burned and corroded so that cordset plugs fit too loosely, new terminals must be installed. Even the use of a new plug will only result in the latter being burned up in a short time.

Having repaired the iron, and installed a new cordset, the metal work should be buffed, and a new handle installed, unless the old one is good enough to touch up with a little black enamel.

(Continued on page 84)



ROLLING ON TO

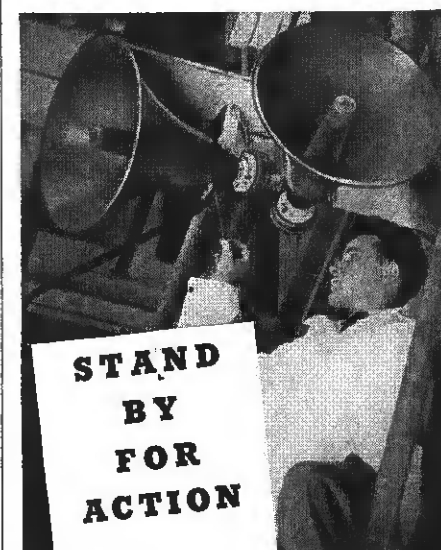


★ Clarostat continues to be engaged 100% in the most important job of all—winning the war—on land, sea and in the air.

But after victory has been won, Clarostat promises the trade—servicemen, jobbers and others—that Clarostat products for initial and replacement uses alike, will once more be generally available for peacetime pursuits. Meanwhile, let's keep 'em rolling!



CLAROSTAT Controls and Resistors
CLAROSTAT MFG. CO., Inc. - 285-7 N. 6th St., Brooklyn, N. Y.



IN ACTION, Atlas Sound Equipment is a real stand-by . . . tested, proven, dependable. In all weather, under adverse conditions, Atlas Sound instruments perform with the expertness of tried and true veterans. ★ Orders calling for minor conversion of our regular precision line are filled capably and quickly . . . consult us freely without obligation.

Complete Atlas Sound Catalog on request

ATLAS SOUND CORPORATION
1445 39th Street, Brooklyn, N. Y.

Another reason why *Fidelitone De Luxe*
Floating Point Needles are **EASY TO SELL!**



Record dealers and clerks tell us that another reason for the national preference for Fidelitone De Luxe Floating Point Phonograph Needles is their extremely long life with fine reproduction.

* Information based on actual statistics from recent Fidelitone National Quiz Contest

PERMO INCORPORATED, 6415 RAVENSWOOD AVENUE, CHICAGO, ILLINOIS

2 BOOKS EVERY "WAR-TORN" ENGINEER NEEDS!



\$750
160 Pgs.
(9 1/2 x 12 in.)

A-C CALCULATION CHARTS

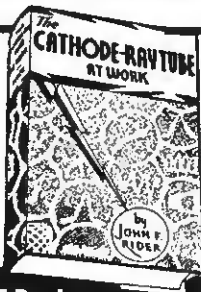
By R. LORENZEN

This new Rider Book greatly reduces the time required for alternating current engineering calculations—speeds up the design of apparatus and the progress of engineering students. Two to five times as fast as using a slide rule! Thousands of enthusiastic users.

A-C CALCULATION CHARTS are designed for use by civilian engineers and engineers of the armed forces who operate in the electrical—communication—power—radio—vacuum tube—telephone—and in general, the electronic field. Invaluable for instructors as well as students, and also executives who check engineering calculations.

CATHODE RAY TUBE AT WORK

The Cathode Ray Tube at Work is the accepted authority on the subject. The cathode ray tube in the Oscillograph and its application to electronic and industrial work is fully discussed. Profusely illustrated. 338 pages \$3.00



JOHN F. RIDER PUBLISHER, Inc.
404 FOURTH AVENUE, NEW YORK CITY
Export Division: Rocke-International Elec. Corp., 100 Varick St., N. Y. C. • Cable: ARLAB



"I'M GLAD WE HAVE THOSE **MONARCH INSTRUMENTS** ... IN THE PLANT FOR FASTER PRODUCTION"

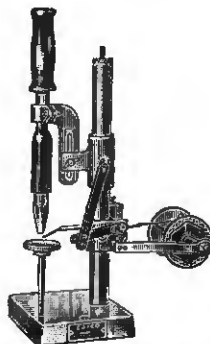
Giving Real Service

• Our calibrating equipment, special measuring instruments, special transmitter coils . . . small machine parts . . . all are being utilized by manufacturers of radio and electronic products now, in war-time to an even greater degree than in peace-time. If you have a special problem involving such instruments or materials, consult with us, without obligation.

MONARCH MFG. CO.
2014 N. Major Ave. Chicago, Ill.

ESICO

REG. U. S. PAT. OFF.

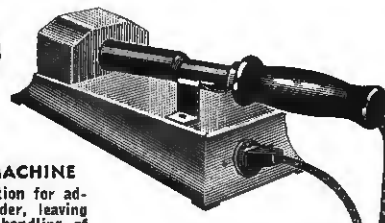


SPOT SOLDERING MACHINE
designed for treadle operation for advancement of iron and solder, leaving operator's hands free for handling of product.

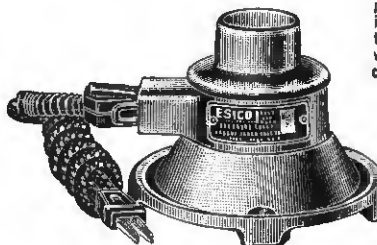


SOLDERING IRONS

are widely used in industrial plants throughout the country. They are designed to withstand the strain of continuous service required of factory tools.



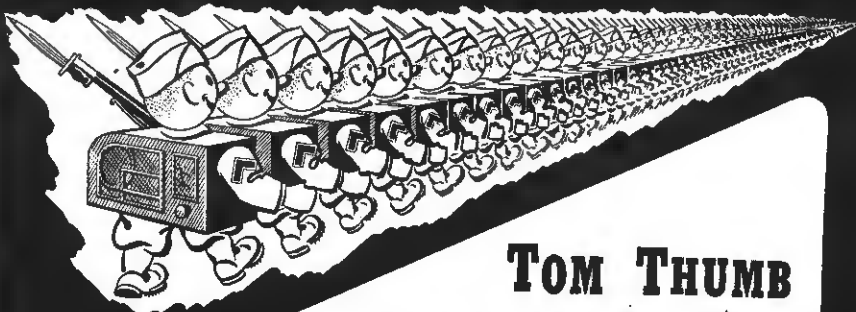
SOLDERING IRON TEMPERATURE CONTROLS
prevent overheating of soldering irons between soldering operations. Irons do not deteriorate when being used. The idle period causes oxidation and shortens life.



SOLDER POTS
ruggedly constructed pots of various sizes designed for continuous operation and so constructed that they are easily and quickly serviced, should elements have to be replaced.

Write for Catalog

ELECTRIC SOLDERING IRON CO., INC.
2310 WEST ELM STREET, DEEP RIVER, CONN.



TOM THUMB LIKES ARMY LIFE BUT SELLING IS HIS FORTE!

Like every good soldier, TOM THUMB thinks mainly of two things—getting the job over with, and getting back home.

These soldiers of high speed merchandising are always on the go, moving fast—whole battalions of them. And when the time comes for them to march upon the trade, the distributors and dealers will surrender completely; just as they always do when they can get these husky little symbols of selling power.

Make your plans NOW to get on the TOM THUMB bandwagon

Automatic

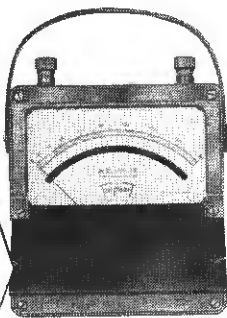
RADIO MANUFACTURING CO., INC.
122 Brookline Avenue, Boston, Mass.

TRIPLET Practi-Quality

PRECISION—DURABILITY—FAIR PRICES

TRIPLET MODEL 645 PORTABLE. Hinged cover protection. Opens flush. Smooth case open or closed. Molded shield protects movement, excludes dust, permits plug-in thermocouple or rectifier replacements without exposing sensitive mechanism. Pre-calibration of thermocouples or rectifiers made possible by interchangeable plug-in units. No re-calibration required. In burn-out of thermocouple or rectifier new replacement can be affected "on the job".

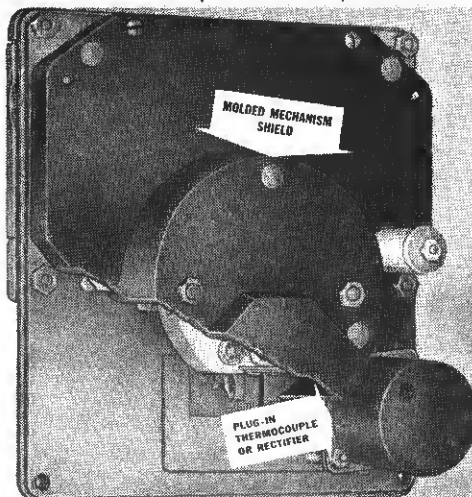
THE TRIPLET ELECTRICAL INSTRUMENT CO., BLUFFTON, OHIO



HINGED COVER

For additional engineering information on Model 645 and other instruments of the same case style write for 645 data sheet.

BUY WAR BONDS and STAMPS



To check an electric percolator: First test through light, as outlined above for iron. If you don't get a light, take off bottom, remove fuse, and check latter. If fuse is all right, and is screwed in tightly, then there is element trouble. Watch for "tip type" fused percolators. These are reset by tipping upside down. Most percolators use screw type fuse, but some use various fuse links. These latter can often be improvised. Be sure to put water in percolator when testing for heat.

In automatic toaster, operated by manual type clock, test with slices of paper because even if one of the elements is burned out, you will get a light. If complaint is that toast burns, check clock for sluggishness. If dial device setting doesn't change speed, take out clock and flush with cleaning fluid. If toaster handle won't engage when pushed down, engaging devices are out of place, worn or broken, or mainspring is gone. If toaster handle sticks down, and will not come up, check for misplaced wire guard rods or foreign matter in toast wells.

Don't try to repair heating pads, unless you have a suitable setup and the right equipment and experience.

Portable lamps, rewired, should always be checked for grounds when the repair is finished.

Polish radio cases, escutcheon plates, etc.

Motor driven devices can develop trouble through worn motor brushes, loose brush springs, tight bearings, gummed up gears, broken connections, dirty commutators, etc. They're also subject to a number of armature conditions.

Use jewelers' rouge in buffing bright work on appliances.

Complaint that coffee won't "go down" in glass coffeemakers. Make sure operator takes device off source of heat after the water has gone up to top bowl. Check sealing gaskets for leaks. Check filter for obstructions. Check size of grind used.

About Vacuum Cleaners

Vacuum cleaners. Won't run. Check electrically as above, including cordset and plugs. If brush type motor, check brushes. Turn fan by hand to check for seized bearings. If com-

(Continued on page 85)

AEROPOINT
"111"
Long-Life
PHONOGRAPH
NEEDLE
Up to 3000 Plays
\$1.00

AERO
NEEDLE COMPANY
737 N. MICHIGAN
CHICAGO 11, ILL.

plaint is inefficient operation, check motor speed, check bag and nozzle for obstructions. If straight air suction type, check nozzle adjustment. If motor driven brush type, check bristles for wear, check for slipping belt; check nozzle adjustment. When finished with repair, buff metal work, install new bag, cord, if needed, paint handle and lubricate wheels.

Other appliances lending themselves to repair and refinishing as gifts, include waffle irons, sandwich grills, electric clocks, electric fans, hair dryers, vibrators, electric broilers, etc. Larger appliances include electric refrigerators and laundry equipment.

Plan San Antonio Meet

Tentative plans to hold their November meeting in San Antonio have been made by the South Texas Chapter, National Electronic Distributors Assn. This group announces that the following six new members have been secured: Automatic Sales Co., Harrison Equipment Co., Sounds Sales and Engineering Co., all Houston; Houston Radio Supply Co., Houston and Baton Rouge, La., the Straus-Frank Co., Houston and San Antonio, and Modern Radio Supply Co., San Antonio. Officers of this chapter are R. C. Hall, president-director; H. M. Sporlane, vice president and A. R. Beyer, secretary-treasurer.

Death of Sayre Ramsdell

Sayre M. Ramsdell, long associated with Philco, died at Churchville, Pa., Oct. 4, at the age of 45.

Born in Camden, N. J., Mr. Ramsdell attended Germantown Academy and the University of Pennsylvania. After serving in the Army in the last war, he became connected with Philco in 1919, beginning work in the advertising department of what was then the Philadelphia Storage Battery Company. He played an important part in the development of that company and its expansion into the radio and allied fields. In 1934, Mr. Ramsdell was named vice president of Philco Radio & Television Corp. to head up its advertising and sales promotion activities, and in 1940 he was elected a director of Philco Corporation, the consolidated company.

In order to give broader scope to his activities, he resigned as an officer of Philco to form his own advertising agency, in March, 1942. Among his principal clients of the agency were Philco Corporation and National Union Radio Corporation.

The Ramsdell agency had received widespread recognition for its creative work. Its cartoon advertisements portraying the industrial might of the United States overcoming the Axis aroused great popular interest, and one of them was adjudged among the 50 best advertisements in 1942.

University

REFLEX SPEAKERS
now the accepted
STANDARD
for all
WAR USE

EVERY UNIVERSITY REFLEX
the result of years of
pioneering research and
development.

EVERY HIGH EFFICIENCY SPEAKER
in University's extensive
line of power speech re-
producers has a vital
part to play in the WAR
program.

REMEMBER
University is now pro-
ducing many special
speakers for the Army,
Navy & Signal Corps.
Submit your special
problem direct to the
engineering dept.

UNIVERSITY LABS., 225 VARICK ST., NYC

DEPENDABLE MUTER PRODUCTS * DEPENDABLE MUTER PRODUCTS

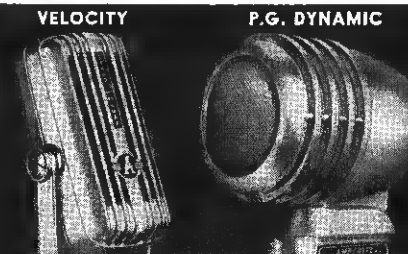
DEPENDABLE **MUTER** PRODUCTS

Manufacturers
of Component parts for
the Radio, Electronic
and Communications
Industries

THE MUTER CO.
1255 South Michigan Avenue
Chicago, U. S. A.

MUTER PRODUCTS * DEPENDABLE MUTER PRODUCTS * DEPENDABLE

VELOCITY P.G. DYNAMIC



THE FINEST MICROPHONES

AMPERITE

FOR PUBLIC ADDRESS & RECORDING

MICROPHONES THAT SURPASS THE HIGHEST REQUIREMENTS OF BROADCASTING, PUBLIC ADDRESS, AND RECORDING

KONTAK MIKES

Write for Catalog

AMPERITE COMPANY
561 BROADWAY NEW YORK, N. Y.

Barbey Addresses Meeting

A large number of members and guests of the Boston Chapter, National Electronic Distributors Assn., heard an address by George D. Barbey, president of the organization, at the recent meeting held in the Hotel Miles Standish in Boston. Milton Deutschmann is director of the chapter and George O. Lloyd is secretary.

"Reps" Met at Dallas

Southwestern Chapter, The Representatives, at their recent meeting in Dallas, enjoyed a Texas beef dinner, followed by open discussion on postwar problems, with each member outlining his pet scheme for peacetime electronic application.

Postwar Planning Meet

Members of the postwar planning committee of Raytheon Production Corp., attended a recent meeting in Chicago, held for the purpose of discussing Raytheon's plans for extensive peacetime activities.

The meeting was arranged by E. S. Riedel, sales manager, and those attending were A. E. Akeroyd, F. E. Anderson, Fred Simmons and Ross Lund.

Buy War Bonds and Stamps

READRITE

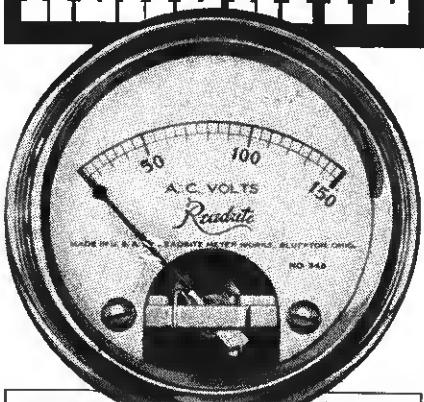


ILLUSTRATION MODEL 55 "L" 9/10 FULL SIZE

A.C. METERS D.C. METERS

Available in all catalogued models and ranges

Scale — 80° — 1 1/2" on enameled metal plate. *Specify Range A.C. or D.C. Add "L" after catalog model number*

Construction — Full bridge moving iron type with hard steel pivots.

Accuracy — ± 5% Full Scale or ± 2% any one point to order.

Mounting — 2 3/8" diameter hole. 7/8" depth behind flange.

READRITE METER WORKS, Bluffton, Ohio

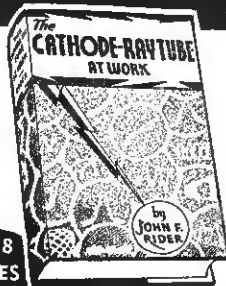
THE CATHODE-RAY TUBE AT WORK

THE cathode-ray tube has become the most valuable and universally used device for research, engineering and maintenance in the radio and electrical fields. It is difficult to find a laboratory where research is carried on in the radio, electrical and allied fields where the cathode-ray tube as a part of the cathode-ray oscillograph does not receive daily use.

This book presents a complete explanation of the various types of cathode-ray tubes and what role each element within the device plays in making visible the voltages and currents encountered in various kinds of tests.

More than half the book is devoted to the practical applications of the cathode-ray tube oscillograph. Oscillograms, made in the Laboratory maintained by the author, have been used to illustrate this section of the

338 PAGES \$3.00



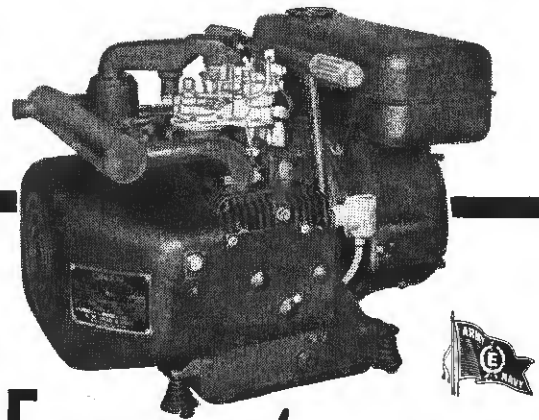
book, so that the reader may know just what image he should see under any given circumstances.

This volume is not an engineering text. There is, however, contained in the volume a complete and elaborate explanation of the theory of the tube. It is this information plus the practical applications, which make this book so valuable.

See Complete List of Rider Books in Other Ad in This Issue

JOHN F. RIDER Publisher, Inc.

404 FOURTH AVE., NEW YORK CITY
Export Division: Rocke-International Elec. Corp.
13 E. 40th St., New York City • Cable: ARLAB



ELECTRICITY for ANY JOB ANYWHERE

★ ONAN GASOLINE DRIVEN ELECTRIC GENERATING PLANTS provide electricity where power lines are not available, and for emergency service.

They're doing a war winning job on all the fighting fronts generating electricity for vital communications work and other war tasks.

Sizes from 350 to 35,000 watts. 50 to 800 cycles, 110 to 660 volts, A.C.—6 to 4000 volts, D.C. Also dual A.C. and D.C. output models. Engines are air or water cooled.

Your inquiry regarding present or post-war needs will receive prompt attention.

D. W. ONAN & SONS

2012 Royalston Ave., Minneapolis, Minn.

ONAN
ELECTRIC PLANTS

DELIVERY? RATING?

HERE'S THE INFORMATION ON THESE SIGNAL PRODUCTS



TELEGRAPH AND WIRELESS INSTRUMENTS

112-K

In addition to our government contracts for Wireless and Telegraph Instruments we have a factory stock of most all of these items for immediate shipment on orders with AA-5 or higher rating.

If you are not getting our weekly factory stock list send for your copy

SIGNAL Portable Electric Drills

OB-8 light duty $\frac{1}{4}$ ", OB-4 standard duty $\frac{1}{4}$ ", and OB-5 standard duty $\frac{1}{2}$ " ... are obtainable on A-9 or higher rated orders. Delivery on new orders on OB-8 at once; OB-4 and OB-5 on Nov. 1st.

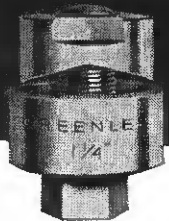


OB-4

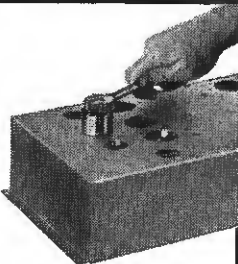
SIGNAL ELECTRIC MFG. CO.
MENOMINEE, MICHIGAN
Offices in all principal cities

SIGNAL

CUTTING HOLES IN RADIO CHASSIS?



Save Time with **GREENLEE PUNCHES**



- ① **No Drilling** — Making small holes larger without drilling is a simple task with Greenlee Punches. Holes as small as $\frac{3}{16}$ " are enlarged in a jiffy with a few turns on the cap screw.
- ② **No Reaming** — Range of sizes from $\frac{3}{16}$ " to $2\frac{1}{4}$ " cut accurate holes—eliminate reaming. Knockout Punches up to $3\frac{1}{2}$ " size are also available.
- ③ **No Filing** — Die supports the metal and tool cuts clean, smooth holes fast and easy — leaves no ragged edges.

WRITE FOR CATALOG 33E

Find out how these and other Greenlee Tools can save you time. They are available for essential users. Write for Catalog No. 33E.

GREENLEE TOOL CO.
1910 Columbia Ave., Rockford, Ill.

Huber Cited for Bravery

Edward G. Huber, former manager of equipment contract department of National Union Radio Corp., and at present somewhere in the South Pacific, received a citation for bravery last month, together with two other men of the Marine organization to which he is attached. Huber, with his two comrades, volunteered to move heavy caliber ammunition that was dangerously near burning and exploding shells on an ammunition dump. According to the commanding colonel, their lives were constantly in danger during the two hour period of action.

Announces Name Change

Announcement has been made of the change in name of the firm heretofore known as Glasgow-Allison Co., Charlotte, N. C., to Allison-Erwin Co. The firm, distributors of a general line of radios, electric refrigerators, hardware, floor coverings, etc., also owns and operates the Charlotte Hardware Co. There will be no change in ownership or management of the company, whose president is H. J. Allison.

Discussed Television

A general meeting of the American Television Society was held at the Hotel Capitol, New York, recently, where members and visitors heard speeches by Arthur Levey, president of Scophony Corporation of America, and Richard Hubbell of N. W. Ayer & Co.

Decca Signs Agreement with Petrillo Group

Decca Records, Inc., has signed a four-year agreement with James C. Petrillo's American Federation of Musicians.

According to a statement issued by Decca officials, "most of the terms included in the new contract are those under which all companies have been operating under a license arrangement with the American Federation of Musicians since 1937."

Applies to New Business

New royalties apply only to "new business," E. F. Stevens, Jr., Decca executive vice president stated. Royalty rates ranging from $\frac{1}{4}$ cent on 35 cent records upwards will apply on all those made from September 20 on by members of the Federation, and not against the records already in the Decca catalog. Likewise, in the case of World Broadcasting, the 3 per cent rates payable on electrical transcriptions containing performances by Federation members used more than once by customers, the fee will be payable only on recordings from that date and similarly will represent a charge against new business.

Need parts?



Order today from the **WORLD'S LARGEST Radio Supply House**

Immediately Available are certain hard-to-get radio and electronic parts and equipment, urgently needed by war-working industrials, radio service men and others.

Large inventory maintained for your emergency requirements. As distributors of more than 10,000 different items (covering practically all nationally-known lines of radio and electronic equipment manufacturers) we can handle complete orders, no matter how large. No need to split.

Orders shipped same day. Our trained crew of expeditors select, check and ship, the day your order is received.

Tubes Receiving and transmitting tubes, photo cells and special-purpose tubes. Although some types now Government-restricted, we can handle your orders with utmost efficiency.

P. A. equipment Sound systems, microphones, paging systems, inter-communicating systems—standard and specially-designed units for every application—available on rated orders only.

Books All latest authoritative texts on radio and electronics. No priorities required.

FREE! Catalogs, supplements and bargain flyers, which we publish from time to time, will be sent free on request.

Radio Wire Television Inc.

100 SIXTH AVENUE, NEW YORK

BOSTON, MASS. - NEWARK, N. J.

WE ALSO MANUFACTURE

public address and sound equipment. Have done it for ten years—pioneering several new audio developments. We have made equipment for the U. S. Army Signal Corps and many large Industrials, this past year. We can make pre-amplifiers, power supplies, rectifier units, cord sets—anything involving chassis wiring, assembling, soldering. Known to all manufacturers—to many since 1921—we can request and get preferential treatment. Competent engineering staff. No labor shortage in this area. Let us quote.

THE QUAM SPEAKER SPEAKS

Monday for the Vice President

Up at 6 A.M. with the cold dawn and you remember that the housekeeper is on vacation, to dress, air the dog, eat, wash the dishes, make the beds. To the office, late as usual—a conscience stricken look impresses nobody. Piles of mail with many large envelopes. "More forms, I'll bet." They are.

Letters, order, change, order, more letters! "I'd like to buy large quantities of Quam Speakers on L265 certification," brings the first laugh of the day. Four new applicants for jobs. "If they feel warm and are breathing—hire 'em."

An assembler wants a raise right now or he'll quit. Consult W M C rules. Consult W L B rules. They can't do that to us! They do!

Dictation. "We expect to have a few Quam Speakers for our regular customers in another two months"—our fingers are crossed!

Two hours consulting records before one simple form can be filled in!

Milk and a ham sandwich at the desk. Better stop eating meat at noon, red points are low.

The advertising agency on the phone—"What about your column"—maybe we should run a collection of meatless recipes!

The prize billing clerk approaches, something must be wrong. Right again, she wants to quit and get married, a half hour lecture on the benefits of working while married. Write an ad for a new billing clerk.

The expediter's expediter has failed to expedite. Can the Vice President do anything? Call the supplier,—"the circuits are busy." Long distance calling—"Can you ship our order"—it's still in the tool room—better write, it's less unpleasant.

"The circuits are still busy." It's 5:30, and you remember that the housekeeper is still on vacation!

But that's where you came in!

Klein Stauiland
QUAM-NICHOLS CO.
33rd Place & Cottage Grove, Chicago



INDEX To Advertisers

	Page
AERO NEEDLE CO.	85
AEROVOX CORP.	67
ALLIANCE MFG. CO.	78
AMERICAN STEEL PACKAGE CO.	77
AMPERITE CO.	86
ASTATIC CORP.	72
ATLAS SOUND CORP.	82
AUTOMATIC RADIO MFG. CO., INC.	84
BELL SOUND SYSTEMS, INC.	64
BELMONT RADIO CORP.	61
BURGESS BATTERY CO.	68
CENTRALAB	74
CITY RADIO CO.	68
CLAROSTAT MFG. CO., INC.	82
CONTINENTAL RADIO & TELEVISION CORP.	1
CROSLLEY CORP.	37
DECCA DISTRIBUTING CORP.	Cover 4
DELCO RADIO DIV., GENERAL MOTORS CORP.	57
DUMONT ELECTRIC CO.	79
ELECTRIC SOLDERING IRON CO., INC.	83
ELECTRONIC PRODUCTS MFG. CORP.	74
EMERSON RADIO CORP.	9
ERWOOD CO.	72
FADA RADIO & ELECTRIC CO., INC.	10
FONDA CORP.	4
FREED RADIO CORP.	3
GAROD RADIO CORP.	33
GENERAL ELECTRIC CO.	39
GENERAL TRANSFORMER CO.	78
GREENLEE TOOL CO.	87
HAMMARLUND MFG. CO., INC.	63
HYTRON CORP.	5
INTERNATIONAL RESISTANCE CO.	65
JACKSON ELECTRICAL INSTRUMENT CO.	60
JENSEN RADIO MFG. CO.	45
JFD MFG. CO.	88
KEN-RAD TUBE & LAMP CORP.	62
MAGNAVOX CO.	53
MAJESTIC RADIO & TELEVISION CORP.	46, 47
MALLORY & CO., INC., P. R.	Cover 2
MEISSNER MFG. CO.	73
MONARCH MFG. CO.	83
MUTER CO.	85
NATIONAL UNION RADIO CORP.	35
NOBLITT SPARKS INDUSTRIES	48
ONAN & SONS, D. W.	86
PEERLESS ALBUM CO., INC.	76
PERMO PRODUCTS CORP.	83
PHILCO CORP.	55
QUAM-NICHOLS CO.	88
RADIO WIRE TELEVISION CO.	87
RAULAND CORP.	81
RAYTHEON PRODUCTION CORP.	7
RCA VICTOR DIV., RADIO CORP. OF AMERICA	6, 71
READRITE METER WORKS	86
RIDER PUBLISHER, INC., JOHN F.	70, 83, 86
ROLA CO., INC.	75
SEEBURG CORP., J. P.	Cover 3
SENTINEL RADIO CORP.	76
SIGNAL ELECTRIC MFG. CO.	87
SIMPSON ELECTRIC CO.	69
SONORA RADIO & TELEVISION CORP.	43
SPRAGUE PRODUCTS CO.	59
STANDARD TRANSFORMER CORP.	64
STROMBERG-CARLSON CO.	12
SUPREME INSTRUMENTS CORP.	82
SYLVANIA ELECTRIC PRODUCTS, INC.	11
THORDARSON ELECTRIC MFG. CO.	81
TRIPLETT ELECTRICAL INSTRUMENT CORP.	84
TURNER CO.	66
UNIVERSAL MICROPHONE CO., LTD.	79
UNIVERSITY LABS.	85
UTAH RADIO PRODUCTS CO.	2
VACO PRODUCTS CO.	62
WEBSTER ELECTRIC CO.	58
WESTON ELECTRICAL INSTRUMENT CORP.	8
WILCOX GAY CORP.	31
ZENITH RADIO CORP.	41

While every precaution is taken to insure accuracy, we cannot guarantee against the possibility of an occasional change or omission in the preparation of this index.

Webster Has Booklet for Public

Webster Electric Company, Racine, Wis., whose crystal cartridges and pickups are an important part of many of the radio-phonograph sets in use today, has been carrying on an important service to the industry in cooperation with dealers and jobbers.

This has been done by advertising to the trade by name a few of the phonograph reproducing units in which the Webster Electric Products are standard equipment and calling the attention of dealers and jobbers to the availability of replacements.

To make it easy for dealers and jobbers to know just what equipment is required for specific units, the Webster Electric Company has issued a booklet which contains a complete replacement table for crystal pickups and cartridges which is available on request.

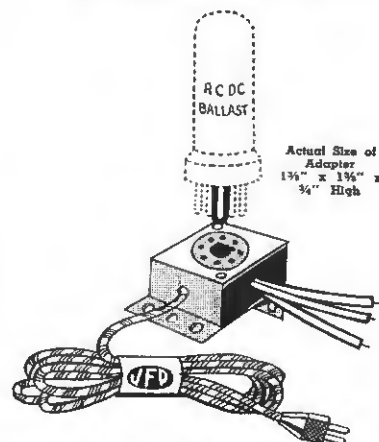
With the idea of helping the customer to take better care of these pickups, records and needles, a booklet is also furnished by Webster Electric for dealers to distribute to their trade.

Booklet on Electronics

"A Primer of Electronics" is the title of an illustrated booklet published by General Electric. It is a simple introduction to the electron and the principles that govern its use. Copies free by requesting GED-1068, General Electronics Dept., advertising division, Schenectady, N. Y.

HERE'S

The ANSWER TO THE RESISTANCE LINE CORD PROBLEM!



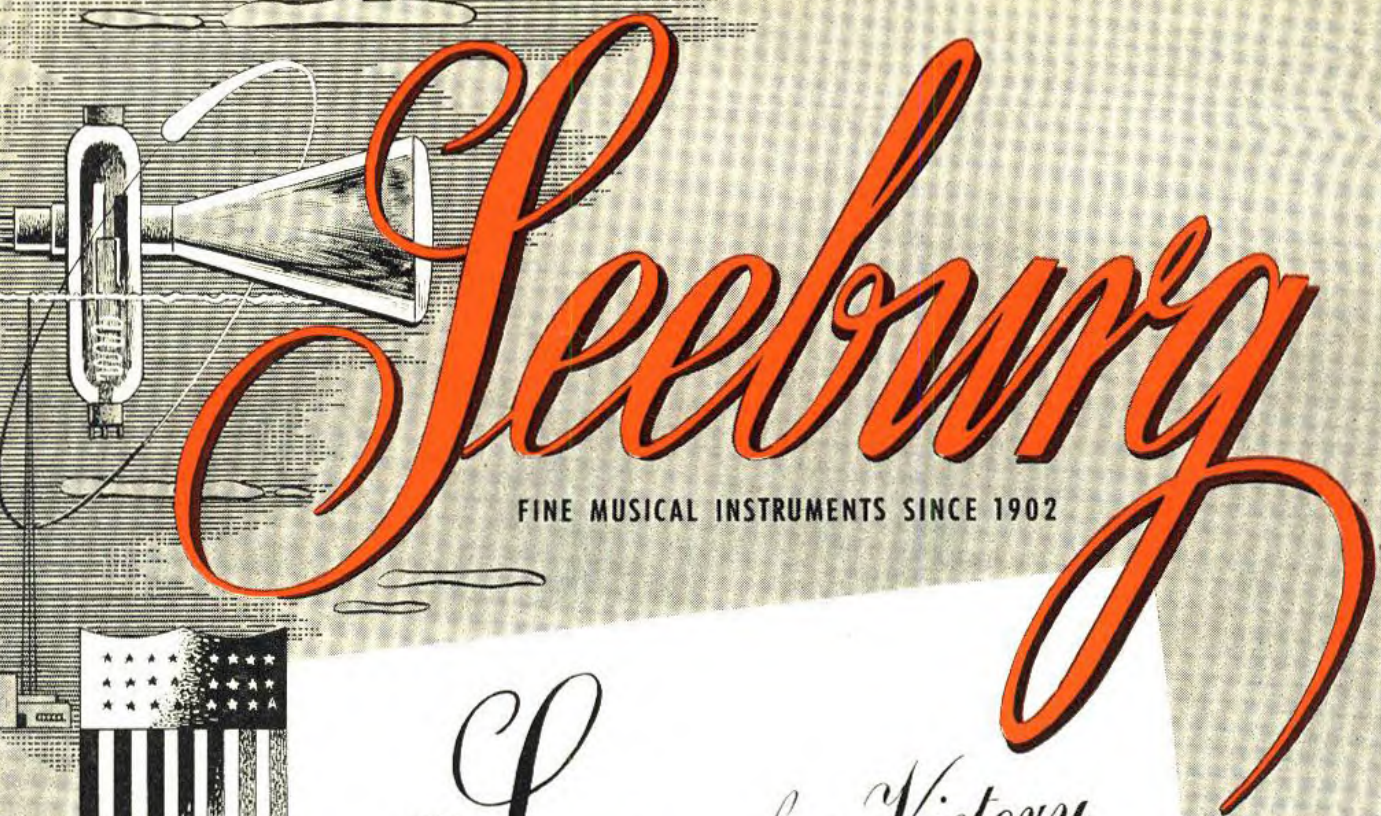
JFD RESISTANCE CORD REPLACEMENT ADAPTERS

Resistance line cords, for replacement in AC-DC Radio sets, are now practically impossible to get. New JFD Adapters permit easy substitution of standard ballast tubes FROM YOUR OWN STOCK. Only 4 different numbers of Adapters take place of all types of resistance line cords.

Write for Literature

JFD Mfg. Co.

4111 Ft. Hamilton Pkwy. Bklyn. 19, N. Y.



FINE MUSICAL INSTRUMENTS SINCE 1902

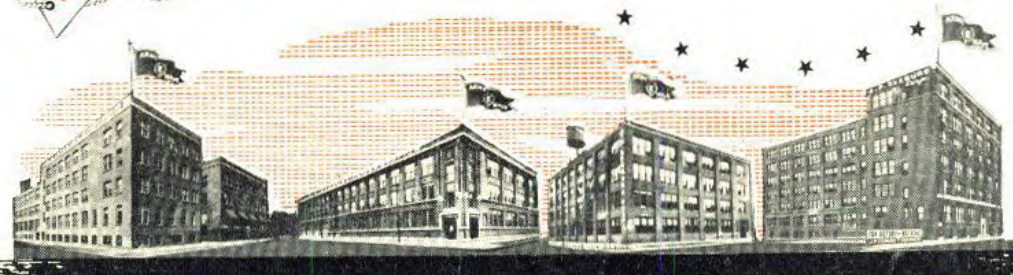


Serving for Victory

*Today . . . to serve a happier
World of Tomorrow!*



*Awarded to the
J. P. Seeburg Corporation
for Outstanding Production
of War Materials in
each of its
Four Plants*



J. P. SEEBURG CORPORATION • CHICAGO, ILLINOIS

WIDE AWAKE DEALERS ARE ORDERING THESE RECORDS FOR CHRISTMAS



Get the benefits of the big Christmas-season buying-wave coming your way! People are anxious to buy de luxe albums of records for the holidays—both as gifts and for their own use. You have, in the Decca Personality Series catalog, nearly a thousand listings in this extra-quality class . . . Records by Hildegarde, Carmen Miranda, Marlene Dietrich, Mary Martin and dozens more—all big names.

Here's your opportunity to catch the Christmas demand for records at its peak—but you must act quickly. Early orders necessarily get preference.

HERE ARE SOME OF THE HIGH SPOTS

CARMEN MIRANDA

in "The South American Way"
Accompanied by The Bando Da Lua

Album No. A-109 List \$2.75

- 23130 South American Way
Touradas Em Madrid
- 23131 Que E Que A Bahiana Tem?
Co, Co, Co, Co, Co, Co, Co, Ro
- 23132 Mama Eu Quero (I Want My Mama)
Bambu-Bambu



Selections from GEORGE GERSHWIN'S
Folk Opera

PORGY and BESS—Vol. 2

Featuring members of the original and
current N. Y. productions
Orchestra Under Direction of
Alexander Smallens

Album No. A-283 List \$2.75

- 23250 A Woman Is a Sometime Thing
Introducing: Summertime
It Takes a Long Pull to Get There
- 23251 What You Want Wid Bess?
Strawberry Woman's Call
Crab Man's Call
- 23252 I Loves You, Porgy
There's a Boat Dat's Leavin' Soon
for New York

THE NUTCRACKER SUITE

Tchaikovsky (Simplified Version)

THE DECCA LITTLE SYMPHONY ORCHESTRA
Conducted by ALEXANDER SMALENS

Album No. A-23 and DA-23 List \$2.75

- 23071 Part I—Overture Miniature
Part II—Marche
- 23072 Part III—a) Danse de la Fee Dragee
b) Danse Russe Trepak
Part IV—Danse Arabe
- 23073 Part V—a) Danse Chinoise
b) Danse Des Mirlitons
Part VI—Valse Des Fleurs



COLE PORTER SONGS Sung by

MARY MARTIN

With Orchestra directed by Ray Sinatra

Album No. A-123 List \$2.75

- 23148 Let's Do It (Let's Fall In Love)
Why Shouldn't I?
- 23149 My Heart Belongs To Daddy
I Get A Kick Out Of You
- 23150 Katie Went To Haiti
What Is This Thing Called Love?

NOEL COWARD SONGS Sung by

HILDEGARDE

With Orchestra directed by Ray Sinatra

Album No. A-77 List \$2.75

- 23099 Some Day I'll Find You
Dance Little Lady
- 23100 I'll Follow My Secret Heart
Zigeuner
- 23101 I'll See You Again
A Room With A View



THE QUINTET OF THE HOT CLUB OF FRANCE—Volume 2

With DJANGO REINHARDT (Guitar)
STEPHANE GRAPPELLO (Hot Fiddle)

Album No. A-334 List \$3.50

- 23261 Direct Appeal (Appel Direct)
My Melancholy Baby
- 23262 Them There Eyes
Swing 39
- 23263 The Japanese Sandman
Love Letters (Billets Doux)
- 23264 Twelfth Year
Three Little Words

JUST RECORDED!

PISTOL PACKIN' MAMA and VICT'RY POLKA

with BING CROSBY,
ANDREWS SISTERS
and VIC SCHOEN Orchestra
Decca Record #23277 List, 75c
ALL ON ONE RECORD

READY
ABOUT
OCT. 28

READY
ABOUT
OCT. 21

PISTOL PACKIN' MAMA and WILBERFORCE, GET OFF THAT HORSE!

FREDDIE ("Schnickelfritz") FISHER
and His Orchestra
Decca Record #4425 List, 35c

Prices do not include Federal State or Local Taxes

Order immediately
from your
regular
DECCA
Branch



**DECCA DISTRIBUTING
CORPORATION**

Sole Distributors