

**RADIO  
RETAILING**  
COMBINED WITH **RADIO  
TODAY**

IN TWO PARTS — PART ONE  
FEBRUARY

**KEEP**

**EVERY**

**RADIO**

**WORKING**





## Keep 'em listening...

### *A goal for radio's Minute Men*

In these days of material shortages and production restrictions, the radio service engineer has his big opportunity to "keep 'em listening," no matter what the obstacles.

It is a time when ingenuity counts—a time to make good use of experience—a time, more than ever, to depend upon Mallory.

Mallory Approved Precision Products give you reliable quality that represents the finest in progressive design, the quickest applications in replacement work and the greatest economy in your own inventories. And what's more, there's friendly technical help that's yours — free for the asking.

Mallory is doing everything within its power to keep you adequately supplied with time proven standardized replacement parts. Where critical materials are preempted by wartime production, Mallory engineers are working for adequate substitutes; striving to anticipate your needs; keeping up their record of realistic help to you.

Yes, you can depend on Mallory and Mallory Distributors to help you "keep 'em listening."

**P. R. MALLORY & CO. Inc.**

# MALLORY

*Approved Precision Products*

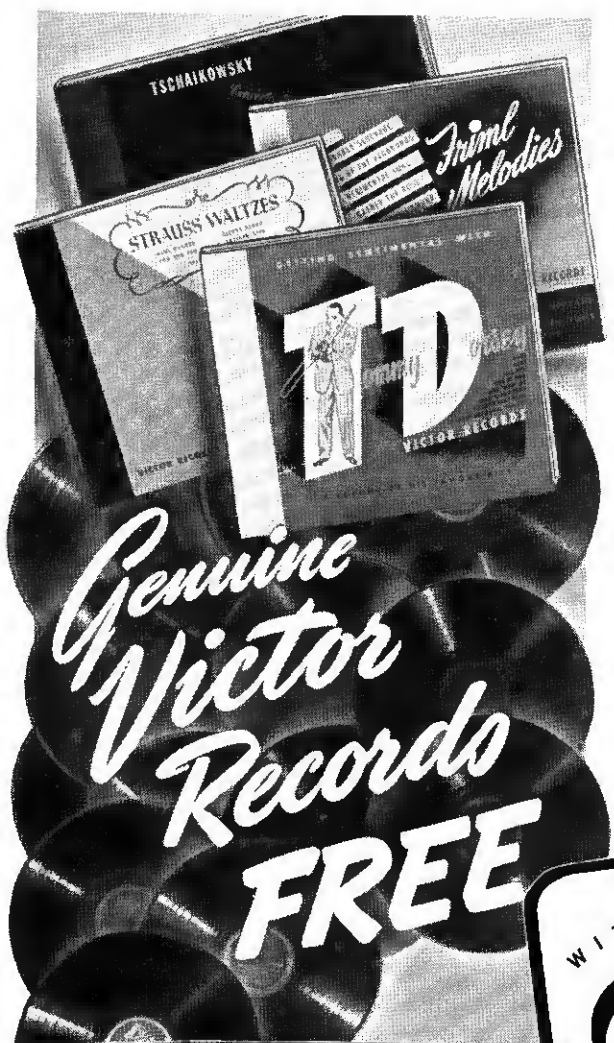
**P. R. MALLORY & CO., Inc.**  
 INDIANAPOLIS INDIANA  
 Cable Address "Pelmallo"

# NEVER BEFORE AN OFFER LIKE THIS!

*The Most Sensational Merchandising  
Event in Admiral History!*

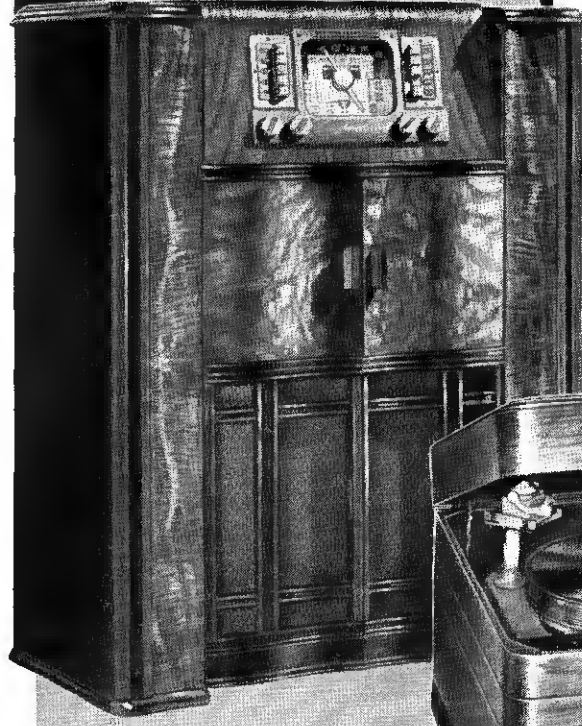
**G**ENUINE Victor Records . . . Tschaiikowsky, Toscanini, Tommy Dorsey, Friml, Horowitz, Strauss . . . up to 28 of the latest popular selections in decorative albums . . . to be given away absolutely FREE with an Admiral Radio Phonograph. Every single record is a current hit tune . . . *not* obsolete, closeout merchandise. Besides . . . records may be exchanged (value for value) for any selection in the complete Victor catalog of over 7,000 titles!

Get in touch with your Admiral distributor now for full details of this sensational profit-making promotion. Supplies of merchandise and time of offer are limited . . . so hurry if you don't want to miss out.



*Genuine  
Victor  
Records  
FREE*

WITH AN  
**Admiral**  
RADIO PHONOGRAPH



## Only ADMIRAL

### Gives You All These Features!

Slide-A-Way Phonograph . . . Lifetime Needle . . . No Needles to Change . . . No Annoying Needle Scratch . . . Records Last Infinitely Longer . . . Safe, Swift Automatic Record Changer . . . Superb Tone Quality . . . Magna-Band S-P-R-E-A-D Short Wave . . . Feather Touch Electric Tuning . . . Super Aeroscope . . . Preferred Type Tubes . . . And a host of other triumphs of Admiral engineering skill.

• **IMPORTANT** — All Admiral Radios are equipped for easy television or FM conversion

## CONTINENTAL RADIO & TELEVISION CORP.

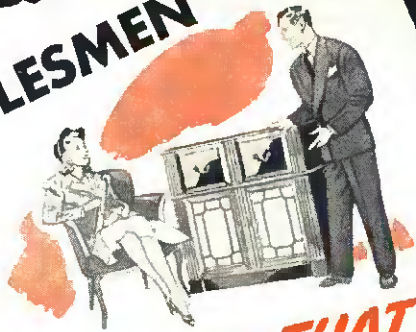
3800 CORTLAND ST., CHICAGO, U. S. A.  
Export Office: 89 Broad St., N. Y.

Originators of Tilt - Tuning, Touch - O - Matic, Aeroscope, Slide-A-Way, AC-DC Battery Bantam

ABOVE—4207-A10 AM Reception  
4207-B12 FM-AM Reception  
RIGHT—4214-L5

\*ADMIRAL—World's largest manufacturers of automatic record changers

**TODAY  
SMART SALESMEN  
SAY:**



**"THE RADIO THAT  
MAKES IT FUN TO  
STAY AT HOME AND  
SAVE YOUR MONEY"**



**MODEL LFC-1228 with FM**

De luxe automatic record changer. Motor stops at conclusion of last record. Three built-in Beam-a-scopes receive FM, Standard Broadcasts and Foreign short-wave. Dual cascade limiters for noise-free FM. Inter-station silencer. Dynamic speaker with acoustical tone chamber. Three-gang condenser. 12 tubes including rectifier. Figured mahogany veneer cabinet.



**MODEL LC-758**

Automatic record changer with lightweight tone arm. Provision for attachment of FM Translator. Built-in Beam-a-scopes receive Standard Broadcasts and Foreign short-wave. Dynamic speaker. Broad-band R.F. stage with Hi Mu tube. Feather-touch tuning with drift-proof station settings. 7 tubes including rectifier. Smartly styled American walnut veneer cabinet.



**MODEL LC-619**

Automatic record changer with lightweight tone arm. Built-in Beam-a-scopes receive Standard Broadcasts and Foreign short-wave. Feather-touch tuning with drift-proof station settings. Dynamic speaker. Broad-band R.F. stage with Hi Mu tube. 6 tubes including rectifier. Cabinet in two-tone walnut veneers.



**MODEL LC-648**

Automatic record changer with lightweight tone arm. Built-in Beam-a-scope receives Standard Broadcasts plus Police B. Dynamic speaker. Broad-band R.F. stage with Hi Mu tube. 6 tubes including rectifier. Cabinet in two-tone walnut veneers.



**MODEL LC-638**

Plays 10-inch or 12-inch records with lid closed. Built-in Beam-a-scope receives Standard Broadcasts. Dynamic speaker. Broad-band R.F. stage. 6 tubes including rectifier. American walnut veneer cabinet.

*Model LC-639 with Underwriters' approval*

**MODEL LC-658**

Table radio-phonograph with automatic record changer. Long-life "Pfanstiehl" needle. Built-in Beam-a-scope receives Standard Broadcasts. Mirrored-glass illuminated dial. 6 tubes including rectifier. Cabinet in mahogany veneer.

*Model LC-669 with Underwriters' approval*





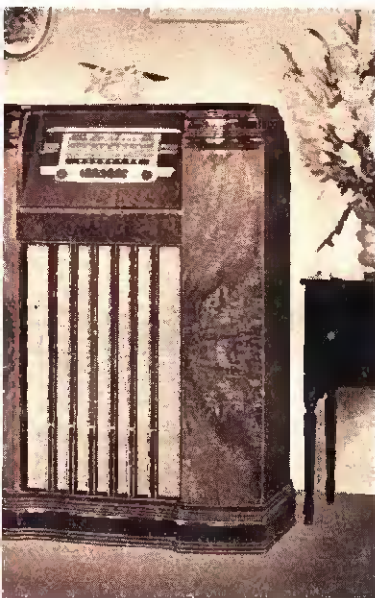
**MODEL LFC-1128 with FM**

Automatic record changer with lightweight tone arm. Built-in Beam-a-scopes receive FM, Standard Broadcasts, and Foreign short-wave. Dual cascade limiters for noise-free FM. Inter-station silencer. Dynamic speaker. Three-gang condenser. 11 tubes including rectifier. 18th Century styled walnut veneer cabinet.



**MODEL LFC-1118 with FM**

Automatic record changer with lightweight tone arm. Built-in Beam-a-scopes receive FM, Standard Broadcasts, and Foreign short-wave. Dual cascade limiters for noise-free FM. Inter-station silencer. Dynamic speaker. Three-gang condenser. 11 tubes including rectifier. Cabinet of American walnut veneers.



**MODEL LF-116 with FM**

Built-in Beam-a-scopes receive FM, Standard Broadcasts and Foreign short-wave. Dual cascade limiters for noise-free FM. Inter-station silencer. Dynamic speaker. Acoustical tone chamber. Three-gang condenser. Tuned R.F. on all bands. 11 tubes including rectifier. American walnut veneer cabinet.



**MODEL LF-115 with FM**

Three built-in Beam-a-scopes receive FM, Standard Broadcasts, and Foreign short-wave. Dual cascade limiters for noise-free FM. Inter-station silencer. Dynamic speaker. Three-gang condenser. Tuned R.F. stage on all bands. 11 tubes including rectifier. Cabinet in American walnut veneers.



**MODEL L-915**

Provision for attachment of FM Translator or record player. Built-in Beam-a-scope receives Standard Broadcasts and Foreign short-wave. Tone Monitor Circuit. Broad-band stage with III Mu tube. Dynamic speaker. Feather-touch tuning with drift-proof station settings. 9 tubes including rectifier. American walnut veneer cabinet.



**MODEL LB-530X**

The perfect all-purpose wartime radio for outdoors or indoors. 2-volt self-charging storage battery and charger. Plays on A-C or its own batteries. Powerful superheterodyne circuit with 11 F. stages. Flip-up Beam-a-scope for greatly improved performance. Simulated brown leather

**TODAY SMART SALESMEN**

**SAY:**

**"MAKE YOUR 'BLACK-OUT' ROOM  
A LISTENING POST WITH A  
G-E PORTABLE... IT PLAYS EVEN  
IF THE HOUSE CURRENT FAILS"**



**MODEL LB-700**

An efficient 3-way portable that plays on A-C or D-C or its own batteries. Built-in Beam-a-scope receives Standard Broadcasts. Superheterodyne plus Broad-band R. F. stage. Heavy-duty speaker. 7 tubes including rectifier. Case in tan basket-weave airplane luggage fabric.

**GENERAL ELECTRIC**



## *Tube Making's the One Job Here!*

**T**O produce such quality radio tubes as you see in the making here takes the full-time, undivided attention of this Sylvania organization.

Its engineering minds are free to concentrate on the development of better radio tubes alone — to put all of their seasoned knowledge to work on the one most vital part of every radio.

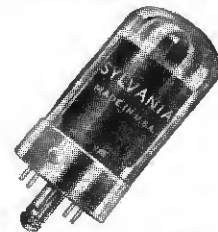
And we needn't tell you that radio tube engineering and building as painstakingly practiced by Sylvania cannot be matched by "side line" methods.

No. Nor could we offer retailers

such a clean, unpacked proposition if radio tubes weren't the only radio item we had to sell you.

The very fact that we specialize in radio tubes is of vast advantage to you — not only in the matter of assuring better tubes, but also in a business way.

IT PAYS TO SELL **SYLVANIA**



SYLVANIA LOCK-IN  
RECEIVING TUBES



RECEIVING TUBES,  
REGULAR STYLE

**SYLVANIA**  
RADIO TUBE DIVISION

**HYGRADE SYLVANIA CORPORATION**

New York City

EMPORIUM, PA.

Salem, Mass.

*Also makers of HYGRADE Incandescent Lamps, Fluorescent Lamps and Fixtures.*

# CROSLEY

*Making Retail Selling Easier*



**MODEL 22CP . . .** A superb musical instrument. 12-tube\* AC superheterodyne Radio-Phonograph Combination with both FM and AM reception. Four Complete Bands, Master Tone Control. Exclusive Floating Jewel Tone system with patented stylus. *\*Including rectifier and 4 double purpose tubes.*



**MODEL SE-742 . . .** typical of the Crosley line is this quality-built refrigerator. 7 cu. ft. of convenient storage space. Many deluxe features including stainless steel trim . . . heavy plate glass shelving . . . deluxe styling, etc.

**T**HE most important factor in our lives today is the war. But while it means curtailment of production, radios and refrigerators are still being made within allocation limits. Many units still remain in the hands of distributors and dealers — waiting to be sold to the public.

Crosley helps you capitalize on the public's desire for the latest war news in two ways. First, by building a great line of receivers that get *Europe direct* easily and often. Second, by offering a premium to stir up buying interest *now* — a 1942 \$5.00 World Atlas **FREE** with the purchase of a Crosley set.

*If your distributor hasn't told you of the Crosley Atlas deal, get in touch with him at once. You'll like this promotion.*

#### **Things Are Still Humming at Crosley**

Watch for the first full-color advertisement on the sensational Crosley Shelvador Refrigerator appearing in *The Saturday Evening Post*, inside back cover, February 21 issue. It's a *selling* advertisement — featuring our great record of "the fastest growth in the industry."

Even though all of the Crosley research, engineering, and production facilities are increasingly active in serving many branches of the Government in its Victory program, Crosley will continue to help distributors and dealers sell the consumer market.

#### **CROSLEY AND DEFENSE**

Crosley Research Engineering and Manufacturing facilities are contributing largely to the Government's Victory program — Crosley is manufacturing Special Equipment for the U. S. Signal Corps, U. S. Air Corps, U. S. Army Ordnance Department, U. S. Navy, the Quartermaster Corps, and Coast Guard Service.

# CROSLEY

#### **THE CROSLEY CORPORATION**

Powel Crosley, Jr., Pres. Cincinnati, Ohio. Home of WLW — "The Nation's Station" — 70 On Your Dial.

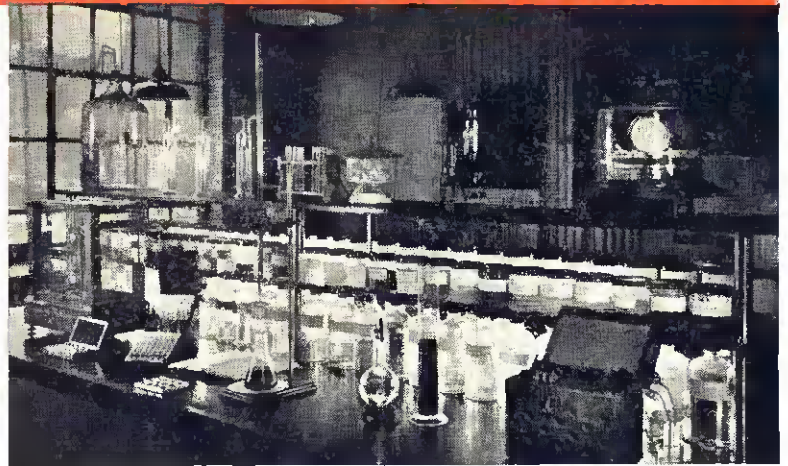
# NEW UTAH AC FIELD EXCITED SPEAKERS

## SUBSTITUTE FOR PERMANENT MAGNET SPEAKER NOW AVAILABLE

A SERIOUS problem for the radio and sound equipment industry has again been solved by Utah engineering. Several months ago critical shortages occurred in the raw materials needed for the fabrication of permanent magnet speakers. The condition made it necessary to develop a line of speakers to replace those in which materials vital to national defense were used.

Utah solved the problem! A complete line of AC Field Excited Speakers is now available—humless in operation and equivalent in performance to the famous Utah Permo-Dynamic line. A speaker has been designed for every public address and sound requirement. They require only the addition of the AC Field Supply shown at right to substitute for any Permo-Dynamic application. The new Utah speakers have standard Utah weather-resistant construction.

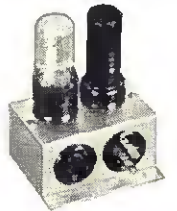
If Your Jobber Can't Supply You, Write Us Direct



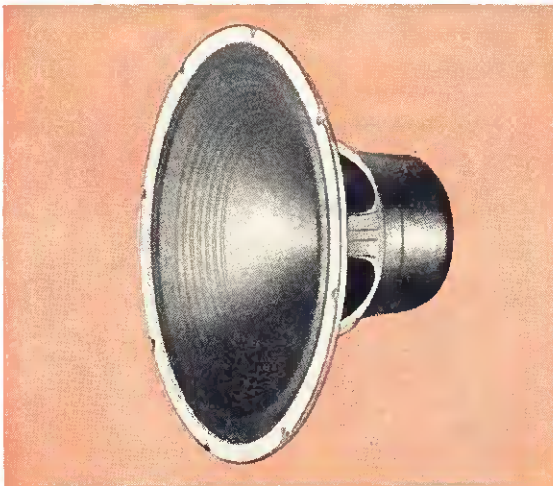
● In the laboratories of the Utah Radio Products Company, engineers are constantly engaged in new developments and in intensive research—working day and night to meet the demands of the National Defense Program and its necessary restrictions of some materials. All the experience, knowledge and skill of the Utah production staff are required to comply with the ever-increasing demand for Utah Speakers, Transformers, Vibrators, and Utah-Carter Parts.

## NEW UTAH AC FIELD EXCITATION SUPPLY PROVIDES HUMLESS OPERATION

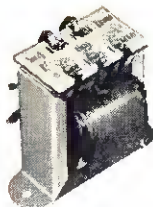
● This AC Field Supply is properly designed for humless operation of any of the speakers listed below. At 117 volts, 60 cycle input, the maximum output is 12 watts at 105 mills. The supply may be mounted directly in the speaker baffle. A separate supply should be used for each speaker. The price does not include rectifier tube, but includes ballast and plug. No cord is furnished. 1-50 Y6 GT rectifier tube is required.



New Utah AC Field Excitation Supply, U. S. A. List Price \$4.75. Special Bracket P-9030 for Mounting Field Supply on 12" Speaker, U.S.A. List Price 25c.



NEW UTAH AC FIELD EXCITED SPEAKERS						
Stock No.	Cone Diameter	VC Imp.	VC Diameter	Normal Wattage	Peak Wattage	U. S. A. List Price
8 AC 30	8 Inch	6-8 Ohm	1 1/4 Inch	12	18	\$9.50
10 AC 12	10 Inch	6-8 Ohm	1 Inch	9	14	6.60
12 AC 12	12 Inch	6-8 Ohm	1 Inch	10	15	7.75
12 AC 20	12 Inch	6-8 Ohm	1 Inch	13	20	10.00
12 AC 40	12 Inch	6-8 Ohm	1 1/4 Inch	16	24	12.50
12 AC 75	12 Inch	6-8 Ohm	1 1/2 Inch	21	32	19.25



## USE STANDARD UTAH OUTPUT TRANSFORMERS

Utah Transformers assure reliability and satisfactory performance under all operating conditions. They avoid failure due to moisture because of the

complete impregnation of interlayer insulating paper by Utah's vacuum pressure methods.

Be sure to insist on Utah products. Look for the Utah trademark. Utah Radio Products Company, 810 Orleans Street, Chicago, Illinois. Canadian Office: 560 King Street, W., Toronto. In Argentina: UCOA Radio Products Company, SRL Buenos Aires. Cable Address: Utaradio, Chicago.



# S P E A K E R S

VIBRATORS • TRANSFORMERS • UTAH-CARTER PARTS





**RAYTHEON** tubes take the long  
trek over **BURMA ROAD!**

... and it takes plenty of stamina to travel the Burma Road rolling across the roof of the Malayan promontory of Asia. Over seven hundred and twenty-six miles of the world's worst driving country ... these RAYTHEON TUBES are on their way to be used in China. RAYTHEON TUBES are tough ... they can take those sudden stops, the hard jolts and rough handling and they always arrive ready for work!

Thousands of servicemen and dealers everywhere are daily installing dependable RAYTHEON TUBES because they know that with all of RAYTHEON'S plus advantages, they cost no more!

Millions of RAYTHEON TUBES are going into National Defense uses but with its large production facilities RAYTHEON is still doing its duty in supplying RAYTHEONS for original equipment to set manufacturers and for Civilian replacement use through service channels. Radio servicemen may today, as in the past, place their confidence in RAYTHEON. For your next tube order ... say RAYTHEONS!

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



**WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURER**

**RADIO RETAILING Combined with RADIO TODAY, February, 1942**



## Today's emergency is tomorrow's opportunity!

**S**TROMBERG-CARLSON'S facilities are in large measure being used to manufacture communication equipment for a wide number of uses in the Army and Navy.

We are proud to be given this opportunity by the Government to turn our 48 years of experience as pioneers in this field, to serving our country.

Naturally—as in the case of virtually every manufacturer engaged in War production—we shall not be able to meet the normal consumer demand for our peace time products. There will be a restriction in the number of radios and radio-phonographs we shall be able to produce.

We know that our friends among the radio dealers of the country will be glad to join us in sacrificing normal business for the more important job with which we are all faced.

But we feel that, with thoughtful management and planning, we can adequately meet the present restrictions and all emerge from this emergency in a position to serve our customers more effectively than ever.

**ON OUR PART . . .** we are sure that under the pressure of War production we shall make technical advances that will result in a still finer Stromberg-Carlson radio for you to sell when the war has been won.

**ON YOUR PART . . .** we feel that you can take definite steps to strengthen your position in your own community. We suggest that while you have fewer sets to sell you should . . .

1. Make minute inspection of the radios you now have on hand. See that all models are in perfect working order . . . displayed to best advantage.
2. Check your service department on parts and operating efficiency to see that it is functioning smoothly.
3. Have retail salesmen make actual calls on customers as a gesture of friendly interest by your company.
4. Check on all persons who have recently bought Stromberg-Carlson combinations and consoles. Call on these customers in person . . . see that they are getting the greatest possible enjoyment from their sets. Instruct them more fully in their radio's operation . . . in means of prolonging its life.
5. Investigate every possible lead these satisfied Stromberg-Carlson users may give you.

Yes, we can all go "all out" to meet this emergency—and still prepare ourselves for the opportunity that will arise when the job is done.



**STROMBERG-CARLSON**  
TELEPHONE MANUFACTURING COMPANY  
ROCHESTER, N. Y.

A FINER RADIO FOR STANDARD PROGRAMS . . . THE ONLY RADIO FOR FM AT ITS BEST



Private Jackson, Ft. Sheridan, Ill., successfully uses phonograph waker-upper. Devised own system after camp buglers failed to pry him out of bed!—N.Y. World-Telegram.

### Music in Wartime

Gladstone put it this way: "Music is one of the most forcible instruments for training, for-arousing, for governing the mind and spirit of men."

The men who sell music to America, in the form of radio sets, phonographs, records and other musical merchandise, have an important service to perform at this critical time.

Music is essential in wartime. Music builds national spirit. Music maintains morale.

### Keep Every Radio Working!

The Radioman's Wartime Pledge, Part II of this issue, outlines ways in which every radio dealer and serviceman can aid the war effort locally.

Servicemen should band together in each community and work in close cooperation with the local defense organization. A community-wide check-up of radio sets should be arranged at once. This will mean each household getting a visit from a radio man, who should examine all sets, filling out a card for each home, showing make of radio, operating conditions, etc. If set is not working, repairs can be offered at an agreed-upon price schedule.

Such a community-wide inspection should get the support of the local defense authorities. Home-defense leaders could be quoted in home-town newspapers emphasizing the importance of each household having dependable radio reception in case of emergency.

Here is a move which should be started in your town without delay!

### Better Reception for Auto-Radios

Owners of car-radios frequently complain to radio men about the interruptions to listening they experience when they spin through tunnels and under bridges and grounded-wire structures. It's disconcerting to have a news flash or a melody suddenly blacked out, and the layman naturally blames his car-radio.

In Pittsburgh they have started to solve this problem by

# RADIO RETAILING COMBINED WITH RADIO TODAY

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

a simple means that should become universal. The long vehicular tunnels south of Pittsburgh were almost complete shields against radio reception, and cars which were held in the tunnels during traffic tie-ups, had their radios go completely dead.

But now some radio engineers have installed an antenna high on the hills overhead, and have carried a tap from this inside the whole length of the tunnel, on insulators. Result: Clear, sharp reception throughout the tunnel.

In the future, when a civil engineer or a roadway designer builds an underpass or a bridge, his job will not be really complete until he sees that an antenna is carried through the shielded area, to restore auto-radio reception.

### Air-Raid Alarm

Sometimes nowadays a curious whistle breaks in on your favorite radio program, followed by a voice asking that "all stations report immediately by wire exact time this signal was heard."

That was a practice air-raid alarm you heard, and the station carrying it is the key station for your area. All other broadcasting stations in the region must keep a radio set tuned on that key station. They must also provide a competent operator to listen for the alarm signal, which, in the case of a real air-raid, may be followed by the commanding officer's order to shut down all broadcasting. Even when closed for the night, and off the air, stations must have a watchman continually monitor the key station, in case instructions come to extinguish tower airplane lights. This is Uncle Sam's quick way of spreading air-raid alarms, so that if necessary all broadcasting can be shut down, to avoid giving guidance to enemy airplanes.

### And Music for Snow-Shoveling

Music in industry speeds things up. But it helps around the home too.

Living on a Connecticut farm, it has fallen to me during winter snows to shovel paths to our gate, barn and chicken-house. But this winter we have available the outdoor speaker installed for lawn parties last summer.

So now, when a snowfall arrives, it's just a matter of switching on some lively band music, grabbing a shovel, and before you know it, the snow is all in neat piles, the path is clear, and I've had 30 minutes of enjoyable exercise.

O. H. Caldwell

EDITOR

Below, the man with the record is Russell Swan, famous magician, currently doing his share of entertaining with combined record-and-card trick. He is shown at Philco party, with Pierson Mapes, NY



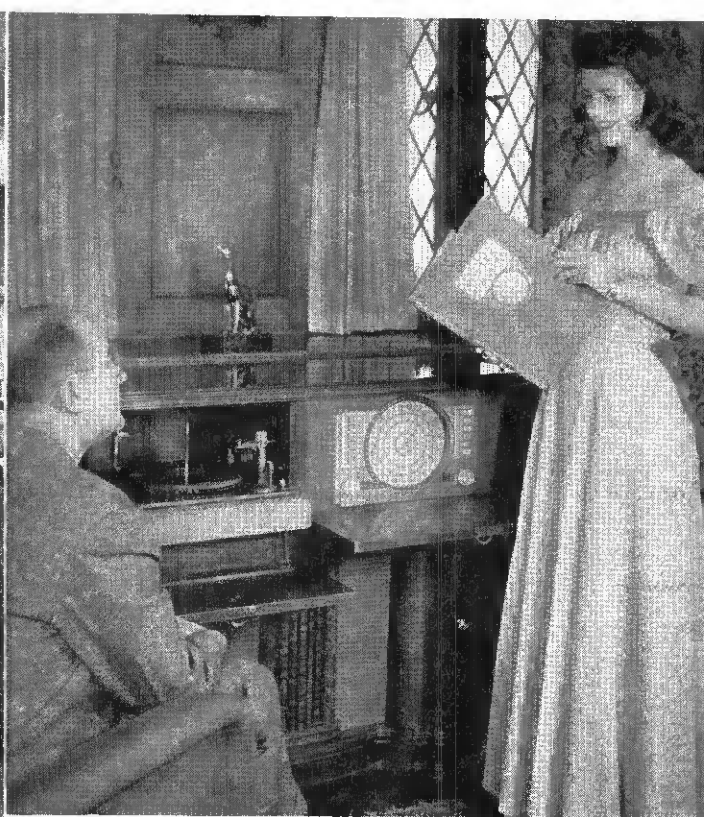
**RADIO  
AND MUSIC  
IN  
WARTIME**

"He's 1-A in the Army" sings Helen Forrest, above, on a record which is one of the "war" crop. This one's by Harry James & orch., on Columbia. Below, radio rides the wild waves of the North Atlantic, with a gun crew guarding a convoy. It's an official U. S. Navy photo.



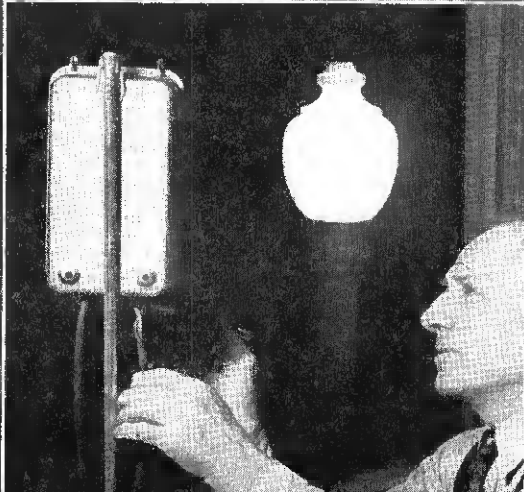
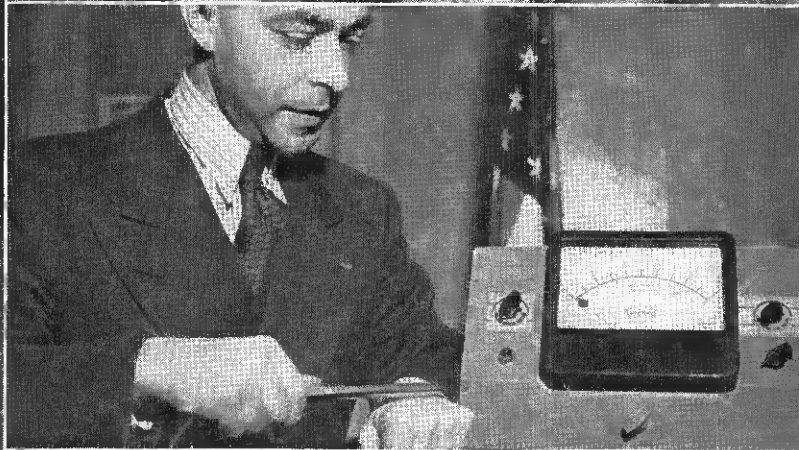
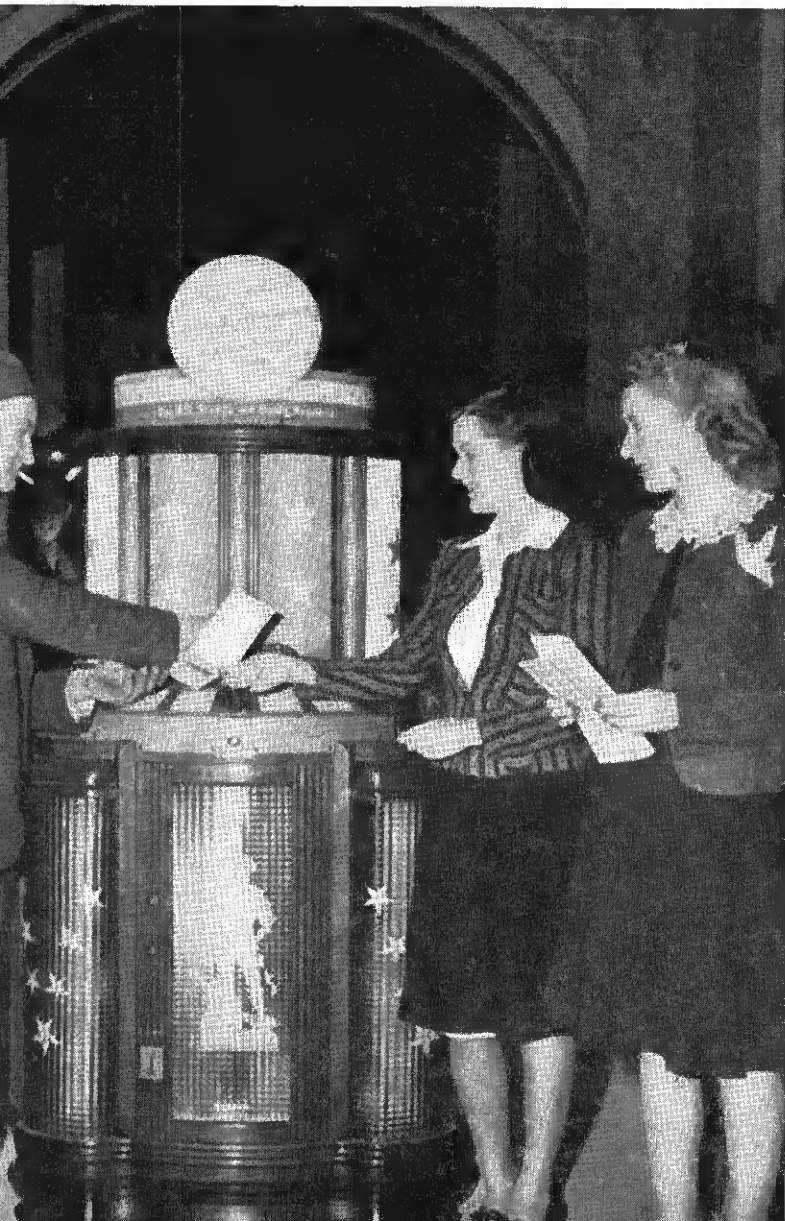


Above, a community gathering at a local theatre gets set for a television lecture on civilian defense, via RCA-NBC in New York.



Check war names on Hammond Atlas, which now comes with Crosley 242 sets. Below, the interest in popular records is illustrated when Victor artist Tommy Dorsey appears at Luckey Platt & Co., Poughkeepsie, N.Y.

Below, the newest in juke-boxes is a star spangled job which plays patriotic music while patrons deposit 25c and get Defense Stamps.



Above is a radio-activated "locator" used to detect foreign bodies imbedded in flesh. It worked successfully on wounded at Pearl Harbor and is demonstrated here by engineer Samuel Berman.

At left, machine shop keeper Andrew Tessier rigs up photo-electric control to douse shop lights when street lamp outside is blacked out.



# MUSIC

Customer

• In war time the proportion of news, and propaganda broadcasting—as measured against total broadcast time—goes sharply up, while the public's nervous tension increases. It is natural, then, that more people seek more relaxation from music in times of national stress and crisis, than ordinarily.

This means a greater interest in quality musical reproduction in radio sets, and an appreciation for FM if available in the territory. It also means that purchasers are thinking more and more about radio-phonograph combinations. They want to be able to turn to music of their own selection at will. It re-emphasizes earlier advice given to radio dealers to "Make Every Sale a Combination in 1942," realizing that an increasing ratio of sets produced will be combinations, and that there is likely to be no shortage of such combination units for a long time to come.

### Special Problems in Records

And it means too that records are now a logical line for this wartime year.

To radio dealers, and others, who

Music is logically linked with morale in this all-album window at Lyon & Healy, Chicago (right).



# ales on the March

## Periodic Aids to Morale

have not previously sold records, some changes in merchandising methods may have to be made to handle record sales successfully.

Records are relatively low-priced, fast-moving units, with large and changing assortments required to maintain sales.

Records too, are "repeat" items, in that record buying becomes a regular and almost habitual practice of those who really want what they want when they want it.

All who give serious thought to record retailing recognize the need for stock keeping fixtures, counters, demonstration and booths.

But not all dealers recognize how important a simple, accurate, and fast stock control system is to their success.

The life of popular records is a short one. New popular records are making their appearance every week, others reach their peak of popularity and wane, while still others pass on to the list of "hits that used to be."

It is important that any record retailer be able quickly to spot a hit—to have an ample stock so as not to lose any of the sales demand and to insure that when sales fall off and finally cease, stock has followed exactly.

### Bringing in Buyers

After the matters of fixtures, stock control, assortment and personnel have been solved (see following pages), there remains the basic problem of merchandising, that of bringing customers to your store in increasing numbers.

Records are "pick-ups"—a traffic merchandise.

But they are also largely bought regularly and frequently.

Having the new records when they are new, and what the customer wants when they want it—are important factors in building a regular record clientele.

When you have what the public



Very well prepared for the buyers of musical relaxation is Helen Gunnis of Milwaukee, who handles full stocks of Columbia records in a handsome store interior.

wants, the next step is to tell them what you have—and keep on telling them.

Two forms of advertising stand out in long experience as the most successful for record retailers. The first is "direct mail"—the second is "program" advertising.

### Mailing Lists

Building your mailing list is perhaps the most important single factor in direct mail returns per dollar cost. Building a really "live" list is a matter of continuing effort, of adding new names, of discarding those who do not buy.

Perhaps as good a way to start a list as any—is the following:

1. The names of all of your own customers.
2. The names of your Women's Club members.
3. The names of the parents of high school students.
4. A "grab-bag"—"Jucky key" or similar contest.

To this starting list is added the names of all new customers and prospects—and from it are deleted the names of those who do not buy in 3 or 6 months.

Eventually you will have a sound, active list from which returns will be of the order of 30 to 50 per cent if it is classified as to music preference, and mailings assorted accordingly.

The most important mailing is the announcement of "new releases" which must be regular and fast.

The next most successful type of mailing is the "record special" in which a group of pre-selected records is offered at a reduced price, to direct mail customers only.

Both types of mailings are used in all parts of the country, and seem to be universally successful.

### Record Promotions

Special announcements, combination offers, special collections of records, such as an assortment of a single band or single instrument, or single composer are successful in direct proportion to the choice of their make up and the part of the list to which they are made.

New customers are as important to a record store, as to any other retail operation.

Some general advertising on your  
(Continued on page 31)

# WASHINGTON FLASHES RADIO



• Radio's big news is now coming out of Washington. Washington is Boss.

For it is from the capital city that orders now come to cut production of sets, meanwhile keeping a price ceiling on all models corresponding to prices of last fall. Heretofore priorities and limitations of materials have held up receiver manufacture, but the new orders are definitely to cut output way below last year.

Meanwhile Uncle Sam has tremendous military orders ready, to put radio factories to work making radio equipment and other devices for the Army, Navy and flying services. The grand total of these orders is expected to reach two billion dollars—about four times the retail value of the radio sets turned out in 1941, radio's record year.

Thus the government program for the radio industry—rapid increase in military production, decreasing civil-

ian production, with provision for replacement parts, and price controls—has now assumed a definite outline.

The War Production Board's "limitation" order of January 23, reducing civilian set production by about 40 per cent during the next few months, was immediately followed by an order of the Office of Price Administration "freezing" prices for receivers and parts.

#### **\$400,000,000 Allocated**

Rapid conversion of the radio industry, at least the larger units, into military radio production, also is being pressed, both by the reorganized War Production Board and the Army and Navy organizations. The two-billion-dollar military radio program for 1942-43, officially announced by the War Production Board, is predicted to spread war contracts immediately and widely during the next few months, with current allocations

during January and February reported to amount to over \$400,000,000.

In addition to the civilian-set "limitation" order, a new restriction on civilian radio was the subsequent order virtually reserving all aluminum, other than that specially allocated, for military use. The order restricts use of aluminum in the radio industry, except for the special allocations arranged previously by the RMA Priorities Committee, to aluminum for replacement fixed, electrolytic and paper condensers. Aluminum for new-set production after March 31 was barred. For the current three-months' set production permitted under the WPB "limitation" order, in addition to the special aluminum allocations, the RMA Priorities Committee has already arranged for special allocations of supplementary copper and plastics.

Special allocations of all critical materials for replacement parts are



# 'S WARTIME ORDERS

CIVILIAN RADIO-SET PRODUCTION CUT

TWO BILLIONS TO BE SPENT ON MILITARY RADIO

BY 40 PERCENT

being discussed by the RMA Priorities Committee, headed by Fred D. Williams of Philadelphia, with the various WPB branches, and it is the government's policy to arrange for a substantial output of maintenance and repair parts.

Production officials of WPB state that all industry facilities, at least of the larger companies, will be required for the tremendous two-billion-dollar military radio program. Chairman Donald M. Nelson and other officials have discussed a plan for using smaller companies, not equipped for military contracts, to concentrate civilian production on the reduced scale in prospect during the coming months.

## Radio Personnel of WPB

Radio-industry procedure and official personnel generally are not affected by the new War Production Board organization, under Chairman Nelson. Prominent in the new WPB is J. S. Knowlson, former president of RMA, who has been appointed director of the Division of Industry Operations. This has charge of converting civilian industries to war production, also taking over priorities administration and requisitioning authority.

Jesse L. Maury and his staff continue unchanged in the radio interests.

In the military radio production of WPB, Ray Ellis continues actively for the radio branch of the Division of Production, which is headed by W. H. Harrison.

Priorities administration, formerly of OPM and SPAB, now is under C. H. Matthiessen, Jr., former OPM assistant deputy director, who has been appointed by Mr. Knowlson to have charge of WPB priorities matters.

Ceilings over the prices that manufacturers may charge for home and

auto radio and television receiving sets, electric phonographs, and radio tubes and parts are established in two new schedules announced by Leon Henderson, Administrator of the Office of Price Administration.

One schedule—No. 82—covers home receiving sets, portable sets, automobile sets and television sets, as well as electric phonographs, whether sold alone or in combination with a radio receiver. The second schedule—No. 84—applies to all tubes and parts, both original and replacement, for all models, whether current or old.

Equipment and parts primarily designed for commercial, police, or military use are excluded from the ceilings.

## Oct. 15 Price Levels

The formal ceilings, which became effective February 9, supersede individual agreements with leading producers of sets and parts.

The maximum price that a manufacturer may charge for any current model, or for tubes, or other parts, according to the schedules, will be the highest net price received on October 15, 1941, or in the three-month period prior thereto. The use of such period

permits the fixing of ceiling prices on items of which there were no sales on October 15. Price levels established by both schedules are in conformity with the provisions of the price control bill passed by Congress.

Mr. Henderson said he hoped that action to limit manufacturers' selling prices would be effective in preventing any further advance in retail prices.

## Flash — Radio-Set Makers Ordered 100% to War Work!

While this issue was on the press, announcement came of the War Production Board's Feb. 12 meeting with radio-set manufacturers who were ordered to cease civilian receiver production completely by April 22 (meanwhile keeping within former quota limits) and thereafter to devote plants 100% to war work. Set manufacturers, while desirous to speed warwork, felt drastic production and employment difficulties had been imposed on them, and hoped for WPB grants of delays in individual cases.

WPB was expected to authorize continued production of tubes and parts for necessary maintenance to keep present sets working.



Ewing Galloway

# SETTING UP THE STORE

## Timely Lay-Out for Handling the Radio-Musical Buyers

Records have been commending themselves to the attention of alert dealers by their soaring sales, for some time.

But now that radio production and thus sales, are to be curtailed by 40 per cent—and the probabilities are that production of broadcast receivers may be further restricted, records and the “service department” take on a new, and vastly more important aspect than ever before in radio retailing.

Dealers who are alertly following the trends of the times, will want to give increasing attention to these two departments of their business, and so requests reaching us ask for store plans and store rearrangements which will permit records and servicing to be featured.

Such a plan and layout for a standard 25-ft. retail store is shown opposite, and is worth careful study. It includes all the elements of a present-day radio-music store, but of course

special features will always have to be tailored to the individual needs of the owner's business and the community.

### Change to Suit

For example, merchandising experts to whom this layout has been shown, have advised that more record demonstration rooms be provided. This is desirable, if your own business space permits two, three or four demonstration cubicles. On the other hand, provision of the bank of listening devices, will take the place of demonstration rooms for auditioning many records, and has the advantage of tying up less space and investment.

Merchandising counselors have also advised that the record department be brought to the front of the store, for greater pick-up convenience to customers. This is sound merchandising layout from the standpoint of records alone; on the other hand it contradicts the seasoned merchandising ex-

perience that the smartest deploying of your stocks is the one which draws traffic clear back through your store. This is the result accomplished by putting records and tube counter at the rear.

### Salespeople for Records

Then there is the matter of salespeople.

Records cannot be successfully sold by the typical radio salesman, or serviceman, or by the rank and file of salespeople either.

Records can best be sold by people who have a sincere appreciation and good knowledge of music and musicians.

The difference between a good record salesperson and an ordinary salesperson is the difference between selling the average customer 3 or 4 records at a time—or just the one asked for.

And this little matter of multiple unit sales makes a mighty important

difference on profits.

Trained and competent salespeople are very important to sales volume and to profits.

Trained salespeople are rather hard to find these days.

But there are two classes of people who are furnishing many dealers with just the record salespeople they want and need.

For the popular records, high school students, girls or boys, on a part-time basis, not only know the currently popular recordings, but invariably have a substantial personal following too.

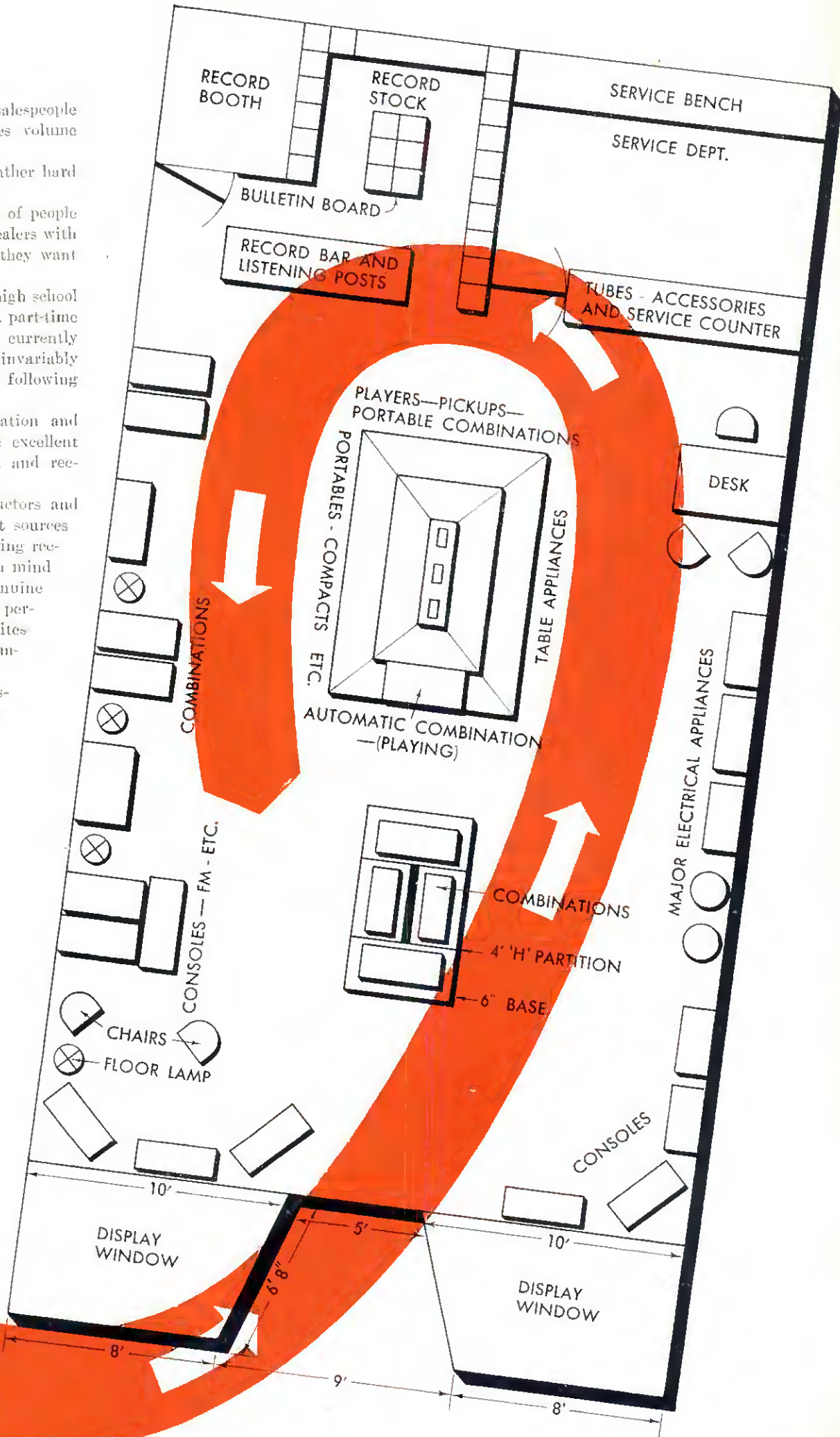
Married women of education and musical appreciation, make excellent classical record salespeople, and record department managers.

High school music instructors and women's clubs are excellent sources of such personnel. In selecting record salespeople, bear well in mind that music knowledge genuine musical appreciation, and personality, are prime requisites for really successful performance.

How to pay record salespeople is a problem with many dealers. Some dealers still insist upon paying straight salaries of \$10 to \$15 for part time and \$15 to \$25 for full time salespeople.

(Cont. on page 31)

Basic plan for placing stock and fixtures so that more people will see more merchandise.





# MUSIC IN INDUSTRY

## Prospects for Wartime Sales in Every Factory Town

• Music in industry is not new. But only in recent years, through the introduction of radio-tube amplifiers and proper loudspeakers, has the proper transmitting and reproducing equipment been available to enable factories and shops to secure natural reproduction of music.

The use of music in industry sprang from a realization on the part of management, of the necessity of providing something to overcome boredom of employees, particularly those engaged in repetitive work.

In Cuba in cigar factories, "readers" have long been engaged to read to the workers. A further step was taken by the introduction of musical instruments, such as the piano, played at stated periods.

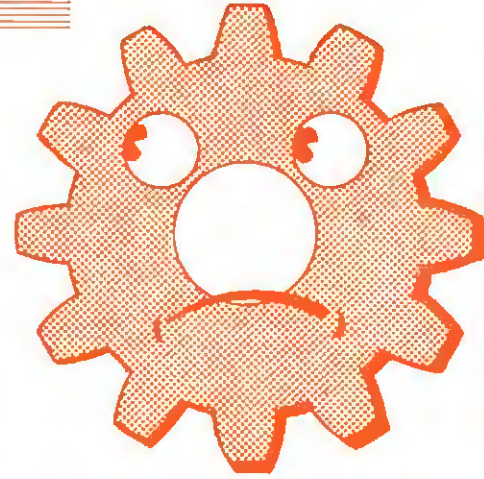
### Break Up Periods

From these sporadic experiments, considerable data has been accumulated, all indicative of beneficial results. More recent study and experimentation definitely indicate that music has a place in modern industry.

The most effective results can be secured by breaking up the playing

periods into stated intervals throughout the working day. For example, assume the factory's hours are from 8:00 a.m. to 4:30 p.m. with a half-hour for lunch. A desirable playing schedule would be 15 to 20 minutes during each hour or two, or about two hours of actual playing time during a work-day, of which twenty-five minutes is before or after working hours, as employees enter or leave.

There is no standard formula for the proper hours at which music should be played. There is likewise no standard formula for the length of the playing sessions. They should, however, be not less than fifteen minutes or more than a half-hour during the work period. There is also no standard type of program of music to be played specifically for all plants. So many factors enter into the programming of the music that each place has to be analyzed according to the existing conditions. Some important factors in determining the programming, are the nationality of the employees, their collective age, whether male or female, and the type of work they are performing.



However, there is one type of music that seems definitely not adaptable for use in industry, and that is music with vocal choruses. It seems to be definitely established that vocals create a distraction and cause employees to slow up their work to enable them to listen to the words. When vocals are used, they should be played only during the rest or luncheon periods, when the employees' time is their own.

### Experience at Troy, N. Y.

Here for example is the case history of an actual installation of factory music made in the Cluett-Peabody plant at Troy, N. Y. The first demonstration was made in Building No. 5, one of the Shirt-Ironing Departments. This room was approximately 125 feet x 125 feet, and divided into two sections. In one section, there were 55 men, and then a 12-foot partition which did not go to the ceiling, and on the other side of the partition were 55 women.

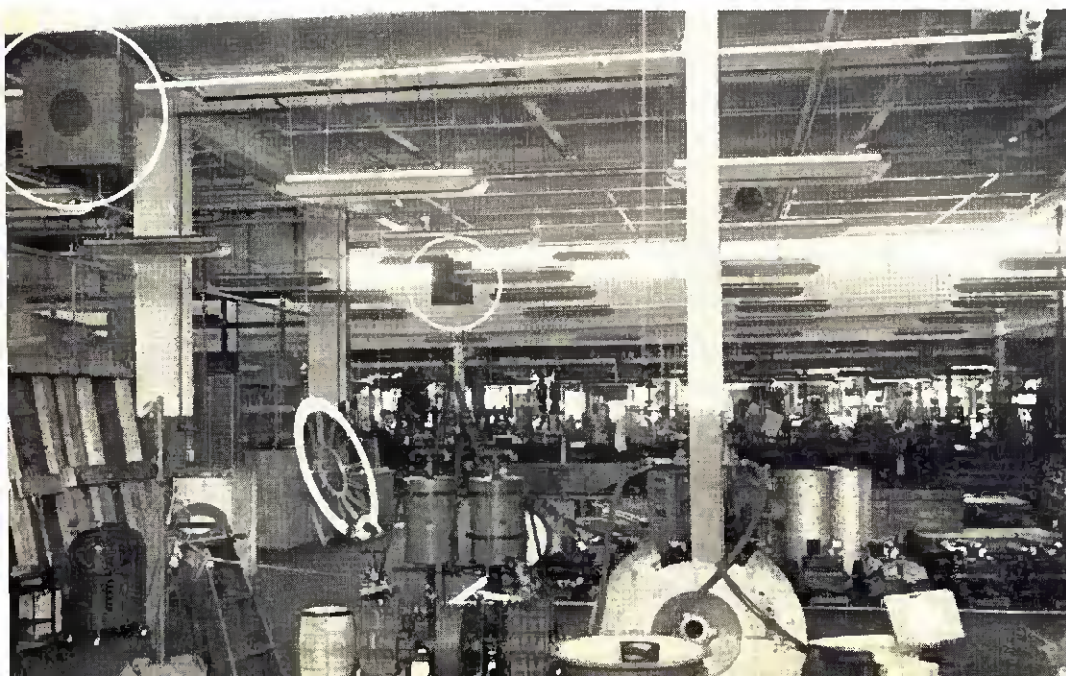
The hours of work in the room where the demonstration was made were from 8:00 a.m. to 11:20 a.m., a half-hour for lunch, and from 11:50 to 4:30 p.m. There were rest periods from 9:45 to 9:55 a.m. and from 2:15 to 2:25 p.m.

After a careful study of the work day, the following schedule for programs was laid out:

1st session—9:35 to 9:55—20 minutes. This included the regular rest period from 9:45 to 9:55.

2nd session—10:45 to 11:00 a.m.

In this machine-tool plant, the ceiling speakers shown have become "a vital necessity" for plant intercommunication, for paging, and for furnishing music, especially at lunch time.





3rd session—11:40 a.m. to 12:00 noon, which included the last 10 minutes of the luncheon period.

4th session—1:30 to 1:45 p.m.

5th session—2:45 to 3:00 p.m.

6th session—3:45 to 4:00 p.m.

It was recommended that for the rest and luncheon periods programs be arranged entirely of selections requested by the employees.

This produces a good employer-employee reaction inasmuch as the employees thus have a part in selecting what they personally want to hear and, therefore, are not having all music selected for them by someone else.

One interesting point discovered was that, when the system played a melodious tune that was easy to follow or was well-known, the men whistled and the girls hummed or sang.

#### **Personal Reactions**

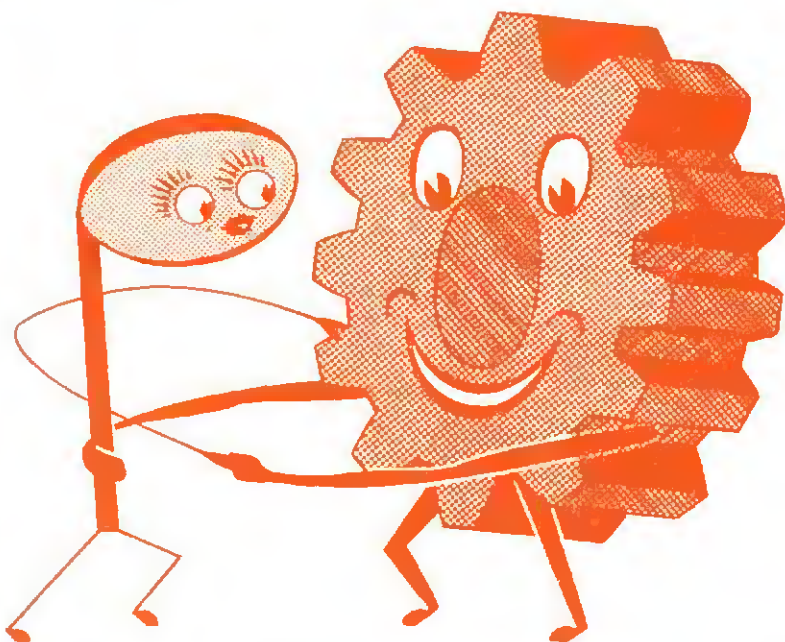
Waltzes in fairly "bright" tempo produced as good a reaction as fox trots. Tempos of music running from a metronome of 65 to 90, seem to produce the best reaction.

The average age of the girls was about 25, whereas the average age of

*(Continued on page 45)*

"Plant broadcasting" in the Botany Worsted Mills, Passaic, N. J. In the burling room, where threads are mended, the women are surrounded by great masses of fabric which, absorbing sound, impress a pall of silence. Now cheerful music breaks up the tedium, creating employee morale and more effective work.

A production line at Camden, N. J., showing earlier type of ceiling reproducers. These and the other reproducers shown were made by RCA.





Now the Army and Navy "writes home" via personally recorded discs. At the USO club in Norfolk, Va., operated by National Catholic Community Service, which is now installing the popular recorders in many recreation centers.

whole ceremony—with all the "I do's" duly impressed into wax—so that promises entered into can, as reminders, be played back for the benefit of either spouse by the other. In fact such recordings of weddings (with the microphone artfully hidden among the palms and flowers) have been declared to be the only improvement in the marriage ceremony in 400 years of human history!

#### **Business Uses**

Recorders have been used to make transcripts of important conversations, or to get comments of visitors and disloyal employes or servants, with striking results. Many important executives have recordings made of all business conversations occurring in their offices.

The microphone may be an innocent-appearing framed picture or desk ornament. The recorder itself may be tucked away in a closet or another room. Some of these recorders run continuously; others are started by pushing an inconspicuous desk button. Police, of course, use recorders for getting evidence from conversations between suspects or criminals.

#### **Endless Entertainment**

In the home, recorders provide means for lots of ingenuity in experimenting, as well as fine family fun. Many have built up one-man instrumental trios or quartets by recording themselves playing first one instrument, then another, with each recording adding an instrumental part to the ones already played.

Then, of course, there are many professional and educational uses of recorders. Vocal teachers record the singing of their pupils and then play back this singing, so the pupil can hear himself, while the instructor points out faults to be corrected. Actors can train themselves to produce heightened effects by acting their parts before a recorder, and then listening to the record, and discovering places for improvement.

# **Recorder Market**

Adapted from a recent broadcast by Editor O. H. Caldwell of *Radio Retailing Today* on the "Radio Magic" series heard Friday nights on the Blue Network.

While the key men of World War II are going on the air these days, a great many historic records are being made on home recorders. Plenty of people are interested in having a permanent record, a private and dynamic copy, of the speeches which come over the air and make history. It's one reason why there's a renewed interest in the home recorder business.

Dealers should be ready to point out too that recording radio programs is only one interesting use for these instruments. Recorders can be used in many other ways—such as recording home musicals, vocal solos and instrumental groups right there in the living room. Or the fans can record the voices and sayings of children, or old folks. Some heartless wretches even record dinner conversations of their guests through a concealed mike in the table decorations, and then play back these remarks for the entertainment of the company.

And if writing letters to family friends at a distance becomes irksome,

the recordists just turn on the records, talk the letter to the absentee, put in some music or song for good measure, and drop the record into Uncle Sam's mail. Correspondents are delighted with this new kind of talking epistle, filled with the cheerful living sounds of home!

#### **Records for Recruits**

Such a letter would be an especial treat for the boy in camp. And since a lot of the fellows there have portable phonographs—or he can find a phonograph in the camp amusement center, he'll have no difficulty in getting the talking letter played, when it arrives.

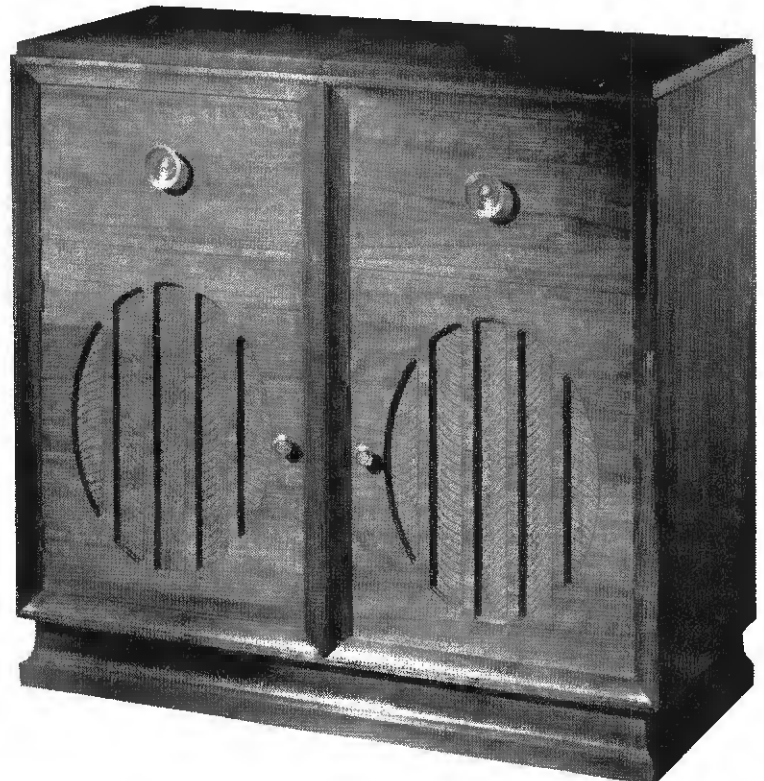
In fact, in many of the cantonments, enterprising soldier boys now have their own portable recorders, with the help of which they can record soldiers' letters—for 2 bits or 4 bits—preserving full confidence in the case of all romantic mouthings from Soldier Bill to Sweetheart Mary—(including the series of recorded kisses at the end, which are surely much more impressive than the rows of X's that serve in ordinary draftee correspondence).

And continuing the romantic line of thought to its logical conclusion, many weddings are now solemnized by having recordings made of the

# 35 REASONS

## WHY WILCOX-GAY RECORDIO IS A SUPERIOR INSTRUMENT

**Y**OU have more to talk about when you're selling a RECORDIO. This recorder-radio-phonograph offers a galaxy of great features—many of which are not found in the ordinary combination. Certainly, the ordinary set may cost less, and sell for less. But RECORDIO—with its great list of plus features—is an established leader in its field. Recordio—gives more for the money—more satisfaction to your customer, more profit to you.



### THIRTY-FIVE FEATURES OF RECORDIO MODEL A-113 SHOWN ABOVE

- Eleven tubes.
- Eight watts output.
- Crystal cutting head with counter-balance action for different thickness of records.
- Two wave band coverage.
- Complete broadcast and partial police.
- Vernier tuning knob
- Push-pull high fidelity amplifier.
- Continuously variable tone control.
- Built-in rotating loop for best reception.
- External antenna and ground connection if desired.
- Trimmer condenser to match outside antenna to loop circuit.

- Snubbing action on cutting head prevents head chatter during recording.
- Featherweight playback arm with crystal cartridge.
- Permanent sapphire needle.
- Tip-out radio tuning.
- Large, easily read "slide rule" dial.
- Feather touch push buttons for various functions of the RECORDIO.
- Six watt public address system.
- Records radio and microphone simultaneously.
- "Tuning eye" recording level indicator.

- Either recording position automatically places audio system in treble position for recording all available frequencies.
- Insta-Matic record changer with Uni-point control.
- Plays ten 12" or twelve 10" records automatically.
- On and off switch, reject and record selector, all located on one control post.
- Separate on and off switch for phonograph.
- Master switch on panel controls both radio and phonograph.
- 12" auditorium type speaker, floated in rubber.
- Additional audio stage for phonograph reproduction.
- Three-gang tuning condenser.
- Radio frequency amplifier stage.
- Crystal microphone, crystal playback, and crystal cutter.
- High fidelity audio system.
- Perfected dual-speed recording.
- Automatic tone compensation switch for slow speed recording.
- Adaptable for FM if desired.

*Built by Makers of America's Most Versatile Radio*

# RECORDIO

RECORDER • RADIO • PHONOGRAPH COMBINATION

WILCOX-GAY CORPORATION      CHARLOTTE, MICHIGAN

# Parts Profit Problem

## Distributor in Industrial Area Complains About Lack of Price Protection on Local Factory Jobs

Another parts jobber has come out with some lusty views on the matter of how the manufacturers fail to "play ball" with distributors who are working on industrial sales.

"We must give due credit to the few manufacturers who have given their jobbers full protection," he says. "But in our experience there are many cases in which we were *not* protected . . . enough to take up all the space in your magazine!"

This report represents an important industrial area, as it comes from H. W. Rissi, of Radio Supply & Engineering Co., Inc., Detroit, Mich. Mr. Rissi declares that "the manufacturers are writing us letters to go out after the business where we can get priorities. But these same manufacturers give us no assurance that they will not take this business away from us either as soon as we get it worked up, or as soon as conditions improve."

He says further:

### Lost Motion

"This vicious problem should have been taken up long ago. Yes, I blame myself too for letting it slip by. A great deal of money has been lost by jobbers in this territory caused by manufacturers not cooperating with them. No doubt, the manufacturers have lost also, because we have ceased to spend time with any company who

intended to use radio parts in industrial operations. We also make no effort to sell to companies who as a policy always try to buy direct from our suppliers, as we have learned long ago that it is a waste of money to pay a man to call on them. Most manufacturers will not extend the jobber's margin even if a letter is sent to them at the time contact is made.

### Short Circuit

"I wish to bring out one very outstanding case we had, in which we helped the designing engineer find the proper parts. We even found another engineer for this company, and gave them overtime and parts of Sundays so that they could get their products out on schedule—all with the understanding that they would purchase the parts from us at regular wholesale prices. This was perfectly satisfactory to them as the quantity used was not large and could usually be supplied out of stock. It was also arranged that we would stock such items for them, as these were not regular jobber replacement items.

"Their men were in our place of business often so they knew our stock as well as we did. All went well until one Sunday while working on a rush order, they found they had used up all of an item which we both had in stock; therefore, to save time and

to save us the trouble of coming in to the store, they sent the order in direct and told us about it the next day. The manufacturer to whom this order was sent, seeing that the order was headed with the name of a manufacturing firm filled and billed it at manufacturers' prices which were lower than our costs. They then notified their representative to call on this company. From then on, we received only emergency orders, as this company immediately began ordering direct from all manufacturers whose merchandise we were selling them. And, believe it or not, those manufacturers *all* sold their merchandise at prices less than what we were paying for it. Did they lose money on this? We did, because it took us about a year to cultivate this account, and we had not sold them enough to break even.

### Protection Pans Out

One manufacturer, however, refused to deal with this customer direct. And, again, believe it or not, the customer continued to purchase this item from us as long as it was needed.

Another thing that should be mentioned is that this company did not lower the selling price of its product.

"The above is only the most outstanding case we have had. But there were many more.

"When we first started calling on industrial prospects and found them interested in a particular manufacturer's product, we would write to that manufacturer and notify him of what we were doing and the prices quoted so they would be able to protect us in case the company wrote in direct. We, however, stopped this at once, with the exception of two manufacturers, because we found we had the direct representative to compete with.

"How about it, jobbers?"

"How about it, manufacturers?"

"Give the jobber protection and he will go to work for you. Now he is working for himself alone in most cases, and handling those items most convenient for him."



"It keeps my morale up!"



# Centralab

The Quality Line

**STANDARD RADIOHMS**  
Basic, Serviceable, Dependable and...  
1922 more than a hundred million radio parts...  
CENTRALAB  
Div. of Globe-Union Inc.  
MILWAUKEE, WIS.

**MIDSET RADIOHMS**  
...  
CENTRALAB

**ATTACHABLE SWITCH COVERS**  
...  
CENTRALAB

**AXIAL LEAD RESISTORS**  
...  
CENTRALAB

**CERAMIC CAPACITORS**  
...  
CENTRALAB

SEND FOR CATALOG NO. 23

Centralab

For Every Need  
in EVERY Emergency

## Centralab AXIAL LEAD RESISTORS

Under water... In the air...  
every "Bess" (Bessie) resistor is...  
CENTRALAB, Div. of Globe-Union Inc., Milwaukee, Wis.

Complete  
NET  
only  
\$10.56

Always THE RIGHT  
REPLACEMENT CONTROL  
WITH THIS CENTRALAB  
Resistor Kit

Answering  
the Call

**A—STANDARD**  
...  
**B—MIDSET**  
...  
**C—ELF**  
...  
CENTRALAB, Division of Globe-Union Inc., Milwaukee, Wis.

## Centralab RADIOHMS

Plotting  
the Curves of  
Progress

Old Man Centralab is not as old as he seems...  
CENTRALAB, Division of Globe-Union Inc., Milwaukee, Wis.

## Centralab RADIOHMS

41 PASSES  
IN REVIEW

The history of CENTRALAB can be read in its advertisements down through the years. New developments... the result of research and pioneering... keep Centralab constantly in the vanguard.

- QUALITY
- PERMANENCE
- DEPENDABILITY

There's a  
SWITCH

Today... research alone is not enough... the demands of the present emergency call for an "ALL OUT" program of production. In '42 CENTRALAB will not fail to maintain its record. In '22 as in '22 and '32... always "SPECIFY CENTRALAB".

CENTRALAB SWITCHES WITH BALLBEARING ISOLATION  
CENTRALAB SWITCHES WITH PLATINUM ISOLATION

Those switches singly and in pairs have an almost infinite variety of adaptability...  
CENTRALAB, Div. of Globe-Union Inc., Milwaukee, Wis.

STILL  
uncompromising  
QUALITY!

# Centralab

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

## CONTROLS • SWITCHES RESISTORS CAPACITORS

# Appliance Dealers' War Plan

## Retailers Figure on More Changes

How to do the most good with the merchandise you can get, is the roaring question that a lot of refrigerator dealers are asking.

The retailers have heard a number of suggestions, as to how to proceed profitably in war time. Many of the merchandisers have tightened their belts in a general way. And many have taken a few desperate steps, in a sort of a panicky and unorganized rush.

But it is important that appliance men have a definite plan. A tangible system for meeting the emergencies that may show up this Spring. You may not be able to outline the details for a plan of action, because conditions are changing so lightning fast, but you can certainly do some figuring that will be helpful in times to come.

### Dealers Act

Specifically, a lot of this is summed up in a 5-point plan that comes from Milwaukee, Wis. It's not the first time that the Wisconsin Radio, Refrigeration and Appliance Association has gone to bat for "better business," and now this group is getting characteristically two-fisted about the situation at hand.

The WRRRA sentiments are, to begin with, that "we recommend elimination of all trade-ins where the article taken cannot be re-conditioned and re-sold at a profit . . . we believe that every smart retailer will discontinue price cutting in all of its many phases, and begin immediately to enjoy the full profit on every item sold out of his diminishing stock."

The five "suggestions for survival" are as follows:

(1) Start now to estimate the reduced volume of business which you must undergo through shortage of merchandise and begin planning, now, how you can best adjust your operations to the situation that will confront you.

(2) Pass up immediate sales where there is any danger at all of credit losses.

(3) Immediately take on new lines

of merchandise so that you can gradually develop volume on same, and so that your customers will know that you are carrying such lines when you are no longer able to fill their needs for electrical appliances. There is merit in the suggestion that suitable items for this purpose include recordings, fluorescent lighting, floor lamps, toys and small items of furniture.

(4) A shortage of new appliance merchandise will mean a greatly increased demand for repair and maintenance service on old items. If you have a service department, start now to step it up into a profitable part of your business. The Government will permit a free flow of parts for repairs and maintenance.

(5) Continue a courteous and an attentive attitude toward your customers when the time comes that you have to say "no" to them because you haven't got what they want. This is more important under those circumstances than the fine treatment you offer where a sale is made. It will preserve your customer good will for the post-war period.

## WAR IN THE STORE

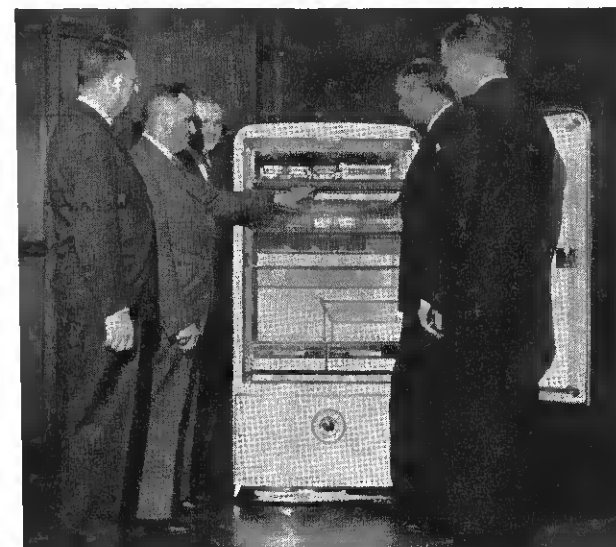
Nobody can say that appliance dealers are not resourceful in regard to their selection of "substitute" lines whilst they are faced with shortages in their regular merchandise. When 100 of these retailers got together for the eastern convention of the General Electric Retail Development League in New York City, it all came out. The delegates reported all the substitutes they knew, and you'd be surprised.

One dealer had installed a soda fountain in his store, and another went into linoleum and paint. Others were having experiences with phonograph records, cocktail trays (wooden), juke boxes and steel sinks.

It's not business as usual, but it's business!

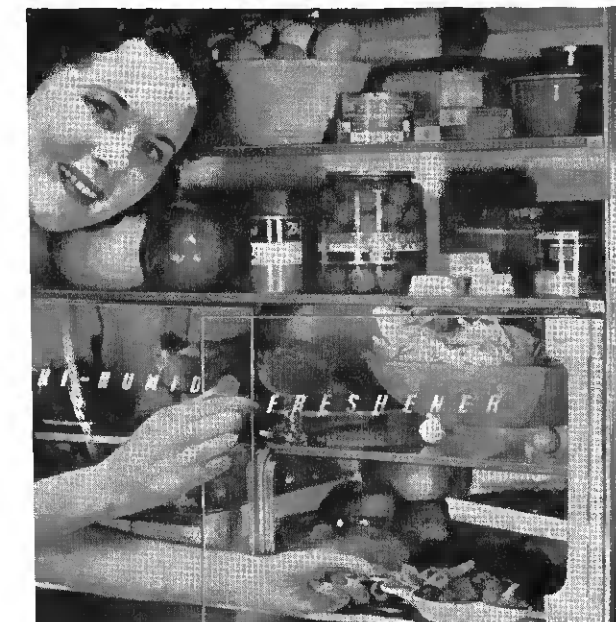


NEW LINES—Above is the Norge S-942, sporting new spaciousness throughout.



Above, Frigidaire execs are inspecting new Freezer Chest on '42 model CPD-9.

Below, the new Freshener in a "Hi-Humid" model of Leonard's '42 line.



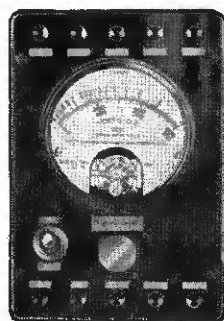
# INSTRUMENTS *for the Long Pull!*



*Weston Model 774  
Checkmaster*

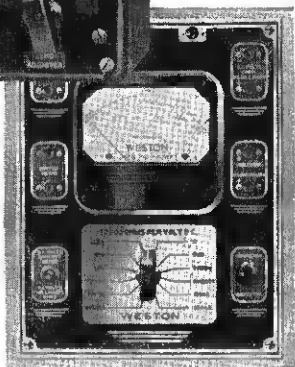


*Weston Model  
669 Vacuum  
Tube Voltmeter*



*Weston Pocket-Size  
Test Instruments*

*Weston Model  
772 Super-Sensi-  
tive Analyzer*



To the serviceman who owns WESTON test equipment, *that name on each instrument panel has real meaning* these days. Normally, it means long, uninterrupted service and substantial savings in instrument replacement costs. It means *all this and more* today. It means that he has tools that will give him dependable service . . . *work and earn for him without interruption . . . all during the uncertain period ahead.* Weston Electrical Instrument Corporation, 581 Frelinghuysen Ave., Newark, New Jersey.

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

# WESTON

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

**FOR OVER 53 YEARS LEADERS IN ELECTRICAL MEASURING INSTRUMENTS**

# Your business

## Radio and Records Mean More than Ever Before!



1 BEFORE THE WAR, few Americans were stay-at-homes. (Remember the long lines of Sunday night traffic—?) Even so, Americans lead the world in their possession of radios and phonograph-radios. In 1941 alone, more than 13 million sets were sold!



2 TODAY, the tires on the family car are too precious to waste in unnecessary driving. So Mr. and Mrs. America are relaxing into their easy chairs. Listening to their favorite radio programs. And listening to the "music they want when they want it!"



3 MORE THAN EVER, the alert radio retailer is selling the double pleasure of radio and records, instead of radio alone! For today, no instrument is complete that does not include record-playing. And today's sets *must* be complete!



4 SO GET ON THE BANDWAGON—start pushing those RCA Victrola combinations today! (And give serious thought to stocking Victor Records . . . if you don't already. Every RCA Victrola sold means dozens of record sales in the months ahead!)



## RCA VICTOR

RCA MANUFACTURING COMPANY, INC., CAMDEN, N. J.



A Service of the Radio Corporation of America • In Canada: RCA Victor Company, Ltd., Montreal  
Trademarks "RCA Victor," "Victor" and "Victrola" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc.

# a Changing America!



## MAGIC BRAIN RCA VICTROLA

An Amazing New Way to Play Records!

**MODEL V-215** (above): 9-tube, push-button tuning phonograph-radio . . . in a cabinet they love on sight (either walnut or mahogany). Check these features:

**NO LID TO LIFT . . . NO ORNAMENTS TO MOVE . . .** Comfort level record loading with new Roll-Out Record Changer.

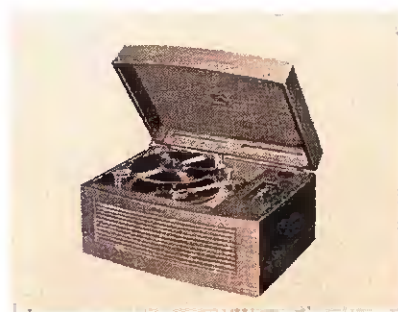
**NO MORE OBJECTIONABLE MECHANICAL NOISES . . .** Exclusive Flexible Tone Bridge of New Magic Tone Cell ends objectionable "needle chatter."

**REAL LIFE TO YOUR MUSIC . . .** Jewel-Lite Scanner and Magic Tone Cell recreate each record with brilliant new fidelity of tone.

**NO NEEDLES TO WORRY ABOUT . . .** Old-fashioned needles are entirely eliminated by tiny sapphire point of Jewel-Lite Scanner.

**RECORDS LAST INDEFINITELY . . .** By exerting a stoundingly light pressure on records Magic Tone Cell gives them extraordinarily long life.

**RECORDS PLAY, STOP, CHANGE—AUTOMATICALLY . . .** Automatic Record Changer shuts motor off when program is over. Your enjoyment is uninterrupted, complete.



### RCA VICTROLA V-140

Table Model. Completely new record changer that plays twelve 10" or ten 12" records automatically . . . no needles to bother with . . . longer record life . . . 6-tube superheterodyne. Plenty of value . . . yet with full margin for *you!*

*You Get Full Profits . . . .  
and More Repeat Business*

with **HOWARD Duro-Board**  
**HOME RECORDING DISCS**

Make These Tests  
Yourself—Today!

- *Low Surface Noise*
- *Wide Fidelity Range*
- *Long Playback Life*
- *Flame Proof*  
(Underwriters' Approved)



**Thousands of Enthusiastic Users Attest  
To Their Superiority and Value!**

HOWARD Duro-Board Discs are favorites for low-cost home recording. Because these economy discs have the same superior Type "C" coating as the famous HOWARD Metal Base Discs, they excel in tone quality and clarity of reproduction. This thick, special coating enables the cutting stylus to make clean even grooves without tearing -- a factor vital to quiet long life recordings. All HOWARD Discs are non-aging and hardness processed for maximum life and better reproduction of higher frequencies. A special die-punched center prevents warping. Available in 6½" and 8" sizes.

*Famous HOWARD Metal Base Discs Still Available*

Packed five each, in attractive utility albums, HOWARD Metal Base Recording Discs are unexcelled. Available in 6½", 8" and 10" sizes. Bring your stock up to par now!

**STOCK HOWARD HOME RECORDING DISCS NOW!**

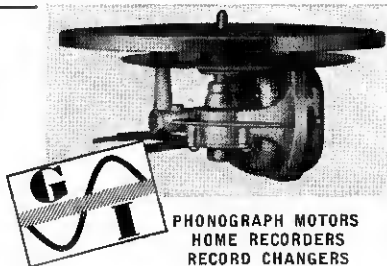
**HOWARD RADIO COMPANY**

1731-35 Belmont Ave., Chicago, Ill., Cable Address: HOWARDCO, U. S. A.  
**America's Oldest Radio Manufacturer**

**G.I. WAS  
READY . . .  
IS ON THE JOB**

**I**n rounding out 40 years of continuous leadership in developing and producing light electrical equipment, General Industries is proud to be on active duty in defense of America's security. That we were ready—that we are strongly doing our allotted part—is of course credited to the large and sustained volume of commercial business we have received. And to our old customers we gladly assure all possible continued G.I. commercial production.

**The GENERAL INDUSTRIES CO.** Dept. 15, Elyria, Ohio



PHONOGRAPH MOTORS  
HOME RECORDERS  
RECORD CHANGERS

**NRPDA Is Getting  
Things Done**

The president of the National Radio Parts Distributing Association, George D. Barbey, P. O. Box 2, Reading, Pa., has addressed a bulletin to the directors of NRPDA, emphasizing the current aim of the organization as "every jobber in a chapter and a chapter available for every jobber." He points out that the success of the district chapter idea is assured, and reports that some directors have already established several chapters in their districts.

The NRPDA plan provides that each district chapter is entitled to a National Directorship, and a share of the annual dues for operating expenses.

Official organization of the Louisiana-Mississippi section of the NRPDA took place last month at the Bentley Hotel, Alexandria, La., when the jobbers met and named acting officers for the group.

W. A. Shuler of Shuler Supply Co., New Orleans, was appointed acting president; H. L. Weems of Orgill Bros. Hdwe. Co., vice-president; Bud Walther of Walther Bros., secretary and treasurer. Elected for the board of directors were: Alfons Schadler of Southern Radio Supply; E. M. McCrary of United Electric Service; E. Hale of Hale & McNeil; Chas. Johnson of Interstate Electric Co.; and Ted Schneider of F. H. Schneider and Sons.

All members present were very optimistic regarding the general condition of the radio parts business. Various problems of the jobber were discussed.

It was agreed that the members of the NRPDA would lend their full support to the radio service men of Louisiana and Mississippi who were holding their initial organization meeting at the Bentley Hotel at the same time.

**Simon Named Radio  
Price Administrator**

Administrator Leon Henderson of the Office of Price Administration has announced the appointment of James H. Simon, Washington, D. C., radio distributor, as the new Chief of the OPA Radio Branch. Mr. Simon succeeds Maurice S. Despres of New York, who recently resigned after serving as the radio price administrator since last October.

Mr. Simon has been the distributor of the Galvin Mfg. Co. for several years for Maryland, the District of Columbia and Northern Virginia and has been prominent in local and national distribution activities.

Besides his duties as chief of the OPA radio unit in charge of the radio industry price advisory panels, Mr. Simon will also be the price administrator covering other OPA branches, including toys, musical instruments, sporting goods, and several others.

# Trends in Records



Rise Stevens, singing with Nelson Eddy in MGM's "Chocolate Soldier" created wide interest in the recorded versions of songs heard in the show.

• As the record business moves swiftly into the new pace of 1942, it is all the time adapting itself to the needs of a nation at war. New trends are showing up in various parts of the industry, new kinds of home entertainment are recommended for a fighting country, and new record releases are aimed directly at the requirements of the war situation.

One group of record experts sees the new market as follows:

"Throughout 1942, we see a marked increase in interest in sprightly and gay music, and less emphasis on the heavy stuff.

"Hill-billy and negro melodies are growing in popularity in many sections of the country. Latin-American airs are also in increasing demand, as our North American tastes encompass the lively tunes of the Americans to the South of us. Wartime patriotic music will also be in the ascending, as we get further into hostilities.

"All these factors should be taken into consideration by the retail dealer who is planning his record stocks for coming months."

Another view is expressed by Edward Wallerstein, president of Columbia Recording Corp., who says

that "In my opinion, there should be a further very substantial increase in the sale of standard and classical records because much more of the public's entertainment time will be devoted to home entertainment and obviously, the more one plays records, the better standard and classical music wears.

Mr. Wallerstein also points out that "Past history in this country and the history of our present war in the countries of our allies seems also to point to generally enlarged demand for records in the home . . . and present business seems to substantiate this fully."

As for the new record-playing instruments available to the public, it is reported by Thomas F. Joyce, the RCA Victor advertising head, that the new emphasis on combinations rather than straight radio sets will continue because of the belief that the combinations render a more complete service to the public. At the same time these instruments offer to manufacturers, distributors and dealers a logical reason for higher unit sales price.

It is reported too that stocks of the combinations in the hands of both distributors and dealers are relatively high, and no shortage seems likely before the middle of the year.

All ready for more speed in greater turnover of records is Terminal Radio Shop, NYC. Equipment includes 8 record racks, 3 album racks, 3 record booths, 2 radio demonstration rooms, plus showcase and counter, all built by A. Bitter Construction Corp., Long Island City, N. Y.



# Accessories Pay Off

When you consider the typical record customer from the "accessory" standpoint, you get a new angle on his buying habits.

If he doesn't need a new record or album or record-player, the chances are that he needs a supply of needles or perhaps a sharpener; maybe he could do with some cleaners or brushes or a record rack.

Record fans, if they're active at all, are often *very* active types. This means that listening to recorded music is a regular part of their lives and that it will take a regular amount of supplies to keep them happy. Many of them get to be fussy about the care and the storage of the discs, particularly the collectors.

## Are You Ready?

Yes, the business to be done in merchandising accessories is a substantial and profitable one. After all, there are 6,500,000 record-playing instruments in the country, and they're not idle. And in the accompanying list of accessories there are 15 different items to sell. Besides, you must remember that the whole record business is on the upswing.

If you want to get yourself a new check-up on your present position in this accessory business, you might

## THEY'RE SELLING

Needles (playing and cutting)  
Compounds and Brushes  
Musical Books and Catalogs  
Stroboscopic Discs  
Needle Sharpeners  
Sound Effects Kits  
Record-Player Attachment Kits

Pickups  
Turntables  
Blanks  
Record Racks  
Microphones  
Motors  
Storage Albums

rate yourself on four points: (1) Stock (2) Display (3) Personal selling and (4) Direct mail.

1. Check through the list herewith and be sure that you have the stock on hand that will sell in your area. You may be weak on certain items, or maybe you just hadn't thought about all of them. This list does not include larger stuff such as recording attachment kits or record cabinets.

2. For the matter of display, see to it that the accessories are getting a good break on the counters and in the windows. These smaller products are often very useful to fill up spaces between units in the window. And for the counters, you can get some very nifty 1942 displays from the manu-

facturers. The new cards and containers are colorful and convenient.

3. By "personal selling" we mean this—are your salespeople ready to suggest accessories to customers when it can be done appropriately? They should have definite instructions as to when to ask a record buyer if he would be interested in a new pickup, for instance.

4. If you're doing some regular direct mail on records—and who isn't—there's often a chance for a stuffer on accessories. Since these pieces go only to your most active lists of record-playing customers, you should get good returns. It isn't like wasting promotion on blanket lists of people who may not own record-players.

## BEST-SELLING POPULAR RECORDS

(As reported by the manufacturers)

### Bluebird

GRIEG PIANO CONCERTO and SERENADE FOR STRINGS—Freddie Martin on B-11430.  
THE PRESIDENT'S BIRTHDAY BALL and ANGELS OF MERCY—Glen Miller on B-11429.  
I SAID NO and DEEP IN THE HEART OF TEXAS—Alvino Rey on B-11391.  
DAY DREAMING and A STRING OF PEARLS—Glen Miller on B-11382.  
THE WHITE CLIFFS OF DOVER and WE'RE THE COUPLE IN THE CASTLE—Glen Miller on B-11397.

### Columbia

YOU MADE ME LOVE YOU and A SINNER KISSED AN ANGEL—Harry James on 36296.  
ROSE O'DAY and THE WHITE CLIFFS OF DOVER—Kate Smith on 36448.  
I DON'T WANT TO WALK WITHOUT YOU and B-19—Harry James on 36473.  
DEAR MOM and ON THE STREET OF REGRET—Kate Smith on 36489.  
SHE DON'T WANNA and DO SOMETHING—Orrin Tucker on 36490.

### Decca

BLUES IN THE NIGHT (on both sides)—Jimmie Lunceford on 4125.  
YOU MADE ME LOVE YOU and A SINNER KISSED AN ANGEL—Jimmy Dorsey on 4142.  
REMEMBER PEARL HARBOR and YOU'RE A SAP, MR. JAP—Dick Robertson on 4144.  
ROSE O'DAY and WHEN JOHNNY COMES MARCHING HOME—Guy Lombardo on 4143.  
BLUES IN THE NIGHT and THIS TIME THE DREAM'S ON ME—Woody Herman on 4030.  
THE SHRINE OF ST. CECILIA and JACK OF ALL TRADES—Andrews Sisters on 4097.  
I DON'T WANT TO WALK WITHOUT YOU and MADELAINE—Guy Lombardo on 4104.  
THE WHITE CLIFFS OF DOVER and I GOT IT BAD—Jimmy Dorsey on 4108.  
ROSE O'DAY and BY-U-BY-O—Merry Macs on 4023.  
GOODBYE MAMA and I MAY STAY AWAY A LITTLE LONGER—Dick Robertson on 4116.

### Okeh

BLUES IN THE NIGHT and SAYS WHO? SAYS YOU, SAYS I—Cab Calloway on 6422.  
BLUES IN THE NIGHT and WHERE OR WHEN—Benny Goodman on 6553.  
YOU'RE A SAP, MR. JAP and WE DID IT BEFORE—Carl Hoff on 6556.  
WHEN YOUR OLD WEDDING RING WAS NEW and ROSE O'DAY—Tommy Tucker on 6448.  
DEAR MOM and REMEMBER PEARL HARBOR—Charlie Spivak on 6555.

### Victor

REMEMBER PEARL HARBOR and DEAR MOM—Sammy Kaye on 27733.  
THERE'LL BE BLUEBIRDS OVER THE WHITE CLIFFS OF DOVER and MADELAINE—Sammy Kaye on 27704.  
NEANI and THIS LOVE OF MINE—Tommy Dorsey on 27508.  
THIS TIME THE DREAM'S ON ME and BLUES IN THE NIGHT—Artie Shaw on 27609.  
THE SHRINE OF SAINT CECILIA and SANTA CLAUS IS ON HIS WAY—Sammy Kaye on 27691.



## SETTING UP THE STORE

(Continued from page 17)

There is little incentive in such straight salary methods of compensation.

Other dealers pay a straight commission of from 3.5 per cent to 7 per cent of sales with—or without a drawing account.

This is better than a straight salary plan, but usually leads to high-pressure selling—to placing the actual sale above customer satisfaction.

Few salespeople on a straight commission are as eager to do the stock-keeping as they are to sell, yet without the detail of the former, the later soon becomes increasingly more difficult.

The majority of successful record dealers pay their record salespeople on a combination salary, commission and bonus plan.

Salaries from \$10 to \$15, with commissions from 2 to 5 per cent and with a bonus based upon sales increases, stock turn, and department gross profit best fit the need for all-around incentive, compensation in

proportion to efforts and results, with no greater contingent liability on the part of the dealer than his current sales warrant.

## MUSIC SALES ON THE MARCH

(Continued from page 13)

record assortment, on your Record Club, the "record of the month" can be counted on to produce some new customers.

Keeping track of new arrivals in your town also helps. Window displays play their part. And various other forms of sales promotion can be used to provide some new customers, such as contests, participation in school, club and civic activities, etc.

But keeping the customers you get is just as necessary.

To this end, having the record the customer wants is vital, anticipating the want, and selling it to the customer is important, and treating the customer the way she wants to be treated, helps too.

Record stocks and assortments must be maintained fresh, adequate,

and quickly available. A full line of accessories, such as albums, needles, record cleaners, needle sharpeners, record cabinets, players and combinations go "hand-in-hand" with the records.

Children's records and albums and portable phonographs play an increasingly larger part in building a sound and growing record business.

## Take Records Seriously

The record business is not all "gravy" by a long shot. But the demand is on the increase, and is due for a spurt as well. Dealers who go after the business in an earnest manner, who really try to "build" a record business, are doing so beyond their expectations.

Those who look upon records as a "side line" and a means for making some easy money are soon disappointed.

But as events are shaping up, it seems more clear now than for a long time, that records will provide a larger, more stable, more certain share of the radio dealer's business, and profits.

## Radio, Music and Our Future Democracy

By Dr. Leopold Stokowski

Music will mean much to our future civilization.

In the America of the future, I believe that hearing music by radio, by records in the home, by motion pictures in the home or in the theater, and music associated with television, will play a large part in all our lives. As I see it, all these different methods of bringing music in as near as possible an ideal form to everyone, all over the country, no matter how far away these people may live from each other, are ways in which art and beauty can serve every man, woman, and child. These ways are democratic and friendly and simple, and are in the spirit of our future civilization.

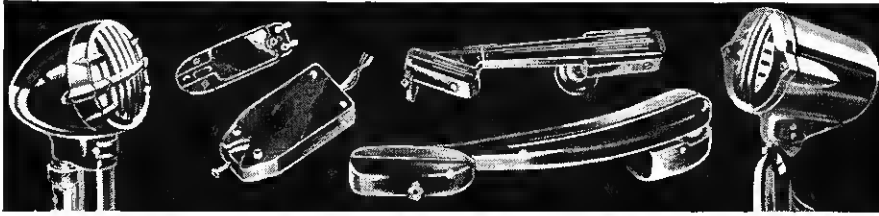
Television is something I have been studying for several years now, because I believe that in the future it will play a large part in all our lives and will be often associated with great music. I am developing two ways of associating music with television and they both require methods of playing which are different from each other, and also different from the way we play for a concert or for recording in the home or for motion pictures or for radio. These two new methods are not developed enough yet for me to talk about them, but I look forward to the day when they will be more completely developed and can be at the service of all those who love music and would like to hear it associated with television.

(Comments "Behind the Mike").



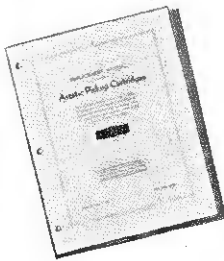
TWO EYE-GRABBERS for records. Top display is at Yahu Radio Co., Larchmont, N. Y., using colorful albums. The "V" job below is by Colony Radio, Washington, D. C.





## ASTATIC PRODUCTS UNIVERSALLY USED

Convincing proof of the dependability of Astatic products is contained in Astatic's REPLACEMENT MANUAL for Pickup Cartridges, listing the various type cartridges used by a large majority of the manufacturers of radio phonograph combinations and playback equipment. This manual is a quick and valuable reference for Radio Jobbers, Dealers and Service Men who handle and service replacement parts.



To obtain your FREE Copy of this handy Manual, see your Radio Parts Jobber.

# ASTATIC

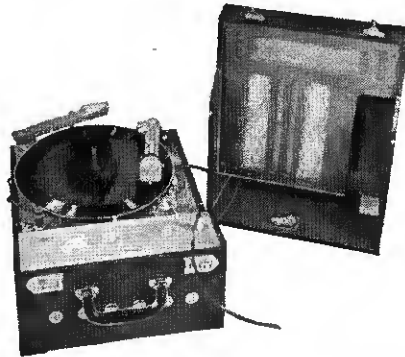
## THE ASTATIC CORPORATION

YOUNGSTOWN, OHIO

Licensed Under Brush Development Co. Patents

In Canada: Canadian Astatic Ltd. Toronto, Ontario

## PRESTO RECORDERS SPEED DEFENSE PRODUCTION



Presto recorders are now being used to help lick the toughest problem in any factory today . . . breaking-in new men. Recordings explaining new processes, new assembly and testing methods multiply the efficiency of instructors a hundred-fold. Presto recordings of mechanical noises in motors and machinery are used to teach workers quickly to identify faulty parts or adjustments. Recordings of orders, instructions, reports, sent over private wires from offices to plants speed the use of vital telephone facilities, help eliminate costly errors.

Presto recordings reproduce speaking voices so naturally that they identify each speaker beyond question, give a lifelike re-enactment of conferences and interviews.

These are but a few uses made of the Presto recorder by such companies as United Aircraft Corp., General Motors Co., Mack Truck Co., Armstrong Cork Co., as well as various government departments. For the complete story send for booklet entitled "Industrial Uses of the Presto Recorder." Mailed free on request.

**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, Wol. 4218  
PHILADELPHIA, Penn. 0542 • ROCHESTER, Cal. 3548 • SAN FRANCISCO,  
Yo. 0231 • SEATTLE, Sen. 2560 • WASHINGTON, D.C. Shep. 4003

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

## Records Played in Church

How recordings can play an important part in church services is illustrated by a report from the Presbyterian Church of Elgin, Neb., written to the Columbia Recording Corp. by Harold D. Griffin. Mr. Griffin has used records as a substitute for the church choir, playing appropriate discs via a homemade dual-speed turntable and electric pickup with  $4\frac{1}{2}$  watts amplification and an 8-in. speaker.

The report is that the church attendance has increased notably, since the recorded music started. On special occasions, the audience participates in the musical services by repeating responsively with the minister the scripture texts used in recorded hymns.

## Stromberg Reps in Drive to Help Dealers

Stromberg-Carlson is launching a big new consumer education program, according to Clifford J. Hunt, radio sales manager of the company.

The plan provides that "field representatives, faced with limited production of radios and radio phonographs, as a result of Stromberg-Carlson's all-out efforts to expand war output, will follow the sale of every Stromberg-Carlson instrument from the dealer's floor into the home, and see that the new owner knows and appreciates the value of his purchase. The Stromberg-Carlson representative will check installation, appraise service difficulties, teach the entire family correct operation of the instrument, make certain the customer protects himself by mailing the warranty card and learns the full scope of his radio."

## Standard Records Find Market

Report from Standard Phono Co., 168 W. 23rd St., New York City, is that "Standard recordings have, during the short period of a year, taken their place along with the other well known record labels on the market."

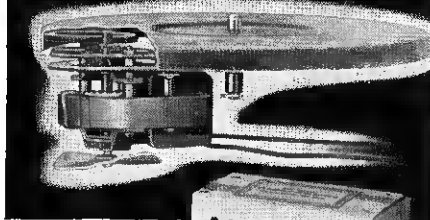
Newest Standard releases include "Cuckoo Waltz" by the Rene Musette orchestra; "When Manuel Shakes His Maracas," by "The Good Fellows," and "Lo-Lo-Lita," a patriotic novelty by Brad Reynolds.

## Post Ad in Store Display

A colorful window display broadside, carrying an invitation to come into the store for a demonstration of the RCA Victrola with Magic Brain, features the 4-color Victor ad in the *Sat Eve Post* for Jan. 31. Many dealers are now using it as a valuable tie-up with the ad which attracted wide attention because of its unusual eye appeal.

Replace  
with the  
Best!

**ALLIANCE**  
"EVEN-SPEED"  
PHONO-MOTORS



**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.

Export Dept.: 377-379 Broadway, New York City

**ALLIANCE MFG. CO.**  
**ALLIANCE, OHIO**

**Farnsworth Capehart  
Ads Win Medal**



One of the striking full-color ads of the prize-winning series.

In the Annual Advertising Awards, sponsored by "Advertising & Selling," a bronze medal has been awarded to the Capehart Division of Farnsworth Television and Radio Corporation, Ft. Wayne, Ind., and to its advertising agency, N. W. Ayer & Son, Inc., for the technical excellence of visual presentation in layout, art and typography of the 1941 Capehart advertising which ran in *Life*, *Time* and the *New Yorker*.

These ads especially capitalized on the fact that people's moods today are affected by exciting news events, and that everyone is a potential victim of the war of nerves. In such a situation, say the ads, "Music as interpreted by Capehart has the power to change moods, and bring hours of quieting relief."

**Record Sales at  
New Peaks**

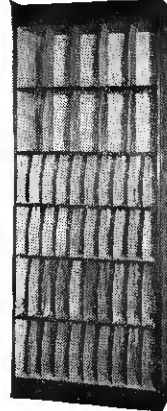
Last month, the news came from Columbia Recording Corp. that the firm was making the biggest shipments of records in its history. Paul Southard, sales manager for CRC, said that daily orders were greatly in excess of daily factory output.

Contributing greatly to the advanced sales volume at Columbia were such tunes as "The White Cliffs of Dover," "Dear Mom," "Remember Pearl Harbor" and "He's 1-A in the Army."

**Bergman Coast-to-Coast**

Jack Bergman, of the Duotone Co., is now on a trip through Cleveland, Detroit, Chicago, Minneapolis, Omaha, San Francisco, Los Angeles, El Paso, Fort Worth, Houston, New Orleans, Birmingham, Atlanta and Richmond. It's a business trip and a survey of conditions throughout the U. S.

**THE RIGHT  
COMBINATION  
FOR  
EXTRA  
PROFIT!**



**BITTER RECORD  
RACK NO. 100**

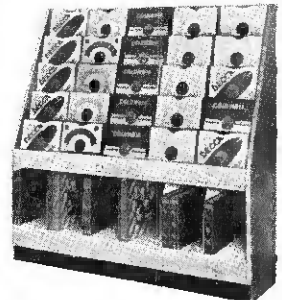
Here's an attractive, compact stock unit that's really roomy. Holds 500 10" and 500 12" records plus 75 album sets. It's 2' 10 1/2" long, 7' 2" high, 15" deep. Comes in same design and same standard finish (walnut finished birch) as the Bitter Album Rack No. 110 so that they may be used together.

standard finish (walnut finished birch) as the Bitter Album Rack No. 110 so that they may be used together.

**BITTER "SELF-SERVICE"  
RECORD-ALBUM UNIT**

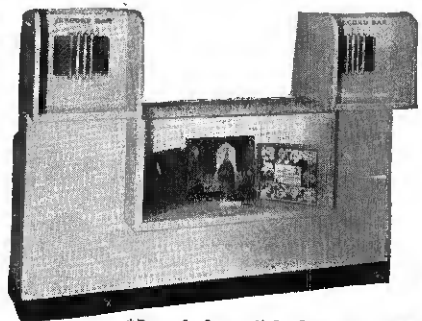
The youngest addition to the famous family of Bitter record and album sales builders—and already it's sweeping the country. It's compact, roomy, and it moves popular priced stock without a clerk. Displays about 300 records on slanting face and 16 albums on upright (other side, not pictured) face. Lower part stocks 500 records or 75 albums.

Suitable for aisle or wall position. Occupies only 5 feet of floor space, only 58 inches high (easy to see over). Provision on top and sides for display material. Can you afford to be without it?



**and BITTER RECORD BAR\***

Here's the star of this famous family of record and album "super-salesmen." Record Bar saves time, saves space, builds volume. Dealers who demand simplified record selling with highest quality reproduction—demand Bitter Record Bar.\*



\*Reg. & Copy. U.S. Pat. Off. 1940

**FREE BOOKLET—WRITE NOW!**

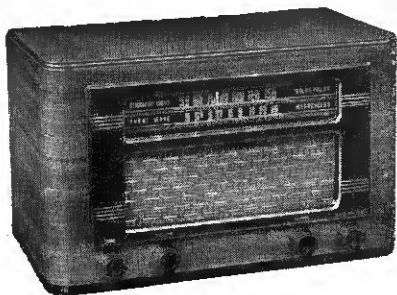
**A. BITTER  
CONSTRUCTION CORP.**

27-01 Bridge Plaza North  
Brewster Bldg., Long Island City, N.Y.

If you want  
SOMETHING BETTER demand

**DEWALD**

A FAMOUS NAME IN RADIO SINCE 1921



DeWALD Model 566

Unusual value in a 5 tube AC-DC Superhet, 2-band receiver that brings in standard broadcasts and short wave. Streamlined, hand-rubbed Walnut veneer cabinet with Mahogany finish grille.

Write today for illustrated literature in the New 1942 DeWALD Radio Line.

JOBBER: Choice territories still open. Write or wire for details.

**DeWALD RADIO MFG. CORP.**  
436 - 440 Lafayette St., N. Y. C.

## SERVICE NOTES

on

RECORD PLAYERS  
AUTOMATIC CHANGERS  
WIRELESS UNITS  
AND HOME RECORDERS

### Newest SUPREME Manual

Repair quickly and correctly all automatic record changers, manual units, pickups, wireless oscillators, recorders, and combinations. Hundreds of mechanical and electrical diagrams. Instructions for adjustments and repairs. 132 large pages, 8½ x 11 inches. A \$1.50 manual you must have at only...

#### Other Manuals You Need

How to MODERNIZE RADIOS for Profit..	\$1.00
Radio Servicing Course-Book .....	2.50
Simplified Radio Servicing by Comparison..	1.50
Practical Radio Mathematics .....	.25
Cyclopedia of Television Facts .....	.40
MOST-OFTEN-NEEDED RADIO DIAGRAMS	
Volume 4, covers 1941 sets, 192 pages ....	2.00
Volume 3, for 1940 radios, 208 pages ....	2.00
Volume 2, popular 1939 sets, 192 pages ....	2.00
Volume 1, 1926-1938 radios, 244 pages....	2.50
Stewart-Warner Manual of Popular Circuits..	.50
General Electric Manual, 64 pages .....	.50
Arvin (Noblitt-Sparks) Manual .....	.50
Motorola Auto Radio Service Manual .....	1.50

Sold With A Money Back Guarantee

**FREE**

Send for sample pages from these books and descriptive catalog or see these manuals at your parts jobber.

**SUPREME PUBLICATIONS**

328 S. Jefferson Street

Chicago, Illinois

## Columbia Record Catalog for '42

The new 1942 record catalog of the Columbia Recording Corp. has been published, complete with a combined alphabetical listing of everything available on Columbia labels, and 100 pages thicker than last year (total is 415 pages). Besides the elimination of the sectional listings, other convenient new features include simplified typographic design, better paper, prominent identification of various kinds of records, etc.

A colorful design for the cover follows the trend of the '41 catalog. Special sections list musical books, new artist biographies, and merchandising helps. The book contains 10,000 records in all, about 6,500 Masterworks and 3,500 "Pops."

## Magnavox Gets U.S. Navy Citations

The Magnavox Co., Ft. Wayne, Ind., has been notified by Secretary of the Navy Frank Knox that it will receive two honors: the Bureau of Ordnance flag, and the Navy "E" pennant for excellence in production of war material. The news was announced by Magnavox president R. A. O'Connor.

The citations are based on a two-fold contribution—for developing new and valuable ordnance devices and for speed and general efficiency in quantity production.

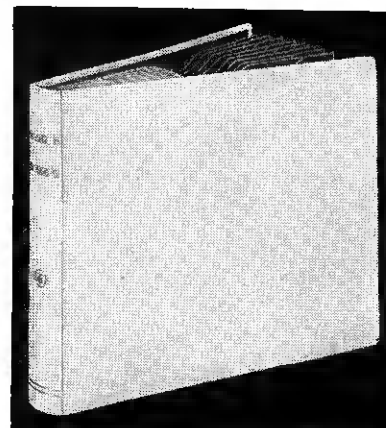
## Bulletin on Self-Service Record-Album Unit

Ready to be mailed to record dealers is a lively new bulletin available from the A. Bitter Construction Corp., 27-01 Bridge Plaza N., New York City, N. Y., on Bitter's new addition to his line of record merchandising equipment. This unit is the "Self-Service Record-Album Unit," displaying about 300 records on the slanting face and 16 albums on the upright face. There's room below to stock 500 records or 75 albums. The bulletin explains fully how the unit moves popular priced stock when used either in center aisle or wall locations.

## "Words That Shook the World"

An album of war speeches, containing full recordings of President Roosevelt's address to Congress asking for a declaration of war against Japan, and Churchill's speech to the joint session, is now available to dealers at a retail price of \$4. The records are released by the Recording Division of Station WOR, 1440 Broadway, New York City, in a specially designed album, titled "Words That Shook the World." There are five double-faced 12-in. discs.

## A FINER RECORD ALBUM



Conceived by **PEERLESS**

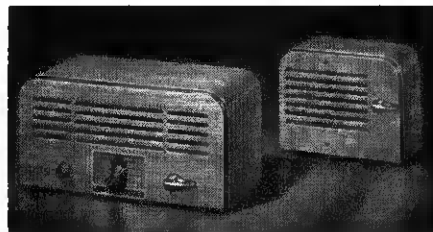
Recognizing the need for a highly superior record album at a slightly increased price, Peerless presents this superbly designed and brilliantly executed model, titled, "Symphonic." In striking Ivory, popular Saddle Tan, staple Maroon. Heavy leather-like padded Fabrikoid binding. Exclusive Peerless features. Made in 10 and 12 inch sizes.

Ask About Peerless Racks

**PEERLESS ALBUM Co.,**  
Incorporated

38 West 21st St. New York, N. Y.

## INTERCOM for DEFENSE!



## Sell 'Em Talk-A-Phone!

Replace lost sales and markets with this profitable new business! Sell the TALK-A-PHONE intercom line for high-unit, easy-to-make sales that mean profits! America is all-out for victory and that calls for speed and more speed. Intercommunication is a vital first-aid to speeding up production and business routine. Every business, every industry, every profession, is a prospect for TALK-A-PHONE Intercom sales. Get your cut of this business now!

### A Profitable Line

TALK-A-PHONE Intercom is built-right, styled-right, priced-right to give you the profits you've a right to earn. The Deluxe System illustrated above is a typical "Best-Seller." Available in 3 types for every need: (1) Master Selective—made up of Master stations and Sub-stations; (2) Super-Selectives—Masters only; (3) Combination Selective-mixed Masters and Sub-station. Privacy headphone optional; has "Silent" feature excluding noise pickup; persons can answer as far as 50 feet from units; for AC or DC operation.

There's a TALK-A-PHONE System for every type of application.

Write now for full details.

**Talk-A-Phone Mfg. Co.**

1219B W. VAN BUREN ST.—CHICAGO

**Most Often Needed Service Notes of Record Players, Recorders, Changers**

Compiled by M. N. Beitman  
Supreme Publications,  
328 S. Jefferson St., Chicago.

The service notes and data sheets for many of the automatic record changer types, recorders, and wireless record players have been collected into this bound volume of 128 pages. Circuit diagrams of the combination phono radios and wireless players are included with the adjustment instructions for the record changer mechanisms.

Suggested circuits for connecting record players to various types of sets are also given.

**Farnsworth Orders Up**

Farnsworth Television & Radio Corp., Ft. Wayne, Ind., has announced it has on hand unfilled orders in excess of \$16,000,000, most of them government contracts.

E. A. Nicholas, president, reported that the company's unfilled order position had more than doubled in the last three months. The Farnsworth company's net profit at the close of the first six-month period, Mr. Nicholas reported, was \$205,944, after all charges, including taxes. This compared with a loss of \$94,592 for the same period last year.

**"Lifetone" Needle by Duotone**

A new 4,000-playback needle called "Lifetone" has just been brought out by Duotone Co., 799 Broadway, New York City, to retail at \$1.50. It has been carefully designed "to maintain brilliant highs while holding surface noise to a new low," and comes packaged in a special plastic container.

**Columbia Distributor**

Appointment of the Crumpacker Distributing Corp., Houston, Texas, as distributors for Columbia Recording Corp. products has been announced by Paul Southard, sales manager of CRC. The firm is headed by E. L. Crumpacker and is also distributor for Philco.

Southwestern Music Corp., which previously represented Columbia in the Houston and Dallas areas, continues as Columbia distributor in the Dallas territory. Jobbers for CRC now total 46.

**Two Reps for Turner**

The Turner Co. has appointed Mr. Berk, of the S. W. Berk Sales Co., 530 William Penn Way, Pittsburgh, Pa., as its representative in Western Pennsylvania and West Virginia.

In the Northern California area, another Turner appointee is E. J. Watkins, 580 Market St., San Francisco.

**F M**  
*Is Selling Now!*

**WHY NOT SELL F-M CONVERTERS FOR EXTRA PROFITS?**

*F-M can be sold right now!* The Meissner F-M Converter gives you extra profits in immediate second set sales to both your old and new set buyers. There is nothing complicated about a Meissner F-M Converter, it is compact, easily installed, just connect it to any quality radio for F-M reception.

The cabinet will harmonize with any surroundings . . . this fast moving unit has a ready-made public acceptance . . . you can sell Meissner F-M Converters now! Shipped complete with tubes and ready to operate. List price is \$11.95. See your Meissner distributor today.

Write for new 1942 Catalog—address Dept. RT. 2.

*Meissner*  
MT. CARMEL, ILLINOIS  
**"PRECISION-BUILT PRODUCTS"**



*He told the General about* **Fidelitone**  
PHONOGRAPH NEEDLES

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

**Fidelitone**  
FLOATING POINT  
KINER, RECORD  
TECH  
A NEW LONG-LIFE PHONOGRAPH NEEDLE

**PERMO** *Divot Points* "Keep Them Flying"  
IN AIRPLANE INSTRUMENTS

**As Advertised in . . . the Ladies Home Journal and 10 other magazines**

# Servicing Big Sets

**Repair techniques and methods that are needed to handle high-quality receivers. New set circuits and features.**

• Servicing the larger, more complicated sets which are being sold in greater numbers each year, calls for many methods and precautions normally disregarded or considered of minor importance when dealing with "compact" and "midget" circuits.

In these sets the serviceman must make repairs with the factor of tone quality at least on a par with sensitivity and selectivity. In "midget" circuits, quality of reproduction is not built-into the design in the proportion it is in the modern phono combination and console. The customer purchased a fine radio musical instrument and expects to realize all the quality of tone as well as sensitivity and selectivity even after the instrument needs service.

Servicing of these expensive radio-phono-instruments is not alone a process of replacing a dead tube thus making the set operative. Like all complicated mechanisms, a fine balance is required for the ultimate of performance. The set must be considered as a complete unit rather than a collection of individual circuits.

### Circuit Relations

Examples of the tie-up among the various sections of the modern phono-combination circuits are many. Alignment of small sets is done primarily with the thought of obtaining the peak of sensitivity and selectivity. The fewer tubes in these circuits must function at maximum gain to deliver satisfactory performance. In the more elaborate circuits the effect of alignment on tone quality must be kept in mind when making adjustments. The audio system, which to a large extent governs the tone quality, relies on the balance between the tubes operating in push-pull circuits and on the balance in the phase inverter circuits when these are used. Feedback, bypassing, de-coupling, power filtering, and tube conditions must be in a near-perfect condition if real performance is to be realized.

Large set circuits are designed around more tubes and stages. The IF amplifiers and especially the transformers do not have to deliver as much gain as basic "5-tube" circuits. To the serviceman this means that the transformers are usually "broader" and their alignment may be more difficult. The "broader" response transformers do not give the critical peak indication that high gain units give. Thus the alignment of broad IF

stages must be done with care. Although the adjustments are less marked so far as change in output is concerned, they are, nevertheless, critical. If the alignment is not done carefully, it is possible that the frequency to which the transformers are aligned is not in the "center" of the characteristic response curve. If this is the case, then the distortion on high notes will probably be severe, depending upon how far off the true "center" the intermediate frequency is.

### Alignment Methods

With the conventional output meter method of indicating resonance, it is quite easy to make the mistake of adjusting the transformers to one or the other of the two peaks which exist on either side of the real alignment point in certain types of broad-band IF transformers. Unless the shape of the characteristic curve for the entire IF amplifier section of the set is known, it will be a more or less laborious task to do an accurate alignment job. Always follow the manufacturer's instructions for alignment.

If an oscilloscope is available the characteristic curve can be visualized by sweeping the alignment frequency in the conventional method. Then it is simple to insure that the alignment is done correctly since the center

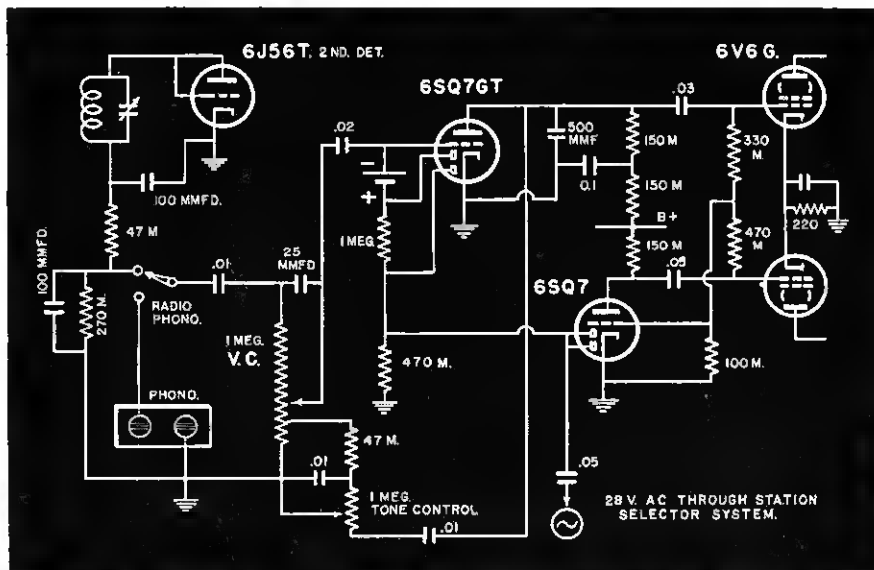
of the response curve can be checked with the correct alignment frequency either by the special methods of using the oscilloscope or by the use of a marker frequency from another signal generator. A second signal generator (the first being the one which is frequency modulated to give the pattern on the 'scope screen) is set at the correct IF (unmodulated), and the signal is introduced into the converter grid or IF grid (whichever is not connected to the first generator). The RF output of the second generator is such that a small "wiggle" is visible on the trace of the characteristic curve.

### Marker Spots Alignment Setting

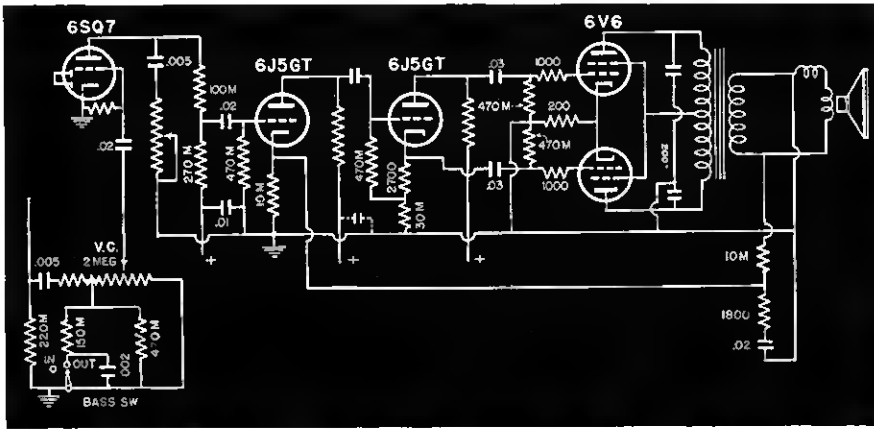
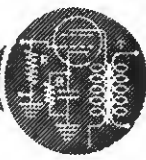
When this marker point is visible, the transformers are then adjusted until the marker is in the middle of the curve. That is, the curve should be symmetrical on each side of the center or "marker" frequency.

When the 'scope is not available, and that method is called for in manufacturer's instructions, the results may be duplicated by a somewhat more lengthy process.

Using the conventional output meter (or VTVM on the AVC bus) and the amplitude modulated signal generator method, the characteristic curve for the response of the IF section of the set can be determined and



Circuit of the Motorola model 101C31 which features automatic station selecting. The 6S7GT phase inverter tube is biased to cut-off, during station switching, from rectified AC. Bass-boost tone control circuit.



Inverse feed-back, single tube phase inverter, and adjustable bass control in VC circuit are features of General Electric model L915W, L916. Grid resistors in output tube circuit stabilize and prevent oscillation.

the correct adjustments made on the transformers. The scheme here is to plot a curve of the IF response on a sheet of cross-sectioned graph paper. The vertical axis (ordinate) of the graph should be marked off in equal units representing the scale of the output indicating meter (volts, decibels, etc.). The horizontal axis (abscissa) is marked off in equal units. Let a vertical line in the center of the graph be marked with the correct intermediate frequency. Mark off in equal 2-kc. steps on each side of this line for a total of 10 kc. on each side.

With the signal generator and output meter connected to the recommended points in the circuit, the signal frequency is set about 10 kc. on the low frequency side of the true IF. Using as low a level of signal as can be read on the output meter, mark the reading of the output meter on the graph on the frequency at which it was taken. By advancing the frequency in three or four kilocycle steps to 10 kc. higher than the true IF and reading the output meter at each step, a curve can be drawn through the plotted points. If the alignment is correct, the true intermediate frequency will be in the center of a curve which is symmetrical or alike on both sides of the correct frequency.

**Shifting the IF Curve**

If the correct intermediate frequency is not at the center of the symmetrical curve, the trimmers must be adjusted to shift the response curve in the proper direction. A partial guide to this can be used as follows. Set the generator at the true intermediate frequency and adjust the transformers until the output meter reads the same value it did at the "center" of the curve (read this value from the graph).

After the transformers have been re-adjusted, it is necessary to plot another curve to see that the response is the same on both sides of the "center" at the same number of kilo-

cycles away from the true intermediate frequency. If one of the "humps" is higher than the other, it is due to one or more of the primaries or secondaries being tuned to a slightly different frequency than the correct IF value. For a correct job, the humps should not be very much higher than the low point in the center of the curve. The humps should also be equal in height.

**Audio Balance Problems**

Be sure that the signal generator output remains constant during the measurement of the response curve. Any change in the output of the signal generator as the frequency is varied through the test range will cause a false change in the reading of the output meter.

RF circuits too, must be carefully aligned to insure the maximum band-pass capabilities of the set. Oscillator

tracking is very important and should be checked several times.

Service in the audio end calls for balanced tubes in push-pull circuits to keep hum and harmonics at a minimum. Check the plate or cathode current of both tubes in a pushpull stage. They should be very nearly the same. While current balance does not eliminate the tube from other improper functions, such a test will help to clear-up certain cases of hum, etc.

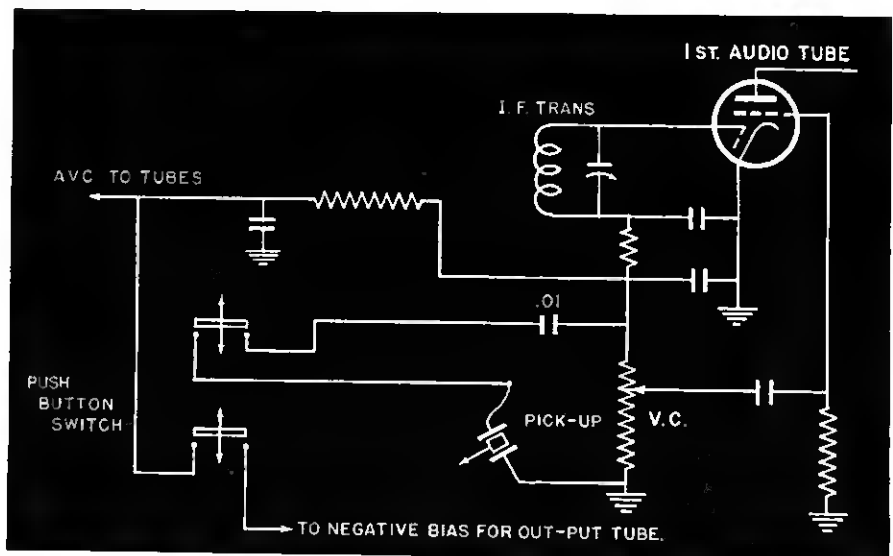
Where two tubes are used as phase inverters, it is important to see that they test about the same on a good checker. If these tubes are widely different, the audio voltages fed to the grids of the output tubes will be unequal and the harmonic content of the output will rise, resulting in distortion.

Because of the wide frequency response of the audio systems used in the more elaborate sets, hum and other noises that are not serious in small sets, become objectionable. Filter condensers should have the correct capacity and very low leakage. Old electrolytics can develop both these defects of low capacity and excessive current leakage.

**New Circuit Features**

Examples of tone control systems and phase inverters in some of the 1942 sets are shown in the diagram of the Motorola model 101C31. A special feature of this ten-tube set is the automatic time tuning system which selects a desired station at a pre-selected time.

The volume circuit of this set employs the tapped control with series resistance-capacity network to ground to cut the high frequency response at  
(Continued on page 46)



Record player connection circuit which uses one of the push-button switches and places negative voltage on AVC bus to prevent radio from "playing through." Voltage may be obtained from negative bias supply or from the oscillator grid leak. See story on next page.

### Miniature Tubes in RCA 26BP "Fly-Weight"

The three-way portable 26BP recently announced by RCA has several interesting circuit features (see accompanying diagram). The circuit uses three of the miniature "button-base" tubes in a TRF-super circuit with three-gang tuning.

The 1T4 IF amplifier uses a screen feed-back circuit with inductive coupling in the transformer. The batteries are protected when the set is operated from the power line because the power line plug is removed from a receptacle in the set. This opens the positive leads to the A and B batteries while the negative side is disconnected when the plug prong, which serves as a jumper, is removed from the socket. The twin diode 117-volt power rectifier is used as two half wave rectifiers. One-half of the tube delivers the filament power while the other half furnishes the DC plate power. The series filament string is protected with equalizing resistors to help prevent tube filament burn-outs. The set also has an external loop antenna which can be plugged into a jack. The external loop jack disconnects the regular loop when the plug is inserted.

#### Alignment of RF-IF

The IF transformers are aligned at 455 kc. The oscillator is connected to the IF grid through a 0.01 mfd. capacitor. With the receiver dial set at about 1600 kc., adjust the plunger cores on the last IF transformer for

maximum output. The test signal is then moved to the grid cap of the 1A7GT and the interstage transformer plungers are adjusted for peak output.

A radiated signal is used for the RF alignment. With the set tuned to a 1600 kc. signal, adjust the oscillator trimmer, antenna trimmer, and detector trimmer for peak output. The dial should read 1600 kc. With a 600 kc. radiated signal, the plunger core of the oscillator coil should be adjusted for maximum output while rocking the gang condenser.

#### Record Player Connections Stop Radio Play-Through

A novel circuit for connecting phono players to radio sets is shown in the diagram on page 37. It features a system of preventing the radio program from playing through when the record player is switched in.

The circuit is especially adapted to those sets which have pushbutton tuning and one button available for phono tuning (as in the wireless types). In the absence of pushbutton switches, any double pole single or double throw switch can be used. The secret of killing the radio section of the set is the application of the negative bias used for the output tubes to those sets which have pushbutton tuning and one button available for phono tuning (as in the wireless types). In the absence of pushbutton switches, any double pole single or double throw switch can be used. The secret of killing the radio section of the set is the application of the negative bias used for the output tubes to those sets which have pushbutton tuning and one button available for phono tuning (as in the wireless types).

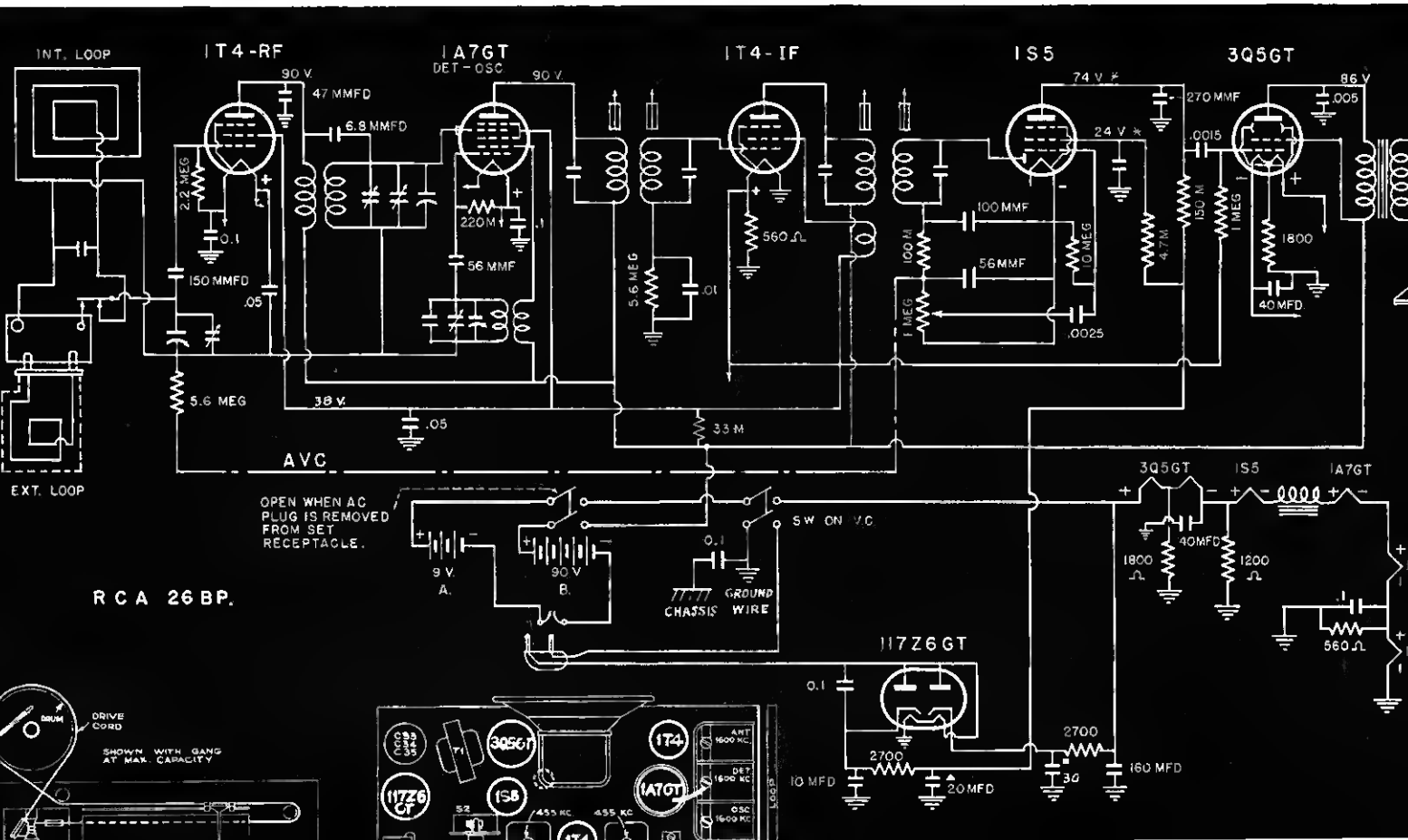
voltage and other means must be used.

If there is no source of negative voltage in the set (-20 volts approximately) normally used for the audio tubes, the bias can be obtained from the grid leak in the oscillator. The DC voltage developed by the oscillator can be taken off the grid end of the leak through a resistor of the size which gives the necessary blocking of the circuit. The value of this may be from 100M to 1 meg.

A little study of the particular set circuit will show how this system can be adapted. This circuit scheme is one used by Scholsser Radio Service, Pontiac, Ill.

#### Voltage - Dropping Power Cord Tolerances

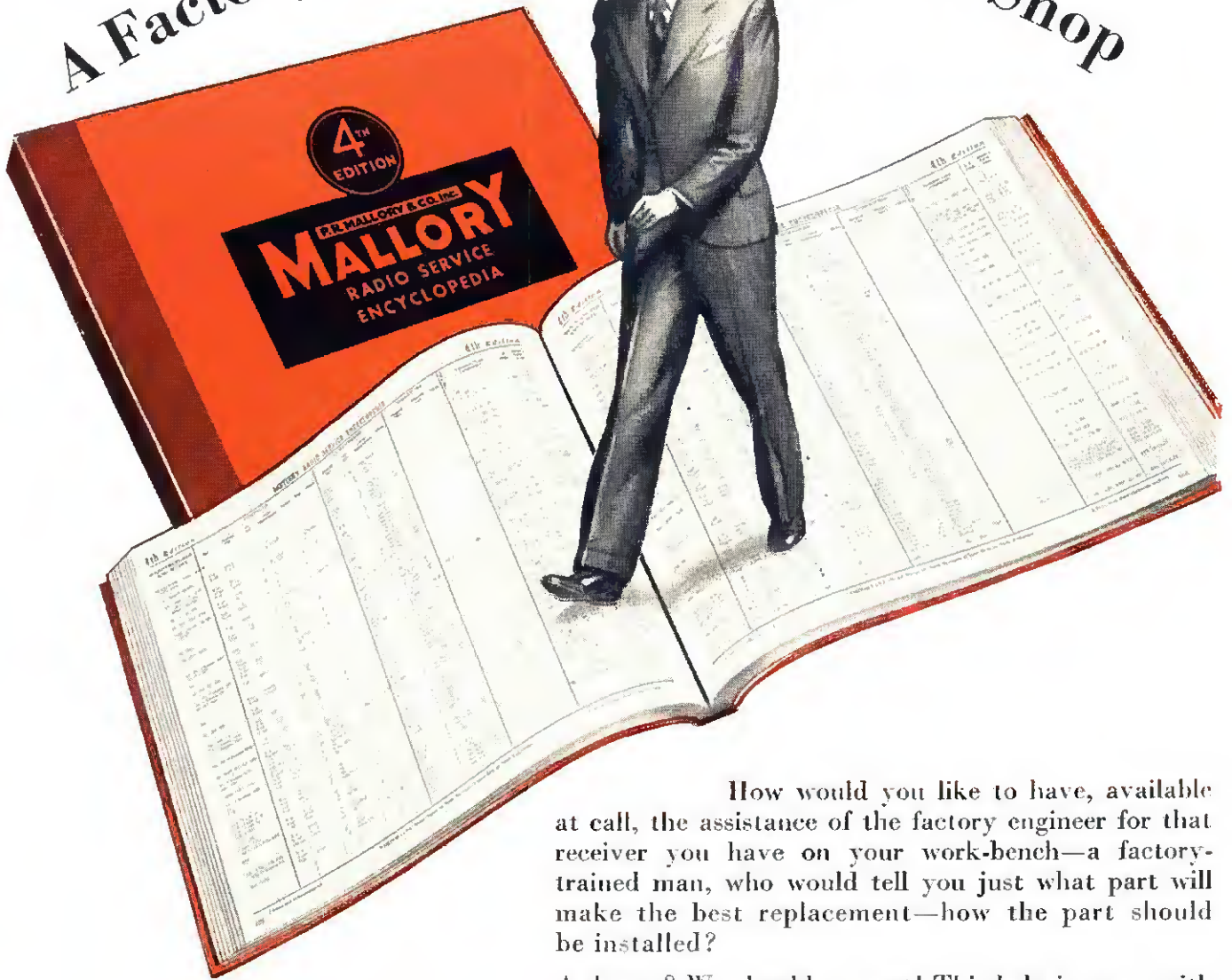
Some servicemen and jobbers are overlooking standard tolerances covering resistance values of voltage-dropping power cords and are thereby slowing up shipments of such items. This is revealed by Vic Mucher of Clarostat Mfg. Co., Inc., Brooklyn, N. Y. It is important in these days of shortages and delays, that servicemen and jobbers note the standard 10 per cent plus or minus tolerance on power cords. Even the labeled values of resistance may vary 10 per cent, yet satisfactory results will be obtained. To expedite their orders, therefore, servicemen and jobbers will do well to stick by standard values as listed, and to select those cords coming reasonably close to the exact values. This will help everyone concerned.



RCA 26BP.



# A Factory Engineer for Your Shop



How would you like to have, available at call, the assistance of the factory engineer for that receiver you have on your work-bench—a factory-trained man, who would tell you just what part will make the best replacement—how the part should be installed?

A dream? We should say not! This help is yours with the Fourth Edition "MYE"—the Mallory Radio Service Encyclopedia. Here in one book, in one compact listing, on one page, is the essential information necessary to make a speedy, satisfactory repair for any model of any receiver—circuits, original part numbers, recommended replacements for volume controls, condensers, vibrators.

In addition, the "MYE" gives you the tube complement, the I.F. peak and the Rider's Reference, if detailed inspection of the entire schematic is required. Ask the chap who has bought one. He will tell you the Fourth Edition "MYE" is the most used book in his library.

Don't postpone action, see your Mallory Distributor today for the most helpful investment you can make.

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

 An advertisement for Mallory products. It features a collection of electronic components: a vacuum tube on the left, a cylindrical component in the top center, a transformer-like component in the top right, and a small component at the bottom right. In the center is a rectangular box with the Mallory logo and the text 'P. R. MALLORY & CO. Inc.' and 'MALLORY' on it.

**P. R. MALLORY & CO., Inc.**  
 INDIANAPOLIS INDIANA  
 Cable Address—PELMALLO



**MR. GEO. BRUZEE**  
Geneva, New York

**Service Bruzee**

National Union Products have been one of the bases on which I have built the most successful service business in this trading area. I have sold National Union with full confidence for more than ten years and the results have fully justified my faith in the merchandise and the company. Naturally I have taken every advantage of National Union deals, but of equal importance to my mind is the fact that N. U. has kept the market clean and enabled me to make a sales profit.

WHERE YOU FIND  
**NATIONAL UNION**  
YOU FIND BETTER  
**RADIO SERVICE**

**PREMIUM**  
*Quality*  
**TUBES**



**BATTERIES**  
*NUMITE CONDENSER*  
**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.

# Record Player Service

• With more than 6 million units for playing records in this country, servicemen now have a large block of equipment which demands a more specialized type of repair technique.

Along with the electrical and circuit problems which are much the same as those found in standard sets, the mechanical and acoustical problems also enter. These are very important to high quality reproduction of records.

The mechanical problems include the servicing of record changers, motor repair, pickup service and replacement. Record changer service is a matter of understanding the basic mechanism and applying the specific adjustment instructions recommended by the manufacturer.

## Mechanical Problems

The mechanical problems need not cause the serviceman to stay away from handling them. All the actions take place with mechanical parts that are visible, and careful observation of their movements during a cycle of the mechanism will generally show where the trouble is.

If the mechanism is binding, look for excessive wear at points where cams and push rods make contact and examine for bent parts, and misalignment. See that levers and other parts are not too loose at pivot points and that jamming does not occur because of this. If the mechanism runs hard, check the lubrication and friction between gears and large sliding surfaces. The teeth of gears should be fully meshed but not so tightly that there is a binding action when turned by hand. If lubrication has been long neglected, there may be a galling of the metal surfaces in contact. These parts will have to be replaced or re-surfaced.

Lubrication for the cams and other levers, etc., is usually a light grease, while the motor is usually lubricated with oil. The exact recommendations of the manufacturer should be followed.

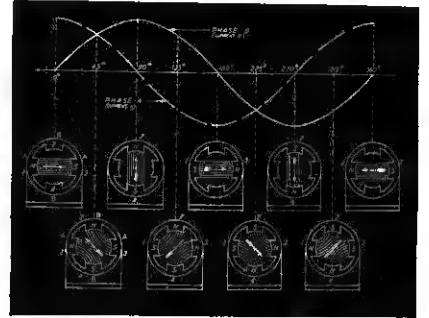
## Effects of Records

When the changer does not handle the records properly, always be sure that the fault is not with the records. Occasionally the records are just a shade too thick, warped, or the edges are in such a condition that the separating knives (on those types) will not do the job. Have enough records on hand to give the machine a fair test and don't condemn the changer if it balks on one or two records. Some of the early models are critical.

When testing the mechanism keep the changer in its normal upright position, since in most types the correct action depends upon the downward weight of pickup, etc. Never force

the mechanism through a cycle. Find out what is causing the trouble and correct it.

If the mechanism has been over lubricated, the collection of dust on the parts will slow-up and possibly stall the operations. Clean with kerosene being sure to prevent any from getting on rubber surfaces and into the motor windings. Dry thoroughly and coat lightly with specified greases.



Two currents differing in phase produce a rotating magnetic field in electric motors designed for self starting. This diagram is from "Record Changers and Recorders," a new book by John Rider. (See review, January issue, p. 58.)

Motor troubles are usually due to mechanical faults. Binding of the bearings, too much load, loose parts, etc. Overheating of the motor due to excessive mechanical load may burn up the insulation and cause electrical failure. Badly worn bearings and burned-out windings usually mean a new motor. In these days of shortages in metals for domestic uses, be sure to exhaust the possibilities of repairing damaged units.

## Needle Scratch, Rumble

Acoustic problems are those of needle scratch, rumble, feedback, and similar troubles which disturb your sense of hearing.

Needle scratch depends upon a number of factors, the type of needle, pressure on the record, the record itself, type of pickup arm, etc. In the changers of the older type the pickups are not of the low pressure design and in order to get the needle to last through a stack, the harder needles are used—steel, alloys, sapphire. Scratch will be heard if the audio system reproduces the highs well. Tone controls and scratch filters will cut the scratch—and the highs. More expensive and new records have less scratch than cheaper and old records.

Rumble is usually due to mechanical coupling between the motor and turntable mechanism and the pickup, or the motor and the high gain, low level audio tubes. These problems are usually solved in the design of the mechanism by shock absorbing mountings, etc. Where rubber is used, age can ruin its effectiveness.



## Another Instance of How IRC Helps Servicemen Build Business

**T**HIS little tag, factory-packed with all IRC Volume Controls sold through the jobbing trade, is designed to be hung on the control knob whenever you use an IRC Control for replacement. Read it carefully. You'll quickly see that there is no better way of building public confidence. No customer will fail to see it. None will fail to be impressed with the fact that you have used a replacement of highest quality.

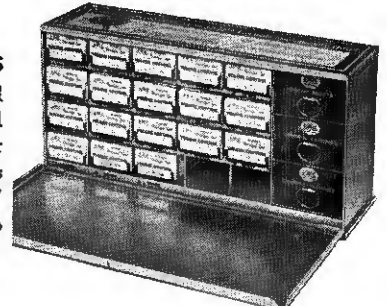
The reverse side of the tag has space for your name, address and 'phone number. This not

only serves as a reminder to call you when future service is required—but it is also suggested on the tag that customers recommend your services to their friends. This means that the tag actually does double duty in working for you.

Use IRC Controls to insure utmost quiet and long, dependable performance on every job. Use the IRC Volume Control Tag to build confidence, insure future business and to build new business from people who may never have heard of you before!

### Save Time...Money...Work...on Control Replacements

By actual count, 10,859 of the radio models listed in the IRC Control Replacement Manual call for one or more replacements that can be supplied from the 18 Type D Controls and accessories included in the IRC Master Volume Control Cabinet. The Cabinet equips you for prompt service on the big majority of jobs. It saves you money, because Type D Controls with Tap-in Shafts can often be used in place of costly "specials." It saves time because Tap-in Shafts are easier and quicker to install. Ask your IRC jobber for details—today!

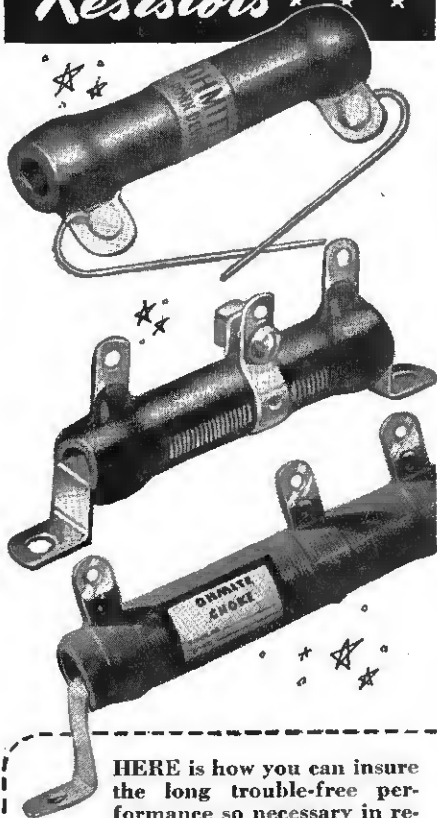


# RESISTORS and CONTROLS

INTERNATIONAL RESISTANCE COMPANY, 401 North Broad Street, Philadelphia, Pa.



Keep 'em Going with  
**OHMITE**  
Resistors \* \* \*



HERE is how you can insure the long trouble-free performance so necessary in replacements today. Install time-proved dependable Ohmite parts—10 and 20 watt wire-wound vitreous enameled Brown Devil Resistors, 10 watt adjustable Divid-ohm Resistors, R.F. Power Line Chokes and other units available in many stock types and sizes at your Jobber. They give you the same high quality used in defense industries and in the armed forces on land, at sea and in the air. Write for free Catalog 18.

Send for Handy  
**Ohm's Law  
Calculator**



Solves any Ohm's Law problem with one setting of the slide. Requires no slide rule knowledge. Size 4 1/8" x 9". Yours for only 10c to cover handling cost.

At Your Jobber or Send Coupon

OHMITE MANUFACTURING COMPANY  
4872 Flournoy St., Chicago, U. S. A.  
 Send Free Catalog 18.  
 10c enclosed—Send Ohm's Law Calculator.

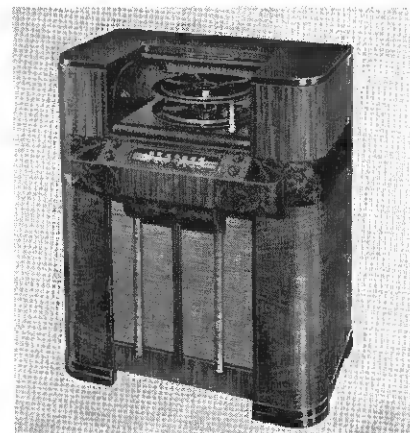
Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_  
R.R.-Feb.'42

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

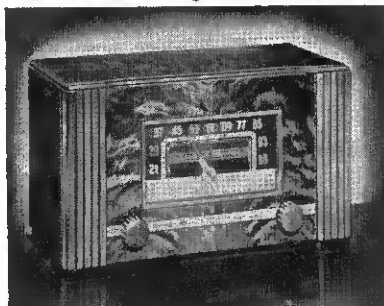
# New Products



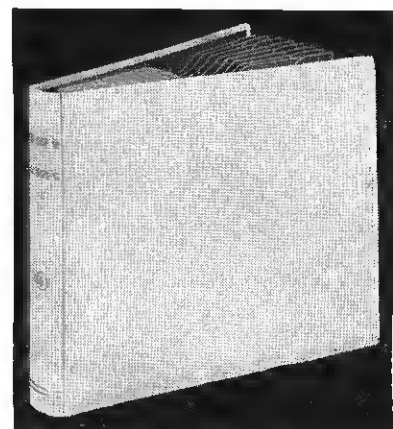
**RCA VICTROLA** table model V 140, housed in a walnut veneer cabinet, has an automatic record changing mechanism with permanent needle. Plays twelve 10 in. or ten 12 in. records, providing nearly an hour long recorded program. Uses 6 tubes, has 3-point bass and treble tone control, A.V.C. Built-in Magic Loop antenna. RCA Mfg. Co., Front & Cooper Sts., Camden, N. J.—RRT.



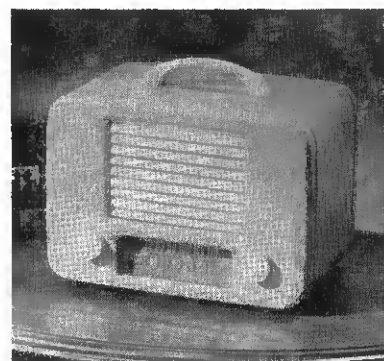
**EMERSON** MODEL 462, console has slideaway tambour cover which conceals an automatic phonograph. This 6-tube superheterodyne has 3 bands, from 13 to 555 meters. Incorporates r.f. "noise reducing" amplifier. Four tuning controls. A.V.C., large electro dynamic speaker. External antenna connection. Emerson Radio & Phono. Corp., 111 8th Ave., New York, N. Y.—RRT.



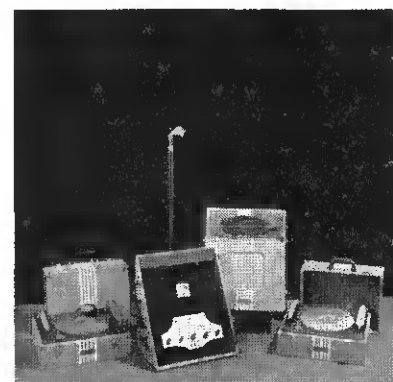
**MOTOROLA** 8-TUBE FREQUENCY MODULATION converter which provides FM reception when connected to a standard AM broadcast radio. Cabinet is only 13 in. long, 7 1/4 in. high, 6 1/2 in. deep, of compact jewel box design of stump walnut veneers. Connects to phono, television or FM terminal of any radio. Dial calibrated in FM channels. Galvin Mfg. Co., 4545 Augusta Blvd., Chicago, Ill.—RRT.



**PEERLESS** "SYMPHONIC" RECORD ALBUM featured in Ivory, saddle tan or staple maroon. Covered with heavy, padded Fabrikoid, rounded edges, gold-stamped in simple, decorative design. May be had in 10 and 12 in. sizes. Peerless Album Co., Inc., 38 W. 21st St., New York, N. Y.—RRT.



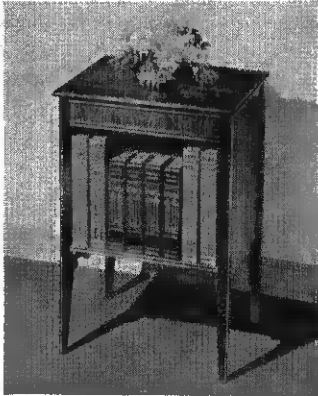
**SONORA** NEW STYLE table model covered in gray simulated-leather fabric with incised gold-leaf trim and Ivory carrying handle. 5-tube AC-DC superhet tunes 535-1720 kc. Built-in "Sonorascope" loop. Clear vision slide-rule dial. Dynamic speaker, A.V.C., plastic tuning knobs. Sonora Radio & Telev. Corp., 325 N. Hayne Ave., Chicago, Ill.—RRT.



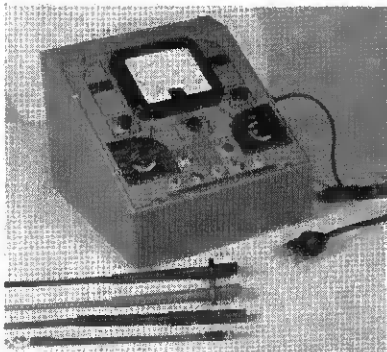
**WESTERN-PRO** DUAL RECORDER designed for school and professional use.



Records at 33½ or 78 rpm. Consists of amplifier and speaker, 2 D.S. turntable units, 1 dynamic microphone, 1 chrome plated adjustable floor stand and matched carrying cases. Base reflex twin speakers available in both 10 or 12 in. P.M. Crystal cutter, low pressure tone arm, semi-permanent needle. Complete group of units, \$279.50. Western Sound & Elec. Labs., 311 W. Kilbourn Ave., Milwaukee, Wis.—RRT.



**PHILCO HAND-RUBBED WALNUT** record album cabinet, provided with four 12 in. albums and four 10 in. albums, each of which contains 12 record pockets. May accommodate in addition to these, several regular commercial albums, so that it will hold more than 100 records. 30¾ in. high, 20½ in. wide and 15½ in. deep. Philco Corp., Tioga & C Sts., Philadelphia, Pa.—RRT.



**R.C.P. ELECTRONIC MULTITESTER**, model 662, a multi-purpose meter providing a total of 27 measurement ranges for voltages, ac and dc, up to 6,000 v.; resistance to 1,000 megohms, capacities to 2000 microfarads. Low ranges are 0.1 v., dc; 1.0 v., ac; 0.2 ohms, 30 mmfd. Has 4½ in. square type microammeter, power supply circuits built-in. Input resistance of 160 megohms for higher ranges and 16 megohms for lower ranges. Input capacity is 50 mmfd. Priced, net, \$47.50. Radio City Prods. Co., 88 Park Place, New York, N. Y.—RRT.

**HYGRADE FLUORESCENT STARTERS** automatically opens the circuit when a lamp falls. The Premium Mirastat protects itself, prevents abuse of the ballast and does away with the usual flashing of a burned-out lamp. Hygrade Sylvania Corp., Salem, Mass.—RRT.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★  
**SO SAY ! WE**      **"It Can be done— It Must be done— It Will be done!"**

**"It can be done."** Doggedly, aware of the urgency, Hytron has for months been recruiting the entire capacity of its plant and the enthusiastic cooperation of its workers, to vitalize the magic word, **DELIVERY**, to supply both Defense and civilian needs. Past experience has proved that "it can be done."

**"It must be done."** Pearl Harbor made us all think as one. The vast obligation to industry and to Defense already assumed by Hytron took on new meaning. Tubes for the ever-mounting, unprecedented demands of WAR, and, in so far as possible, for business as "unusual" with its commercial accounts—these are Hytron "musts."

**"It will be done."** Assurance that Hytron will play its full part lies in its acquisition of another large factory at Newburyport, Mass.

Thus is Hytron's capacity **TRIPLED!** From its combined plants will flow more and more Hytron tubes for our armed forces—for our civilian Defense communications—for our home receiving sets.



**HYTRON CORPORATION**  
 SALEM . . . MASSACHUSETTS  
*Manufacturers of Radio Tubes Since 1921*

**PART OF THE ARSENAL OF DEMOCRACY**

**U.S. ARMY**  
**FLYING TO VICTORY!**

*Communications* **VITAL TO VICTORY!**  
*Dependable Transformers* **VITAL TO COMMUNICATIONS!**

**THORDARSON**  
ELECTRIC MFG. CO.  
 500 WEST MURON STREET • CHICAGO, ILLINOIS

*Transformer Specialists Since 1895*

# STRAIGHT TALK

**YOU'RE IN IT, TOO**

*This is total war!*

In your community an important duty has been assigned to you. It is the maintenance and repair of radio, electronic and electrical equipment in essential industrial plants, public welfare institutions and public service facilities. These organizations enjoy high priority ratings.

Without high ratings, your orders may never be filled. To stay in the running, go after this business NOW! It's profitable and it's certain!

\*To meet wartime industrial demands, RCP has developed a new electronic multimeter, the finest general purpose instrument you've ever seen. Years ahead of the industry, it combines the very latest developments in vacuum tube DC and AC voltmeters, capacity meter and ohmmeter.

## NEW RCP MODEL 662 ELECTRONIC MULTIMETER

Complete \$47.50



The perfect tester for AM, FM, Television, AVC, AFC and laboratory measurements. Tests bias cells, oscillator grid voltages, resistance coupled plate voltages under actual operating conditions, without disturbing circuit constants.

Compare these features and ranges with any other meter on the market:

- DC vacuum tube voltmeter. Sensitivity—160 megohms (high ranges), 16 megohms (low ranges). Six ranges—0/6/30/150/600/1500/6000 volts.
- AC vacuum tube voltmeter. Sensitivity 0.00005 mfd., input resistance 160 and 16 megohms. Seven ranges—0/3/6/30/150/600/1500/6000 volts.
- Vacuum tube ohmmeter—.1 ohm to 1000 megohms.
- Vacuum tube capacity meter. Seven ranges—0/.001/.01/.1/1/10/100/2000. Capacity measurements—.00005 to 2000 mfd.
- D'Arsonval Microammeter. 2% accurate.
- Hi-voltage test leads; r.f. lead; signal tracing probe; special co-axial lead furnished for all high-frequency measurements.
- Welded steel case. Complete with five leads, tubes, pilot lamp; and batteries. An instrument that puts you head and shoulders above your competitors for... **ONLY \$47.50!**

RCP Test Instruments are designed to provide you with the instruments and ranges you need for your work—without expensive frills. To give you maximum flexibility, sensitivity and utility—at rock-bottom prices. See the full line of RCP testers, analyzers and signal generators in the newest RCP Catalog No. 125.

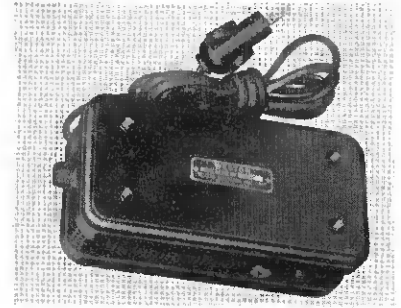
Write for it TODAY!

**RADIO CITY**

PRODUCTS COMPANY, INC.  
88 PARK PLACE • NEW YORK, N. Y.



**IRC ALL-METAL RHEOSTATS** for aircraft and ordnance use, have bakelite insulators. They have a 50 per cent lower temperature rise for equal size in other types and are available in both 25 and 50-watt sizes to meet the 200 hr. salt-spray test requirement. Covers are available to protect the units from dust. International Resistance Co., 401 N. Broad St., Philadelphia, Pa.—RRT.



**WESTON MODEL 792 INSULATION & CABLE** resistance tester, designed to adapt the Weston model 785 Industrial circuit tester or the model 772 test analyzer for the measurement of insulation resistance up to 900 megohms. Operates from a 100-130 volt 50-60 cycle supply line. Connected into ohmmeter circuit of models 785 or 772 by a pair of leads. Measurements up to a value of 900 megohms are made at a test potential of 500 volts. Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.—RRT.



← **SPEAK-O-PHONE RECORDER**, model 88C, consists of amplifier, speaker, microphone, desk type stand, motor turntable and gearing mechanism. Dual-speed 78 and 33 1/3 r.p.m. 8 in. heavy duty dynamic speaker. Crystal mike, cutting head and pickup. Tan simulated pigskin carrying case. Operation on 110 v. 50-60 cycle only. Price \$110. Speak-O-Phone Rec. & Equip. Co., 23 W. 60th St., New York, N. Y.—RRT.

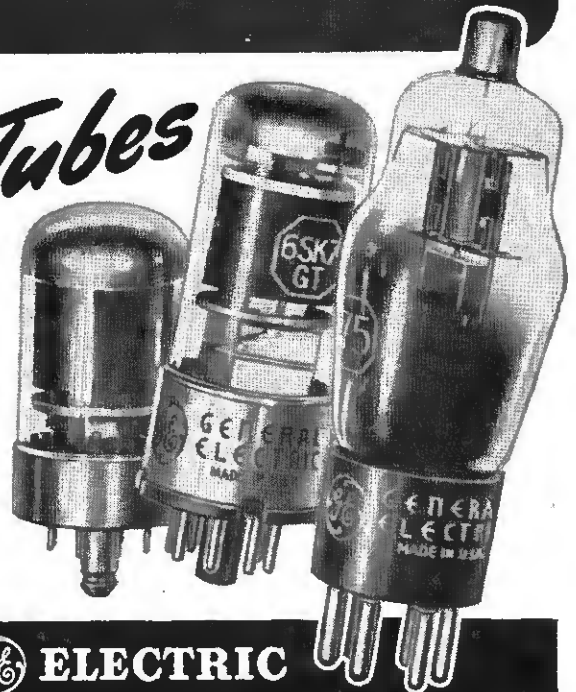
# Choose THE TUBES SPECIFIED IN RADIO SERVICE EVERYWHERE



## Radio Tubes

**G-E Tubes Mean Dependability and Peak Efficiency**

When you place your next tube order specify G-E.



**GENERAL ELECTRIC**



**MUSIC IN INDUSTRY**

(Continued from page 19)

the men was about 45 or 50. So far as could be determined, however, there was no difference in the reaction of the two groups. For example, while playing the "Blue Danube," there would be about as many men whistling as there would be girls humming.

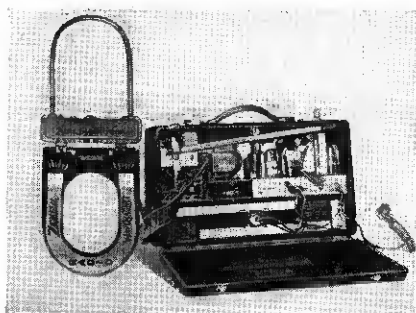
Three or four times the operator played "Happy Birthday" because some girl in the room had had a birthday. They seemed to appreciate this personal touch.

In preparing groups of selections for playing for the different periods during the day, the Cluett-Peabody management avoided playing music that would produce any acceleration in work, because it was definitely indicated that the music was not installed as a stimulus to production. If a demonstration is to prove that music can increase production, care would have to be exercised in selecting the proper stimulating music, but as the present job was intended only to provide pleasant working surroundings, stimulating tempos were ignored.

It was found far better to have the employees looking forward to music at stated intervals than to satiate them with too much, at too frequent intervals. The quickest way to reduce the effectiveness of music in an industrial plant would be to play too much.

After tests, it was arranged to hire an operator on the job at quarter of eight in the morning to play 15 minutes of band music before work actually commenced. This was enthusiastically received. Many employees remarked that it was very pleasant to start the day with such cheerful music.

**Shortwave Portable**

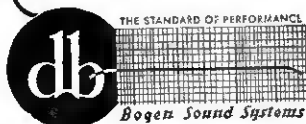


Zenith's six-band portable features built-in folding telescope type antenna plus Wavemagnet. Spread bands selected by push buttons.

**BOGEN** keeps 'em rolling. . . .

IN defense plants throughout the country, Bogen Paging and Inter-communication systems are vital tools of production—because instant communication between any and all vital production points is the stuff that keeps things moving—"keeps 'em rolling."

Bogen is building special Paging, Fire Alarm, Air Raid and Inter-communication Equipment to satisfy the varied requirements of different kinds of defense plants. A maximum of factory cooperation is available to the jobber on every such installation—Write for details!!



**DAVID BOGEN CO., Inc.**  
663 Broadway, New York City

*Completely Covers the Subject*

**RIDER'S  
"Automatic Record  
Changers and  
Recorders"**

**OFF  
PRESS  
JAN.  
22nd**

Here is a new source of profits for the serviceman who knows this new business. Unlike radios, with which you are familiar, Automatic Record Changers and Recorders are made up of electrical and mechanical components that are new to you. This Rider Book shows you how to study the functioning (the cycles of operation) of any Record Changer. It goes into small motors and their care. Explains the different types of turntable drives, various kinds of speed changing mechanisms and, by means of actual photographs, shows the step-by-step operation of a simple drop-type Record Changer.

The book also explains how Recorders function and their different characteristics. "Automatic Record Changers and Recorders" carries manufacturers' service data on practically every Automatic Record Changer and Recorder on the market today.

The index contains a cross-reference index so you can identify which record changer or recorder is used with any particular radio-phonograph and where the data can be found in the book. They are also listed under their own maker's names.

Altogether a book you need—and need right now if you are going to show the best profits from your work on

**"Automatic Record Changers and Recorders"**  
by JOHN F. RIDER  
744 pages (8½" x 11") Just Out, \$6.00

**JOHN F. RIDER Publisher, Inc.**  
404 Fourth Avenue, New York City

Export Division: Rocke-International Elec. Corp.  
100 Varick St., N. Y. C. Cable: ARLAB

**Rider Books on Timely Subjects**

- Servicing by Signal Tracing—English Edition—360 pages—188 illus. \$3.00
- Spanish Edition—385 pages—188 illus. 3.50
- Frequency Modulation—136 pages—76 illus. 1.50
- Vacuum Tube Voltmeters—179 pgs. 113 ill. 2.00
- Meter at Work—152 pages—138 illus. . . . 1.50
- Cathode Ray Tube at Work—338 pages—460 illus. . . . . 3.00
- Oscillator at Work—243 pages—167 illus. 2.00
- Automatic Frequency Control—143 pages—102 illus. . . . . 1.25
- Hour-A-Day-With-Rider Books . . . . .90c each
- on Alternating Currents—D-C Voltage Distribution—Resonance and Alignment—Automatic Volume Control

**OUT APRIL 15th**  
**RIDER MANUAL Vol. XIII**  
1650 pages—\$11.00

*Compare!*

**RIDER MANUALS**  
the only source of complete servicing information

Not just "wiring diagrams," but everything you need on i-f peaks, operating voltages, alignment frequencies, parts values, voltage ratings of condensers, wattage ratings of resistors, coil resistance data, dial cable adjustments, etc. etc. Compare what you get before you buy.

Abridged Vol. 1 to V—Covering sets from 1930-35  
2,000 pages—\$12.50

Vols. III to VI — Cover 1932-35 — \$ 8.25 each

Vols. VII to XII — Cover 1935-41 — \$11.00 each

# PROFESSOR SQUEEGEE SMASHES THE ATOM

After walking to his desk, Professor Oswald Z. Squeegge, PDQ., COD, carefully wound his watch, dropped it into the cuspidor and tucked his chew into his vest pocket. Then he faced the eager, upturned faces of his class.

"Listen to me, you intolerable numbskulls," he shouted. "Today we're going to study the Atom. What's more, we're going to smash the Atom right here in this room. S'help me!"

The Professor paused, reached for a coughdrop, got an eraser by mistake and chewed it vigorously. Then he cleared his throat and continued:

"The Atom, as you ought to know but probably don't, is the unit of all matter. It is the alpha of everything—the smallest, theoretically indivisible portion into which anything can be divided and still maintain its identity. In that respect, it is a good bit like the salaries most of you will earn when you graduate—if you ever do.

"How to smash the Atom has long puzzled scientists, including myself. However, we won't go into that today. Instead, we'll deal with an entirely different type of Atom—the Sprague Atom Dry Electrolytic Condenser, appropriately named for its small size and great durability. This, however, is a type of Atom that *can* be smashed. What's more I'm gonna smash it!"

After ten minutes search, the Professor finally found an 8 mfd. 450 volt Sprague Atom in his cigar case—also a similar midget dry electrolytic of another make. These he connected into a weird electrical circuit on his desk. Then he slowly turned on the juice.



"Now," he gloated, "both condensers are rated at 450 volts and that's exactly what they're getting. As you see, nothing happens. We'll step the voltage up to 500. Now up to 525. Note that the other condenser is beginning to sizzle, although the Atom is still in good shape. Here we go to 550 volts—now to 575—now to—goodness me!"

There came an explosion not unlike that of a giant firecracker and the heads of the class suddenly disappeared beneath their desks.

"You're all wrong," shouted the Professor gleefully after order had been restored. "You thought I smashed the Atom—but I didn't. It was the other condenser that blew up—not the Atom."

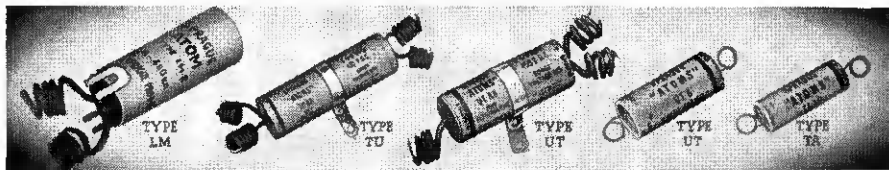
Sure enough, the Atom on the desk was still connected—now hissing a bit under the strain of over 600 volts but functioning perfectly.

"The Atom," continued the professor, "is especially protected against blow-outs—against moisture, heat and whatnot. The way to smash the Atom is not merely a matter of overloading it. The way to smash the Atom is this."

The professor grasped an axe hung over a sign "Use only in case of fire." Swinging this with the skill of a woodchopper and shouting wildly all the while he brought the blunt end down on the Atom—again and again and again.

"There!" he screeched, gleefully looking at the shattered remains. "We've done it. We've succeeded where others have failed. That, gentlemen, is how to smash the Atom. Class dismissed."

## A TYPE FOR EVERY DRY ELECTROLYTIC REPLACEMENT NEED



# SPRAGUE PRODUCTS CO.

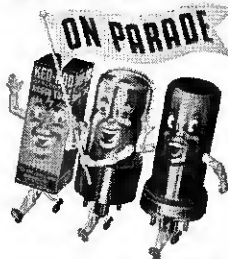
North Adams, Mass.

GOOD CONDENSERS—EXPERTLY ENGINEERED—COMPETENTLY PRODUCED

# KEN-RAD

You can depend upon profits and satisfied customers when you handle and recommend Ken-Rad Radio Tubes. Hundreds of users write us in this vein: "We are receiving programs we never dreamed of getting before. Foreign countries come in like local stations."

Ken-Rad Tube & Lamp Corporation, Inc.  
Makers of Ken-Rad Radio Tubes  
and Ken-Rad Electric Lamp Bulbs.  
Owensboro, Ky.



Dependable Radio Tubes

## SERVICING BIG SETS

(Continued from page 37)

low volume levels and give the effect of boosting the bass. The tone control circuit is the typical shunt type in the plate circuit of the first AF tube.

Bias for the first 6SQ7GT is obtained from a bias cell during normal operation. When the automatic station selector goes into operation, the audio system is biased to stop the reproduction of the noise which would result from the switching. A 28-volt winding on the power transformer operates the switching and station selecting mechanism. This 28 volts is applied through a 0.05 mfd. capacitor to the diode plates of the two 6SQ7 tubes and is rectified to form the bias that cuts off the first 6SQ7 AF tube. The 0.05 mfd. capacitor in series with the diodes is charged up to approximately the peak of the AC voltage on positive cycles. It acts as a filter condenser as well as a coupling unit.

### Single Phase Inverter Tube

A single tube is used as a phase inverter in the General Electric models L915W and L916. The second 6J5GT has one half of the load resistance in the cathode circuit and the other half in the plate circuit. With one end of the cathode and plate load resistors grounded, the audio voltages developed across the two equal resistors are equal and 180 degrees out of phase—the necessary condition for driving push-pull tubes. The grid of this tube is returned to the 2700 ohm tap on the cathode to establish the proper bias relation. Since the cathode resistors cannot be bypassed, a certain amount of degeneration takes place, but because the grid is also supplied with a portion of the audio voltage developed across the cathode resistors, the feedback is positive in the grid circuit.

### Tone Control Circuit

A shunt type tone control is used in plate circuit of the 6SQ7 first AF tube. The volume control is tapped for a bass compensation circuit at low volume levels. A single pole double throw switch across the capacitor in the compensating network cuts the bass in or out.

Inverse feedback is also used in this circuit. The voltage across the secondary of the output transformer is divided by a resistance-capacity network and delivered to the cathode of the second AF tube. At 5000 cycles about 20 per cent of the voltage is fed back and at 100 cycles about 85 per cent is fed to the cathode.





**Service Shop Uses Claim Check with Estimates**

For positive understanding between customer and serviceman, the detachable claim check system is used by Don Warner of Don's Dependable Service, 6522 Crenshaw Blvd., Los Angeles, Calif.

The printed check, shown below,

**RADIO CHECK UP & ESTIMATE**  
DON'S DEPENDABLE SERVICE

Make *Packard* Model \_\_\_\_\_  
Name *Don Warner* Date *4/4*  
Address *78th St*  
Phone *463* Time *6 PM*

Fee \$1.00 \$1.50 \$2.00  
Finished Estimate

No. 148

---

**RADIO CHECK UP & ESTIMATE**  
CLAIM CHECK  
Don's Dependable Service  
Radio Repairs — Phonograph Records  
6522 Crenshaw Boulevard — PL-14348  
Fee \$1.00 \$1.50 \$2.00

Above Fee Covers Checking, Minimum Labor and Minor Repairs on Your Radio

PLEASE RETAIN THIS TICKET

No. 148

has three minimum charges, one of which is estimated when the set is brought into the shop. The upper portion of the check is attached to the set and the lower section bearing an identifying number, the minimum charge, address of the shop, etc., is given to the customer. Notice that the three minimum charges are printed on both stubs and the two which do not apply are crossed out. This arrangement prevents misunderstandings which might arise from writing the charges in, and also saves time.

The additional charges for labor and material, if any, are written on the section of the check attached to the set.

This check system has been in use for some time at Don's Service and he recommends it to all servicemen.

**Frequency Broadcast of Bureau of Standards**

The standard frequency service of the National Bureau of Standards station WWV has been extended to include another carrier frequency (15 megacycles). The broadcast is continuous at all times day and night from 1-kilowatt transmitters, and carries the standard musical pitch and other features. The radio frequencies are: 5 megacycles and 15 megacycles.

The standard musical pitch carried by the broadcasts is the frequency 440 cycles per second, corresponding to A above middle C. In addition there is a pulse every second, heard as a faint tick each second when listening to the 440 cycles.

The 440-cycle tone is interrupted every five minutes for one minute in order to give the station announcement and to provide an interval for the checking of radio measurements based on the standard radio frequency.

The accuracy of the 5 and 15-megacycle frequencies, and of the 440-cycle standard pitch as transmitted, is better than a part in 10,000,000. The

time interval marked by the pulse every second is accurate to 0.000,01 second.

**Tracing Hum Voltages**

In the service article Tracing Hum Voltages pages 56 and 57 of the January issue of RADIO RETAILING TODAY, the explanations of the oscillographs in Figure 4 do not correspond to the lettered pictures. In printing, the block of pictures was unintentionally turned end for end. The correct relation between the oscillographs and explanations will be had if the pictures are re-lettered from left to right, D, C, B, A.

**REPAIR TIME SAVED MEANS MORE TIME FOR PROFITABLE SERVICING!**

LET THIS BOOK SHOW YOU HOW TO SPEED UP TROUBLESHOOTING AND MAKE MORE MONEY IN RADIO

Complete in One Handy Volume

**\$3.50** only 710 PAGES

**RADIO Troubleshooter's HANDBOOK**

New Revised and Enlarged

**RADIO Troubleshooter's HANDBOOK**

by the leading authority  
**A. A. GHIRARDI**

**Alfred A. Ghirardi**  
is a leading authority on radio servicing, and one of Radio's foremost instructors. So clear, complete and understandable are his various books, that they have been adopted as standard texts by the leading government and civilian radio schools.

AND THIS IS ONLY A PARTIAL LIST OF CONTENTS—"Case histories" of 4,601 models of receivers and record changers... I-F alignment data for 20,173 superhets... auto radio installation and interference elimination charts... replacement battery chart for portable radios... tube characteristics chart for 970 tube types... plug-in and ballast resistor data... summary of radio and servicing formulae, etc., etc.

More Ghirardi Books for Radio Today!  
**RADIO PHYSICS COURSE**  
Complete in one volume, 972 pp. . . . only \$5.00 Fully Illustrated

A complete radio course so head- and-shoulders above anything in the field, it is being used as the basic text by thousands of students, and by government and civilian radio schools in 82 countries. Simplest, most complete and comprehensive book published on the fundamentals of radio, electricity and sound.

**MODERN RADIO SERVICING**  
A practical How-To-Do-It home study course in radio service work. . . . only \$5.00 1,300 pages of invaluable servicing information. A complete course in modern radio service work—there's even a chapter on sales promotion and radio service business management. Everything explained clearly by the foremost authority in the field.

Special "COMBINATION" offer brings you both great books . . . MODERN RADIO SERVICING and the RADIO TROUBLESHOOTER'S HANDBOOK at the special money-saving price of only \$8.00.

**5 DAY TRIAL OFFER**  
You are invited to purchase, study and use on the job for five days without obligation any Ghirardi book. See for yourself what it will be worth to you to have these books constantly at hand. Then, if you do not agree that your Ghirardi book has already paid for itself, return it at the end of the trial period and get your money back!

**YOUR LOCAL DISTRIBUTOR** has all 3 Ghirardi books on display in a special new "Free Examination" reading desk inviting your inspection. Look for this display, examine the books next time you visit your jobber (or order direct at once).

**RADIO & TECHNICAL PUBLISHING CO.** 45 ASTOR PLACE NEW YORK CITY



### Is Your Store Helping to Make Weapons?

Thousands of retailers in all parts of the country are now signing "pledges of participation" in the Government's program to salvage materials vital to the war effort.

The Bureau of Industrial Conservation of the War Production Board says that the efforts of the retailers "involve a thorough housecleaning of their stores to dispose of all waste materials and the appointment of employees to supervise continued collection and disposal of waste either by sale to dealers or by gift to charities, schools or other organizations."

Merchants who sign the pledge are given the right to display window emblems, sent them by the Bureau, with the message "This store is helping make weapons from waste by salvaging waste paper, old rags, scrap metal, old rubber."

Stores which have not received pledge cards are requested to write to this Bureau at Washington, D. C.



The President's Cup goes to Stuart Falk of Buffalo, eastern division manager for Philco Corp., as the firm's top manager. It's presented by James T. Buckley, Philco president. Left to right, Paul Jones, Mr. Buckley, H. T. Waller (who got the gold watch award as the leading division representative); Mr. Falk; James H. Carmine, Larry E. Gubb, and T. A. Kennally.

### Specialists in National Distribution

Current announcements from the Eisemann Industrial Corp., 90 Broad St., New York City, describe the company's timely "sales service for

manufacturers who seek sales expansion." The firm specializes in national distribution on a straight commission basis; its organization consists of a nationwide network of resident salesmen covering all principal cities.

These agents are now selling some 32 different lines, including radio and electronic devices. Alexander Eisemann, of this company, was one of the original founders of the well known Freed Eisemann radio firm.

**If** your need for instruments is essential enough to give you the right to buy, it is essential enough to rate the best.

To those who have searched out the facts, best means *Simpson!*

**SIMPSON ELECTRIC CO.**  
5208-18 Kinzie St., Chicago, Ill.



**Simpson**  
INSTRUMENTS THAT STAY ACCURATE

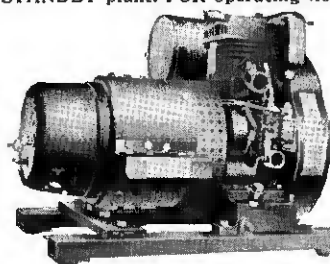
**110-VOLTS A.C. WHEN YOU WANT IT WHERE YOU WANT IT**

with KATOLIGHT plants and A.C. GENERATORS ranging in sizes from 350 watts through 15,000 watts in all standard voltages, available for 25, 30 or 50 cycles.

Your customer wants to guard against power line shutdown with a STANDBY plant. FOR operating floodlights, transmitters, receivers, radios, sound equipment, stoker and oil burner motors, etc. FOR police stations, fire stations, communication systems, alarms, transmitters, receivers, radio amateurs, hospitals, telephone exchanges, factories, etc.

Also rotary converters, frequency changers, motor generator sets, gas engine driven battery chargers, etc.

Write for complete details and prices, sending complete specifications as to your requirements.



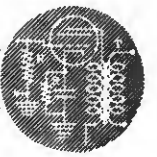
**KATO ENGINEERING CO., 530 N. Front St., MANKATO, MINN., U. S. A.**

**The Radio Man's Best Pal... VACO!**



Screw drivers that reach a new high in dependability and lightening the task of the serviceman—Make it possible to do a speedier and better job too. Type No. A-1116 thin blade, pocket clip drivers, representative of the 157 types of our screw drivers to fit every need, no matter how specialized. Top is recessed for finger control and aids in doing speedier work in "close" quarters. No wonder service men everywhere say—"Vaco's best!" Write for information on styles, sizes and prices.

**VACO Products Co.** 1603 S. Michigan Ave. CHICAGO, ILL.



# 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 3/4, 7/8, 1, 1 1/8, 1-5/32, 1-3/16, 1 1/4, 1 3/8, 1 1/2 and 2 1/4-inch holes. A Greenlee Knockout Cutter is also available for cutting holes up to 3 1/2-inch size for meters. Send for new circular S-114 on Radio Chassis Punches.

SEND FOR FREE COPY GREENLEE CATALOG 33E

**GREENLEE TOOL CO.**

1902 Columbia Ave. Rockford, Illinois

## 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-Milliammeter. Dealer Net Price.....\$8.25

WRITE FOR CATALOG

SECTION 1120 COLLEGE DRIVE

READRITE METER WORKS, Bluffton, Ohio

## "The Representatives" of Parts Makers

Midwest news from "The Representatives" of radio parts manufacturers is that the Missouri Valley chapter has accepted a new member, W. N. Wellman, of the Jules Beneke Co., 406 Reliance Bldg., Kansas City, Mo.

From the Minnesota area comes the announcement that J. R. Hedquist, who was formerly associated with Jerry Hill in the Hill-Hedquist Co., Minneapolis, is now operating as a factory rep independently under the name of J. R. Hedquist Co., 240 S. Fourth St., Minneapolis.

The Reps organization has also announced that a number of members have recently moved. Here are the new addresses:

Fred G. Groves, 3900 Brook Road, Richmond, Va.; J. U. McCarthy, 1725 Hillcrest Ave., St. Paul, Minn.; Vernon O. Jensen, 2607 Second Ave., Seattle, Wash.; Robert Milsk, 15483 Steel Ave., Detroit, Mich.; Bruce Detsch, 2627 Santa Fe Ave., Los Angeles, Calif.; H. George Sheffer, P.O. Box 1587, Phoenix, Ariz.; Henry P. Segel, 221 Columbus Ave., Boston, Mass.; and Milton Shapp, 7711 17th St. N.W., Washington, D.C.

## "Night-Watch" Refrig. Introduced

Going heavy on streamlined eye appeal inside and out, Norge has come out with seven new Quiet-Flo Rollator refrigerator models, two six-ft., three seven-ft., and two nine-ft., jobs.

With the "Night Watch" fully automatic defrosting feature at the top, the new line also has such refinements as the Safety-sealed Fast Freezer, a new base leveller, "a new and clever use of plastics throughout," a larger Coldpack storage space, a deepened Hydrovoir (full-glass-covered), and many other improvements in design and styling.

Norge offers this line (see "Appliance" page) with a wide range in prices and features which enable the dealer to appeal to all classes of prospects while holding his stock to reasonable minimums, an increasingly important point during the all-out Victory campaign."

## Zenith Holds Jobber Talks on War Problems

Zenith Radio Corp. has now completed a series of round-table business discussions with small groups of distributor officials in seven key cities of the country. Three of the company executives, J. J. Nance, E. G. Hermann and O. E. Wolf held the meetings, and helped the jobbers with information on how war production will affect their operations.

Mr. Nance also emphasized the market importance of the new Zenith standard and short wave portable, for emergency and blackout use.



*Enlisted for*  
**NATIONAL DEFENSE**

★ In most fighting planes today you'll find these Clarostat armored power rheostats. Likewise in every branch of our armed forces, you'll find Clarostat controls and resistors. The reason is obvious: Clarostat products have won a reputation for being *tough*. And it's sheer *toughness* in equipment as well as men that can speed up the victory.

### On the Shooting Front . . .

★ Working at an all-time production peak, Clarostat is meeting the critical requirements of our fighting men and those of the United Nations. Clarostat is pledged to all-out aid, while

### On the Home Front . . .

★ Clarostat, through stepped up production, continues to supply manufacturers with initial equipment, and servicemen with replacement parts, so that Americans may continue to be the best informed people in the world, with a morale that can't be beat.

### See Our Jobber . . .

★ He'll gladly discuss with you the Clarostat line of resistors, controls and resistance devices. Ask for latest literature—or write us direct.



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



Unit illustrated actually measures 1-3/16 x 13/16 x 2-7/16 in. — barely 10% larger than pictured. Other capacity values and voltages are in keeping with such compactness.

**ALWAYS a good bet...**

• Yes, the Aerovox Type PBS card-board-case dry electrolytics always rate as top-notch replacements with successful servicemen when it comes to low-cost jobs. The compact dimensions; adjustable metal mounting flanges; polarity-indicating leads; generous voltage ratings; full capacity — these and other features brand them as ideal replacements when pennies count. Note the wide choice of listings . . .

<b>SINGLE SECTION:</b> 25, 50, 100, 250, 450 and 600 v. D.C.W. All popular capacities.
<b>DOUBLE SECTION:</b> 250 and 450 v. D.C.W. 4-4 to 16-16 mfd.
<b>TRIPLE SECTION:</b> 250 and 450 v. D.C.W. 8-8-8 to 8-8-16 mfd.

**• Ask Your Jobber . . .**

He carries a full stock of these fastest-selling constantly-fresh PBS electrolytics. Be sure you have some on hand always, for quick repairs. Ask for latest catalog—or write us direct.

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

**New Profits in Radio Books**



A new jobber distribution policy on the Ghirardi radio books has been started by Radio & Technical Publishing Co., 45 Astor Place, New York City, and the opening gun is a series of counter display cards for the books. The first card, shown herewith, is a silk-screened job in oil colors, and is free to radio jobbers.

Other features of the new campaign include increased jobbers' discount to 33-1/3 per cent, more advertising directing sales through jobber channels, a variety of promotion material and displays, a "silent salesman" reading and display desk (supplied from on a 10-book order deal) and other merchandising helps. Jobbers may get these things, and a folder describing the whole plan, by addressing the publisher above.

**Electric Sign for Servicemen**

Now available from jobbers for the Hygrade Sylvania Corp. is a new lighted radio service sign, to hang or stand, and to help radio men get dramatic identification for their stores. Lettering and illustrations are in three colors.

The sign is 11" high, 19" long and 3/4" thick, weighs 4 lbs., and has a sliding panel for lamp replacement. Servicemen get it for \$1.50.

**"Good Neighbor" Folder for Service Business**

Folders in red, white and blue, headlining a "Good Neighbor Policy," are now being issued by Tung-Sol Lamp Works, Inc., Radio Tubes Division, Newark, N. J., for use by servicemen among their customers. It suggests that radio owners "prevent program sabotage by our thorough radio check-up" and offers a new station log free. A business reply envelope is included with this unusual circular.

**Meissner Exec on Tour**

Ben Miller, the sales manager for Meissner Mfg. Co., Mt. Carmel, Ill., is on a tour among Meissner jobbers in Western areas. Mr. Miller will visit St. Louis, Kansas City, Los Angeles, San Francisco, Portland, Ore., Seattle, Spokane, Minneapolis, St. Paul, Milwaukee and Chicago.



**AIR RAID ALARM SOUND SYSTEMS are required for NATIONAL DEFENSE**

High Efficiency Reflex Speaker Siren Systems for air raid alarms are now being installed in many cities throughout the entire country.

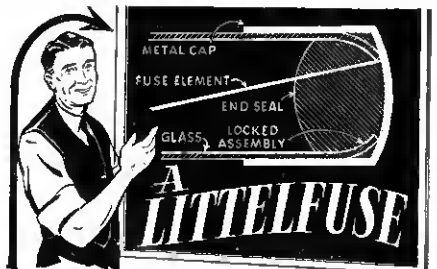
These Reflex Speaker Siren Systems serve not only to sound the "Alarm" and "All Clear" signals; but also to give oral instructions and prevent panic in times of crisis.

More and more large communities, etc., are becoming "Air Raid Alarm" conscious, and are asking for sound installations from the parts jobber in the territory.

**AIR RAID ALARM SPEAKER SYSTEMS FOR NATIONAL DEFENSE**

Write for Details

UNIVERSITY LABS, 195 Chrystie St., NYC



**IS A MASTERPIECE OF SCIENTIFIC STRUCTURE**

This is why LITTELFUSES for instruments as well as all applications are standard and not "equivalents." The Locked Cap Assembly is a Littelfuse Patent (No. 1922642). Littelfuse Caps do not fly off and get lost. Littelfuse Twisted Element braces against severe vibration. Littelfuse Gooseneck takes up contraction and expansion. Make sure with Littelfuse. Send for Catalog with complete listings of fuses, fuse mountings and other Littelfuse products.



Sizes 1/100 to 8 amps 250 volts. Underwriters Approved

**LITTELFUSE, INC.**  
4791 Ravenswood Ave., Chicago, Ill.



# INDEX

## To Advertisers

	Page
AERVOX CORP. ....	50
ALLIANCE MFG. CO. ....	33
AMPERITE CO. ....	52
ASTATIC CORPORATION ....	32
BITTER CONSTRUCTION CORP., A. ....	33
BOGEN CO., INC., DAVID. ....	45
CENTRALAB ....	23
CLAROSTAT MFG. CO., INC. ....	49
CONTINENTAL RADIO & TELEV. CORP. ....	1
CROSLY CORP. ....	5
DeWALD RADIO MFG. CORP. ....	34
GENERAL ELECTRIC CO. ....	2, 3, 44
GENERAL INDUSTRIES CO. ....	28
GREENLEE TOOL CO. ....	49
HOWARD RADIO CO. ....	28
HYGRADE SYLVANIA CORP. ....	4
HYTRON CORP. ....	43
INTERNATIONAL RESISTANCE CO. ....	41
KATO ENGINEERING CO. ....	48
KEN-RAD TUBE & LAMP CORP. ....	46
LITTELFUSE, INC. ....	50
MALLORY & CO., INC., P. R. ....	Cover 2, 39
McGRAW-HILL BOOK CO. ....	52
MEISSNER MFG. CO. ....	35
NATIONAL UNION RADIO CORP. ....	40
OHMITE MFG. CO. ....	42
PEERLESS ALBUM CO. ....	34
PERMO PRODUCTS CORP. ....	35
PRESTO RECORDING CORP. ....	32
RADIO CITY PRODUCTS CO., INC. ....	44
RADIO CORPORATION OF AMERICA. ....	Cover 3
RADIO & TECH. PUBLISHING CO. ....	47
RAYTHEON PRODUCTION CORP. ....	7
RCA MFG. CO., INC. ....	26, 27, Cover 4
READRITE METER WORKS. ....	49
RIDER, JOHN F. ....	45
SIMPSON ELECTRIC CO. ....	48
SPRAGUE PRODUCTS CO. ....	46
STROMBERG-CARLSON TELE. MFG. CO. ....	8
SUPREME PUBLICATIONS ....	34
TALK-A-PHONE MFG. CO. ....	34
THORDARSON ELEC. MFG. CO. ....	43
TRIPLETT ELEC. INSTRUMENT CO. ....	51
UNITED STATES TREASURY DEPARTMENT. ....	52
UNIVERSITY LABORATORIES ....	50
UTAH RADIO PRODUCTS CO. ....	6
VACO PRODUCTS CO. ....	48
WESTON ELEC. INSTRUMENT CORP. ....	25
WILCOX-GAY CORPORATION ....	21

While every precaution is taken to insure accuracy, we cannot guarantee against the possibility of an occasional change or omission in the preparation of this index.

### Newspaper Window



Radio men are herewith reminded that there are many places in town to show sets—newspaper offices, banks, utilities, telephone windows, etc. This one's at "Miami Daily News," built by McDonald Elec. Co., jobber, with dealers listed on display card.

### RCA to Build New Pennsylvania Tube Plant

A big new radio tube plant, to eventually employ 1800 people to work on special purpose radio and electronic tubes, is being planned by RCA Mfg. Co., Inc., at Lancatsar, Pa. Ground will be broken about Mar. 1.

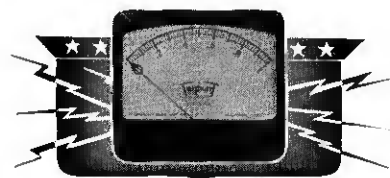
RCA undertakes this project in cooperation with the U. S. Navy, but says too that special purpose tubes "are finding constantly widening applications in new commercial fields," and that such products hold great promise for the future after the war is over.

### New Style Cartons for Tubes

A new tube carton, with more durability, easier reading of type marks, and richer colors, has been adopted by Ken-Rad Tube & Lamp Corp., Owensboro, Ky. The firm has followed the suggestions of dealers, jobbers and reps in designing the new box. It's a hard-surfaced boxboard job in two pieces, easier to keep clean, and has a tab to be retained by the dealer as a sales record.

### Roe Named for Crosley Post

Ben T. Roe has been appointed manager of distribution of the manufacturing branch of The Crosley Corporation. He will head up the field activities of the company's district sales managers and their contacts with the company's distributors.



### For Triplet Customers Only

Long before the state of emergency was proclaimed, the Triplet 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 Triplet 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.

*C. H. Triplett*

President

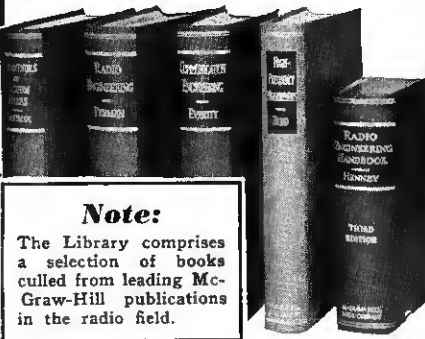
The Triplet Electrical Instrument Company  
Manufacturers of Precision Electrical Instruments



**NOW**

a really high-powered

## RADIO ENGINEERING LIBRARY



**Note:**  
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
- ▶ to give most complete, dependable coverage of facts needed by all whose fields are grounded on radio fundamentals
- ▶ available at a special price and terms

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**
- Eastman's *Fundamentals of Vacuum Tubes*, 2nd edition
  - Terman's *Radio Engineering*, 2nd edition
  - Everitt's *Communication Engineering*, 2nd edition
  - Hund's *High Frequency Measurements*
  - Henney's *Radio Engineering Handbook*, 3rd edition

**Special Low Price, Easy Terms**

Special price under this offer less than cost of books bought separately. In addition, you have the privilege of paying in easy installments beginning with \$3.00 in 10 days after receipt of books, and \$3.00 monthly thereafter. Already these books are recognized as standard works that you are bound to require sooner or later. Take advantage of these convenient terms to add them to your library now.

**FOR 10 DAYS' EXAMINATION SEND THIS**

**--- ON-APPROVAL COUPON ---**

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.)

Name .....

Address .....

City and State.....

Position .....

Company ..... RR-2-42  
(Books sent on approval in U.S. and Canada only)

### Walter Johnson Explains Credit Policies

Following the appearance of the story on page 34 of the January issue of RADIO RETAILING TODAY, which described the time-payment methods of the Walter Johnson Co., Siren, Wis., there arose some confusion as to how these methods operated under the new Federal credit regulations.

Mr. Johnson has subsequently written to the editors, to clear up the matter finally. He says that the article did not report "exactly the way we operate, and might easily give your readers the impression that we were trying to get around the law which we are not." The prominent Wisconsin dealer explains further:

"The banks that I deal with have nothing to do in regard to making loans to any of our customers for the purpose of buying our merchandise.

"Up to Jan. 1st, purchases of \$50 or less could be made without any down payment provided the account was paid off in nine monthly payments. After Jan. 1st, deals cannot be made like that, so on all purchases of listed articles, we require the down payment exactly in accordance with Regulation W.

"In regard to loans, this is a separate business and we of course have to follow regulations there also, so that the money borrowed is not used for the purpose of buying listed articles. Our customers come in here to get loans for certain purposes such as doctor and hospital bills and farm purposes. We will not make any loans that conflict with the regulations."

### Grimditch Leaves Philco; Joins Hazeltine

Wm. H. Grimditch has announced his resignation as director and vice-president of the Philco Corporation and subsidiaries after twenty-nine years of service with the various Philco companies.

Mr. Grimditch, as vice-president of Hazeltine Service Corporation, New York City, will devote all his time and attention to the acceleration and co-ordination of research projects and production on apparatus in the communication field important to National Defense.

### Sylvania Names New Assistant Chief Engineer

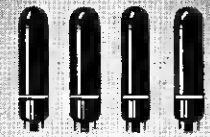
The new assistant chief engineer of the Hygrade Sylvania Corp., radio tube division, is Walter L. Krahl, formerly Division Engineer of the firms' tube plant at Salem, Mass. Mr. Krahl will assist and advise Roger M. Wise, chief radio tube engineer of the company, and will direct activities of both Emporium and Salem engineering sections.

### New RSA Headquarters

The new address of the National Headquarters of RSA is 414 Dickens

Ave., Chicago, Illinois. This is announced by Alfred A. Kilian newly appointed Executive Secretary. Mr. Kilian succeeds Donald H. Stover who resigned as secretary in order to take a position with the Service and Installation Division of RCA Mfg. Co. Camden, N. J.

It is also announced that the National dues have been increased to \$2.00 per year, effective Feb. 15, 1942.



**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.** 561 BROADWAY, NEW YORK, N. Y.

## FOR DEFENSE



# BUY UNITED STATES SAVINGS BONDS AND STAMPS

★ **Help your country—Help yourself** ★



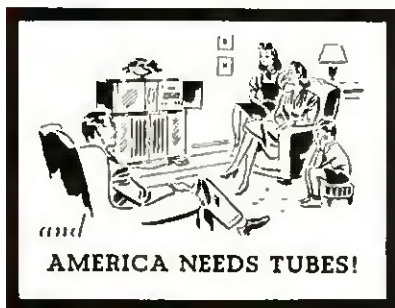
**TANKS NEED TUBES!**



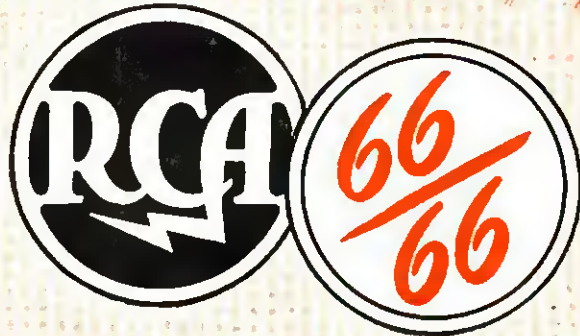
**PLANES NEED TUBES!**



**SHIPS NEED TUBES!**



and  
**AMERICA NEEDS TUBES!**



**PREFERRED TYPE  
RENEWAL TUBES PROGRAM**

**"Keep 'em Listening"**

**IN WARTIME**, waste and inefficiency—bad enough in peacetime—simply must not be tolerated!

Today, *production* of tubes is at an all-time high. Yet the *availability* of many types for normal renewal purposes is limited...for America's war needs come first.

Because of the increased importance of radio in wartime, you must help to "keep 'em listening" by filling the maximum number of sockets in existing radios—for new radios are increasingly more difficult to secure.

The RCA Preferred Type Renewal Tubes Program can go a long way toward helping you out. By simply using the RCA Renewal Tubes Guide, you can keep your stock matched to your market...concentrating on the tubes that fill the great-

est demand, and avoiding the tubes that "gather dust" on your shelves, tying up vital materials for months at a time.

*For instance: just 66 tube types (of more than 500 available) cover 71% of normal renewal demands...and up to 83% by use of "interchangeable" types. At a glance, your RCA Renewal Tubes Guide shows you how many of each type you need...makes it easy to keep a "model stock."*

Ask your RCA Tube and Equipment Distributor *today* for your copy of the RCA Preferred Type Renewal Tubes Guide. Remember: in wartime, more than at any other time, it is in the interest of national defense to stock only tubes that *move!*

Remember Pearl Harbor!  
BUY U.S. DEFENSE BONDS



**Radio Tubes**

RCA Manufacturing Company, Inc., Camden, New Jersey

A Service of Radio Corporation of America • In Canada: RCA Victor Co., Ltd., Montreal

# Gateway to the <sup>New</sup> "Radio Age!"

CONFIDENT that the future of radio will be greater even than its past, the Radio Corporation of America has laid the cornerstone for the world's foremost center of radio research and pioneering—RCA Laboratories at Princeton, New Jersey.

The main section of the Laboratories will open in 1942, dedicated to the service of mankind through increased usefulness of radio and electronics to the nation, to the public

and to industry.

Radio has marched hand in hand with progress in electronics. The magic which created electronics—infinitesimal particles of electricity—lifted radio out of its mechanical era...took wireless out of the spark gap and sealed it inside the vacuum tube...took tele-

vision off the mechanical scanning disc and put it in the Iconoscope.

In this hour of history RCA Laboratories fittingly symbolize our faith in the future—that science will blaze new trails in the unexplored wilderness of the electronic sciences through radio research.



## RCA LABORATORIES

A Service of the Radio Corporation of America, Radio City, New York

Other RCA Services: RCA Manufacturing Company, Inc.

Radiomarine Corporation of America

R. C. A. Communications, Inc.

National Broadcasting Co., Inc.

RCA Institutes, Inc.

*Main section of the new RCA Laboratories under construction at Princeton, N. J. This section will open in 1942. Inset shows the Laboratories as they will look when completed.*

