

RADIO

DECEMBER • 1941

and
Television

RETAILING

MEMORANDUM

RADIO A NECESSITY!

As the nation faces the ordeals of War, radio has proven itself more vital than ever. Already the public has had 24-hour-a-day proof that there is no more essential consumer item than the radio set in home, office or car! In America's united activity for war, Radio is a Necessity!

Eager to help toward perfect coordination, your publishers are proud to be able to announce a wider field in which to do our part. Next month, January, 1942, our new enlarged and improved consolidated publication, RADIO RETAILING Combined with RADIO TODAY, will appear, and will be sent to all subscribers of both predecessor publications.

Meanwhile this December number, now in the reader's hands, is the last issue of Radio Retailing in the form it has appeared for 16 years. Subscribers to Radio Today are also receiving this issue, in place of Radio Today, which will not be published for December.

The initial January number of the new and expanded magazine will jump headlong into radio's wartime job - to demonstrate to the industry and the trade, as well as to the American public and its Government, the essential place of radio in a world afire.

Watch for the January issue - Radio a Necessity!

G. H. CALDWELL,
M. CLEMENTS
Publishers.

CALDWELL-CLEMENTS, INC.,
480 Lexington Avenue,
NEW YORK, N. Y.

RADIO
and Television
TODAY



Simple But Complete... Check It!

The New
P. R. MALLORY & CO., Inc.
MALLORY
 Replacement
Volume Control Line!

Completely New
 and All Mallory

AN A-C SWITCH THAT
 SNAPS ON AND
 STAYS ON!



THE PERFECT SIZE FOR
 EVERY APPLICATION!



PRECISION-BUILT
 LIKE A FINE WATCH!



MORE
 RUGGEDNESS THAN
 YOU'VE EVER SEEN
 BEFORE!



HERE'S a streamlined set-up of volume controls . . . with every practical short cut possible to keep your inventory investment down and simplify your service work. Only 16 controls are needed for 85% of all your replacement needs!

The A-C switch snaps on, doesn't need disassembly. The plug-in shafts are patented. Can't pull or twist loose.

See this new control at your Mallory distributor's today. No other line gives you such complete coverage!

Save your old Aluminum parts. It is patriotic to give them to National Defense.

Get Your
 4th Edition
 MYE...
 But Hurry!



Only A Few
 Copies Left!

Order From Your Distributor AT ONCE!

They're Switching to Mallory
 Replacement Condensers . . . FAST!

Mallory Replacement Condensers are being sold and installed in greater numbers than ever! Use them for their complete coverage . . . long-life construction . . . You save time—are sure of a job that's right with nothing but Mallorys in stock!



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

More
 than ever
 —INSIST ON

P. R. MALLORY & CO., Inc.
MALLORY
 APPROVED
 PRECISION PRODUCTS

VIBRATORS • VIBRAPACKS • CONDENSERS •
 VOLUME CONTROLS • ROTARY SWITCHES •
 SINGLE AND MULTIPLE PUSH BUTTON SWITCHES
 • RESISTORS • RADIO HARDWARE

Brother-can you spare some Time?

Take a gander at this bang-up four-color page on the brand new **RCA Victor FLY-Weight**

It's in the December 13 issue of The Saturday Evening Post—is designed to merry your Christmas business! Take full advantage of it by pushing the FLY-Weight for all it's worth!



NOW! 5 SENSATIONAL NEW FEATURES GIVE YOU THE NEW
RCA Victor FLY-Weight
PICK-ME UP
 De Luxe Portable Radio—Plays in Planes, Trains, Autos or Anywhere



JUST IN TIME—AND JUST THE GIFT—FOR CHRISTMAS
 You've never seen a radio like this at any price! Gives you **MORE POWER** with **LESS WEIGHT**—finer tone in smaller space! On the skyways or the highways, in hotels or at home, the skyways or you with its reception and volume—for the RCA Victor FLY-Weight, with Magic Wave Magnifier, performs superbly even where most portables won't perform at all!
 In your car, for example, your RCA Victor FLY-Weight has power to spare—brings in programs nearly everywhere, simply by attaching the Magic Wave Magnifier antenna to the window. In planes and trains, too—wherever "metal shielding" spoils ordinary reception—you'll praise the Magic Wave Magnifier.

Yes, the FLY-Weight is the ideal "away-from-home" radio—much lighter and far more efficient than many "suitcase-size" portables. But it doesn't stop there! It's the ideal "at-home" set. It plays from your house-current, A.C. or D.C., just as well as on its own batteries. Has received writers' approval. See this triple-purpose radio at your RCA Victor dealer's—and remember that it's a car radio, a home radio, and a portable... all in one!

RCA Manufacturing Co., Inc., Camden, N.J. A Series of the Radio Corporation of America. See Canadian models, write to RCA Victor Co., Ltd., Montreal, Trade Pat. Off. by RCA Mfg. Co., Inc. RCA Victor Radios may be purchased on C.I.T. Easy Payment Plan.

**RCA VICTOR
 MAGIC WAVE
 MAGNIFIER**
 —available as accessory



Radio waves are weakened when they travel through metal walls... that's why ordinary portable radios are so disappointing in trains, planes or cars. But not the FLY-Weight! The antenna of the Magic Wave Magnifier attaches to the window—gets the strong waves. And powerful magnifying circuits make them stronger still before they go to the efficient super-heterodyne circuit! When not in use the Magnifier is tucked away inside the case.

THESE 5 GREAT NEW FEATURES MAKE THE RCA VICTOR FLY-WEIGHT POSSIBLE

NEW! MAGIC WAVE MAGNIFIER

This great feature, available as an accessory, gives you excellent reception in metal-shielded locations where ordinary portables won't play at all.

NEW! ROLL-TOP "RETRACTABLE" FRONT

Attractive, smooth-working, protecting grille is not in use. Gives smart appearance of exposed speaker when closed.

NEW! RCA VICTOR "TYNETRON" TUBES

It took seven extra tubes to make the FLY-Weight performance possible! No larger than your little finger, these "Tynetrons" give big set performance.

NEW! SUPER-SENSITIVE CIRCUITS

This intermediate Frequency Transformer is one of the many specially designed parts which make possible outstanding circuits.

NEW! COVERLITE CASE

Extra Light, Extra Strong. Made by the new RCA Victor "modular process" sturdy and durable. Will open for your instant listening pleasure.

RCA Victor

RCA Manufacturing Company, Inc., Camden, N. J.
 A Service of the Radio Corporation of America

For Canadian models write RCA Victor Company, Ltd., Montreal. Trademark "RCA Victor" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc.





In Defense of Your Business

● So that the nation may continue to be informed—more than thirty-five million receivers in American homes and automobiles must be kept in first-class condition.

This is a responsibility of the trade—your responsibility and your contribution to the defense of the nation.

The replacement requirements which in the months to come will be more and more important to your business call for careful selection of parts in order to conserve resources and materials so important to defense and civilian needs. The requirements of Utah customers will be met as promptly and completely as possible.

Many Utah products are being used in National

Defense—for Army, Navy, Air Corps and important civilian communications. Utah engineers are continually at work, meeting the demands of the National Defense Program and its necessary restrictions on some materials. All the experience, knowledge and skill of the Utah production staff are required to comply with the ever-increasing demand for Utah Speakers, Transformers, Vibrators and Utah-Carter Parts.

UTAH RADIO PRODUCTS COMPANY, 810 Orleans Street, Chicago, Illinois. Canadian Office: 560 King Street, West, Toronto. In Argentine: Ucoa Radio Products Co., SRL Buenos Aires. Cable Address: Utaradio, Chicago.



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

RAYTHEON tubes make *History* with **PAN AMERICAN AIRWAYS**



Draws Continents Together by Annihilating Distance

Not long ago the world was astounded by news that a plane had flown the Atlantic. But almost over night, so it seems, the sensation of yesterday is child's play today.

That one-way hazardous trip has grown to frequent weekly round trips.....to Europe, South America, Alaska, Australasia and the Antipodes! That frail little craft has now become a giant Clipper Ship of the air carrying not just one, but up to 85 persons including the crew.

This triumph of airplane engineering and highly perfected equipment extends, of course, to the communication system which must keep constant contact with planes thousands of miles away. And we are proud that Pan American Airways System is a big user of RAYTHEON tubes.

These are not special RAYTHEONS! They're exactly the same kind of RAYTHEONS that thousands of far-sighted dealers and servicemen are selling today for the home radio. They know that a sound and permanent replacement business must be built on quality tubes and parts... the kind, for example, that have qualified for use with million dollar Pan American Clippers... RAYTHEON TUBES!

Yet Raytheons Cost No More!

*Raytheon Production Corporation
New York • Chicago • Los Angeles • Atlanta • Newton, Mass.*



WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURER



SO FISHERMEN TAKE THEM, TOO

THE Captains of tuna boats go where the fish are and that means rough weather much of the time. Radio is vital because one captain radios others when he finds a school. Radios must work perfectly through shivers and shakes and terrific impact.

It is under conditions like these that the Sylvania Lock-In Tube is designed to perform its most vital service. Once in place it stays in, regardless of position, vibration or impact.

The Lock-In Tube is locked in place and performs under unbelievable punishment, so that is why it is a better tube for small boats and big boats—battleships, destroyers, dive bombers, fighting planes, tanks, jeeps, home radios, automobile radios, in fact everywhere where service requirements are tough. It is the big answer to consumer satisfaction no matter whether the consumer is the Army, Navy or you.

Sylvania Radio Tube Division

HYGRADE SYLVANIA CORPORATION

EMPORIUM, PA.

500 FIFTH AVE., NEW YORK • SALEM, MASS. • ST. MARYS, PA. • IPSWICH, MASS. • TOWANDA, PA.

Also makers of Hygrade Lamp Bulbs, Hygrade Fluorescent Lamps and Miralume, Fluorescent Light Fixtures

ATTENTION!

Hazeltine Corporation, one of America's outstanding radio research institutions since 1923, needs additional advanced radio engineers and electronic research physicists for the research laboratories of its subsidiary and to assist its licensee companies.

This expansion is due to the extended services being offered by the Hazeltine Corporation to its licensees in connection with important developments now in progress for the National Defense, and also commercial and industrial applications in the field of television and ultra high frequency radio apparatus. This is a most unusual opportunity for high grade engineers, qualified by scientific and personal characteristics, to engage in new and interesting technical activities.

All applicants must be American citizens qualified to work on such developments.

Applications will be held confidential, but must be in writing, giving full particulars concerning experience, qualifications and personal data. Personal interviews will be by appointment only.

Address communications to

HAZELTINE SERVICE CORPORATION

**1775 Broadway
New York, N. Y.**

LABORATORIES

New York

Little Neck, L. I.

Chicago



Be on the for Radio's TRADE

NEXT MONTH, radio's two most successful trade magazines will appear as one—the first issue of RADIO RETAILING Combined with RADIO TODAY.

In token of expanding helpfulness to reader and advertiser, the new RADIO RETAILING—TODAY will be larger in size, new in format, vigorous in tempo and service.

In its first issue—January—the new magazine will strike a keynote of deep concern to every man in radio. It will, in fact, sound THE BATTLECRY OF RADIO FOR '42.

Extra copies of the issue will be sent to high officials of the administration, members of the Congress and the heads of various organizations whose activity affects public opinion of radio. To them, as well as to the radio industry, the first issue will show how radio is thrusting forward on a three-sided front. First, fighting national peril from every source. Second, resisting every threat to radio's vital service or its essential nature. Third, safeguarding the necessary income of a necessary industry.

Because radio's ability to do ALL THREE depends so greatly upon continued servicing and merchandising, it will be the policy of the new magazine to bear down harder than ever, editorially, on the changes and new techniques in both selling and servicing.

Already it is clear that alertness and resourcefulness in 1942 will pay dividends to the merchandiser and the technician. Their planning and their methods must take into account the possibility of further shortages, or drastic defense requirements, which can only be offset by extreme personal enterprise and adaptability.

Obviously, the situation in the nation and in the radio trade furnishes a rare opportunity for RADIO RETAILING Combined with RADIO TODAY to render a much-needed service in a crucial period—a tangible service to the largest group of jobbers, dealers and service dealers ever brought together in a merchandising and servicing publication.

That, after all, was the main concept of the merger—to weld together radio's two most important groups of outlets and give them an editorial service far surpassing the possibilities of either publication alone.

So, the members of the radio trade now have *one great medium* where their strongest interests are served—*one great marketplace* where the manufacturer can reach all *worthwhile* outlets at *one low cost*.

Thus radio joins the select group of industries offering the subscriber and the advertiser a ONE PAPER BUY.

An Audience Distinguished for Its Buying Power.

It means more than ever now to be a subscriber to a Caldwell-Clements publication. Not every radio man can be one.



ORESTES H. CALDWELL
Editor
RADIO RETAILING
combined with
RADIO TODAY

JANUARY ISSUE

featuring

"RADIO A NECESSITY"

Closing date January 10

Lookout...

GREATEST MAGAZINE!

Future subscription sales will be concentrated among those members of the trade whose activity or buying power can be established. In addition to all other ratings, the publishers will continue their original practice of getting verified lists of large outlets from 400 cooperating jobbers and distributors.

These lists are not only helpful in building a buying power circulation; they enable the publisher to keep abreast of changing distribution and eliminate wasteful coverage.

With respect to all classes of radio and allied products, these jobbers know WHO buys WHAT. Also HOW MUCH and WHEN. They are usually the first to know of new outlets, line-shifting, etc.

In making these lists available to RADIO RETAILING—TODAY at frequent intervals, the jobbers are accomplishing two other purposes—first, helping to secure for themselves a better coverage of their respective merchandising and servicing accounts; second, helping to maintain a national trade audience, of high buying power, for the manufacturer.

This, in the opinion of Caldwell-Clements, is a present-day necessity in both economics and advertising. It will reach its highest level in January when the two great markets of RADIO RETAILING and RADIO TODAY are merged into one.

Again we say—Be on the lookout for RADIO'S GREATEST TRADE MAGAZINE!

**CALDWELL-
CLEMENTS,
INC.**

**480 LEXINGTON AVENUE
NEW YORK**

PAID SUBSCRIPTIONS
without duplication

24,600

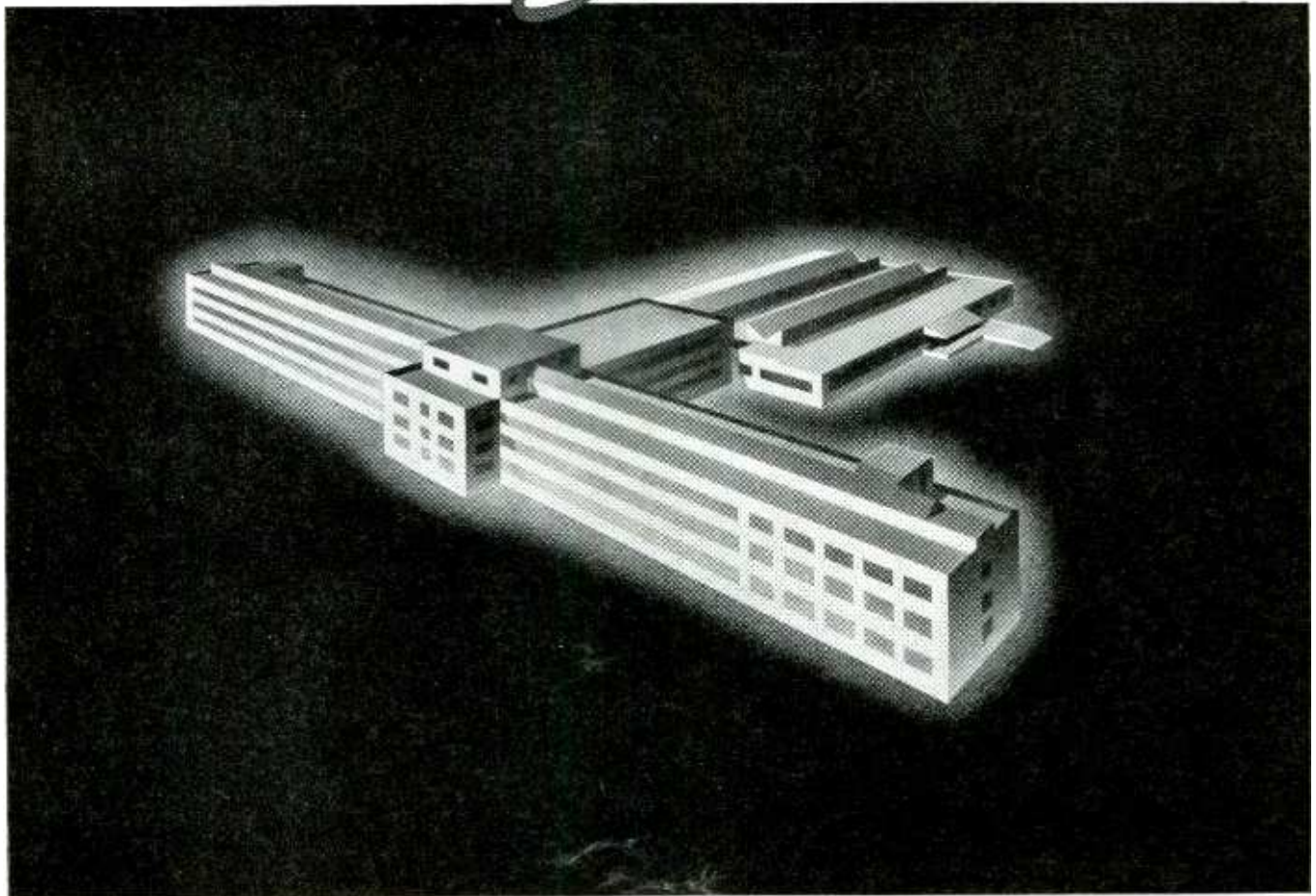
Total distribution, 25,300

MEMBER, AUDIT BUREAU OF
CIRCULATIONS



Hundreds of congratulations followed announcement of the merger and are still coming in, forcing the publishers to defer any attempt to quote from this stream of significant comment.

This is the House *Electrons* are Building



“GREAT OAKS from little acorns grow”—
In radio, great services from little electrons grow. Electrons—tiny bits of electricity—are corpuscles of science in the lifeblood of radio progress.

Electronics took wireless out of the spark gap and put it into the vacuum tube oscillator; it lifted radio off the cat-whisker of the crystal detector and placed it in the electron tube, acting as both detector and amplifier. Electronics gave wireless a voice—the radiophone, now called broadcasting.

Today in the Electronic Age, a new structure—RCA Laboratories—is being built on 260 acres at Princeton,

N. J., planned to be the foremost radio research center in the world. Here in surroundings that inspire clear thinking and research, scientists of RCA Laboratories will seek new truths. They will develop new inventions and services for radio, for industry and for people everywhere, because Electronics is an ever-broadening field.

The main section of RCA Laboratories—the House that Electrons are Building—will be ready for occupancy in the Spring of 1942. And with its opening, a new gateway to the future of radio swings wide for the benefit of America and all the civilized world.



RCA LABORATORIES

A Service of the Radio Corporation of America

Other RCA Services: RCA Manufacturing Company, Inc. • Radiomarine Corporation of America • R. C. A. Communications, Inc.
National Broadcasting Company, Inc. • RCA Institutes, Inc.

FIRST IN WAR-RADIO!

FROM the initial flash of the attack on Hawaii Sunday, Dec. 7, radio has made a brilliant performance in reporting the War.

Its quick and complete summaries of the situation instantly unified national opinion. So that in less than 24 hours Congress acted with unanimous accord. Only radio could have accomplished that.

Now radio continues its useful service to every citizen, 24 hours a day. It brings the news of the instant. It puts the voice of the President and national leaders into every home. It brings information and warnings. It builds confidence, courage and morale.

Radio has proved itself essential in every home these past few days. Defense Administrator LaGuardia recognized radio's vital role in his air-raid advice when he urged

**"KEEP INDOORS. LIE DOWN. TURN OFF THE LIGHTS.
TURN ON THE RADIO!"**

Since December 7, millions of Americans have learned anew that Radio Is a Necessity. They recognize that the radio in the home, the office or the automobile, is of prime importance. They are coming to see the need of keeping our radios in operation above everything else, and to realize the imperative need of providing materials for radio-set replacements, renewals and repairs in the necessary millions.

RADIO IS A NECESSITY.

Millions of Americans now know that this is so.

EDITOR, Orestes H. Caldwell; PUBLISHER, M. Clements; Managing Editor, Darrell Barte; Merchandising Editor, H. L. M. Capron; STAFF, E. T. Bennett, N. McAllister, William E. Moulic, M. H. Newton, J. A. Samborn, B. V. Spinetta, R. Y. Fitzpatrick, 201 N. Wells St., Chicago, Ill.; CALDWELL-CLEMENTS, INC., 480 Lexington Ave., NEW YORK, N. Y. Telephone PLaza 3-1340. Copyright 1941. Member Audit Bureau Circulations. Vol. 26, No. 12, December, 1941.

PHOTO Shorts

WAR HEADLINES

Display experts at Grinnell's, Detroit, built an exceptional window by spotlighting a radio among dozens of newspaper headlines screaming "War Spreads!" The set looked great, with "hate and ugliness a million miles away"—a theme taken from the Stromberg Carlson ad.



MUSICIAN PLUS

One of the popular orchestra leaders who brighten up the air waves is Ina Ray Hutton, heard on the "Spotlight Bands" show via 119 Mutual stations.



DEALER GIVES ALL

He deserves a hand—dealer Elie Dalmou of Marin Music Co., San Rafael, Calif., herewith donates 200 trade-ins to Army fliers at nearby field. The good sets supply entertainment, the others are ripe for the Signal Corps trainees.

LOOKING AHEAD

Television moves smartly forward, spite of everything. For instance, GE now introduces this Contemporary Model 90, with Armstrong FM, three entirely separate chassis. Remember, the FCC has approved the new telestandards, and nearly two dozen stations throughout U.S. are ready for commercial licenses.





TELEPHONE STUNT

Showing how radio men can tie up with phone company, for window space. "Phone your dealer for demonstration," says this display by Washington, D.C., jobber for Wilcox-Gay.

CHICAGO OPENING

He looks like he might be there to stay—dealer A. A. Kritz of Alon Radio Company's new store in Chicago. Among the exhibits of community good will there's even a cake with a hearty "Success" on it.

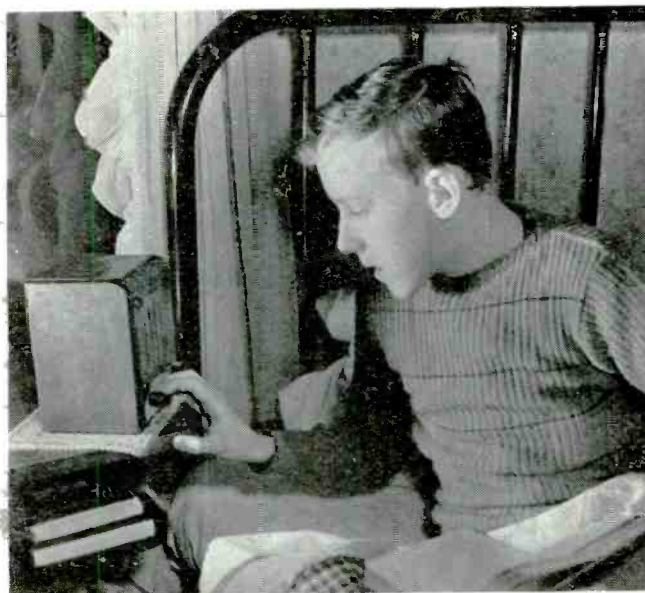
DESIGNED FOR VOLUME

While retailers depend more and more on record profits, many are wondering how to plan the sales floor accordingly. This new interior at Rab's, Buffalo, N. Y., has two record "Bars," three racks for albums, two booths, plus a long self-service rack at right for used records. The whole job done by A. Bitter Construction Corp.



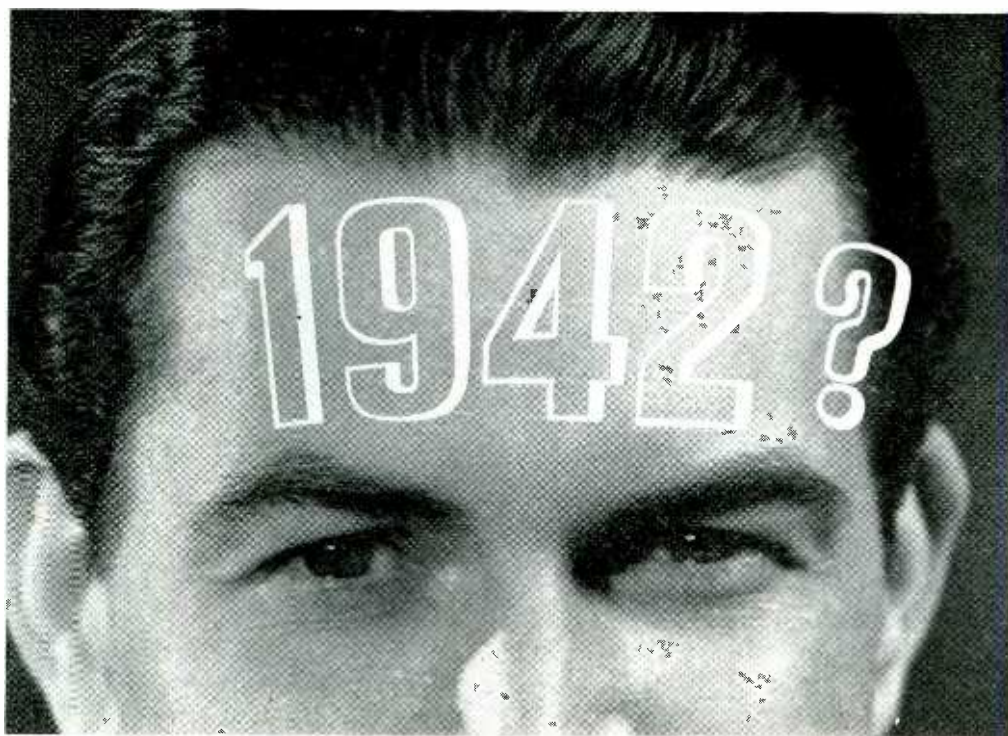
RUSH TO RECORDS

Here's what happens when you stage record promotions these days. Hundreds of buyers came to Music House, Inc., Buffalo, N. Y., when the store did some local plugging on RCA Victor's "two for one" record offer.



BEDSIDE TEACHER

A two-way wired intercommunicator connects this student with his classroom. The devices are used by 15 school districts in Iowa, so that pupils confined to their beds will not miss out on regular classes. He hears everything that goes on at school, and "recites" when it's his turn.



NOW IS THE TIME for dealers to get their stocks in order, carefully and balanced in relation to sales. Each dealer should start with an accurate physical inventory immediately after Christmas, and follow up with a "January Clearance Sale" of all excess and slow-moving stock.

In making plans for 1942, it is mighty important to keep in mind that although retailers generally have just experienced their greatest flood of consumer buying, the high tide in *radio* buying has been passed for the present.

Time to Toughen Up

Some months ago there were general fears that there would be a shortage of radio; that demand would exceed supply. When it became harder to obtain some models fast, many dealers became panicky. They bought all the radio they could pay for—and then some.

Some dealers are known to have rented extra space, just to store their surplus stock. Thus they added further to their fixed charges and operating expense.

FACING

ARE YOU THINKING about cleaning up your stocks and

But while they increased these costs and enjoyed a streak of free buying on the consumer's part, many a dealer just *softened up* on *selling* effort. This is one factor in the market which is *not* beyond the retailer's control. This is no time for

a let-down in promotion and selling effort.

For there is no other way of maintaining radio sales. No miracles are going to happen. Plenty of retailers in other lines are aggressively competing for the consumer's dollar.

Start the Year Right

January is an excellent month to sell stock carried over—and to start laying the sales foundation for every other month in the year. Don't be fooled by the recent buying spree. Look sharply, and be guided by the buying trend of the last few weeks.

Let January be the beginning of

QUALITY DEMONSTRATION—Charles Jackson of Woodruff's, Knoxville, Tenn., picks a higher-priced job for this customer. This store features "protected purchase plan", accepting down payments from customers and holding the set till later. It protects buyers from higher prices and new taxes.





PHOTO-ELECTRIC—The Philco 1008 combination has “beam of light” feature, 9-tubes, interior light.



SALEM CHEST—That’s the style of this Stromberg-Carlson 925-PS combination with automatic changer, FM, 12-in speaker.

A COMBINATION IN '42"

radio-music reproduction. One combination produces net of 20 small sales



HIGH-BOY—A new and deluxe RCA Victrola, the V-120, with just-out automatic record changer. Jewel-point eliminates needles, plays twelve 10 in. or ten, 12 in. records. Radio has Overseas dial and new Teletube feature.



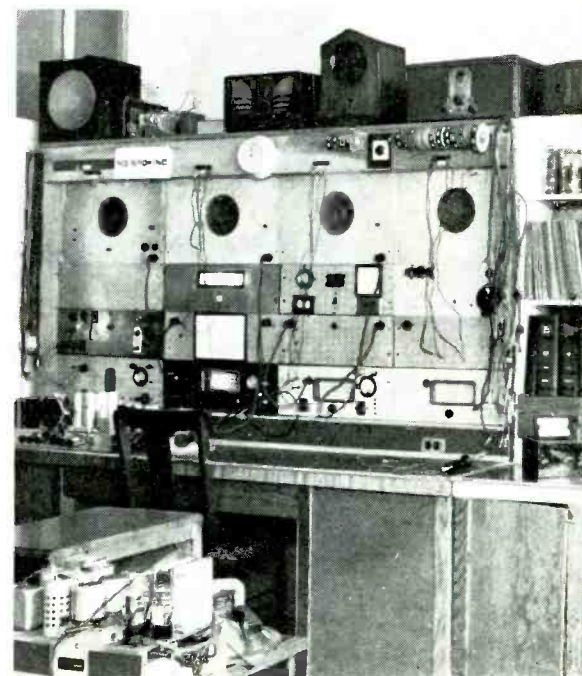
SCORES of planes leave and arrive at LaGuardia Airport each day. All are announced over the PA system, two speakers of which are shown at left. These and other speakers along the observation deck advise passengers of the time of departure and arrival.

SOUND In Action



EXTRA MIKES in night clubs are being used by the customers to "kid" the performers and patrons. Amperite mikes in this N. Y. nitery.

INCREASED TRAFFIC to and from army camps is being efficiently handled by this new sound equipped patrol car of the Orlando, Fla., Police Department. University Labs. speakers mounted on top.



TAKE A WALK for one and a half hours each business day. The exercise will benefit your health and if you follow my advice, it will be beneficial to the health of your business, as well.

Of course you don't just walk; you canvass for service work. I mean thorough canvassing, not just giving it a lick and a promise. If you have all the service work you can take care of—read no further—but if you would care to hear some tried and proven ideas for keeping the business growing, instead of standing still or going backward, stay with me.

Planning the Campaign

Draw or procure a large map of the territory in a mile circle from your shop. Mark the location of your shop with a gold star (!) and using that as a center, draw a circle with a quarter-mile radius, a half, and three-quarter and mile radius. This is your territory and the closer the customer lives to you, the more profitable the business will be. Time and transportation factors will be less. Hang the map on the wall in your shop and start canvassing within the quarter mile cir-

your consistent building of future sales.

Dealers will be needing more of these sales in the higher-priced brackets. They should remember the brisk demand for automatic radio-phonograph combinations and for FM. Hundreds of people want these instruments, but very few have them. The market is there, but it must be cultivated.

And as the trend to the automatic combinations has gained headway, many dealers have added to their sales—and profits—with records. It is a remarkable fact that many retailers have *overlooked* records.

Check the Extras

It is important to think about recorded music now. Records will be even more important in 1942.

Many dealers have also expanded into other lines in the past few

months. In the post-Christmas check-up, these lines should be analyzed carefully. If they do not hold real promise, drop them. But if they do look *good*, develop them. Don't *forget* them. Remember that it takes more than a little space—and a little stock—to develop any retail business.

Shift in Policy

One thing which may spell trouble in 1942 in the giving of trade-in allowances that are too high. There is no better time than *now* to stop this before it gets to be a racket again. Remember that dealers will have to have a longer gross margin—and more money in the bank—to stay in business next year.

Taxes are going to call for more cash than you think.

And credit is tighter than it was. While deferred payments are short-

For Profit in 1942

1. Study the effects of "Defense" spending in your area and plan your 1942 stocks accordingly.
2. Plan some new and strong promotions on quality radios.
3. Check up on how your extra lines have panned out in 1941 and get this settled for next year.
4. Identify yourself with radio's new developments, such as FM and television.
5. Don't make price concessions.

er and more rigid, the finance companies are more hard-boiled, too.

All of which resolves itself into these simple suggestions for January: (1) Clean up your stock and get it balanced in relation to today's

A FIGHTING YEAR

are you making fresh plans to meet those tricky trends ahead?

By H. L. M. Capron, Merchandising Editor



prospects, (2) Get over the "coasting" habits of the last few months, and get a consistent sales promotion plan working full time, (3) Go after *everyone* with the full story of quality merchandise—particularly automatic combinations and FM, and (4) Stick to your price and keep your profits—you'll need them.

PLENTY OF INTEREST—A registering scene at Schmitt Music, Minneapolis, Minn., during a sale on good records. Crowds like this are certain to buy accessories, too, and probably those folks in the background are eyeing a radio display.

CONCORD PHONO-GLIDE — Hepplewhite job by Zenith, model 22H699 with Radiorgan. Armstrong FM, 22 tubes, three speakers.



GLAMOR-TONE—The Crosley 72CP combination has that smooth-acting front panel feature, Floating Jewel, etc.



DUAL GRILLES — Both corners are speakers on this LC-679 combination by General Electric. Beamscope built in, and leads for both television and FM.

“MAKE EVERY SALE

ONLY in fine “combinations” does public get best quality of

THE PHONOGRAPH-RADIO combination, that instrument with the new record-playing conveniences and the ear-filling tone, is getting all the votes as “the merchandise most likely to succeed in 1942.”

The new year may be cluttered with Japs, price changes, material shortages and assorted nightmares, but if there’s any unit with a solid future, it’s the combination.

Following the fewer-but-finer radio trends of recent months, more and more dealers are counting on these combos as the customer-getting, margin-lifting, traffic-creating champs for the coming period. For instance:

“Here at our store,” declares A. S. Jaffe, of Lehman Radio Salon, New York City, “We are counting on 1942 as a combination year. We figure that our volume on these instruments will be around 150 per cent up; we have already tripled our record business. Recorded music is a tremendous magnet, and what few people ask for straight radios of the console type, take very readily to combinations.”

At Famous-Barr Co., St. Louis, Mo., the emphasis on radio-phono-

graphs has taken on a “streamlined” form. The instruments are shown in separate rooms, individualized by lines. Samuel E. Gross, radio buyer, says that combination fans usually ask for the instruments by brand, and that the idea of demonstrating the units by manufacturer classification has “caught on” immediately. It has been found that sales can be closed more quickly when the customer is protected from confusion, interruption and fatigue.

Says J. Middlebrook, Radio Shop of W. & J. Sloane, Inc., Fifth Avenue at 47th St., New York, “We find that purchasers nowadays will buy *only* combination phonograph units. Occasionally, people come in asking for a ‘radio,’ but these are usually casual shoppers, who merely ask the price, and go away without making any purchase. People today want to play records, as well as listen to the good things on the air. In making plans for 1942, I would counsel radio dealers—especially those with better class shops—to put every selling emphasis on phonograph combinations.”

The only console-type radios

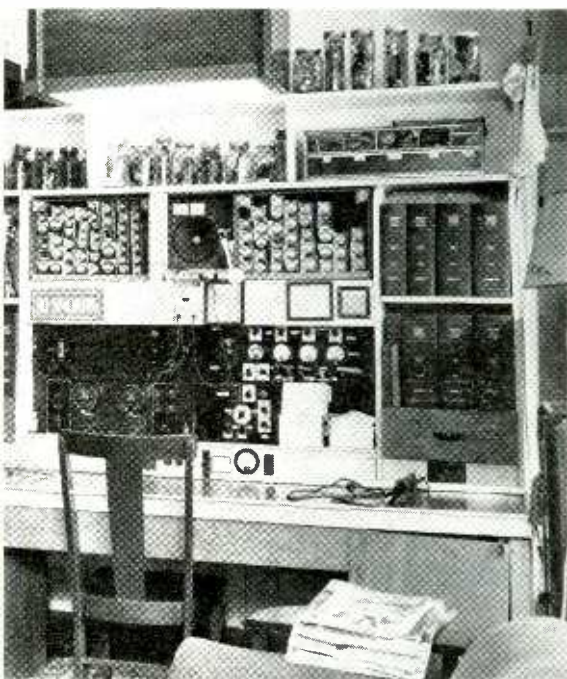
(Continued on page 23)

Gotta SELL SERVICE, Too!

CANVASSING proves profitable business-getter for this Californian.

By JIM KIRK

Home Radio Service Co., Oakland, Calif.



EASY CHAIRS and rugs are in the Home Radio Service Co. store. At the well planned bench above, test equipment, replacement parts and service manuals are within easy reach. Two other benches in the shop mount tube testing and ham equipment. Exterior view of Home Radio Service Co. at right.

cle. (I start with the neighbor next door.) Mark the streets on the map with a blue pencil as you canvass them for the first time. This will show you just what you have done and where to go next with the least expenditure of effort. When you have finished canvassing within the quarter-mile circle, I strongly recommend going over the same territory a second time to catch those people not in the first time. Your aim should be to catch every person living in that first quarter-mile circle.

Dinner Hour Favored

The time you canvass will be a great factor in realizing this. After many experiments, I canvass each business day from 4:30 to 6. Most people will be there the first call—either preparing or eating the evening meal. Those you do not find at home on the first call are almost sure to be there on the second call.

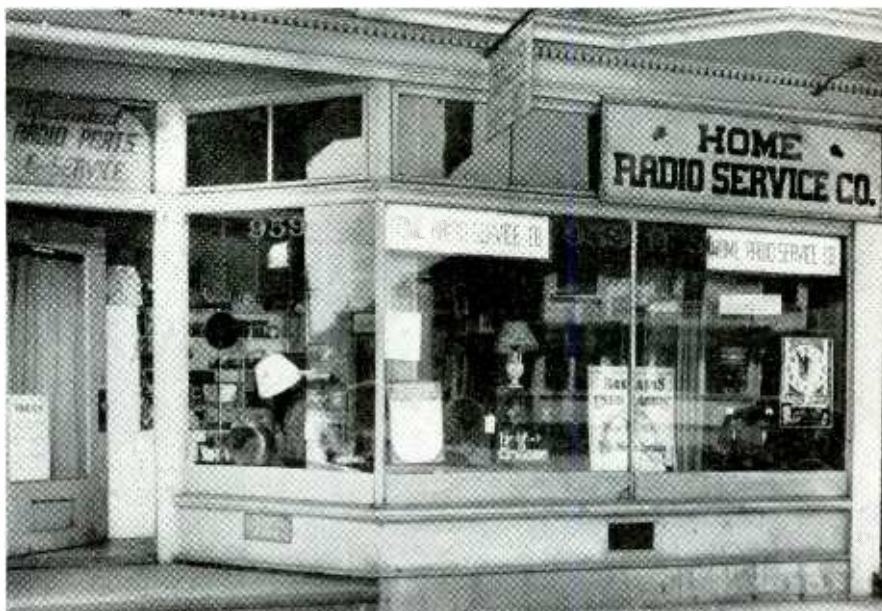
You will cause no resentment by calling at this hour if you make your visit short and snappy and do not attempt to "hang on" or use "high pressure."

Approach

I have used many different greetings and I change them from time to time but one of my old favorites is—"How is your radio working?" When the prospect says it isn't per-

when canvassing and mark the street name, the date and number of every house you visit. After the number write in pencil just what the customer says and their name if you happen to see it from an inscription on the mail box or a letter lying in view. Write NH after the number if the door is not opened. When the owner is not home, put your business card under the door. It

(Continued on page 43)



forming satisfactorily—try to make an appointment at their convenience to inspect the radio. Explain that you do not desire to bother them around dinner time. It will be a good thing for you not to do any service work during that hour and a half because that time is ideal for finding people at home. Unless the prospective job is very valuable and the customer insists, do not devote canvassing time to service work.

Always take a note book along

A Serviceman's Methods

1. Calls on residents within half-mile radius of shop between 4:30 and 6 pm.
2. Asks, "How is your radio working?"
3. Calls back later, if necessary, to pick-up sets that need to be fixed.
4. Sends post cards to apartment-house dwellers who cannot be contacted personally.

CAN RADIO MAN CHARGE for Diagnosis?

Soon to be dragged into court on a charge of petty larceny is a New York radio man who doesn't believe that his serviceman should sweat over a customer's set—for nothing.

His ginger up, this dealer is holding a radio because the owner refuses to pay a diagnosis or "service estimate" charge of \$1. He's already been in court in this matter on two different occasions, and he's likely to keep it up, until he finds some legal support for the idea that radio servicing skill is worth something. The customer who brings the charge thinks that such technical ability is straight hokum; a lot of readers of Reader's Digest think so, too; even the neighboring servicemen are sometimes afraid to insist on their fees.

But here is a rousing legal battle which may help to prove otherwise, as a fed-up dealer goes to bat—all for a single buck! It doesn't matter who he is, or who the customer is—you can see that. The thing is, radio inspection charges have been hauled before the judge.

The customer in this case was a man who apparently figured on fixing the set himself. He had already consulted other servicemen, and had concluded that the volume control was faulty. He had bought a new \$1.50 control and installed it himself, but the set was still noisy. He had finally come to this shop on recommendation from a local jobber. The dealer talked all this over with the man and was therefore particularly careful to mention that there would be an inspection charge of \$1. He pointed to a sign on the wall, stating the shop's right to charge. He had been in business long enough to spot a bargain-hunter when he saw one.

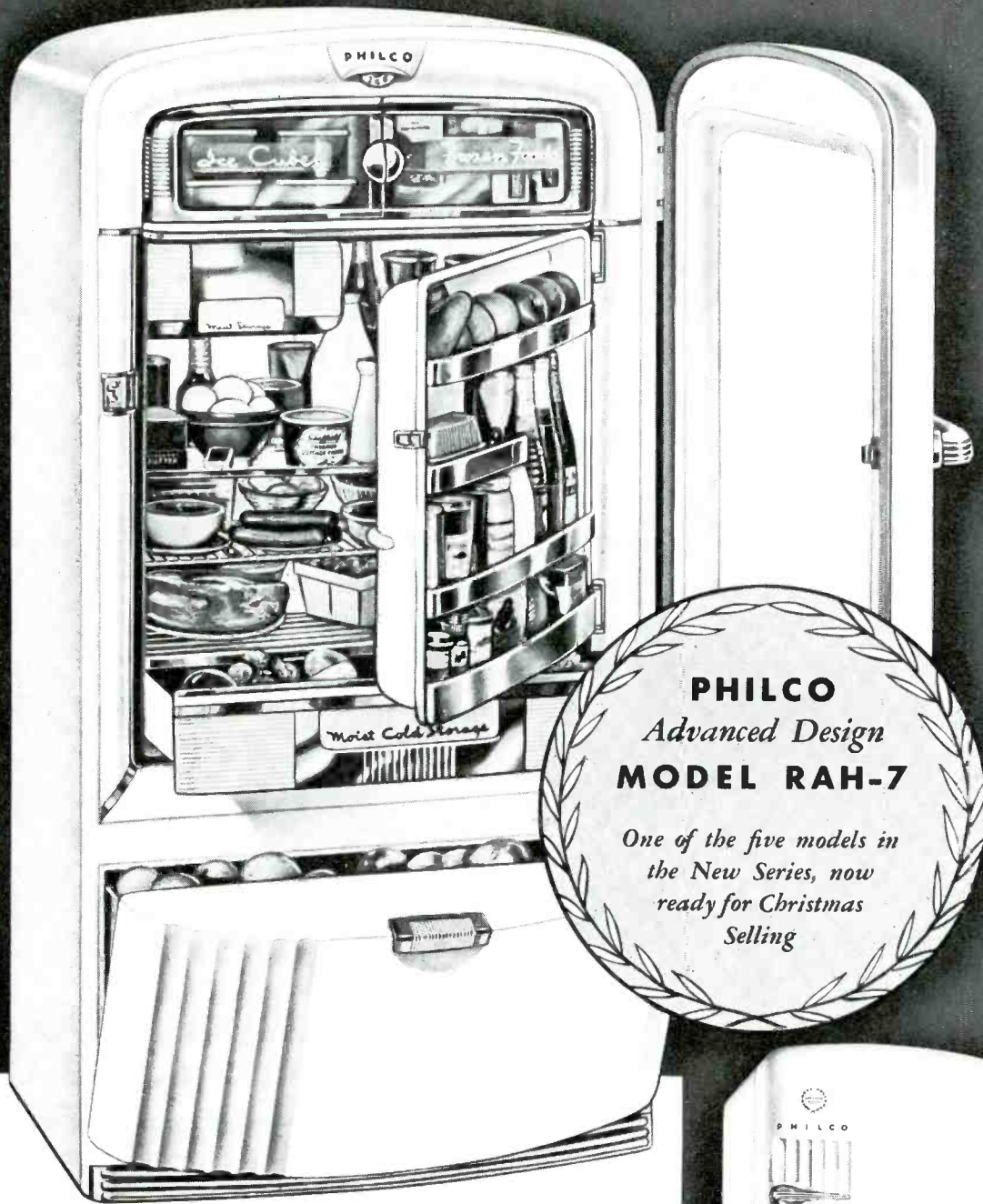
Booked for Larceny

It took about an hour and a half to find what was wrong. When the customer returned to the store he was told that the charge for a good repair job would be \$11. The customer replied that the set was not worth that much. He had his old blanket ready and stepped to the bench to pick up the set. Again, the \$1. charge was mentioned. The customer refused to pay, and was forced to leave the set. He left the store in a rage.

On the very next day, the man was back to the store with a police-court summons. Two days later the dealer and his customer appeared in magistrate's court for a preliminary hearing, at which the radio man stood his ground and refused to return the set until the \$1. charge was paid. The next step was for the customer to sign a complaint, formally charging the radio man with petty larceny. He got his lawyer into action and pleaded "not guilty."

Win or lose, the case begins to draw wide attention to the legality of a service charge for making an expert diagnosis, where no actual repair is made. Associations of servicemen are getting interested and precedents are being examined. Attorneys discussing the matter say that the serviceman's cause would be substantially helped if a printed form or claim check were given the customer before starting the inspection or diagnosis.

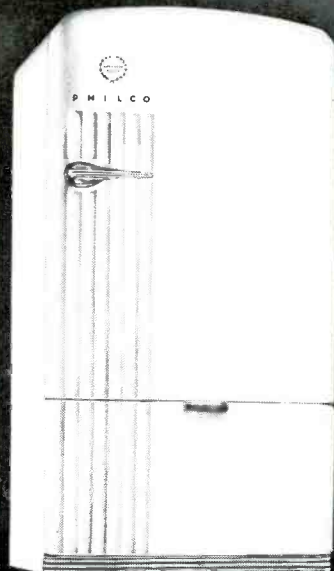
The main point is that the customer must be incontrovertably advised beforehand that an inspection charge will be made for the diagnosis and estimate—even though no actual repair is done. A printed claim check or a receipt stub carrying this statement and given to the customer, or signed by him on leaving the set for diagnosis and estimate, will avoid future cases of this kind.



PHILCO
Advanced Design
MODEL RAH-7

*One of the five models in
 the New Series, now
 ready for Christmas
 Selling*

THE finest, most beautiful, most distinctive refrigerator ever designed, again the quality leader of the great Philco line. Look at the new Philco series . . . more beautiful than ever in styling and design . . . more powerful than ever in exclusive features and dramatic sales appeal . . . outstanding in value and quality. Find out about the Philco merchandising program for the refrigerator selling season of 1942 . . . get in touch with your Philco Distributor now!



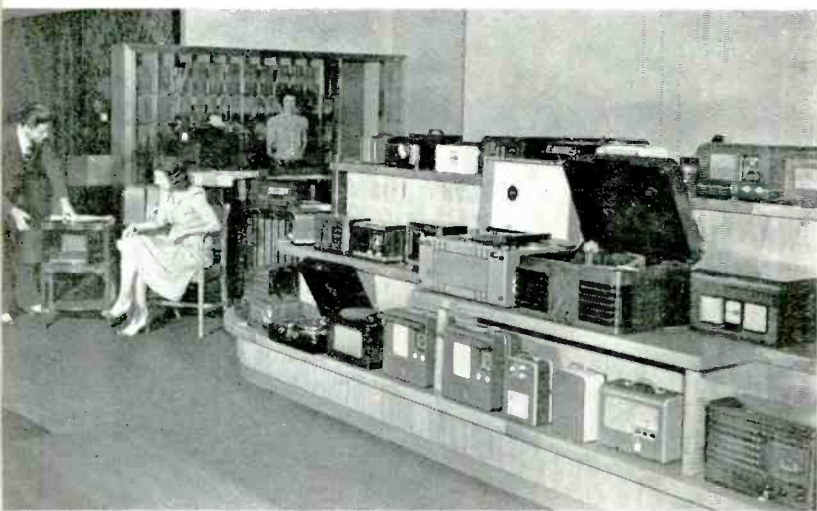
PHILCO ALL YEAR 'ROUND

HOME RADIOS · PHONOGRAPHS · TELEVISION · AUTO RADIOS · RADIO TUBES · PARTS · REFRIGERATORS · AIR CONDITIONERS · DRY BATTERIES

FOR MIDGETS ONLY—St. Louis' Famous-Barr Company says table type radio sales stepped up surprisingly the instant 35 small models were placed in a "Midget Radio Shop" all their own, eight by eight feet overall and on the eighth floor near the elevators. Buyer Samuel Gross supplied this picture, showing as much as the lens would catch in that confined space

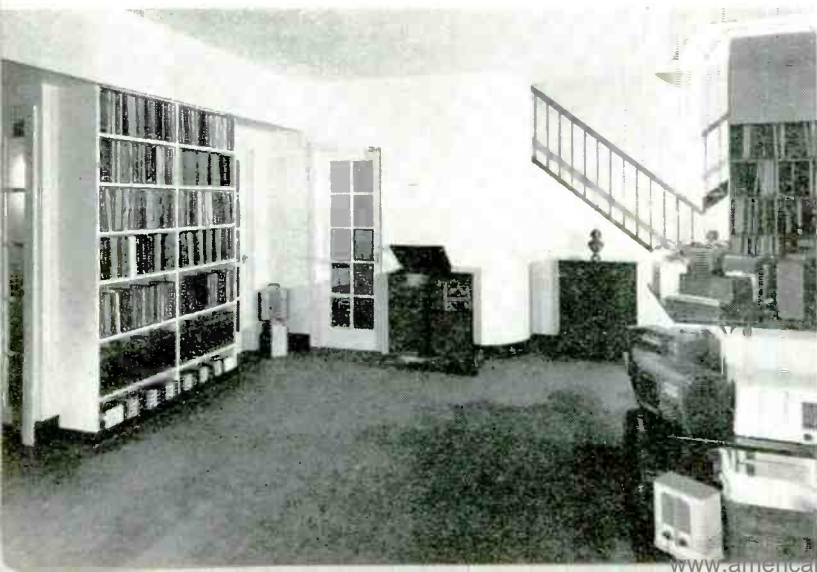


DISPLAY *Ideas*



ISLAND "KICKBOARD"—Radio and record department manager Fred Hays of Burdine's, Miami, points with pride to this elaborate island display fixture for small sets, calls particular attention to the recess down at the floorline. While the rest of the fixture is polished blond wood this recess is linoleum covered. When toes get it marred Hays replaces linoleum

STREAMLINED SALESROOM—Here's just one attractive and efficient corner of the newly enlarged radio and record showrooms maintained by the New York's Haynes-Griffin with another novel layout idea almost anywhere you look



PAYING "PLAYHOUSE"—Two of these little soundproofed "houses" within the store of Texarkana's Melody Shop pay dividends, according to owner Jack Morgan. One is used for demonstrating combinations while the other is an audition room for records. Roofing, brick chimney, windows and even flowers in the flower boxes are real, seem to fascinate customers

INEXPENSIVE AWNING—Canvas over pipe protects cars driving in at night, provides auto-radio work space as well as adding to this Hillside, Long Island shop's appearance. Sign on the post uses neon, is visible half a mile away





They keep right on rolling off the lines . . . the Radios, Resistors, Capacitors and Switches under the eagle-eye of Old Man Centralab.

The present emergency has neither stopped (nor slowed) the steady flow of deliveries nor has it impaired the priceless perfection that has made the name CENTRALAB a synonym for Quality.

Constant research in our laboratories by Centralab engineers, chemists and metallurgists assure you that the resources of Centralab are "forever yours".

Keep on using CENTRALAB parts for every replacement job . . . now as in the past.

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

Centralab



Record Sells RECORDS

By CHAS. N. TUNNELL

SALESMEN TALKS—A. S. Meinecke does his stuff before a recording machine microphone, in the store with nary a prospect in sight

DEMONSTRATING discs in the prospect's own home in a novel way has increased record sales for the Meinecke Bros. hardware store of Lubbock, Texas.

A. S. Meinecke, manager, reasoned: "We sell only 10 percent of our radio-phonographs on the sales floor. The balance is sold by home contact. So why shouldn't we sell more records too by utilizing outside selling?"

But, naturally, a salesman can hardly afford to make a multitude of home calls and demonstrations to sell items that retail for as little as 35¢ and 50¢ each. So dealer Meinecke developed a method of "sampling" with transcriptions that are made in the store and mailed to selected prospects.

Transcription Message and Music

Transcriptions are made on blanks costing 8¢ each and each one carries a personal introduction such as this: "Good morning Mrs. Astorworth. This is A. S. Meinecke bringing you a few selected excerpts from the new records just received here in the showrooms of the Meinecke Bros. hardware store . . . the latest hits from leading orchestras. For instance, how do you like this one?"

The announcement is then followed by a brief bit of music from some new record. Meinecke fades it low, then cuts back in with conver-

sation: "Or maybe you prefer this orchestra. Here is a little number that is very popular."

He chats informally with his invisible prospect throughout the recording, and, while he is talking, the records are changed. He drops the phonograph arm down for a brief bit of the new record, lifts it up to resume his selling talk, then gives a sample of another new record.

Distributed By Mail

This record merchant mails such individualized sales records only to customers who have bought radio-phonograph combinations or records in his store, hence every one reaches an actual prospect.

Including postage and mailing,

the complete solicitation costs but 11¢ per prospect. But instead of getting the 5 or 8 percent return averaged from ordinary direct-mail solicitations, these unique discs bring in better than 50 percent for the selection of new records within a few days.

Prospects that receive a personal record even call in their friends to hear it and these friends, too, visit Meinecke's for new records.

Business Instantly Responds

Meinecke Bros. started in the record business two years ago with a stock of 12 discs, purchased mainly for demonstration purposes to sell radio-phonograph combinations.

Today, an average stock of 1000 records is carried. This stock is turned about once monthly at a 40 percent mark-up. With express costing an average of 5 percent and slow-movers or markdowns accounting for another 5 percent, Meinecke yet protects 30 percent gross on records. This in a department to which no one devotes full time, although one employee does keep the inventory and does the buying.

PROSPECT LISTENS — A record prospect gets the sales message, in her own home with only the salesman's voice on deck



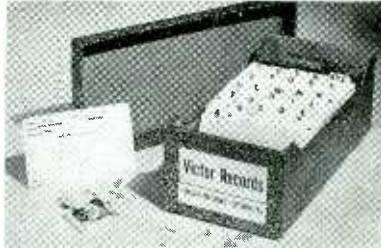
COMBINATION SALES IN '42

(Continued from page 14)

stocked by Carl Fischer, Inc., the well-known music house of New York City, are combinations. This firm recently opened a quality radio department on its second floor, and placed the accent squarely on radio-phonographs and FM. The popular New York radio man, Alfred C. Tuffery, was put in charge of the radio salon and he sees extra good prospects in 1942 for the superior tone and the handsome furniture cabinets on the new combination units.

Phonograph-radios got an energetic plugging when Editor O. H. Caldwell broadcast to a network audience Dec. 5th on "Why Your Gift Should Be a Radio." It was one of his weekly "Radio Magic" programs. To millions of NBC listeners the former Federal Radio Commissioner said frankly: "If you're considering a large console radio, give thought to the desirability of making it a phonograph-radio combination, so that you can play records as well . . . you can make your phonograph-radio gift almost as compact as you

want it, and certainly as big and grand as you want it!"



CUSTOMERS' PREFERENCES— There's room in this fingertip card system for record dealers to list what each customer likes, past purchases, etc. A business-builder from RCA Victor.

No Jan. Masterworks

Columbia Recording Corp., Bridgeport, Conn., has cancelled its Masterworks record list for January, in order to concentrate on production of current best sellers. Dealers are urged to check their stocks of these hits immediately so that they will not be caught short.

FM Demonstration Programs

Radio dealers in the Philadelphia area have been notified that special FM demonstration programs are broadcast twice each day by W53PH, which is WFIL's FM Station. One thousand window display cards announcing the FM service came from local distributors.

JUST OUT!

● A new 4-page folder describing the complete line of Presto recording discs and how they are used. Gives the latest prices of Presto glass, steel and paper base discs, cutting and playing needles. Handy for counter distribution and mailing to your disc customers. Send for your copies today—no charge.



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

In Other Cities, Phone . . . ATLANTA, Jack. 4372 • BOSTON, Bel. 4510
CHICAGO, Mar. 4240 • CLEVELAND, Me. 1565 • DALLAS, 37093 • DENVER, Ch. 4277 • DETROIT, Univ. 1-0180 • HOLLYWOOD, Hil. 9133 • KANSAS CITY, Vic. 4631 • MINNEAPOLIS, Atlantic 4216 • MONTREAL, Wel. 4218
PHILADELPHIA, Penny. 0542 • ROCHESTER, Cul. 5548 • SAN FRANCISCO, Yu. 0231 • SEATTLE, Sen. 2560 • WASHINGTON, D. C., Shep. 4003

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

Replace with the Best!

ALLIANCE

"EVEN-SPEED"

PHONO-MOTORS

INDIVIDUALLY PACKAGED

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

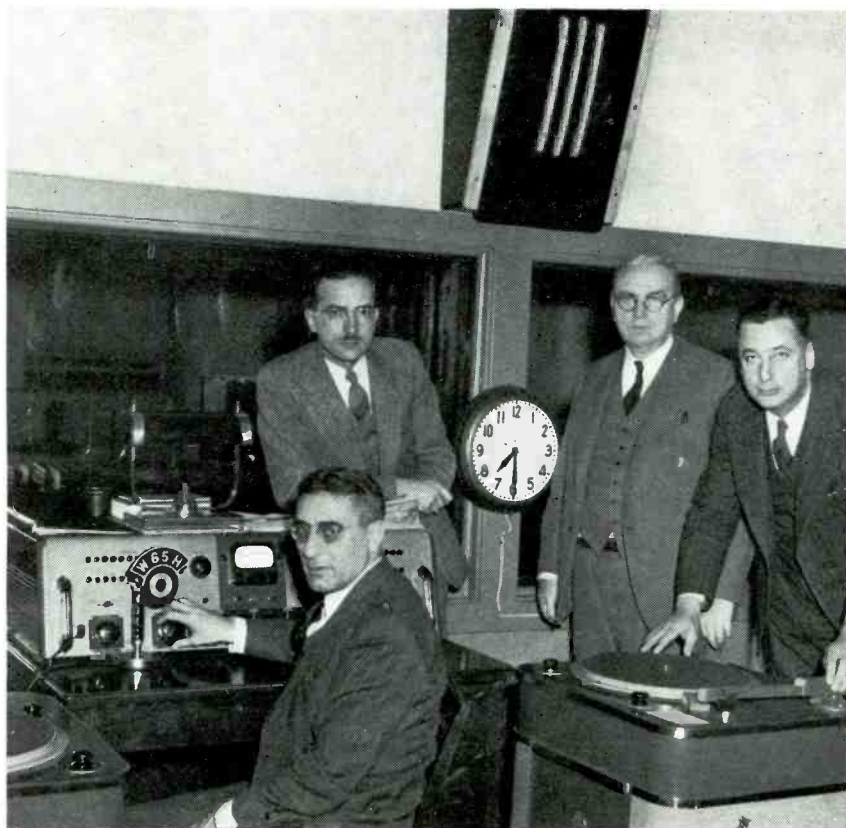
● The low cost and quick, easy installation of "Even-Speed" Motors make it more practical and profitable to replace the entire unit when trouble occurs than to attempt what may prove to be a difficult repair job. The "Even-Speed" line of only four phono-motors provides a unit for 95% of all replacement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

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

Ask your jobber or mail a postcard today for complete information and low prices on the "Even-Speed" line of phono-motors.

ALLIANCE MFG. CO.
ALLIANCE, OHIO

FM - Forward March!



PROGRESS APLENTY—A the left, FM demonstrations draw crowds at G. Fox & Co. store, Hartford, Conn. Right, another Hartford scene, as W65H execs flip switch on Stromberg's "Treasury of Music"—world's first commercial FM network program.

I NTEREST IN FM rose even more sharply than usual during the closing weeks of the year.

Sales of FM receivers picked up strongly this month, and the estimates are that there will be nearly 250,000 receivers in use by Jan. 1. Progress in the industry was also noted in a demonstration of a seven-station network covering the area from Maine to Maryland, and a good number of FM stations in other parts of the U.S. went on regular operating schedules.

Nationally speaking, the number of FM sets to go into homes each month is around 36,000, according to figures from FM Broadcasters, Inc. In the New York area, the units are sold at the rate of about 5,000 a month. This area leads in the number of sets in use—around 35,000—but the Chicago district leads in the broadcasting side of the picture.

There are four commercially licensed FM stations already in operation in the Windy City, and as many more under construction.

The seven-station network demonstration took place Nov. 30 in New York City when WOR dedicated its new 10,000-watt transmitter for W71NY. The stations were linked by radio relay, and carried commercial shows for five national advertisers for the one-time shot.

Commercial Progress

Now on a regular two-station commercial broadcast schedule is the show "Treasury of Music" sponsored by Stromberg-Carlson. It was opened Nov. 28 when the program originating at W2QXR in New York City went via special telephone line to Alpine, N.J., where W2XMN, the station of FM inventor Major Edwin H. Armstrong beamed it to W65H, Hart-

ford, Conn. (92 air miles away) for re-broadcast.

The total of full-time commercial stations now airing FM programs is 22, and at least a half dozen more are expected to join the group by the first of the year. On the first of this month, W67NY of CBS in New York and W69PH operated by WCAU in Philadelphia both started regular schedules. Four other stations are among the new ones: W45CM, Columbus; W67C Chicago; W75C, Chicago, and W35PH, Philadelphia.

Meanwhile, dealers and distributors in the FM areas were developing many new and novel methods of demonstrating the new service to prospects among the Christmas shoppers. An example of this was the Lyon & Healy stunt in Chicago; here the electric cash register is used during FM reception to show how

noise is eliminated. In Gary, Ind., Zenith dealer Ernie Wagner takes out the chassis and attaches it to the wall with features effectively labelled. In Hartford, Conn., radio men at G. Fox & Co. drew large crowds with the demonstrations illustrated on this page.

Angle on Prices

In regard to the unit prices current in the new industry, it was stated by Thomas A. Kennally, vice president of Philco, that "Low prices will do more than anything else to stimulate public interest in FM." Mr. Kennally linked this conclusion with the report that "since June of this year, sales of Philco low-priced FM-AM receivers exceeded those of all other kinds of FM sets combined." He declared that "in the interests of the sound, healthy, growth of FM it is important that the listening audience be built up as rapidly as possible . . . Philco gives the customer who is primarily seeking his customary radio entertainment a chance to sample FM at small additional cost, a fact which should considerably increase the FM audience by bringing the advantages of this kind of radio to the attention of more and more people.

Slick Mailer for Disc Dealers

The eye-catching magazine called *Listen*, "the guide to good music," is now being widely used by record dealers to boost their prospects' interests in current discs from Victor, Columbia and Decca. Retailers are using the magazine for regular monthly mailings to their customers, or as giveaways. It's a 22-page monthly with cover in color, and space inside the front cover for the dealer's individual ad.

Listen runs exceptional reviews and features because its contributors are top-notch. They include David Hall, Joan Bel Geddes, William Strickland and others. Articles by such artists as Artur Schnabel, Joseph Szigeti, and Edwin McArthur are also presented. The book is published by Neil F. Harrison, at 1123 Broadway; Barry Ulanov is editor. The emphasis is on classical records and the feature stories on music and composers are expert. *Listen* makes an effort to review all records released during the month, both classical and popular.

This service to record men, which is available to only one dealer in each city, may include envelopes in which to mail

the book, printed with retailers name and mailing permit. Also impressive brochures are being offered in a series, dealing with complete recorded music of one composer at a time.

Another feature of the service which helps the dealer to increase his record sales is the convenient order blank bound into each magazine, with a self-addressed envelope.

Headphones for Students

It may be that headphones are on their way toward a new popularity among college students. At least that's the case at Columbia University, New York City, where two record-players and six headphones are in constant use in a musical study room in the main library.

Let this idea get noised around among the educators, and radio men in college towns may have some interesting and profitable work to do on the campus.

At Columbia, it is necessary for students in one of the required courses to study classical music and to listen to recorded works of leading composers. This meant formerly, that mobs of them must crowd into the listening booths in the musical library, to hear the records. But somebody got the idea that the listening could be done in a study room, if headphones were used. Then the student would be able to read his musical literature while listening, if he had that kind of a mind. He could read about the technique of Mozart while listening to an exhibition of it. Or, if he were behind in his math, he might struggle with a problem while he listened to the music.

The students liked the headphone idea, and after four months the instructors call them a solid success. When circumstances permit, more will be installed.

Emerson Drive On

Currently stressing radio as an ideal Christmas gift, is a holiday promotional campaign on Emerson radios, announced by Phil Gillig, sales promotion manager for the firm. The drive is built around co-op newspaper ads, and includes complete dealer helps which come from Emerson jobbers.

Mr. Gillig predicts "a greatly accelerated Christmas rush this year."

Farnsworth Orders Up

The newest report from E. A. Nicholas of Farnsworth Television & Radio Corp., Ft. Wayne, Ind., is that the firm had on hand unfilled orders over \$7,000,000 at the end of October this year. For the 6-month period ending then, Farnsworth reported a net profit of \$205,944, compared with a loss of \$94,592 for the same period last year.

EVERYONE wants these new



You'll sell more recording blanks—create more satisfied customers—when you push these sensational new Yellow Label Audiodiscs. See how much *more* you have to offer in this top-quality, profit-sustaining line!

Exclusive Features: Thin, flexible glass base, with center hole and three drive pin holes—conventional overall thickness, eliminating special turntable pads and cutting head adjustments—amazing durability through perfect coating-to-glass bond—flawless surface—less static charge in cutting—lower surface noise—no deterioration—longer play-back life.

Yellow Label Audiodiscs in easy-to-merchandise packages are popular priced for home, school and business recordings. Diameters are 10", 12" and 16" (also 6", 8", 10" and 12" with steel base.).

Blue Label Audiodiscs, same features and quality but coated on thin aluminum base. 6½" diameter.

Audiocdisc list prices range from 30c to \$2.00.



NOW — feature Audio's popular book, too!

More than a handbook, "How To Make Good Recordings" gives practical, complete and thoroughly enjoyable instruction on every phase of equipment, materials and technique.

Profusely illustrated, 128 pages with glossary of recording terms, "How To Make Good Recordings" is written in non-technical language that all can understand. Profits multiply when you push this popular book, for its sale invariably boosts the demand for Audiodiscs and Audiopoints. Now in its third printing. List price only \$1.25



audiopoints
for
recording excellence

Precision manufactured, scientifically tested, checked in actual recording machines before shipment—Audiopoints are double assurance of recording and playback excellence, a *plus value* for your customers that gives you a decided selling "edge", insures repeat business.

Attractive, self-selling packaging boosts Audiopoint sales for dealers everywhere. A complete line of Sapphire, Stellite and Steel Audiopoints fills every recording and playback need. List prices range from 60c per 100 to \$7.00 each.

Don't delay! Check Audio's triple-profit line with your jobber, or write us direct, **TODAY.**

AUDIO DEVICES
INCORPORATED
1600 BROADWAY NEW YORK CITY



Dr. R. H. Manson



Paul V. Galvin, RMA President



Henry C. Bonfig

OPM's Committee of 29

THE RADIO INDUSTRY has emerged from Washington, D. C., conferences with a full-fledged "war cabinet." The group represents all branches of the trade, and includes 29 executives officially picked for the OPM Radio Defense Industry Advisory Committee. They were named on the recommendation of Jesse L. Maury, of the Office of

RADIO ADVISORY group to help guide radio production through Emergency

Production Management's Division of Civilian Supply.

On the committee are nine members from set manufacturers, four each from the makers of tubes and transmitting apparatus, nine from the parts manufacturers and three representing special and miscellaneous equipment. In the selection of the men, their companies were considered in respect to size, geographical location and other factors.

It was pointed out that future meetings to be held by the committee, and any action that it may take, will depend upon the course of fast-changing world events. However, preliminary plans call for the formation by Mr. Maury of several subcommittees or panels "on allocations, conservation and simplification, receivers, tubes, parts, etc."

The members of the Radio Committee, as announced by Sidney J. Weinberg, chief of the Bureau of Industry Advisory Committees of the OPM, are as follows: Benjamin Abrams, Emerson; W. R. G. Baker, General Electric; M. T. Balcom, Hygrade Sylvania; W. J. Barkley,

Collins Radio; A. Bloom, General Instrument; H. C. Bonfig, RCA; Roy Burlew, Ken-Rad; H. W. Clough, Belden; Allen B. DuMont; Paul V. Galvin, Motorola; Larry Gubb, Philco; K. D. Hamilton, Isolantite; W. P. Hilliard, Bendix; H. J. Hoffman, Westinghouse; J. J. Kahn, Standard Transformer; L. L. Kelsey, Stewart-Warner; R. H.



J. J. Kahn



Dr. W. R. G. Baker

Manson, Stromberg-Carlson; J. M. Marks, Fada; Victor Mucher, Clarostat; L. F. Muter, The Muter Co.; Harold L. Olesen, Weston; W. F. Satterthwaite, General Dry Batteries; Ernest Searing, International Resistance; S. N. Shure, Shure Brothers; Ray Sparrow, P. R. Mallory & Co.; R. C. Sprague, Sprague Specialties; Arthur E. Thiessen, General Radio; S. T. Thompson, Zenith; and A. S. Wells, Wells-Gardner.

Amateurs Mobilize Facilities For Civilian Defense

The radio amateurs of the United States are, through their national organization, The American Radio Relay League, West Hartford, Conn., cooperating with the Civilian Defense authorities to establish a versatile, dependable emergency radio communication system.

Since America's entry into the war, the FCC has ordered that "no person shall engage in amateur radio operation in the continental United States, territories, or possessions" until further notice. However, the order further states that in instances where amateur radio operation is deemed to be required in connection with the national defense, appropriate authorization will be issued to amateurs who file applications, duly authorized by a state or local defense official, with the FCC or Defense Communications Board.

Ham Services Outlined

Plans are being made to use the group of amateurs who have been associated with the ARRL Emergency Corps, well known for their work in the floods, and other national disasters. All licensed amateurs are requested to join the ARRL Emergency Corps for possible service in the Civilian Defense communication network when plans are completed.

The job of the local Civilian Defense communications will be to keep the various elements of the organization in constant touch with one another. The amateur 112-116 megacycle band (2½ meters) has been suggested for this communication between the fire, police, first aid, etc., units of the Defense set-up.

The technical staff of the ARRL is designing a group of standard 2½-meter transmitters, receivers, and power supplies. These units are built of standard components which can be obtained from nearly any source of supply. Standard receiving type tubes are used, for example. Amateurs are to build these units with a standard system of connections and power supply requirements so that units built by different hams may be quickly interchanged in case of failure.

Push Brand Name, Even if Oversold

"If salesmanship and advertising stand 'at ease' for the duration, they will find it difficult to get back in step when the 'Cease firing!' order is sounded," declared L. Martin Krautter, of Cincinnati, when he addressed the Muncie (Ind.) Rotary Club. Mr. Krautter is manager of advertising for the Crosley Corporation, Cincinnati.

"Do not be deceived into believing that merchandise, particularly goods of high unit value such as radio receivers and refrigerators, require no selling when demand threatens to exceed supply," Mr. Krautter warned.

"Even when production is curtailed, it is highly important that you maintain public consciousness of your particular brand. While there may be a heavy demand for goods in general, it may not necessarily be for your goods unless you continue to impress upon the public the quality and value of your product.

"You must continue to keep them asking for your brand or you will lose the public acceptance that you have worked so hard to build up in other years."

Parts Sales Promoted

Plans for a new sales campaign on parts are under way at Philco, according to news from the firm's accessory division at Philadelphia. It is said that "the drive will be directed at independent servicemen throughout the country to increase the sales of parts as well as tubes."



Philco's promotion campaign on tubes, the "Ask 'Em to Buy" drive which closed last month, established a "new high in tube sales" according to F. O. Achtenhagen, sales promotion manager for the Accessories Division. He congratulated Philco distributors and their sales organizations on the success of the promotion, which included a long list of prizes and an elaborate series of promotion pieces.

Dealers Shape New Plans

"New sales techniques to meet new conditions in the radio business" was a subject which created a record-breaking interest among hundreds of Stromberg-Carlson dealers, who met recently for sales huddles in Rochester, N. Y., Detroit, and Chicago. C. J. Hunt, the radio division manager for SC, and Stanley H. Manson, sales promotion manager, described the meetings as highly successful.

More than 800 retailers in the three cities attended the gatherings, where discussions centered on the limited receiver production due in 1942 and the consequent need for higher units of sales.

CLEAR AS A BELL

BALANCE

is the secret of success in the world of commerce and industry . . . balance between the activities of today and of the tomorrow to come . . . based soundly upon a definite plan that promises profits and progress and a certain and attractive future.

SONORA, in all of its manufacturing and merchandising activities, shows that balance. Today, even as we expand, even as we keep faith with our trade, producing radio products that are designed right, built right and priced right to sell, we are planning for the future. These plans—definite, progressive, original—are assurance to an ever-growing SONORA trade, of a consistently profitable present and an even greater future . . .

★

Sonora

RADIO & TELEVISION CORP.
CHICAGO

Appliance BUSINESS BUILDER



EXTERIOR — The new and the old present a striking contrast.



INTERIOR — Radios, appliances and fixtures were given a new setting.



HUDSON-MORGAN of Lynchburg, Virginia, recently remodeled, told architect Fauber and Poston to go whole-hog, inside and out.

The new storefront was glass-finished from sidewalk to roof, color scheme red with black trim. Name and windows were fluorescent-illuminated. Note particularly the effectiveness of second-story lighting fixture samples, hung in the center of square windows painted to appear circular.

Inside, a new stairway was installed, leading upward to the fixture department from the approximate center of the floor (stairway was originally narrow, so close to the maintenance it disrupted traffic). Other changes included more roomy aisles, purchase of modern display counters, installation of combined fluorescent and incandescent lighting, use of reflecting signs identifying various departments.

Office space (in the rear) remained unchanged, as did the third floor interior used for storage.

REFRIGER

NEW LINES are shorter, but they're long on quality appeal

WITH THEIR NEW DESIGNS, production schedules and merchandising plans carefully keyed to the Emergency period, the refrigerator makers are beginning to reveal the timely models of their 1942 lines.

Notable in the new units is the more extensive use of plastics and glass, and materials which have some claim on being permanently available throughout the defense program. Naturally there are fewer models in each line, and there is a special emphasis on larger units which provide extra capacity for the long-range needs of the embattled American family. Yet the new designs are not wholly aimed at pure efficiency and convenience—the wider use of color trims is noticeable among the new jobs.

While priorities are a disturbing factor in the 1942 refrigerator picture, it is being pointed out that the modern refrigerator designed for the mass market has indeed earned a kind of a priority of its own. Certainly no other appliance contributes so much to the food preservation program of the U. S. citizen; the home refrigerator can be considered an "essential" in a thriftily organized national economy.

Food is more valuable these days—costs of living are higher—and therefore the housewife will want an adequate refrigerator for more reasons than one. This fact will be used in much of the 1942 merchandising.

Capacity jobs

The Crosley Corp. is ready with seven new models—one 6-ft. job, four 7-ft. units, and two 9-ft. jobs. All have the Shelvador feature, and other refinements include plate glass shelves, new stainless steel trim around the entire food compartment, Moist-Kold compartments with "Ventilair" moisture control, etc.

This firm will emphasize "Twice as Much Food to the Front Within Easy Reach," along with a secondary theme, "Designed for Modern Marketing."

REFRIGERATORS RESTYLED

for Emergency



NEW ONES—At the left is a 1942 Super Shelvador, representing Crosley Corp's new line. Directly below is the Hotpoint EBX7, a 7-footer introduced a little earlier. Both stress extra storage space, more than ever.



The new series being shown by Philco includes five models, all of them except the lowest priced job having 7 cu. ft. capacity. The company has gone heavy on new styling, interior and exterior; fluted doors and the use of color in the interior are featured. Top number in the line is RAH-7, featuring Philco's "Advanced Design" with Conservador, horizontal evaporator with frozen food storage, dry and moist cold, and the "Cold Shelf."

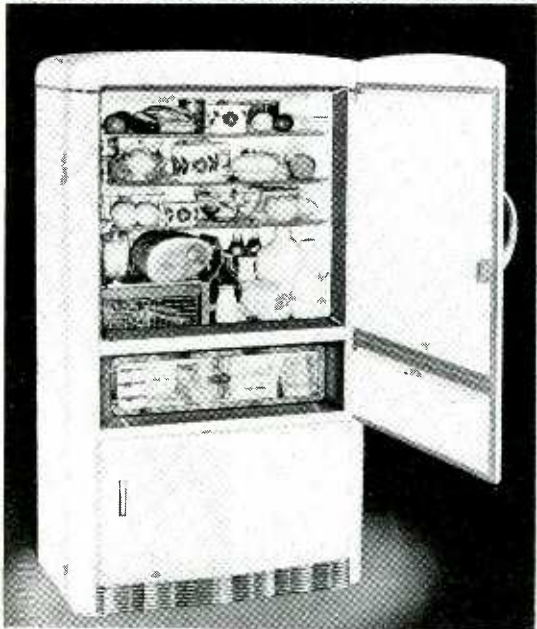
In other models, the freezing unit is side-mounted at the left, to permit efficient use of the upper shelf space.

Philco began its promotion of the new series by releasing a colorful display suggesting the refrigerators as "The Christmas Gift for Home and Family!"

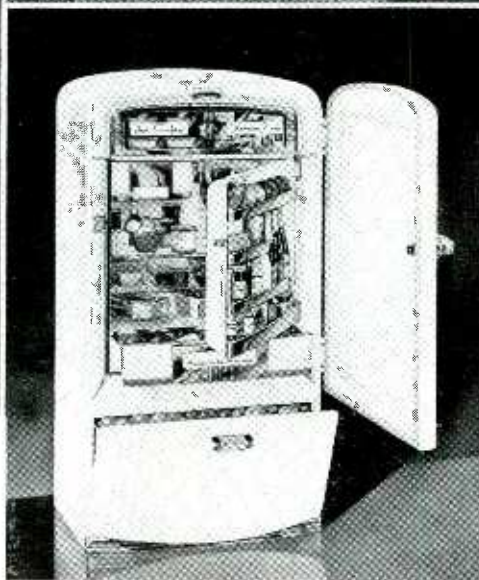
Stewart Warner Corp. announced a 1942 line of seven models, three conventional units and four Dual Temps. The latter numbers have the built-in freezing locker, the oversize Purified Moist-Cold compartment, and the Sterilclamp features along with other advancements. Other jobs have porcelain freezing units, interior color trims, 12-point cold control, Plasteel ice trays, etc.

The Dual Temps are presented as "... nationally important because thrift is the most effective way in which the homemaker can combat today's rising costs of living."

More of the refrigerator merchandising plans, and more of the new lines, will be reported as they are announced.



JUST OUT—Directly above is Stewart Warner's 872 Dual Temp, one of four Duals in the 1942 line. At the right is the Philco RAH-7, one of the new series of five—with Conservador and 7 cu. ft. of features.



Although Crosley has put the needs of national defense first, the company reports that "deliveries are being made according to schedule and the prospect for future deliveries is unusually good."

Units in 1941

Newest report from NEMA gives the totals on sales of household refrigerators to dealers and distributors for the first 10 months of this year. With 10 companies reporting, the total was 3,124,437—an increase of 33% over the 2,347,157 figure for the same period last year. The report also reveals the total for October of this year, a neat 123,672—an increase of 51% over the 82,019 figure for October last year.

When Mfr. UNDERBIDS OWN JOBBER

**EVILS of "direct purchase" more
in evidence as industrial sales rise**

PARTS JOBBERS are finding that there is an increasing market for radio supplies and equipment in their home-town industrial plants. And as more and more factories go into Defense production, this demand for electronic and radio parts increases.

Public-address systems, paging systems, photo-electric apparatus, infra-red and ultra-violet alarms and safeguards, and special laboratory equipment represent a large part of this new demand for radio parts.

In addition there has turned up a sizable new market for volume controls, relays, switches, transformers, condensers and other parts specialties, to be used in regular *electrical installations* and *special electrical apparatus* around the plants. Often

these special circuit devices cannot be obtained locally through the usual electrical or mill-supply channels.

For Electrical Uses, Too

But the radio apparatus, with its greater flexibility, complexity, and compactness, proves the answer to the plant engineer's prayer. And so one day the parts distributor gets an unexpected order for a dozen switches or ten transformers or fifteen relays, from a source never before on his books. And payment is either cash or as prompt as the bill is rendered. Little collection trouble in this new group of industrial customers. So the parts distributor is likely to feel that he has struck a new and unexpected bonanza—like finding oil in his own backyard!

But there is a disappointing side to this happy picture. And it is not long before the parts distributor learns that he is being by-passed by his new-found customers. For, "enter the villain" in the form of the manufacturer who sells the industrial customer direct. Thus after the local parts distributor has from his own stocks cracked open the new industrial market, there intervenes the "direct order" evil, as the plant engineer tries to better his price or his service, by ordering direct from the manufacturer whose name and address he found on the box of the last lot delivered by the jobber.

Bids Lower Than Jobber's Cost

A leading parts distributor to take a vigorous stand against this evil of manufacturers' direct bids, is the Standard Radio Parts Company, of 135 E. Second St., Dayton, Ohio. Declares Ray C. Stotts, general manager:

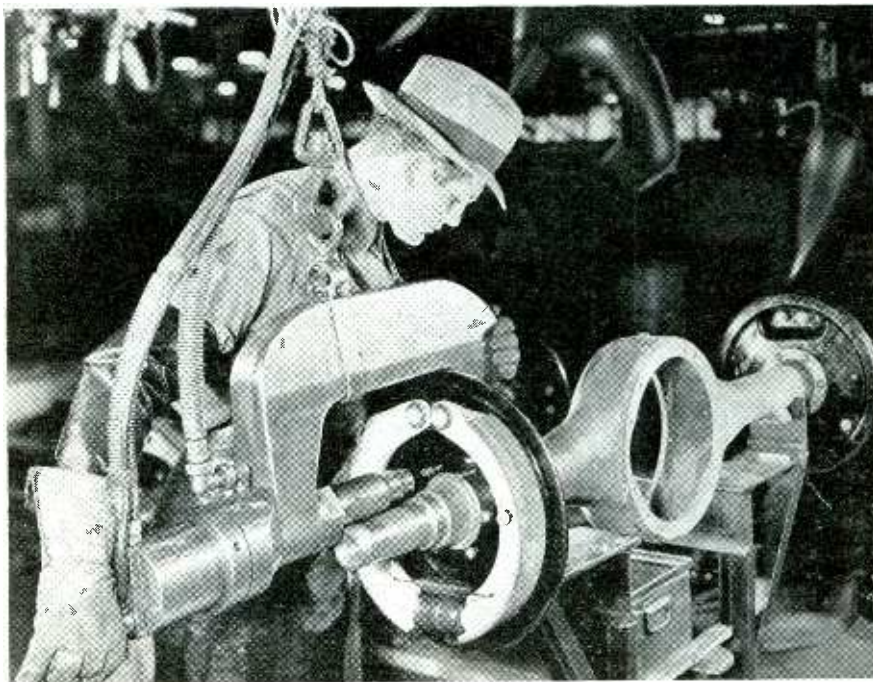
"For several years we have been enjoying business from industrial plants and government laboratories located in this area. Recently, however, we have lost several orders due to the fact that the manufacturer bids direct at prices lower than our cost.

"We feel that we represent the manufacturer and his merchandise in this area and are therefore entitled to the business that comes from the area that we serve. But obviously this will be impossible if radio parts manufacturers continue to quote prices below our cost to accounts that are rightfully ours.

Take Hours of Jobbers' Time

"This condition does not seem to exist in other lines of merchandise as it does in radio parts. We think it is high time that a definite policy be set up by parts manufacturers to cover this problem. Parts manufacturers ask us to solicit this business, and to spend good money and man power to obtain same. But only a few of the manufacturers permit us to retain this business after we get it.

"Our experience recently has been
(Continued on page 52)



INDUSTRIAL PLANTS are calling upon radio devices and radio parts to speed production and help America win the war

A Message to

RADIO TODAY SUBSCRIBERS

As announced in the November issue:

RADIO TODAY's publishers have taken over RADIO RETAILING.

This copy of the December issue of RADIO RETAILING is sent to you on your paid RADIO TODAY subscription.

In January and thereafter you will receive the new consolidated magazine RADIO RETAILING combined with RADIO TODAY.

To those subscribers who have paid for both Radio Today and Radio Retailing an extension of the subscription period will be made to cover the full number of issues paid for.

CALDWELL-CLEMENTS, Inc.
480 LEXINGTON AVENUE
NEW YORK, N. Y.

RIGHT TO YOUR STORE!

Fast and dependable—RAILWAY EXPRESS is also convenient. We'll bring orders right to your store and call for anything you have to send—with no extra charge for this pick-up and delivery service within our regular vehicle limits in all cities and principal towns. Nation-wide between 23,000 points. Free insurance up to \$50 valuation per shipment. All you have to do is phone

RAILWAY EXPRESS
AGENCY INC.

NATION-WIDE RAIL-AIR SERVICE

You bet. We're in step with progress — with better listening, and therefore with quicker sales and more sales. Take us on, you wide-awake dealers.

Ken-Rad Tube & Lamp Corporation
Owensboro, Kentucky

DEPENDABLE
Radio Tubes



KEN-RAD

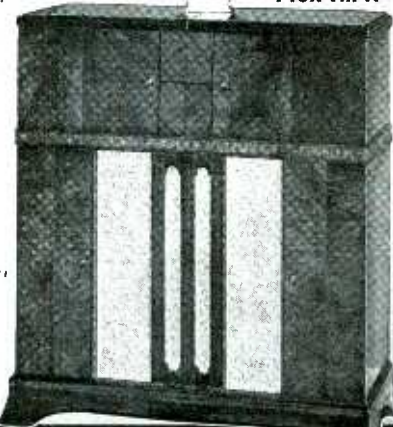
The HOWARD Sheraton ... the 1942 Money-Making "FM" Phono-Combination!

Embodies every refinement for complete radio and phonograph enjoyment—the finest in AM Broadcast, Short Wave and FM reception. With all of the features that have made Howard famous both in and out of the industry, plus numerous new added refinements, the Howard Sheraton is the outstanding FM value on the market today! The beautiful Sheraton Period Cabinet, with record storage compartment and divided top, is available in Stump Walnut or Diamond Matched Mahogany. Take the first step to greater and faster radio profits by investigating the desirable Howard Franchise now!

Model
718X-FM-A

CHECK THESE FEATURES—

- Armstrong Circuit
- 14 Tubes, 4 Bands
- RF on all Bands
- 12" Jensen Speaker
- Automatic Changer with "Feather-weight" Pick-Up
- 10 Watt Output



INVESTIGATE TODAY!

HOWARD RADIO CO.

1731-35 Belmont Av., Chicago, Ill.-Cable Address: HOWARDCO, USA
America's Oldest Radio Manufacturer

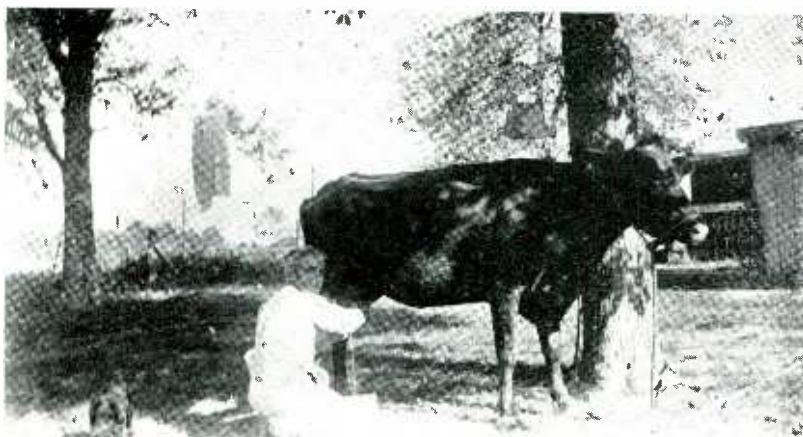
*Columbus found a WORLD
And had no chart,
Save one that FAITH
Deciphered in the skies.*
SANTAYANA

FAITH: Although we may overlook it,
Essentially, Commerce Charts its Course on Faith.
On Our Charts—Are lines drawn to your Door,
Lines deep-etched by your Faith in us.
This Faith is a constant Challenge to us,
A Challenge to our Ideals of Quality—
To make everything as good as we can,
We pause with the Passing of the Year
To acknowledge your Help,
And the Inspiration it Provides.
To the Continuance of your Faith and Confidence
We dedicate our Efforts.

HYGRADE SYLVANIA CORPORATION

EMPORIUM, PA. . . SALEM, MASS. . . IPSWICH, MASS. . . ST. MARYS, PA.
NEW YORK OFFICE, 300 FIFTH AVENUE

COWS *Instead of*



MILKING A DOWN-PAYMENT—Herbert L. Gutermuth and an animal he took in trade

CASH

COUNTRY DEALER's methods may seem unorthodox but they suit his own market

NOT ALL RURAL radio-appliance prospects have ready cash, even though their credit is good. But invariably they have something of value which they no longer need and are willing to swap. And others up the road can frequently use these things.

Herbert L. Gutermuth, who recently moved into new quarters near O'Fallon, Missouri, on U. S. Highway 40, tries to get cash but will also take such things as cows, horses, hogs as part payment on radios or appliances. He later re-sells them, says he rarely loses any part of his profit in such transactions and frequently increases it.

Goes After Business

Trading in kind is not the only factor in the success of the Gutermuth business, established in the last three years.

The boss frequently loads merchandise into a trailer, takes it from farm home to farm home on demonstrations. He also displays at country fairs and other similar activities within reasonable driving range, identifies himself closely in this way with the life of the community.

Not a few of his 35 radio receiver sales in the last twelve months are directly traced to outside effort. And most consoles and larger table models were moved this way. As were a high percentage of the Gutermuth refrigerators.

Keeps Overhead Low

The display room has its lower side-walls done in knotty pine, with upper wall panels and ceiling finished with acoustically-treated, sound-deadening material.

Leading off from the fluorescent-lighted showroom is the streamlined kitchen pictured on this page, placed between selling and living quarters to serve both.



STORE-HOME—Built in January, this building was especially designed to perform the double function

DOUBLE-DUTY—Sales are made from this streamlined kitchen. And Mrs. Gutermuth cooks in it too



Producing Tubes for National Defense

The important part which the radio tube industry will be called upon to play in National Defense, in view of problems facing all tube manufacturers with growing shortages of vital materials, was the subject of a luncheon meeting Nov. 24 at the RCA Manufacturing Company's tube plant in Harrison, N. J.

L. W. Teegarden, manager of RCA's radio and tube divisions, told radio editors that RCA is already supplying a large volume of receiving, transmitting and special-purpose tubes to the U. S. armed forces, to Lease-Lend, and to defense equipment manufacturers, while striving to meet requirements for commercial uses.

RCA's tube activities are expanding in all departments to conform with enormous government requirements, said Sr. Teegarden. He quoted from the Company's published statement that "under the unlimited emergency declared by the President, we see only one course of action—National Defense comes first. By comparison, we hold nothing else important."

Industry Faces New Problems

Mr. Teegarden pointed out that the tube industry's problems will be more serious not only because of limitations imposed by materials shortages, but even more so by the industry's lack of adequate production facilities and trained personnel. To date, he added, all of the government's defense requirements for receiving tubes have been met promptly by RCA. These requirements have represented only 6 per cent of the Company's total production. At the current production rate, 12 to 15 per cent of total receiving tube production is devoted to defense requirements, and in Mr. Teegarden's opinion, this percentage will inevitably increase.

To aid in meeting shortages of power and special-purpose tubes, RCA has indicated its willingness to extend to other manufacturers of tubes technical assistance in making special tube types developed by RCA. These special types of tubes have been developed at a cost of many thousands of dollars, and such information is normally regarded as a commercial secret.

Ellison Honored

Paul S. Ellison, who was recently promoted to the post of director of advertising of Hygrade Sylvania Corp., has been elected a member of the board of directors of the Association of National Advertisers. Mr. Ellison has been active in ANA for 15 years; he is currently the acting chairman of its membership committee, and is a member of the display committee.





TC PAPER TUBULARS



ATOM MIDGET DRYS



EL SELF-MOUNTING
DRY ELECTROLYTICS

3

FAST-MOVING CONDENSER TYPES

THAT HANDLE ALMOST ANY JOB

Type TC Paper Tubulars ("Not a Failure in a Million") meet every tubular by-pass need—efficiently and economically. Atom Midget Drys handle practically any replacement regardless of the size of the original condenser. They're smaller, more dependable, cost less—and are available in all capacities and voltages and in many combinations. Types EL are just the thing for use wherever the new, self-mounting styles are re-

quired. As with Atoms, you can count on them to out-perform and out-last larger, old-style types.

It pays to concentrate on these popular Sprague types. They save you money. They save time. They assure utmost satisfaction.

SPRAGUE

PRODUCTS COMPANY

North Adams, Mass.



One of the greatest achievements of modern science is the new RCA Electron Microscope. This electron microscope affords magnifications as great as 450,000 times, or nearly half a million, whereas the best optical microscopes cannot usually give magnifications beyond 2,000 times. Thordarson transformers were used in the completely self-contained and extremely compact power supply system. Thordarson is proud of the essential part Thordarson transformers played in the development of this delicate and highly scientific piece of equipment.

For 46 years Thordarson transformers have been designed and manufactured to the highest quality standards, resulting in the selection of Thordarson transformers where precision and dependability are vital.



THORDARSON
ELEC. MFG. CO.
500 WEST HURON STREET CHICAGO, ILL.
Transformer Specialists Since 1895



(Above) Front view of RCA Electron Microscope with Dr. V. K. Zworykin (standing), head of the RCA Electronic Research Laboratory, and James Hillier, who played an important role in the instrument's development.

(Left) Rear view of microscope with panels removed showing Power Supply Units.

(Photographs Courtesy Proceedings of the I.R.E.)

New Products...



CROSLY MODEL 52TQ, a 5-tube AC superhet table automatic radio-phonograph. Equipped with exclusive floating jewel tone system. Automatic record changer plays ten 12 in. or twelve 10 in. records with lid down. Super-field electro-dynamic speaker. Built-in Magna loop antenna. Large full-view dial. Sliced walnut cabinet with inlaid mahogany through center dial and grille. Crosley Corp., 1329 Arlington St., Cincinnati, Ohio.



PHILCO WALNUT TABLE MODEL 345T, has 7 tubes, built-in aerial system, oval shape electro-dynamic speaker, 6 push buttons. 3-colored illuminated dial. Covers standard broadcasts, Amer. and foreign shortwave, police, aircraft, and amateur stations. Philco Corp., Tlaga & C Sts., Philadelphia, Pa.



STROMBERG-CARLSON CHIPPENDALE walnut cabinet houses the new model 585M. A feature of this model is its dual coaxial carpinchoe speaker and patent S-C acoustical labyrinth. Equipped for standard broadcast, shortwave reception and FM. Phono connection. Stromberg-Carlson Tel. Mfg. Co., 100 Carlson Road, Rochester, N. Y.



EMERSON SHORTWAVE, AC-DC superhet table radio, No. 456, has 7-tube plus "Electron Ray" tuning indicator and ballast tube. Incorporates standard BC and police as well as 25 and 31 meter short-wave bands. Lighted "Magni-Vision Tone Ruler" dial, large dynamic speaker. "Phantom Signal Collector." Hand-rubbed "Sta-Bent" Ingraham walnut cabinet. Emerson Radio & Phono Corp., 111 8th Ave., New York, N. Y.



GE FM TRANSLATOR. Disguised as a series of books the model 12 FM translator is shown here. Tunes from 42 to 50 megacycles, has 6 automatic tuning keys and manual tuning control. 9 tubes. Covered with maroon simulated leather. \$69.95. General Elec. Co., 1285 Boston Ave., Bridgeport, Conn.



RCA VICTOR SUPERHET, model 28X, an AC-DC table set with 8 tubes and the newly developed 9 1/4 in. "Ellipticon" speaker. Two antennae, full-range tone control. Foreign reception. Modern walnut veneer cabinet. Plug-in connection for record player attachment. RCA Mfg. Co., Camden, N. J.



PILOT 8-BAND RECEIVER, a new radio in hand-rubbed walnut cabinet, model T-341, AC-DC superhet, with 10 tubes, 8 in. speaker. Tuning range—8 bands—16, 19, 25, 31 and 49 meters spread band; and 535-1730 kc; 1.75-5.85 mc.; 7-22.0 mc. Phono, television and FM Jack. Lists at \$104.50. Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.



SONORA "SUPER-SEVEN," a 1942 7-tube table model superhet which tunes 2 full bands: 535-1720 kc and 5.65-18.3 mc. Built-in Sonorascope loop, 6 1/2 in. dynamic speaker, A.V.C. Phono-FM-television connection. Sonora Radio & Television Corp., 2626 W. Washington Blvd., Chicago, Ill.



MECK "MIRROR-TONE" PHONO, the "Bar-Harbor," one of the new line of "Mirror Tone" home phonographs, is covered with brown tweed aco-cord. Built-in automatic record changer plays half-hour program of 10 or 12 in. records. Acoustical resonated case. Crystal pickup and high fidelity amplifier and specially matched speaker. John Meck Industries, 1313 W. Randolph St., Chicago, Ill.



TRU-POINT CACTUS NEEDLE SHARPENER is a single unit. Does not require additional parts or equipment. Rack and pinion principle rotates the spindle and collet-type chuck holding the needle. Metal base plate comes in several colors. Slider and rack are plated. Emery board type abrasive. List price, \$1.50. Tru-point Mfg. Co., 463 W. 42nd St., New York, N. Y.

EMERSON LONG-LIFE PHONO NEEDLE, packed individually in a sealed container, is guaranteed for 4000 plays. The "Miracle Tone" needle has a flexible shank, platinum metal tip which minimizes surface noises. Lists at \$1. Emerson Radio & Phono. Corp., 111 8th Ave., New York, N. Y.

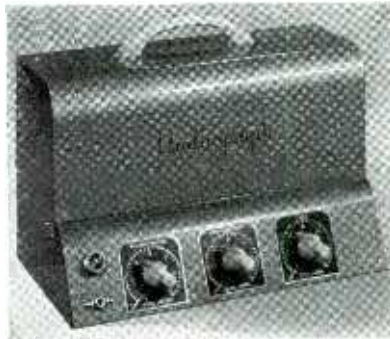
LEARAVIAN PORTABLE. The "Learavian" receiver provides complete coverage of 195-410 kcs. (airways and marine ranges); 540-1560 kc.; and 2200-6300 kcs. (airways communications). Special plug-in connection for use with an external antenna on board aircraft. Built-in loudspeaker and headphone jack. Built-in intersystem for intercommunication between cockpits. Lists at \$44.95 with batteries. Lear Avia, Inc., 30 Rockefeller Plaza, New York, N. Y.



KNIGHT TABLE SET, a 7-tube, 2-band (8.9 to 12.1 mc and 540 to 1720 kc). AC-DC receiver has a built-in loop aerial, slide-rule dial, automatic push-button tuning, 6 in. electro-dynamic speaker. Walnut cabinet. Allied Radio Corp., 833 W. Jackson Blvd., Chicago, Ill.

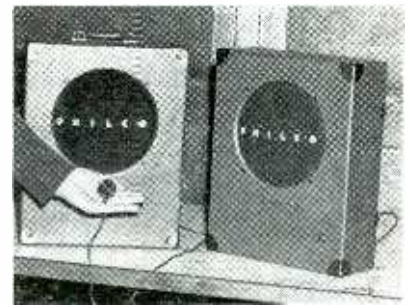
DELCO AUTOMOBILE RADIOS available in 2 models, R-700 and R-701. Both models have 6 tubes, electro-dynamic speaker, removable for instrument panel installation. Instrument panel or universal under-panel mounting control unit. Built-in interference filtering, A.V.C. Duro-glaze case. Model R-701 is the deluxe radio and offers in addition special circuits for power without distortion, extra large electro-dynamic speaker and RF stage. United Motors Service, 3044 W. Grand Blvd., Detroit, Mich.

SHURE PICKUP. New type high voltage, low pressure crystal pickup cartridges make available 1.4 v. at 1000 cps. with only 1 ounce net pressure. "Hi-lo" cartridge is designed for permanent point needles. Model W42AN "Hi-lo" complete with permanent sapphire needle lists at \$5. Shure Bros., 225 W. Huron St., Chicago, Ill.



AUDIOGRAPH AMPLIFIER. 10-watt amplifier for call systems, small restaurants. Mike and phono input channels, each with separate volume control. 4 and 8 ohm outputs. Field current is supplied for operation with dynamic speakers. Available with dual speaker carrying case. Lists at \$25. John Meck Industries, 1313 W. Randolph St., Chicago, Ill.

NATIONAL RECORDING "SLIK" a new preservative and surface conditioner for recording discs is said to minimize surface noise on acetate and nitro-cellulose blanks. Slik is available in 2 oz. bottles and is applied with soft cloth or brush. National Recording Supply Co., Hollywood, Calif.



PHILCO PORTABLE AMPLIFIER, model 905-A, 15 watt sound amplifier is compact, and features a lapel microphone. Stand mike available. 110 v., 60 cycle. Philco Corp., Tioga & C Sts., Philadelphia, Pa.



FREED-EISEMANN TABLE MODEL with Armstrong FM, standard and short wave bands, it is known as model 51. AC only, it has 14 tubes, vertical slide rule dial, electric tuning eye. Housed in a walnut cabinet. Price is \$110. Freed Radio Corp., 39 W. 19th St., New York, N. Y.

"Miking" a Mandrel!

TO A 0.00025 OF AN INCH.

This is just one of the many, unusual voice-coil accuracy controls which makes the CINAUDAGRAPH Speaker a superb unit for the reproduction of sound. That is why you should prefer it to any other loud-speaker!

Send for free Catalog No. 42-1.
CINAUDAGRAPH SPEAKERS, Inc.
 921 W. Van Buren Street
 Chicago, Illinois



10 and 20-watt fixed. Also adjustable up to 200-watt. All popular resistance values. Available in other mountings and terminals.

★ Those green-colored power resistors you now see in quality receivers, amplifiers, power packs, oscillographs, test instruments and other fine assemblies, are GREENOHMS. You'll also find them in radio transmitters, aircraft and police equipment and various electronic "rigs". GREENOHMS are chosen by builders of equipment that *must stand up*. Likewise they must be the logical choice for service jobs that *must not let you down*.

Ask Our Jobber . . .

★ Ask him to show you Greenohms. Examine these resistors critically—note neat inorganic-cement coating, smooth winding, positive-contact band, sturdy mounting feet, rugged terminals. Then try a Greenohm. Compare it with others. That's all we ask. Data on request.



CLAROSTAT MFG. CO., Inc.
285-7 N. 6th St., Brooklyn, N. Y.



GC HAMMER FINISH paint for use on wood or metal objects simulates the hammered finish used on many metal products. A special kit consists of a container of the first coat which is available in several colors, and a clear liquid which is applied with the plunger-type sprayer furnished. General Cement Mfg. Co., 919 Taylor Ave., Rockford, Ill.

TURNER DYNAMIC MICROPHONE, No. 211, salt-shaker type, uses a new type magnet structure and acoustic network. The high frequency range has been extended and extreme lows have been raised 2 to 4 decibels. Equipped with tilting head, 25 feet of cable, finished in satin chrome. The Turner Co., Cedar Rapids, Iowa.



JIGGERS SMALL SOLDERING UNITS, containing the correct amount of 50-50 solder and flux hermetically sealed in a waterproof heat-generating outer shell. By pushing a wire splice into a jigger and touching a lighted match to the jigger, a strong perfectly soldered connection is made. Free samples may be obtained from the manufacturers by writing Jiggers, Inc., 215 W. Illinois St., Chicago, Ill.

KATOLIGHT POWER PLANTS now available in 7½ and 10 kw sizes at 1200 or 1800 rpm and in 15 kw at 1800 rpm. Self-excited type can be made self-cranking. Four cylinder, 4 cycle, watercooled engine. 12 gal. fuel tank. Shielded for radio operation. Kato Engineering Co., 530 N. Front St., Mankato, Minn.



SONORA 1942 TABLE SET, a 6-tube, AC-DC superhet model tuning 535-1720 kc, covers standard BC and 1712 kc police channel. Built-in Sonorascope loop, 6 in. dynamic speaker, A.V.C. Curved speaker grille. Walnut veneer cabinet. Sonora Radio & Television Corp., 325 N. N. Hayne Ave., Chicago, Ill.



RCA 15-WATT AMPLIFIER housed in neutral gray cabinet is known as Model MI-12222. Capable of 21 w. maximum output. At 15 w. distortion is less than 3½ per cent. Mike input at 560,000 ohms with gain of 125 db., phono input at 500,000, 85 db gain. Each has separate volume controls. Frequency response from 30 to 10,000 cycles. RCA Mfg. Co., Camden, N. J.

ACROSAP OVERTRAVEL SWITCH with overtravel of at least 1/16 in.; amount of actuation remains at 1/1000 in. Features are same as in the pin plunger type. Uses new principle of the rolling spring. 10 amp. at 115 v. AC. Acro Electric Co., 3172 Fulton Road, Cleveland, Ohio.



IRC SEALED VOLTMETER MULTIPLIERS designed for severely humid conditions are hermetically sealed and encased in glazed ceramic tube. Consist of precision wire wound resistors suitably mounted and inter-connected. Type MFA, 8 13/16 in. long, is available in ranges of 3.5, 4.0, 4.5, 5.0 megohms. Type MFB, 4 5/16 in. long, in ranges of 1.0, 1.5, 2.0, 2.5, and 3.0 megohms. International Resistance Co., 401 N. Broad St., Philadelphia, Pa.

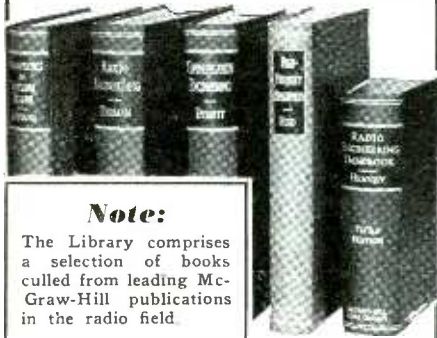


AEROVOX OIL-FILLED plug-in capacitors, series-72, with four-pin base that fits into a standard UX socket. The aluminum-sprayed tin-plate can comes in 2 2/4, and 3 in. diameter sizes and from 2 3/4 to 4 3/4 in. high. Available in single-section units up to 16 mfd. and up to 4-4.4 mfd. in multiple-section units, in both the 400 and 600 v. D.C.W. ratings. Aerovox Corp., New Bedford, Mass.

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a really high-powered

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The Library comprises a selection of books culled from leading McGraw-Hill publications in the radio field.

- ▶ especially selected by radio specialists of McGraw-Hill publications
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These books cover circuit phenomena, tube theory, networks, measurements, and other subjects—give specialized treatments of all fields of practical design and application. They are books of recognized position in the literature—books you will refer to and be referred to often. If you are a practical designer, researcher or engineer in any field based on radio, you want these books for the help they give in hundreds of problems throughout the whole field of radio engineering.

5 volumes, 3559 pages, 2558 illustrations

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Terman's *Radio Engineering*, 2nd edition

Everitt's *Communication Engineering*, 2nd edition

Hund's *High Frequency Measurements*

Henney's *Radio Engineering Handbook*, 3rd edition

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McGraw-Hill Book Co., 330 W. 42 St., N. Y.
Send me Radio Engineering Library for 10 days' examination on approval. In 10 days I will send \$3.00 plus few cents postage, and \$3.00 monthly till \$24 is paid, or return books postpaid. (We pay postage on orders accompanied by remittance of first installment.)

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Dealer Helps

ILLUSTRATED BOOKLET—*Freed Eisemann* gives details and pictures of their 1942 radio-phonographs in a 12-page booklet now available.

GUIDE BOOK—*Thordarson* announces the publication of a guide-book written for amateur radio beginners. Contains plans, photos, diagrams, etc., for actual construction of a complete rig. Cloth bound, gold stamped, 156 pages, 75c net, postpaid through your distributor or direct from *Thordarson Mfg. Co.*, 500 W. Huron St., Chicago, Ill.

1942 CATALOG—*Vertrud Mfg. Co.*, 132 Nassau St., New York City, have just released at no charge upon request a new catalog on "what to know and how to select the proper antenna."

TEST INSTRUMENT CATALOG—*R.C.P.* 1942 line of radio and electrical test instruments is presented in a 20-page, illustrated booklet, No. 125. Copies available from *R.C.P.* distributors or from *Radio City Products Co., Inc.*, 88 Park Pl., New York City.

BULLETIN 13-25—A new *Janette* bulletin which supersedes 13-25 of May, 1941, covers the line of Rotary converters and dynamotors, giving specifications, illustrations and prices. *Janette Mfg. Co.*, 556 W. Monroe St., Chicago, Ill.

TWO NEW CATALOGS—*Solar Mfg. Corp.*, Bayonne, N. J., announces the release of 2 new catalogs, 12-F and 12-G, describing their Elim-O-Stats and Capacitor Analyzers.

"HI-LO" CARDS—*Shure Bros.*, 225 W. Huron St., Chicago, have a colorful new display card and streamer for jobbers' counter and windows, to stir interest in its \$6.50 Hi-Lo lightweight crystal pickup. Designed to hike pickup replacement business.



XMAS ASSORTMENT—Here's one of Admiral's big selection of holiday display cards. All have easels, and there's a variety of sizes of the colorful jobs.

RADIART
in wishing you
a Happy Christmas
and a Prosperous
New Year,
hopes that
the year 1942
will bring to you
and to all of us
the blessing of
lasting peace
throughout the
world

On the Newsfront

Representatives Make Regional News

Reports from national headquarters of "The Representatives" indicate vigorous interest in the regular meetings and activities being conducted by the various regional chapters.

The Philadelphia group at its first meeting at the Essex Hotel selected the name of Mid-Lantic Chapter. It includes members from New Jersey, Pennsylvania, Maryland, and Washington, D. C.

The Wolverine Chapter holds its meeting on the third Monday of every month in the Olds Hotel, Lansing, Michigan. At the last meeting a new member was added: Robert Milsk, 429 Wayne St., Detroit. Bill Lee, secretary of this chapter reports that they have staged two dinners recently to which all the radio parts jobbers were invited as guests. Common problems were discussed following these dinners and many new activities outlined.

Bill Pray, W. B. Pray Sales Co., 755 Boylston St., Boston, Mass., was recently added as a new member in the New England chapter. Earl T. Harker, 326 Westmoreland Drive, Trenton, N. J., is a new member of the Mid-Lantic Chapter.

These members have recently changed their addresses: J. P. Kay, Kay Sales Co., 313 Central Bank Bldg., Tulsa, Okla., and Paul M. Cornell, 4422 Silsby Rd., University Heights, Cleveland, Ohio.

Danville, Ill., RSA to Repair Gift Radios

Last year the Danville, Ill., chapter RSA secured the donation of a number of discarded radio sets and its members then donated their own time and services to put these old radios into operating condition for gifts to local unfortunate individuals.

This year it has been decided to repeat last year's Christmas program of repairing donated radios "for presentation to others less fortunate than ourselves so they may have a happy radio Christmas." Advertising Chairman Lyal Cummings was instructed to go ahead with the publicity, and local RSA members were asked to donate a few evenings to this worthwhile project. G. R. McKinney acted as chairman.

Radio Put at Government's Call

Neville Miller, president of the National Association of Broadcasters, on Dec. 8 sent the following telegram to President Roosevelt: "The broadcasters of the United States place their services

at your command. We stand ready to serve in every way possible."

Within an hour of the news of the Japanese attack on Hawaii, David Sarnoff, president of the Radio Corporation of America, and chairman of the board of the National Broadcasting Company, wired President Roosevelt at the White House putting his corporations and their subsidiaries, at the command of the Government.

Big-Scale Promotion Drive By Zenith

A new and hard-hitting merchandising program has been announced by J. J. Nance, vice president and director of sales for Zenith Radio Corp., Chicago, designed to "reinject real old fashioned specialty selling into the radio business." Details of the drive are being given to dealers by their local distributors.

Under the head "Selling Zenith in Today's Market" the program includes a dealer training sales film, big ad drives in consumer magazines and trade publications, a plan book for dealers, cooperative newspaper ads and a mass of promotional helps.

Mr. Nance declared that "the present boom is not a 'silk shirt' one . . . people are spending their money wisely and buying the better things . . . real selling ability is necessary if the radio dealer is to get his share of these carefully spent dollars."



J. J. NANCE of Zenith



AUTHOR AFLOAT—"Al" Ghirardi, author-publisher of many books for the serviceman, is shown vacationing on a 32-ft. power cruiser. He's the head man at Radio & Technical Publishing Co.

RCA Promotes All Combo Sales

A magazine ad which is unique in the radio business will appear Dec. 20 in the *Sat. Eve. Post*. The full page ad runs "with the compliments of RCA Victor" and it dramatically declares that "Our competitors make good phonograph-radios!—if you can't get a Magic Brain RCA Victrola . . . we suggest you follow your dealer's advice of other good phonograph radios he has in stock."

The display is a big-scale effort to help dealers get more business during the Emergency, and to keep the volume in records at its current history-making level. D. J. Finn, RCA advertising manager says that "We want to help every RCA Victor dealer close every sale that will improve his profit picture . . . his loyal support in the past merits our all-out aid to him now . . . after all, if there is a shortage of our merchandise, who is better qualified to advise the public on what alternate merchandise to buy that the local RCA Victor dealer?"

Other RCA ads are appearing in 13 other magazines during the month of December, one of the heaviest campaigns in the history of the firm.

New Service Programs

Philco is now taking steps to select servicemen and service organizations to qualify for the two new service programs being set up by the company. These programs will be similar to RMS in radio, but will be concerned with the refrigeration and air conditioning fields.

The company says that only those qualified by training, equipment and experience will be picked as authorized Philco service stations. An information service from the home office will be featured, and Philco engineers will hold local meetings for members. Distributors will act as local headquarters.

University



SOUND . . . —
. . . NATIONAL . . .
. . . — DEFENSE
make sure your
National Defense
SOUND is 100%

UNIVERSITY REFLEX
NATIONAL DEFENSE
requires:

HIGH EFFICIENCY
 → All models in the
UNIVERSITY Reflex
 Line are of the very
 high efficiency type.

NATIONAL DEFENSE
requires:

Specialized speakers
for specific purposes

→ **UNIVERSITY** has
 developed and main-
 tains, in production, a
 wide line of special
 models for every type
 of defense installation.

NATIONAL DEFENSE
requires:

Reliability for severe
emergency service

→ The **UNIVERSITY**
Breakdown Proof dia-
 phragm is playing an
 important part in the
 present National Emer-
 gency.

UNIVERSITY LABS, 195 Chrystie St., NYC

A "LAB" to
fit your pocket

Readrite
RANGER

MODEL
739

\$10.89

Dealer Net
 Price



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

Pocket Volt - Ohm - Milliammeter with Selector
 Switch Molded Case. Precision 3-Inch
 Meter with 2 Genuine Sapphire Jewel Bearings.
 AC and DC Volts 0-15-150-750-1500; DC MA.
 0-1-15-150; High and Low Ohm Scales.
 Dealer Net Price, including all accessories, \$10.89
 MODEL 739 . . . DC Pocket Volt-Ohm-Milli-
 ammeter. Dealer Net Price. . . . \$8.25

WRITE FOR CATALOG

SECTION 1120 COLLEGE DRIVE

READRITE METER WORKS, Bluffton, Ohio

Annual Grid Event for Radio

Football fans among the prominent radio men in Chicago have started a new and lively idea in annual events for the industry—a yearly trip by train in a special "radio car" to a Notre Dame grid battle in Indiana.

This year the group hired one car to the Notre Dame-Southern California game, an immediate sell-out. The trip was complete with entertainers, refreshments, and a turkey raffle; one bird was contributed by Stancor and was won by Col. A. E. Mickelsen of Chicago Signal Corp.—the other came from Stewart Athletic Club, Chicago, and was won by Henry Forster, president of Radio Speakers, Inc.

Other guests aboard the radio special, and the firms represented, were as follows:

Ray Durst and Robert Samuelson, Hallcrafters; Ray Houtmaker, Utah; Peter Faber, Montgomery Ward; James Boyajian, J. P. Seelburg; Harper Clarke and Bob Alexander, Wells-Gardner; George Neuhauer, Belmont; Phil Krumm, Bill Schnell and Marty Decker, Erla; Dick Wilder, Wilder Mfg. Co.; Ed Wykeman and 3 guests from Tam O'Shanter; Robert Dooley, Wm. Maxwell Co.; Lt. Jackson, Ft. Monmouth; Abe Ginsberg and John Loibl, Zenith; Ray Berg and Ed Rhinehart, Spaulding Fibre; Dan Tomy and Bill Arnos, Galy; Lou Wheelock, Hygrade Sylvania; Ivan Picard and Romeo Grens, Quan Nichols; Jack Scanlon, Muter; George Timmings, Meissner; Sam Mulay, Vince Barreca, Richard Dooley, Frank Kazda, Cy Rossetti and Lovell Crawford, all from Radio Products; Joe Goodie, Goodie Sales; Jay Bass, Nation Wide Radio; Fred Johnson, Felt Products; Ray Costello, Fresh'nd'Aire; Horton Croft, Lanzit Corrugated; George Holly, Radio Speakers; Rollie Sherwood, General Dry Battery; Don Siragusa and Witt Ellison, Molded Products; George Ickes, Hank Borchardt, Al Harmon, George Lane, Bob Gorndt and John Ennis, all of Pilecher Hamilton; Ed Keeler, Mid-States; Bill Jackson, Container Corp.; Walter Karstens, Operadio; Lenny Larson, Crescent Tool; Art Johnson, Mandell; Frank Wilke and Charles Caine, Caine Sales; Les Smetena and Bill Terry, Stewart Warner; George Goddard, Jefferson Elec.; Don Saigh, Insulation Mfg. Corp.; Mr. Wilson, Internal Revenue; and Al Gianaras, Stancor.

New Plant for Sylvania

A big new plant for the manufacture of special purpose radio tubes—a modern factory with some 50,000 sq. ft. of floor space—will be built for the Hygrade Sylvania Corp. in Montoursville, Pa., near Williamsport, by the Industrial Properties Corp., subsidiary of the Williamsport Community Trade Association. The \$500,000 project will be rushed to completion and will employ around 500 people.

Hygrade Sylvania, second largest manufacturer of radio receiving tubes and third largest maker of incandescent lamps, now has plants at Emporium, St. Marys and Towanda, in Pennsylvania, and at Salem, Ipswich and Danvers in Massachusetts.

Western Radio Show

The Fifteenth Western Radio & Appliance Show will be held Jan. 26 to 31 at the Western Merchandise Mart, San Francisco, as a part of the "Western Spring Market." Five other home furnishings shows will be held there during the period. The annual radio and appliance trade dinner is scheduled for Jan. 28.



Reach for a

DANDEE

● By all means, reach for a Dandee when you need a handy, dependable, inexpensive electrolytic in a hurry.

And to play safe in these days of impatient customers, always have a supply of popular 8 mike 450 v. DANDEES on hand for those rush jobs. Note this wide choice of values . . .

TYPE PRS DANDEES

SINGLE-SECTION:
 450, 350, 250, 150, 50 and 25 v.
 D.C.W. 4 to 100 mfd.

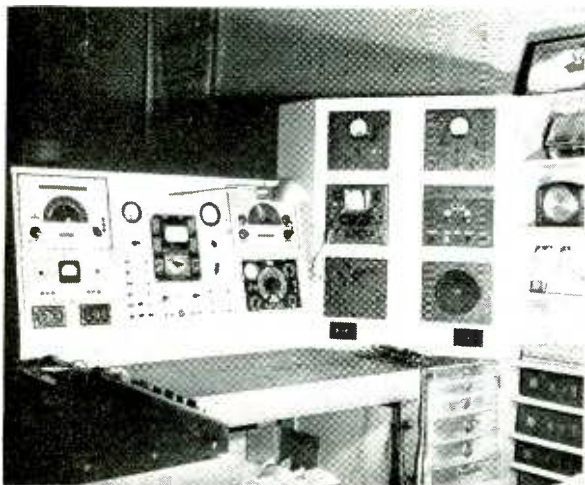
DUAL-SECTION PRS-A:
 450, 200, 150, 50 and 25 v.
 D.C.W. 8-8 to 20-20 mfd. Con-
 centrically-wound. Three leads.

DUAL-SECTION PRS-B:
 450, 250 and 150 v. D.C.W. 8-8
 to 20-20 mfd. Separate sections.
 Four leads.

● Ask Your Jobber . . .

He has a stock of these Dandees on hand, in all popular values for your immediate needs. Be sure they're DANDEES! Buy them in the five-to-a-box or ten-to-a-box cartons. Ask for latest catalog—or write direct.

AEROVOX
CORPORATION
 NEW BEDFORD, MASS., U. S. A.
 In Canada: AEROVOX CANADA LTD., Hamilton, Ont.
 EXPORT: 100 Varick St., N. Y., Cable 'ARLAB'



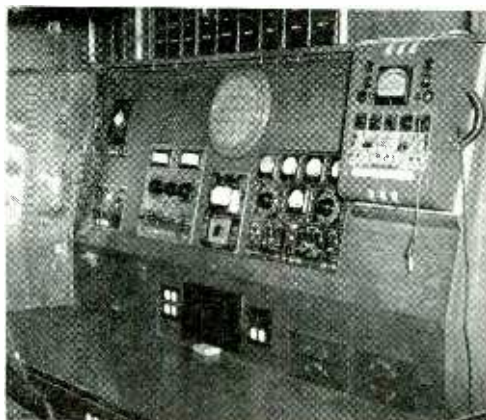
CONVENIENT layout of test equipment around this bench of Schlosser Radio Service, Pontiac, Ill., speeds up service jobs. Variable voltage power supplies were built by Bob Schlosser for special tests.

BENCHES For Service



STREAMLINED for service is this bench at Witham & Booth, Bakersfield, Calif. Fluorescent lighting, sloping panel with flush-mounted test equipment, and separate sales counter make this attractive shop efficient.

COMPACT arrangement of equipment and storage space makes this bench work for H. L. Wilson, Wilson Radio Service, McRae, Georgia. Test terminals and small part storage are located in the narrow vertical panel. Note the special holder for the portable type tube tester used on calls and in the shop.



The

Double Superhet Circuit in G.E. FM Models

The double superheterodyne principle is used in the GE models LF-115, 116, and LFC-1118, 1128, 1228. These sets employ 11 tubes in a combination A-FM circuit. A portion of the circuit showing the oscillator, RF converter, and the main converter is shown in the accompanying diagram.

Three separate antenna input circuits are used, two for the AM band and one for the FM channel. On the broadcast and short-wave AM bands, the first 6SG7 functions as a conventional tuned RF stage. The plate circuit of this tube has a tuned circuit for all bands. Note that the inductance is in the plate feed circuit and the tuning condenser is in the grid circuit of the second 6SG7, isolated for DC by 0.05 blocking capacitor. The oscillator voltage from the 7Q7 cathode circuit is fed into the cathode of the second 6SG7 and also the screen grid of that tube.

When the selector switch is in the FM position, as shown in the diagram, the three low-capacity tuning sections are connected across the antenna coil, a portion of the oscillator coil, and a portion of the plate coil of the first 6SG7. At the same time, the large capacity tuning sections are disconnected.

The oscillator voltage on the FM band is no longer fed to the second 6SG7 cathode as that circuit is connected to ground through the switch. Instead, the oscillator voltage is coupled through a 10 mmfd. capacitor to the FM antenna circuit where it is combined with the received signal and applied to the grid of the first 6SG7. The range of the oscillator frequency on the FM band is 18.85 to 22.85 mc., and the range of the tuned circuit in the plate of the first 6SG7 is 23.15 to 27.15 mc. Since the range of the FM band is 42 to 50 mc., one group of beat notes formed with the oscillator in the grid circuit of the first tube will fall between 42 mc.-18.85 mc. or 23.15 mc. and 50 mc.-22.85 mc. or 27.15 mc.

This range of beat notes between the FM signals and the oscillator note is the tuning range of the circuit between the first and second 6SG7 tubes as mentioned. Since this tuning range is also quite near to that of the oscillator, only about 4 mc. difference, the original signal from the oscillator will

Service Department

also be applied to the grid of the second 6SG7 or main converter tube. The oscillator voltage goes through the first converter with a gain of about one.

The combination of the original oscillator frequency with the difference between the signal and the oscillator frequencies in the main converter tube is the FM intermediate frequency of 4.3 mc. Thus 23.13-18.85 mc. is 4.3 mc. and 27.15-22.85 is also 4.3 mc.

Thus the oscillator voltage is applied to two tubes in cascade to obtain double frequency conversion. Greater gain and more stable oscillator operation is the result.

Another interesting feature of this set is the noise "squelch" circuit for silencing the static noises between FM stations. Since the limiters do not reduce noise unless the FM carrier is present with considerable strength, noise between stations is not suppressed by these circuits. The noise, which is mainly amplitude modulated, comes through the receiver to the plate circuit of the second limiter tube, a 6SH7 and here it develops a voltage across the 22,000 ohm plate resistor. This voltage is capacity coupled to one of the diode plates of the 6SQ7. The noise is rectified and the DC across the 1 meg resistor is used to bias the grid of the 6SQ7 beyond cut-off and thereby "kill" the AF stages. When a

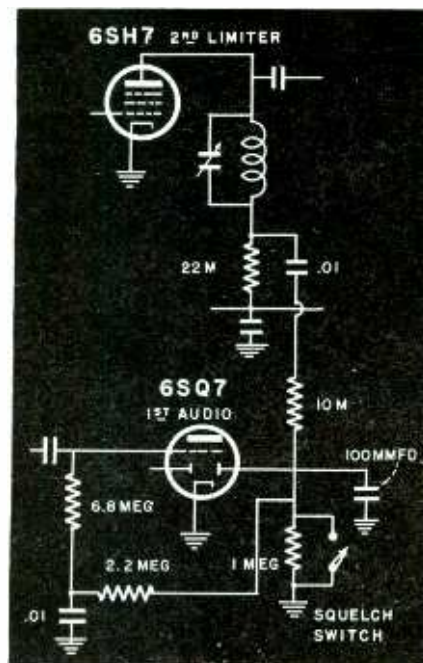
station is tuned in, the FM signals do not develop any potential in the 6SQ7 diode circuit and therefore, do not affect the audio amplification. The squelch switch stops the squelch action when closed and permits the reception of weak FM stations which might be accompanied with enough noise to silence the set.

Output Circuits for Cutting Heads

The two common types of recording cutting heads, the crystal and the magnetic, require different methods of matching the impedance of the output tube or tubes to the head.

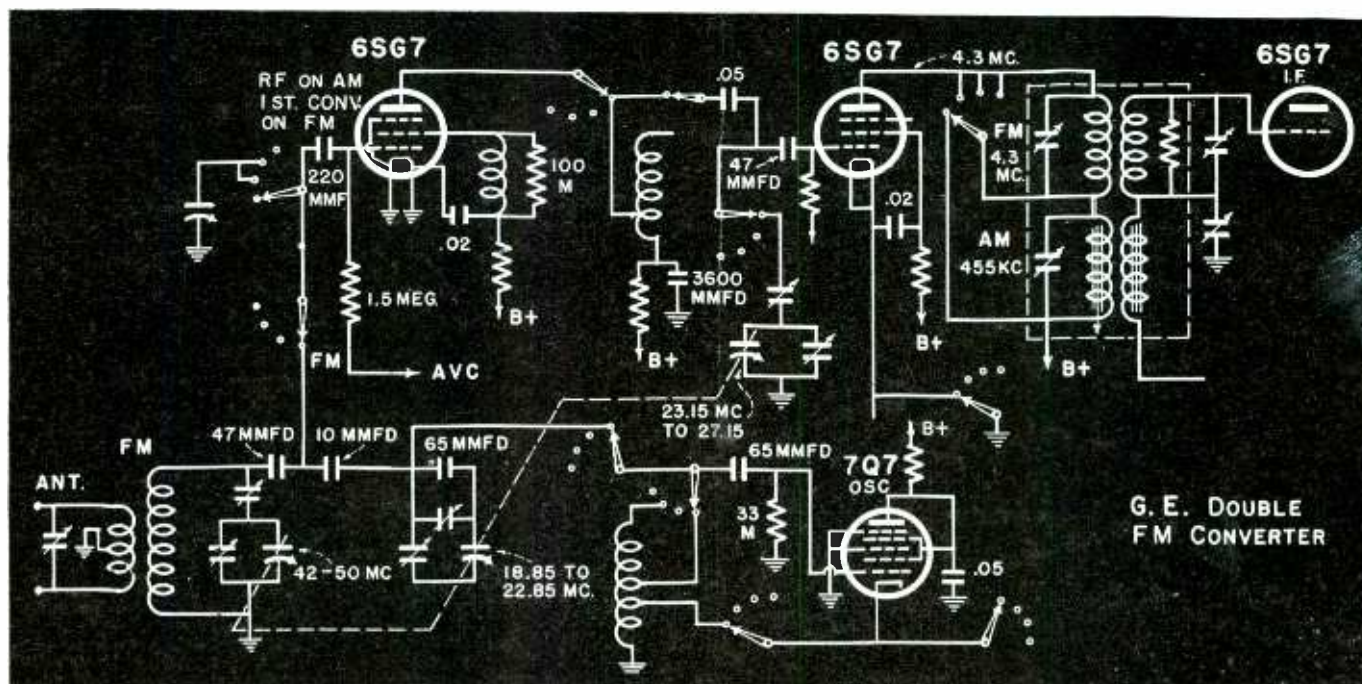
The magnetic cutters usually have an impedance of 4 or 5 ohms, while the crystal units are about 50,000 ohms. The magnetic cutter is usually supplied from the voice coil winding on the output transformer and the speaker is disconnected or muted. Circuits that are suggested by the General Industries Company for both the magnetic and crystal types are shown. A table of values of components for different voice coil and output transformer impedances is given for the magnetic cutter circuit.

A constant impedance is presented to the output transformer regardless of



whether the cutter or the speaker is connected. A shunt resistor is across the speaker during recording and serves to hold the volume level at a convenient audible monitoring value. A monitoring meter may be connected across the cutter head. A rectifier type AC voltmeter can be used and should indicate about 1-volt on speech peaks and 1.5 volts on music peaks if the cutter is 4 ohms impedance. The impedance of the voltmeter must be known and the resistance across the cutting head adjusted so that the parallel combination of the resistance and the voltmeter is equal to the value given in the table.

(Continued on page 42)





New BROADCAST MODEL At Low Cost
 Here is **CARTER REYNOLDS**
 Newscaster at **WMT**
 Columbia's Outlet at 600 K. C.
 5,000 Watts, Cedar Rapids, Iowa
 Shown with



TURNER

No. 211

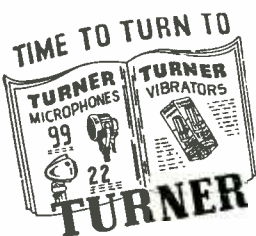
Dynamic

... Utilizing
NEW TYPE MAGNET STRUCTURE AND ACOUSTIC NETWORK

Compare its Performance With Mikes Selling at TWICE its Price!

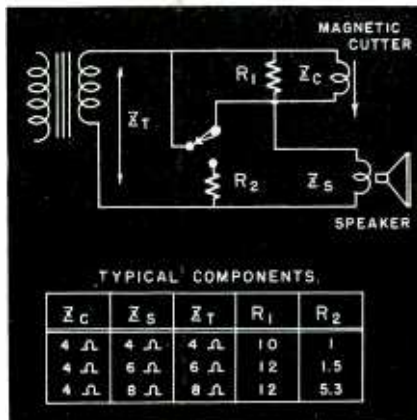
No. 211 is the sixth Turner model now in use at WMT.

By modern Turner engineering the frequency range of Model 211 has been widely extended, and the extreme lows raised 2 to 4 decibels, to compensate for over-all deficiencies in loud speaker systems. The unique diaphragm structure results in extremely low harmonic and phase distortion without sacrificing high output level. Equipped with tilting head, balanced line output connection and 25 feet heavy duty cable. Rich brushed chrome finish. It's the ideal mike for commercial broadcast, critical P.A. use, extra intelligibility for sound systems in military areas and defense production plants! 200,500 ohm and hi-impedance models list at \$45.00 (Price subject to change without notice). You'll want complete specifications . . . so write NOW! We've a Turner Mike Catalog waiting for you, too!



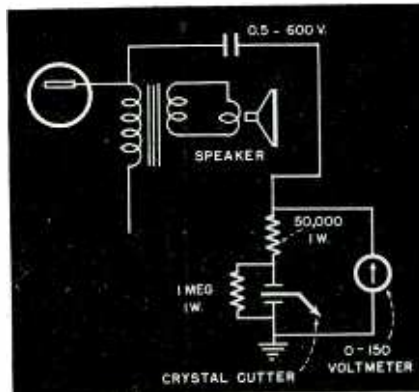
THE TURNER CO.
 915 17th St., NE.
 Cedar Rapids
 Iowa

The crystal recording cutter is a high-impedance device and offers a capacity load to the circuit to which it is coupled. Because of its high impedance it is connected directly across the plate circuit of the output stage. In the circuit shown, the recommended 50 M. ohm resistor can be varied up to 250,000 ohms if it is desired to emphasize the bass. If the highs are to be emphasized, a shunt capacitor of 0.001 to 0.01 can be connected across the resistor in series with the cutter.



The volume level meter is a 0-150 volt AC instrument. For normal recording, the peaks will be about 100.

A resistor is usually shunted across the speaker when the crystal cutter is used, just as with the magnetic head. This resistor is usually about the same size or slightly smaller than the voice coil impedance.



It is important to remember that crystal cutters and pick-ups should not be subjected to temperatures higher than 120° F. The AC voltage across the cutter should be not over 350 volts, and DC should be suitably blocked with a capacitor. This series capacitor should be capable of standing the total DC plus the peak AC.

Where to Apply for Radio Defense Jobs

A number of inquiries have been received from radio service men, ask-

ing for a list of places to which they can apply to be of service in National Defense.

While this is largely an individual matter of the radio man's personal qualifications and interests, information received from U. S. Army headquarters in New York City, indicates that the radio man should contact or write to:

1. Mayor of town or city, or office of local Civilian Defense authority.
2. Signal Corps office at nearest Army post.
3. Write for information, outlining your qualifications, to the Adjutant-General, U. S. Army, Washington, D. C.

The American Radio Relay League, Hartford, Conn., also maintains an elaborate record of radio opportunities for radio amateurs and other qualified radio men.

The United States Navy has asked RSA to aid in bringing to the attention of servicemen the opportunity afforded experienced radio servicemen in the U. S. Navy.

For the first time in history, radio servicemen may enter the naval service with petty officer rank. Heretofore men with radio training could only join the Navy with initial ratings of apprentice seamen.

Under the present program, the Navy expects to enlist 5,000 men in the near future. Those accepted will be given ratings of radiomen, second class, and will be sent to a naval radio training school at Noroton, Conn., and upon completion of the course may be advanced to chief radiomen.

For applications or further information, call or write your nearest Navy recruiting station.

California RTA Elects New Officers

The Radio Technician's Association of Long Beach, California elected its officers for 1942 last month. The new officers are F. E. Smith, president, Duane Davis, vice president, Harold Barnett, treasurer, and Roy Putney, secretary.

A new office of publicity and public relations is being filled by the retiring president, Harry E. Ward, Jr.

Nearly two dozen meetings were held by this association in the past year. Inspection trips of radio stations and manufacturing plants, technical talks and discussions by the members, and social affairs rounded out the programs.

SELL SERVICE, TOO

(Continued from page 17)

can do no harm, and may bring you future business. Do not place cards, handbills or other advertising material in the mail box.

Discover if your city has an ordinance requiring a permit for distributing cards. Oakland has such an ordinance and I complied with it years ago before I set out to canvass. The usual law requires that a license be obtained to distribute cards or handbills.

You will be told some places, "My radio was just fixed. If you had called yesterday, I would have been glad to have given you the job," or, "If you had only called a few days earlier. We did not know any radio repair man on this side of town because we recently moved here and so we had a man come from the other side of the city and of course it cost us more money for him to come from such a distance."

Continuing the Canvass

Before you start cursing your luck; remember that luck works the other way, too. Someday you will rap on the door and the person who answers will say, "You came at just the right moment. The radio just went dead and I was wondering where I could get a good radio service man in this neighborhood."

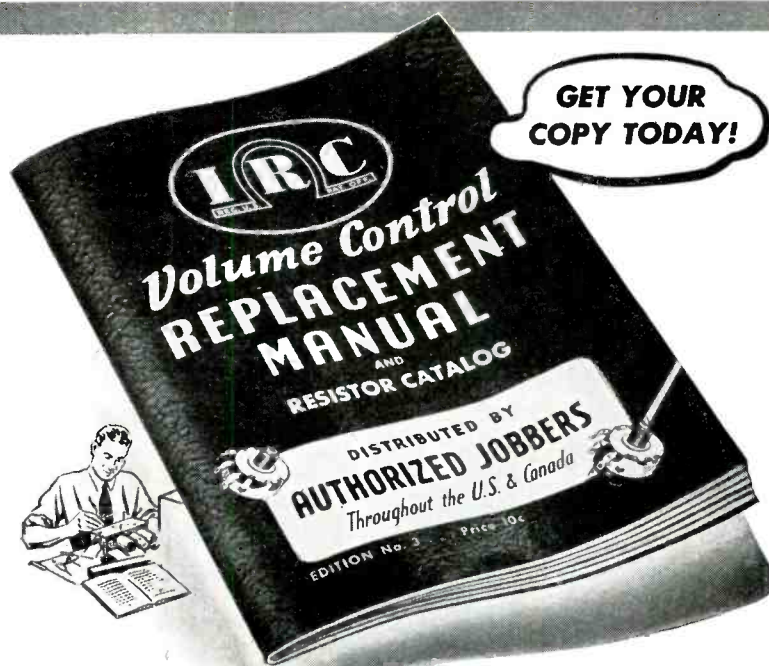
And you'll get the job and make a friend and booster.

The dwellers in modern, swanky, apartment houses are good radio customers. You are not allowed to get in to contact them personally, so copy down the names from the list in the lobby, and send them all post cards. I use the card I regularly give out and type some individual message on each one about my shop, its equipment, etc.

When you make your second call on the same territory; draw a red line along side of the blue one on your map. Also mark your second notation in red.

Proceed exactly the same within the half mile circle and so on. The chances are if you have done your work well, it won't be necessary to canvass any more.

You'll probably be too busy repairing radio sets.



35% MORE LISTINGS — MORE ACCURATE — EASIER TO USE

If you have not already obtained your copy of the new IRC Volume Control Replacement Manual (3rd Edition) ask your IRC jobber for a copy today. It's the finest Manual IRC has ever published—lists over one-third more receiver models than ever before—gives everything you need to know about a control replacement at a glance, from the original part number to Rider's Manual reference, price, switch data, etc. IRC Controls have proved the most dependable for all types of replacements—and the Manual makes it easy to select the right one for practically any job. Don't miss it! INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Phila., Pa.



VOLUME CONTROL REPLACEMENT MANUAL

(Edition No. 3)

I'll come back when you get a
Fidelitone
PHONOGRAPH NEEDLE

Its Platinum Metals Point gives over 1000 perfect plays with Natural Tone Quality. Filters Record Scratch. Saves your records. All for 50c. Permo Products Corp., Chicago, Illinois.

Fidelitone
FLOATING POINT
Filters Record Scratch
A NEW LONG-LIFE PHONOGRAPH NEEDLE

PERMO Pivot Points AID NATIONAL DEFENSE IN Ship Compasses



MR. A. C. BURNS
Tenth North Radio
& Elec.
2355 — 10th Ave.
North
Seattle, Washington

I have been selling N. U. tubes for over 10 years and find them most satisfactory. N. U. has been more than helpful in cooperating with the dealer with their equipment, sales promotion and advertising programs. I heartily recommend N. U. to any dealer or serviceman.

WHERE YOU FIND
NATIONAL UNION
YOU FIND BETTER
RADIO SERVICE

PREMIUM
Quality
TUBES



BATTERIES



CONDENSERS

also Sound X'tra tubes, panel lamps, cathode ray tubes, exciter lamps, sound equipment, photo electric cells, sound accessories, dry batteries, flash light bulbs.

NATIONAL UNION invites . . .

All radio service dealers to enjoy the benefits of the N. U. Shop Equipment Plan. The latest in tube testers and test equipment are available to you . . . prompt delivery. More than 60,000 completed deals prove the success of this plan. Investigate now.

Ask Your N. U.
Distributor or Write



NATIONAL UNION
RADIO Corp.
57 STATE ST., NEWARK, N. J.

Servicemen's Organizations Developing in N. Y. and La.

Progress is being reported in the formation of two new service organizations designed to offer more business protection to both the serviceman and the customer. The New York City association of servicemen, formed to offset a proposed local utility radio-appliance service plan, is in the policy forming stage. A mass meeting of the metropolitan servicemen is planned for December 16th at which time the various committees will report. Among the aims of this association is a financial guarantee by the association for the work of each of its members, the establishing of standard trade practices, promotion of the association to the public, etc. The new group is headed by John Rider and a board of directors of leading servicemen and jobbers.

Louisiana Servicemen Organize

"We are forming a state-wide organization of Louisiana radio servicemen, founded for the purpose of laying the ground work for a licensing system," writes M. C. Crew, 319 Market St., Shreveport, La.

The initial meeting will be held in the Venetian Room of the Bently Hotel, Alexandria, La., at 9 p.m., January 11, 1942.

Motorola Automatic Tuner Circuits

The electric push-button tuning system used on many Motorola home models employs an electro-mechanical system. Electro-magnets energized

from 24 volts AC through the push buttons, operate latching pawls to stop the motor driven tuning condenser and notched discs. The circuits for the various tuners are shown in the accompanying diagram. The E15T and E16T assembly is used on models 103K1, 103F1, and 103F2. E22T and E23T is used on models 83K1, 83F1, 93F1. E19T is used on 103CK2.

The input to the tuner should be 24 volts with a button depressed; 18 volts across the motor, and 6 volts across the electro-magnet.

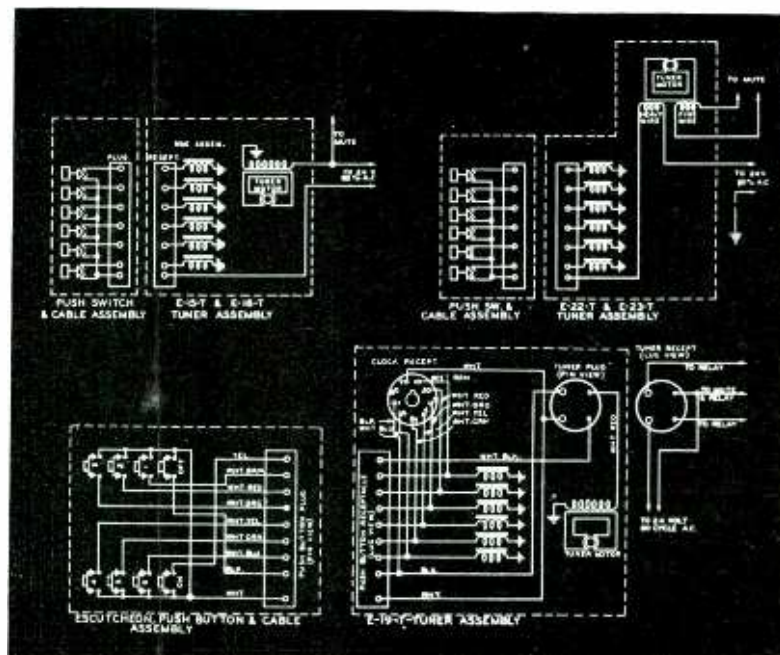
The resistance of the magnets is 0.78 ohms; motor winding, 0.675 ohms, both cold. The mute winding on E22T and E23T is 23 ohms cold. The voltage induced into this winding is rectified and applied as a bias to kill the set during tuning.

High Low Booster

In night clubs and dance spots frequented by jitterbugs some of the advantages of an amplifier having a flat frequency response over the entire audio range may not be too important. The shuffling of dancers' feet plus conversation and other noises in public places blends with the music from the speakers and may prevent the sound system from being heard clearly.

In the metropolitan New York area S. J. White of White Sound Service specializes in the installation of sound equipment in night spots and has done considerable experimenting to improve the operation of his installations. As a result of this work he found that by using the circuit shown the effective-

(Continued on page 46)



Defense Savings Pay-Roll Allotment Plan

How company heads can help their country, their employees, and themselves

voluntary pay-roll allotment plan helps workers provide for the future helps build future buying power helps defend America today

This is no charity plea. It is a sound business proposition that vitally concerns the present and future welfare of your company, your employees, and yourself.

During the post-war period of readjustment, you may be faced with the unpleasant necessity of turning employees out into a confused and cheerless world. But you, as an employer, can do something *now* to help shape the destinies of your people. Scores of business heads have adopted the Voluntary Pay-roll Allotment Plan as a simple and easy way for every worker in the land to start a *systematic* and *continuous* Defense Bond savings program.

Many benefits . . . present and future. It is more than a sensible step toward reducing the ranks of the post-war needy. It will help spread financial participation in National Defense among all of America's wage earners.

The widespread use of this plan will materially retard inflation. It will "store" part of our pyramiding national income that would otherwise be spent as fast as it's earned, increasing the demand for our diminishing supply of consumer goods.

And don't overlook the immediate benefit . . . money for defense materials, quickly, continuously, *willingly*.

Let's do it the American way! America's talent for working out emergency problems, democratically, is being tested today. As always, we will work it out, without pressure or coercion . . . in that old American way; each businessman strengthening his *own* house; not waiting for his neighbor to do it. That custom has, throughout history, enabled America to get things done *of its own free will*.

In emergencies, America doesn't do things "hit-or-miss." We would get there *eventually* if we just left it to everybody's whim to buy Defense Bonds when they thought of it. But we're a nation of businessmen who understand that the way to get a thing done is to *systematize* the operation. That is why so many employers are getting back of this Voluntary Savings Plan.

Like most efficient systems, it is amazingly simple. All you have to do is offer your employees the convenience of having a fixed sum allotted, from each pay envelope, to the purchase of Defense Bonds. The employer holds these funds in a separate bank account, and delivers a Bond to the employee each time his allotments accumulate to a sufficient amount.

Each employee who chooses to start this savings plan decides for himself the denomination of the Bonds to be purchased and the amount to be allotted from his wages each pay day.

How big does a company have to be? From three employees on up. Size has nothing to do with it. It works equally well in stores, schools, publishing houses, factories, or banks. This whole idea of pay-roll allotment has been evolved by businessmen in cooperation with the Treasury Department. Each organization adopts its own simple, efficient application of the idea in accordance with the needs of its own set-up

No chore at all. The system is so simple that A. T. & T. uses exactly the same easy card system that is being used by hundreds of companies having fewer than 25 employees! It is simple enough to be handled by a check-mark on a card each pay day.

Plenty of help available. Although this is *your* plan when you put it into effect, the Treasury Department is ready and willing to give you all kinds of help. Local civilian committees in 48 States are set up to have experienced men work with you just as much as you want them to, and no more.

Truly, about all *you* have to do is to indicate your willingness to get your organization started. We will supply most of the necessary material, and no end of help.

The first step is to take a closer look. Sending in the coupon in no way obligates you to install the Plan. It will simply give you a chance to scrutinize the available material and see what other companies are already doing. It will bring you samples of literature explaining the benefits to employees and describing the various denominations of Defense Savings Bonds that can be purchased through the Plan.

Sending the coupon does nothing more than signify that you are anxious to do *something* to help keep your people off relief when defense production sloughs off; *something* to enable *all* wage earners to participate in financing Defense; *something* to provide tomorrow's buying power for your products; *something* to get money *right now* for guns and tanks and planes and ships.

France left it to "hit-or-miss" . . . and *missed*. *Now* is the time for *you* to act! Mail the coupon or write Treasury Department, Section A, 709 Twelfth St. NW., Washington, D. C.



FREE - NO OBLIGATION

Treasury Department, Section A,
709 Twelfth St. NW., Washington, D. C.

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Company _____

Address _____

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retail for \$1.00

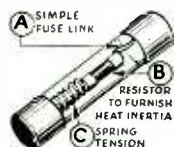
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A—Simple Fuse Link
B—Resistor to furnish heat inertia
C—Spring tension

FUSE MOUNTINGS

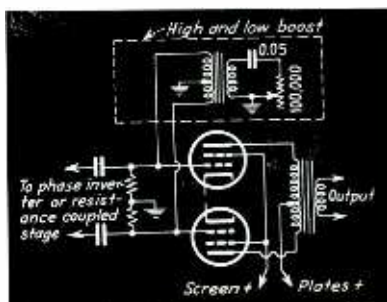
Littelfuse covers the field in fuse mountings for small applications and instruments as well as heavy duty. Many types are standard and stocked. Special types designed. Write for catalog. No. 1056. For 3AG fuses. Panel type mounting, black bakelite base. 1 5/8 x 1/2 x 3/16.



LITTELFUSE INC.
4791 Ravenswood Ave. Chicago, Ill.

ness of the sound system increased in certain places.

It consists of a push pull transformer, a .05 mfd. condenser and a 100,000 ohm variable control added to the grid circuit of the output tubes. Varying the control to cut out the resistance leaves the condenser across one winding of the transformer. The tuned circuit thus formed acts as a trap circuit to the middle audio frequencies and allows mostly lows and highs to feed through the stage. The apparent increase of these frequencies pleases the devotees of the violent dance steps who depend on the "boomy" notes for their rhythm.



He further reports that the entertainers and announcers like the accented highs, feel that these give their voices "clarity" and better carrying power.

If the booster is assembled in one unit and a jack installed in the amplifier it may be cut in and out when desired. Constants are not very critical and a push pull input transformer designed for class A tubes will usually fill the bill. The amplifier should have a reserve of gain however as all frequencies are attenuated to some extent.

Servicemen in Pa. Elect New Association Pres.

The Radio Servicemen's Association of Luzerne County, Wilkes-Barre, Pa., elected J. Austin Renville of Luzerne as the new president of the Association on November 18. Mr. Renville succeeds Edward Buckman of Lee Park.

Others elected were: Pat Manville, vice president, C. F. Bogdan, secretary, and John Kennedy, treasurer. Elected to the board of directors were David Thomas, Max Frederick and Joseph Sincavage.

Merchandising Tags for Servicemen

Printed tags to help the radio men merchandise their service, are now included in the cartons of all International Resistance Co. variable controls for replacement use. Entitled, Your

Serviceman Knows Quality, the tags state that the controls are of the same design and construction as those used in exacting communication fields. The back of the tag invites the customer to recommend the serviceman to their friends and has a space for the serviceman's name and address.

The cards are equipped with a string for looping over the knob on sets returned to the customer.

New Mallory Encyclopedia and Catalog

The well-known Mallory Radio Service Encyclopedia is now in its fourth edition. This part replacement and service guide lists the variable controls, condensers, and vibrators by original part numbers and Mallory replacement number along with tube complement, IF peak, and the Rider Manual reference page for all models and manufacturers. There are over 400 pages in the 4th edition.

The physical and electrical characteristics of the Mallory radio products are included in a new 32-page catalog. Covers resistors, condensers, vibrators, switches, etc.

Ham Handbook for 1942 Published

The nineteenth edition of the Radio Amateurs' Handbook has just been published by the American Radio Relay League, West Hartford, Conn. Complete and authoritative information is included on radio theory, amateur station operation, and the construction of transmitters, receivers, frequency measuring and testing equipment. New chapters on u.h.f. emphasizes the emergency civil defense angle. The price of the 550-page book is \$1.

TRICKS of the TRADE AIRLINE 62-136

Reception weak . . . this a 32 volt set. May be caused by slight leak in .25 mfd condenser between screen of 6D6 and cathode of 12A5.

ATWATER KENT 480

Weak or no reception . . . operates when control tube located in left front corner of chassis is removed. Take out 1500 ohm control tube bias resistor connected to low side of tone beam adjustment. Connect a resistor of about 250,000 ohms to high side of this adjustment circuit and ground.

ATWATER KENT 85

Dead, operates when 24A control tube is removed . . . replace the 30,000

ohm second detector bias resistor. This is connected between the second detector cathode and control tube grid on high side and ground on the low side. Less than 30,000 ohms may have to be used.

EMERSON DJ310

Dead on ac side yet only 70L7 lights . . . check filter choke for open. If exact replacement is not available be sure choke used does not cause more than 1.4 volts to be impressed on tube filaments.

GRUNOW 12-A

Low plate voltage on 6A8 . . . replace .02 mfd condenser in can adjacent to the 6A8 tube socket. It usually takes the series resistor along with it so replace this with a 2000 ohm two watt resistor. It may be necessary to mount this outside of the can.

MIDWEST 18-38

Broken pilot bulb wires . . . replace all portions of the wiring that has to bend in tuning with phosphor bronze dial cable in spaghetti tubing. Leave plenty of slack as this combination is a little stiffer than the original wiring. The spring arrangement for taking up the slack is retained.

If the afc and regular tuning are at quite different frequencies on this model try a new 6J7G oscillator control tube.

RCA 140

Weak around 1200 kc . . . stop avc action on the 6A7 control grid. This can be done by grounding the G-lead of the secondary coil winding at the avc isolating resistor.

SILVERTONE 1922A

No reception . . . blue lead coming out of condenser block and going to terminal strip is defective. It bypasses a $\frac{1}{4}$ watt red resistor

STEWART-WARNER 05-5L1

No reception . . . replace filter condensers. If filament voltage is less than one volt increase capacity of second filter.

ZENITH 6S203, 222, 223, 229, 239, 241. CHASSIS 5638.

I-F oscillation . . . i-f trap in antenna circuit is directly under 2nd i-f transformer. Solder a flat piece of metal in place to shield the trap from the hole under this transformer.

Using Oscilloscopes

MANY SERVICEMEN own oscilloscopes and do not use them for one reason or another. Some have expressed the fact that the controls are too complicated for fast use, and that they do not fully understand what each control does.

The principle of the oscilloscope is more or less familiar to all servicemen. The electrons from the cathode are formed into a beam by electrodes, mainly the grid and first anode. The beam is accelerated by the high positive potential on the second anode, and is directed between four deflecting plates on to the screen which fluoresces at the impact of the beam. The deflecting plates are arranged in parallel pairs, each pair being at right angles to the other. The horizontal and vertical deflecting plates as they are called, are connected through voltage amplifiers to the input circuits. The amplifiers are required because the deflection sensitivity of the average 3 in. tube is quite low, about 65 volts is required to move the spot 1 inch. A single pentode resistance coupled stage for each pair of plates will give a voltage gain of about 100. Thus 0.65

volts at the input of one amplifier will move the spot one inch.

Spot Sweep Oscillator

In addition to the voltage amplifier for each pair of plates, some form of oscillator is used to move the beam back and forth in a horizontal direction at a uniform rate. This sweep oscillator as it is called, is necessary if the wave shape of an unknown voltage or current is to be observed. It must move the beam at a uniform rate so that the deflection caused by the observed voltage on the vertical plates is a true picture of the amplitude of the wave at every instance over the cycle. If the horizontal deflection was not linear, so that the spot moved equal distances along the horizontal axis each fraction of a second, the wave of the observed voltage on the screen would be distorted from its true form.

The controls of an oscilloscope can be divided roughly into two groups, (1) those which regulate the spot of light on the screen, (2) those which regulate the voltages which are ap-



For Triplett Customers Only

Long before the state of emergency was proclaimed, the Triplett Company was getting ready to do its part in building our national security. We knew that we must meet important new responsibilities. At the same time, we felt keenly our continuing obligations to our customers—old friends with whom we have had happy business relations through many years.

We doubled—then tripled—our output to fill the needs of our old accounts. We added to our production facilities . . . hired many more men . . . are working extra shifts at time-and-a-half.

All this has not been enough. We have been called on to produce more and more for national defense. We are proud of the job we are doing to help meet the emergency, but it is difficult not to be able to serve our old friends equally as well. In the face of these conditions, the Triplett Company has adopted these policies "for the duration."

FIRST: We will continue to serve you by our service to our mutual responsibility—the national emergency.

SECOND: We will continue to do everything we can to fill orders from our regular customers, even though some deliveries may be temporarily delayed. No business from new accounts has been nor will be accepted until after our old friends have been served, except where priorities make it impossible to do so.

THIRD: Our engineering and research departments will continue to work on the development of superior equipment and improved methods to serve you still better when we can resume normal operations.

The present emergency is incidental and as we work towards the future, we will do our best to continue to merit your confidence and loyalty.

R. L. Triplett
President

The Triplett Electrical Instrument Company
Manufacturers of Precision Electrical Instruments

plied to the deflecting plates to move the spot.

Regulating the Beam

The first group, which regulates the spot, include the focus control, the brightness or intensity control, the vertical centering, and the horizontal centering controls. The focus control regulates the voltage on the first anode of the cathode ray tube and consequently the size of the beam and spot. The brightness control usually regulates the cathode or grid bias of the ray tube. The horizontal and vertical

centering controls adjust the ratio of the DC voltage between the two horizontal and the two vertical deflecting plates. It is a type of bias which is applied to the deflecting plates to enable the spot to be moved about the screen. Its primary purpose is to adjust the spot to the exact center of the screen. Stray magnetic, and electrostatic fields about the tube due to transformers and other parts cause the beam to be shifted off center and thus require neutralizing with these centering controls.

The second group which control the voltages applied for deflecting the beam for observation include the gain controls for the horizontal and vertical amplifiers, the step frequency control for the sweep oscillator, the "fine" frequency control for the oscillator, and the synchronizing "lock" control.

The vertical and horizontal gain controls are usually potentiometers in the grid circuit of the amplifiers and serve to regulate the amount of voltage applied to the amplifying tubes. The voltage gain of the tubes remains constant and only the amount of the voltage applied to the tubes is varied. These controls regulate the size of image obtained upon the screen.

The step frequency control for the sweep amplifier is a rotary switch which places different values of capacity in the discharge circuit of the gas filled oscillator tube. This control is much like the band switch on an "all-wave" set, while the "fine" frequency control is like the tuning dial. The fine frequency control is a variable resistance to change the sweep frequency rate over a small range in the "band" selected by the "coarse" control.

Synchronizing Control

The synchronizing "lock" control is for the purpose of holding the image stationary on the screen for observation. It is a variable control which regulates the amount of synchronizing signal applied to the grid of the gas-filled oscillator tube. This control prevents the drifting of the pattern across the screen. It only takes effect when the frequency of the sweep oscillator has been adjusted as closely as possible to that of the wave being observed. If the frequency controls are not adjusted properly, use of the synchronizing lock will only cause the pattern to hold for an instant and then jump, and repeat the process.

Control of the synchronizing source is usually through a switch which may select either internal or external or 60-cycle voltage. The most common position for the sync selector switch is the "internal" stop. The internal



SHOP DISPLAY card is one of three "business policy" signs from National Union Radio Corp. Two similar cards cover tube testing policy and shop equipment proficiency.

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in the "off" position when it is desirable to apply test voltages to both the horizontal and vertical plates.

To get a pattern of the voltage to be observed, first switch on the internal sweep oscillator and regulate the width of the horizontal line with the horizontal gain control. Focus the line for sharpest image while keeping the brightness as low as possible. The horizontal sweep line should not extend beyond the edge of the tube screen for preliminary set-up. Apply the voltage to be observed to the vertical input terminals and adjust the vertical gain to give a convenient height to the pattern. Adjust the sweep frequency to approximately that of the voltage to be observed with the range switch. If the frequency of the wave under test is not known, turn the range switch to the tap which gives the least complicated appearing pattern. Adjust the fine frequency control until one or two complete cycles appear on the screen. Turn the synchronizing control until the pattern remains steady, but not beyond this point as it may cause distortion of the pattern.

RSA Chapter Hears Service Editor Talk on Resonance

The Westchester chapter of the Radio Servicemen of America heard an illustrated technical talk on "Resonant Circuits—Basic Facts on Their Operation and Adjustment" presented by William E. Moulie, service editor of *RADIO RETAILING and RADIO TODAY*, at their meeting of December 10th.

Covering the subject of electrical resonance in general, Mr. Moulie discussed the voltage, current, and impedance relations in series, parallel, and coupled resonant circuits. With the aid of a chart of the characteristic curves of the several types of circuits, he pointed out the variations in the different quantities with respect to frequency.

The fundamentals of the resonant cir-

cuits were linked to the substituting of parts which are not exact duplicates.

"With material shortages, servicemen will have to stock more "universal" parts and adapt them to all types of sets," said Mr. Moulie.

Hazeltine and Zenith Accord

An agreement has been reached by Hazeltine Corporation and Zenith Radio Corporation whereby all existing litigation between the two companies has been terminated.

Under the terms of the agreement, Zenith Radio Corporation receives a Hazeltine Corporation standard license in the broadcast-receiver field for a period of ten years, as well as a standard Hazeltine license in the commercial communication field.

Both companies are planning an efficient coordination of their respective facilities in the production of radio equipment for National Defense.

Walkie Talkie Order

One of the most useful radio devices to be developed by war-time engineers is the "Walkie Talkie," the tiny, lightweight, two-way shortwave sets used by the Army's infantry or scout units to keep in touch with headquarters. So far, the public knows very little about this compact job, which delivers such good results in mobile work.

Majestic Radio & Television Corp., Chicago, reports that the government has ordered \$325,000 worth of these new devices from the firm. While busy with this defense work, Majestic continues, however, in steady production of its 1942 line of home receivers.

Supreme Expansion

Supreme Publications, publishers of radio books, manuals and diagrams, have moved to larger quarters at 328 S. Jefferson St., Chicago.

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480 LEXINGTON AVENUE, NEW YORK

Dear Reader:

With war now a grim reality, sure to add new curbs to those already placed upon radio, we of RADIO RETAILING-TODAY are concentrating all energies upon a program of maximum helpfulness to dealers and servicemen.

Although you have made great sacrifices and cooperated whole-heartedly in the national defense, we nevertheless wonder if you realize how urgent it is TO HAVE and TO USE every possible aid to volume and economy—every possible protection to the profit that is so essential to your job of keeping 56 million radios in operation.

Restrictions on instalment selling, higher taxes, shortages of merchandise and drastic demands yet to come, are bringing a crisis to manufacturer, jobber, retailer and technician alike—a crisis requiring the utmost in THINKING, PLANNING and all-round RESOURCEFULNESS.

While the general press and the broadcast station brings you the great drama of the War and the news of general interest, it is only the business paper of radio that brings you the counsel, the facts, the ideas, the alternative plans of selling and the servicing helps which are now so vital to yourself, your business and your family.

To make this service count for you and for the nation, we are combining the resources of two outstanding radio trade magazines—RADIO RETAILING and RADIO TODAY. In January, you will have the first big consolidated issue.

Tuned to your needs and your problems, the new RADIO RETAILING—TODAY will be geared for set-replacement and for the maintenance of the millions of radios needing attention now.

What you will find in the forthcoming issues of RADIO RETAILING—TODAY, will be there because we know and understand your problem. So, we advise you not to miss a single page of a single issue. Be sure to keep up your subscription. Enter your order (or your renewal) NOW, to make sure of getting the first consolidated issue in January.

RADIO RETAILING—TODAY sincerely wants to help you.

O. H. Caldwell

EDITOR

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Although Radio & Television Retailing takes every precaution to insure accuracy, we cannot assume responsibility for an occasional change or omission in the above index.

Priority Appointment for Crosley Exec.

R. C. Cosgrove, vice-president and general manager of Crosley Corp.'s manufacturing division, has accepted an appointment by president Paul Galvin, of the Radio Manufacturers' Association, as a member of the priorities committee of the RMA. Recently elected to the RMA board of directors, Mr. Cosgrove has been taking a leading part in representing several industries in priority matters with the various governmental departments.

"Rock" Smith Promoted

News from Hotpoint is that George H. (Rock) Smith has been named general sales manager for the firm. The promotion was announced by Hotpoint executive vice president R. W. Turnbull, who said that Mr. Smith will now have full charge of all Hotpoint sales and merchandising operations.

"Rock" Smith has had 16 years as a successful and popular executive in the appliance business. He has been with Hotpoint since 1936—first in laundry sales, then refrigeration, and for the past two years, general merchandising manager.

Gibson Makes Bombs

Gibson Electric Refrigerator Corp., Greenville, Mich., has just received a defense contract for 800,000 incendiary bomb casings. Gibson will be one of more than twenty manufacturers doing this work.

L. W. Hamper, Gibson vice-president, said that manufacture of the bombs will be in addition to the 1942 Gibson refrigerator and range program already under way. "Manufacturing and shipping of Gibson civilian products will continue exactly as planned before the defense order was received by Gibson," he revealed.

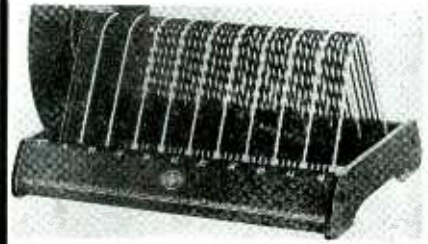
Sylvania Honored

A coveted award, presented by the National Safety Council for an excellent safety record, has been won by Hygrade Sylvania Corp. A bronze plaque was given the company for a full year safety record in the machine shop of Sylvania's tube factory at Emporium, Pa. It was awarded by the metals section of the Council. Although Sylvania has been honored repeatedly for its safety accomplishments, this is the first such honor won in a national contest.

Auriema Appointee

Ad. Auriema, Inc., manufacturers' export managers of 89 Broad St., New York City, has named Charles R. Carvajal as its commercial engineer, to work on radio principally in Latin America. For the past 12 years he has worked with NBC and CBS here, specializing on Latin American radio engineering jobs.

PEERLESS for SALES!



RECORD HOLDERS WITH A CONSCIENCE

ABOVE is illustrated one of our newest sensations, PEERLESS Sr. Safety Rack with sturdy ALL-ROUND Fabrikoid covered wood base, holding 50 records in minimum space ... already a hot favorite. Also, we recommend PEERLESS Jr., with rounded top, cloth-covered wire dividers, holding 50 records.

Write for Complete Details

**PEERLESS ALBUM CO.
INC.**
38 W. 21st St., New York, N. Y.

FAST, EASY WAY TO CUT HOLES IN RADIO CHASSIS

**NO FILING,
REAMING, OR
TEDIOUS
DRILLING**




Here's a handy tool to help the radio worker save many hours of work when cutting holes for sockets, plugs, connectors, and other receptacles in radio chassis. A cap screw is inserted in a small drilled hole, and the punch is easily forced into the die by a few turns of the cap screw with an ordinary wrench. Smooth holes, requiring no filing or reaming, can be cut in metal up to 1/8-inch thick in 1 1/2 minutes or less. Ten punches are available for cutting 3/8, 7/8, 1, 1 1/8, 1-5/32, 1-3/16, 1 1/4, 1 3/8, 1 1/2 and 2 1/4-inch holes. A Greenlee Knockout Cutter is also available for cutting holes up to 3 1/2-inch size for meters. Send for new circular S-114 on Radio Chassis Punches.

SEND FOR
FREE COPY
GREENLEE
CATALOG 33E

**GREENLEE
TOOL CO.**

1708 Columbia Ave.
Rockford, Illinois




4 STANDARD TYPES
of Amperite Regulators replace over 400 types of AC-DC Ballast Tubes now in use. Amperites are real REGULATORS... have patented Automatic Starting Resistor which prevents initial surge and saves pilot lights... Ask Your Jobber.

AMPERITE
THE *Simplest*
WAY TO REPLACE
BALLASTS

WRITE FOR REPLACEMENT CHART
AMPERITE CO. 541 BROADWAY, NEW YORK, N. Y.

FOR DEFENSE



BUY UNITED STATES SAVINGS BONDS AND STAMPS

FREE! Our 116-page **FREE!**
Catalog of
Washing Machine & Vacuum Cleaner
Parts. Save money by ordering all your
supplies from one dependable source.
Quality, Service, Low Prices!

MIDWEST APPLIANCE PARTS CO.
2722 W. DIVISION ST. CHICAGO, ILL.

Jobbers Hear Plans for 1942

Covering all ten of the Philco sales divisions, representatives from the home office sales, accessory and service departments were the star speakers at eight sectional meetings held Dec. 2nd to 9th for Philco distributors coast to coast.

Thomas A. Kennally, vice-president, James H. Carmine, general sales manager, and Larry F. Hardy, manager of the home radio set division, outlined the 1942 program for radio and refrigeration. Harry Boyd Brown, manager of air conditioning, presented sales plans in that field. C. E. Carpenter, J. M. Skinner, Jr. and O. F. Achtenhagen, who represent the accessory division, mapped out spring merchandising plans for auto radio, tubes and parts sales.

Robert Herr, Henry Paiste and Robert Long of Philco's service department were there to explain the new features of Philco products.

Sylvania Promotes Two

Two promotions in the radio tube division of Hygrade Sylvania Corp., have been announced by C. W. Shaw, general manager of tube sales. R. P. Almy has been advanced to the post of assistant renewal tube sales manager, and A. R. Oliver to the position of field sales supervisor. These two continue the work formerly handled by Paul S. Ellison, who has been advanced to director of advertising for the entire Sylvania company.

Mr. Almy has had long experience with the firm, and has had repeated promotions. His headquarters will now be at Sylvania headquarters at Emporium, Pa. Mr. Oliver has been for over 4 years the western division manager for the company. His offices will remain at 135 S. LaSalle St., Chicago.

Rotary Display Prices

Price changes have been announced by Goodman Rotary Displays, 19 W. 34th St., New York City, on the two AC display turntables made by the firm. The light-duty motion display, which takes merchandise up to 50 lbs. is now \$9—this one works on 60 cycles, 110 volts, and has a 12 inch platform disc. The heavy-duty job, rated at 150 lbs. for large radios or appliances, is now tagged at \$12.75. Larger platforms and superstructures of your own can be readily mounted on these.

RCA Managers Shifted

A shift of two district sales managers of the RCA Mfg. Co., and appointment of a new district manager has been re-

vealed by Fred D. Wilson, RCA's manager of field activities.

John K. West, district sales manager at Cleveland since 1938, has been assigned to San Francisco, replacing E. J. Rising, who resigned. Harold M. Winters, assigned to Kansas City district, has been transferred to the vacancy at Cleveland. District manager at Kansas City is now Harold R. Maag, previously in charge of merchandising activities in Southern California.

W. W. MacDonald Joins "Electronics"

William W. MacDonald, for the past two and one-half years editor of Radio Retailing, and who has rendered valuable services to the publication in various capacities during the last 15 years, has joined the editorial staff of Electronics, McGraw-Hill publication devoted to radio engineering and allied topics. He will devote his time to investigating the growing application of radio and electronic principles to industrial problems.

WHEN MFG. UNDERBIDS OWN JOBBER

(Continued from page 30)

that various engineers spend hours of our time, using our stocks to look at, using our information files, using our men to explain the merits of various products, and then—the purchasing agent buys direct at prices at or below our cost.

"It has been called to our attention that these customers received better service from the manufacturers direct than from us. On checking we have found several instances that the manufacturer concerned has back-ordered items to us and filled orders direct to the customers first. So our only argument to the customer as to why he should buy from us rather than direct, is destroyed by this action. It appears that the solution is up to manufacturers to decide if they are going to ride the middle of the fence at the jobbers' expense, or if they are going to do a jobber business, or do all direct business.

"Just how can we parts jobbers survive this situation? Or is it that this problem does not interest the manufacturers! But we would like to get manufacturers to state a definite policy which they will be expected to adhere to."

Announcing
CROSLEY
SUPER SHELVADOR
 (PATENTED)

Refrigerators for
1942

Six New Improved Models include six-, seven-, or nine-foot Crosleys all with the patented Shelvador. The 1942 deluxe interior styling includes lustrous, easy-to-clean stainless steel trim around food compartment and crystal-clear glass shelves edged in sparkling chromium. Abundance of ice-cubes.

Four types of cold in deluxe models; large frozen foods storage space at low temperature; giant Meat Chest holds several days' supply; Drawer-type, sealed clear-vision Crisper for leafy vegetables; Moist-Kold compartment retaining full flavor and nutrition of fruits, vegetables and perishable left-overs.

Savings in current costs with the famous Crosley Electrosaver sealed unit.



**TWICE AS MUCH
 FOOD TO THE FRONT
 WITHIN EASY REACH**

The Hot Line of 1941 has been made **EVEN HOTTER** for 1942!

Remember what a sensation Crosley has been this past year—achieving the **HIGHEST PERCENTAGE** of **GROWTH** reported in the industry! New refinements have been added to give it unsurpassed eye-appeal. Crystal-clear glass shelves, stainless steel trim around the food compartment and—

The exclusive feature which makes Crosley different from all others—the **only door with shelves**—the Super Shelvador! Exclusive because it's **patented!**

Get in touch with your nearest distributor **NOW!**

**DESIGNED FOR
 MODERN MARKETING**

With rising food prices, women today want to take full advantage of food sales. Only Crosley offers so much extra storage space for frozen foods, for beverages, for several days' supply of meats, and for fruits, eggs, vegetables—each in the type of cold best suited to keep it fresh, nutritious and with full flavor retained.

THE CROSLEY CORP., CINCINNATI, OHIO
 HOWEL CROSLEY, JR., PRES.
 Home of WLW, "The Nation's Station"
 —70 on your dial

AMERICA'S RECOGNITION OF EXCLUSIVE DESIGNS GIVE

CROSLEY THE FASTEST GROWTH IN THE INDUSTRY!

SEE THE NEW CROSLEY LINE AT THE AMERICAN FURNITURE MART DURING THE HOUSEWARES SHOW IN CHICAGO IN SPACE 541-B AND 542-B



'YES, MRS. SMITH, I'LL MAKE IT SOUND LIKE NEW'
...the oscillator is off a few thousand beats a second'

**YOU CAN'T GET
"LIKE-NEW" RADIO RECEPTION
WITH OLD, WORN TUBES!**

Tubes are literally the "heart" of any radio. Countless cases of noise, lack of volume, interference, humming, difficulty in tuning, and other troubles in old radios can easily and economically be eliminated simply by replacing worn tubes that to why disrepairing your radio has spent checks of last week or a year ago. When making replacements, insist on RCA tubes. These are backed by the best-known name in radio—backed by leading dealers and service technicians—one day's response to any of their three diamond-cannon



It's another of those cases of normal wear of sensitive radio parts which, although not sufficient to cause the set to stop operating, may result in tuning difficulties, noise, poor volume and other inefficiencies. Your radio service man can fix such things promptly—as a modest charge you will be well justified in paying.

For instance, the oscillator in an average radio oscillates almost two million times a second—perhaps ten times that often if the operator on short wave bands. Should this become even slightly out of adjustment, the result may be an unnecessary several thousand and oscillations a second—a small percentage of error, but still enough to cause the set to work far less efficiently than it should. Although conditions of this sort are beyond the comprehension of most radio owners, they are no mystery to the service man. He has both the knowledge and equipment to correct them accurately and well.

Such things clearly indicate the importance of a routine service check-up every year or 18 months—at a probable cost of no more than \$2.00. This means the correction of minor troubles resulting from long hours of daily use. Equally important, it indicates whether additional repairs are advisable to assure the kind of reception to which you are entitled and, perhaps, even to avoid more extensive work later on.

Always a good investment, always more so today when home radios form a valuable link in Defense, when the National Emergency means broadcast messages of vital importance; and when new radios, although finer, will be limited in number.

Call your service man today! Give your radio the attention that any such fine, well-made mechanism deserves!

RCA MANUFACTURING COMPANY, INC.
A SERVICE OF THE RADIO CORPORATION OF AMERICA
RCA CAMDEN, N. J.
IN CANADA: RCA VICTOR COMPANY, LTD. MONTREAL



**make your old Radio
LAST LONGER**

It may happen that your radio will break down suddenly. Just normal wear and tear on tubes and other parts of the kind of which you are not aware, may be the cause. It is important to know upon how to check up on your radio. It is important to know when to call in a repairman. It is important to know how to make it easier for him to do his job. It is important to know how to aligning properly, so that you can get the most out of your old radio. It is his job to help you get the most out of it—to make it operate satisfactorily over a long period of time. Call him today. Keep your radio working—and keep them working well!

He may diminish interference from powerful nearby stations by repairing or replacing your antenna (which probably hasn't been inspected since it was put up). He may quiet noisy phonograph motors by oiling and adjustment. Quickly, efficiently and economically, he will make any changes or repairs that you desire—with a resulting improvement in radio performance that will often mean you

Regardless of the make or model of your old radio, it is his job to help you get the most out of it—to make it operate satisfactorily over a long period of time. Call him today. Keep your radio working—and keep them working well!

RCA MANUFACTURING CO., INC., CAMDEN, N. J.
A SERVICE OF THE RADIO CORPORATION OF AMERICA
In Canada: RCA Victor Company, Limited, Montreal



**ABOUT RADIO SERVICE
in an Emergency**

It is important to know upon how to check up on your radio. It is important to know when to call in a repairman. It is important to know how to make it easier for him to do his job. It is important to know how to aligning properly, so that you can get the most out of your old radio. It is his job to help you get the most out of it—to make it operate satisfactorily over a long period of time. Call him today. Keep your radio working—and keep them working well!

TESTING & RADIO SERVICEMAN

It is important to know upon how to check up on your radio. It is important to know when to call in a repairman. It is important to know how to make it easier for him to do his job. It is important to know how to aligning properly, so that you can get the most out of your old radio. It is his job to help you get the most out of it—to make it operate satisfactorily over a long period of time. Call him today. Keep your radio working—and keep them working well!



**EVERY NEWSSTAND IN YOUR TOWN
is selling Radio Service!**

...Here's the greatest national advertising support ever extended to Servicemen and Dealers
"Your Radio Serviceman *deserves* your patronage!"
That's the theme of the biggest national advertising campaign ever devoted to boosting the business of servicemen and radio service dealers... the greatest support ever offered you by *any* manufacturer!

In the December 27 issue of *Collier's*, RCA—for the *third* time in three months—takes a full page in

two colors to tell America about the vital work of the competent, honest radio repairman. These three ads are directed to the cream of America's radio-owning families... two million of them... the men and women upon whom *your* livelihood depends.

For RCA believes that the radio serviceman's work today is more important than ever before... that the serviceman himself has *earned* public confidence, and should *have* it!



WHERE ELSE CAN YOU OBTAIN THIS SUPPORT?



Tubes and Test Equipment

RCA Manufacturing Company, Inc., Camden, N. J. ♦ A Service of the Radio Corporation of America
In Canada: RCA Victor Company, Ltd., Montreal