

RADIO

*and
Television*

RETAILING

OCTOBER • 1941

A McGRAW-HILL Publication Price 20c

RISING STAR

FM

Read . . . FM Profit Promise . . . FM in New England . . . FM Model Review . . . FM Service Areas
and other FM Highlights

3 YEARS IN THE MAKING!

The New

P. R. MALLORY & CO. Inc.

MALLORY

Replacement

VOLUME CONTROL

Has Swept the Field

In A Few Short Months!

Completely New
... And All-Mallory

THE PERFECT SIZE
FOR EVERY
APPLICATION!



PRECISION-BUILT
LIKE A FINE WATCH!



MORE RUGGEDNESS
THAN YOU'VE EVER
SEEN BEFORE!



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



The new Mallory Replacement Volume Control is *not* just an improved control. It's brand-new in every detail and principle . . . mechanical and electrical.

It licks the volume-control problems you've always been up against. You get quiet operation . . . gradual increase or decrease of volume . . . smooth attenuation . . . easy installation. And it has a simple, snap-on A-C switch. What's more—only 16 controls fill 85% of your replacement needs!

No wonder it's a hit with service engineers in only a few short months. See it at your Mallory distributor's *today*.

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

The New MYE Is Going Fast!

Order Yours Now!

Get It From Your
Distributor Today!



More Mallory Replacement
Condensers Being Sold
Than Ever!

Complete coverage . . . color-coding for instant voltage-identification of paper tubular condensers . . . mounting features that others have tried to copy . . . long-life construction. These are some of the reasons Mallory Replacement Condensers are selling faster than ever. They fill every requirement—simplify your service calls—do a job you know is right!



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

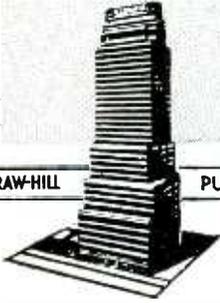
More
than ever
—INSIST ON

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

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

RADIO

and Television RETAILING



A McGRAW-HILL

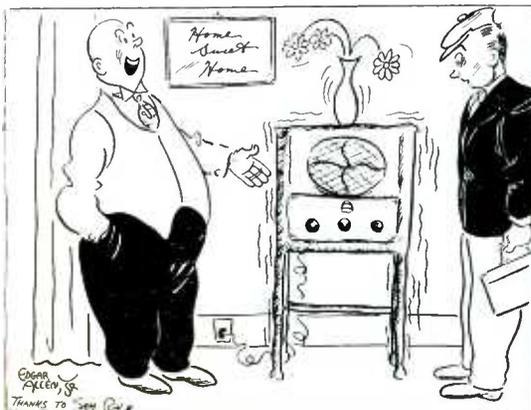
PUBLICATION

OCTOBER 1941

W. MacDONALD Editor
 W. CARL DORF Associate Editor
 A. XIQUES Assistant Editor
 HARRY PHILLIPS Art Director

R. E. McGRAW Manager
 J. A. SAMBORN Eastern Manager
 K. R. GROENER Western Manager

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SALES STATIC . . . People still ask me what kind of set this is that gives such clear tones

MCGRAW-HILL PUBLISHING CO., INC.

RADIO and Television RETAILING, October, 1941, Vol. 26, No. 10. Published monthly, price 20¢ copy. Allow at least ten days for change of address. All communications about subscriptions should be addressed to the Director of Circulation, 330 West 42nd Street, New York, N. Y.

Subscription rates—United States and possessions, Mexico and Central American countries \$1.00 for two years. Canada \$1.50 for two years. Great Britain and British Possessions 7 shillings for two years. All other countries \$1.50 for two years. Printed in U. S. A. Entered as Second Class Matter, April 29, 1939, at Post Office, Albany, N. Y., under the Act of March 3, 1879. Cable address "McGrawhill, New York." Member of A.P.B., Member of A.B.C. Copyright 1941 by McGraw-Hill Publishing Co., Inc., 330 West 42nd Street, New York, N. Y.

Branch Offices: 520 North Michigan Ave., Chicago; 68 Post St., San Francisco; Aldwych House, Aldwych, London, W.C.2; Washington; Philadelphia; Cleveland; Detroit; St. Louis; Boston; Atlanta, Ga.

JAMES H. MCGRAW
 Founder and Honorary Chairman

JAMES H. MCGRAW, JR., President
 Howard Ehrlich, Executive Vice President

Publication Office
 99-129 North Broadway, Albany, N. Y.

Mason Britton, Vice Chairman
 B. R. Putnam, Treasurer

Editorial and Executive Offices
 330 West 42nd Street, New York, N. Y.

D. C. McGraw, Secretary
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Announcing
NEW
GENERAL ELECTRIC
Radio Line
FEATURING
GENUINE
ARMSTRONG
SYSTEM **FM**



MODEL LFC-1228 with noise-free 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 Band. Dynamic speaker. Broad-band R.F. stage with Hi Mu tube. 6 tubes including rectifier. 18th Century Period styling 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-649 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 noise-free 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.



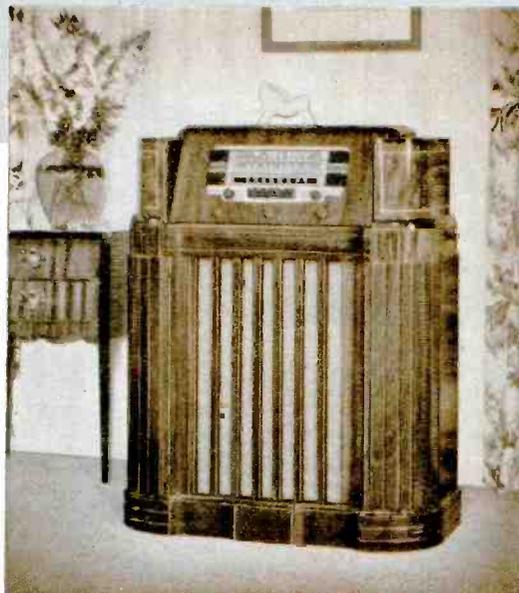
MODEL LFC-1118 with noise-free FM

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 noise-free 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 with acoustical tone chamber. Three-gang condenser. Tuned R.F. on all bands. 11 tubes including rectifier. American walnut veneer cabinet.



MODEL LF-115 with noise-free 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 Hi Mu tube. Dynamic speaker. Feather-touch tuning with drift-proof station settings. 9 tubes including rectifier. American walnut veneer cabinet.



A MESSAGE FROM A. A. BRANDT, Sales Manager, Receiver Sales

If you have FM broadcasting in your area, start selling FM—now. A moderately-priced radio with FM offers your customers something that the most expensive radio without FM cannot give them.

Even if you don't have FM broadcasting now, you can begin to develop the market. Tell your customers that buying a set which receives FM is a protection for their radio investment. Tell them how rapidly FM is spreading.

General Electric has produced a line of home receivers with FM every year since 1938. This is our fourth line. General Electric is the only manufacturer building FM receivers who operates a complete "proving ground" FM station and builds complete FM broadcasting station equipment.

In addition, G.E. offers you a complete sales promotion and advertising plan to help you sell FM. Ask your G-E radio distributor about it—today. FM is your opportunity.



GENERAL  ELECTRIC

Plays records WITHOUT

NEW MAGIC BRAIN



WHAT A FEATURE TO DEMONSTRATE!



A You place your records (fifteen 10" or twelve 12") on the Magic Brain and push the starting button. Then you sit back and relax.



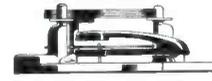
B Guided by the un-failing Magic Brain, the first record of your selection drops gently into place, and begins clockwise motion.



C Then the ingenious Tandem Tone Arm automatically swings into position, and its upper half plays the topside of the first record you have chosen to hear.



D When this side has finished playing, your record stops for a fleeting instant—and then automatically begins counter clockwise motion.



E Lower half of Tandem Tone Arm then plays underside of your record. In this manner, the record is played on both sides—without turning over.



F Magic Brain automatically deposits record in felt-lined compartment at left, drops next record into place and goes through same simple, quiet process. When final record has been played, the Magic Brain automatically cuts off current to phonograph motor.

on both sides— TURNING THEM OVER!

RCA Victrola

**Here's a Proof of RCA Victor Leadership!
A Magnificent New Model that Gives Your Customers
2 Full Hours of Continuous Music—without attention!**

Besides Magic Brain with Tandem Tone Arm
You Can Offer All These "Years Ahead" Features:

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 astoundingly light pressure on records, Magic Tone Cell gives them extraordinarily long life.

RECORDS PLAY ON BOTH SIDES, STOP, CHANGE—AUTOMATICALLY . . . A 2-hour concert of the music you want—without lifting a finger.

TELETUBE RADIO . . . Standard, shortwave and foreign reception with powerful push-button set containing RCA Victor Teletube and new Audio System for finer amplification.

A Service of the Radio Corporation of America, RCA Manufacturing Co., Inc., Camden, N. J. For Canadian models, write RCA Victor Co., Ltd., Montreal. Trade-mark "Victrola" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc.



FEWER but FINER!

RCA Victor is cooperating to the full with national defense priority requirements. Because of these requirements, shortages exist in certain raw materials needed for radios and phonograph-radios, and there will be a universal decrease in the number of instruments to be made. Hence, RCA Victor products for the home will be fewer. But they will be finer than ever. For, as a result of defense work, of which, we, too, are doing our share, RCA Victor quality standards, always the highest, are now more exacting than ever.

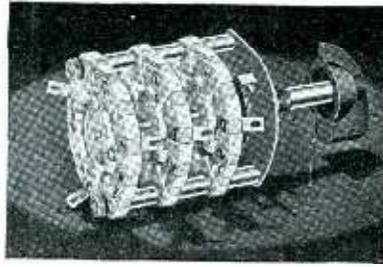


RCA Victrola Model V-225 also has other great sales features: Electric Tuning . . . Overseas Dial with spread-band tuning on 31, 25 and 19 meter bands . . . RCA Victor Preferred Type Tubes . . . 2 built-in Antennas (one for domestic, one for foreign reception) . . . Super-sensitive 12" Electrodynamic Speaker, and many other sales advantages. Cabinet is available in walnut and mahogany.



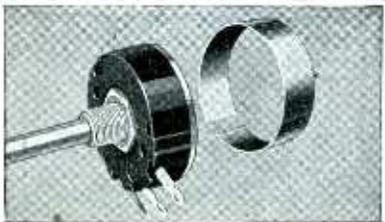
Centralab

The Quality Line



SELECTOR SWITCH

Available in an almost infinite variety of combinations . . . in bakelite or steatite . . . in single or multiple gang . . . from two to eleven positions on any one switch . . . also available for use in amateur transmitters.



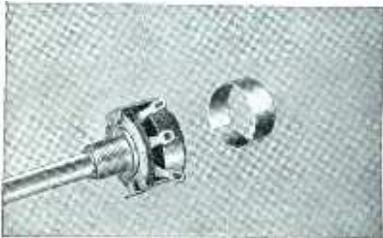
STANDARD RADIOHM

Wall type resistor. Exclusive non-rubbing contact band. $1\frac{3}{8}$ " diameter x $\frac{9}{16}$ " deep. Available single, twin or triple, plain or tapped . . . with S.P.S.T., D.P.S.T. or S.P.D.T.



MIDGET RADIOHM

Companion to "standard" . . . small size but large control efficiency. Available single, dual or triple . . . plain or one, two or three taps . . . with S.P.S.T., S.P.D.T., or D.P.S.T. Moulded bakelite case, $1\frac{1}{8}$ " diameter, $\frac{1}{4}$ " metal shaft $3\frac{3}{8}$ " long.



ELF RADIOHM

Smaller but also features the long, straight resistor strip. Available plain or tapped with S.P.S.T. switch . . . with or without dummy lug. Bakelite case $5\frac{7}{64}$ " diameter, $1\frac{17}{32}$ " deep (less switch) $2\frac{25}{32}$ " deep with switch.

Hams, Servicemen, Experimenters and Manufacturers appreciate the utter dependability of Centralab products. Since 1922 more than a hundred million radio parts bespeak the universal acceptance accorded Centralab products. Send for catalog if your jobber cannot supply you.

CENTRALAB
Div. of Globe-Union Inc.
MILWAUKEE

WIRE WOUND RADIOHMS

In values from 2 to 10,000 ohms . . . insulated construction . . . 3 watts . . . universal shaft for all replacements . . . regular Radiohm switch covers may be attached . . . in linear curve only . . .



ATTACHABLE SWITCH COVERS

For standard and wirewound resistors (Radiohms) as well as Midget and Elf Radiohms . . . S.P.S.T. . . . S.P.D.T. . . . D.P.S.T. . . . four point . . . S.P.D.T. (operates at clockwise position) and S.P.S.T. with Dummy Lug.

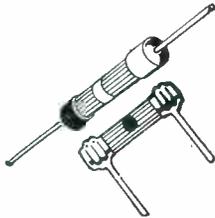


LEVER ACTION SWITCH

Used singly or in groups . . . for broadcasting, receiving, public address, test instruments and industrial uses. Available in any one of ten different combinations including positive and spring return action.

AXIAL LEAD RESISTORS

Body is insulated by inert ceramic jacket . . . proof against vibration and humidity . . . will withstand five times rated load without permanent change. In two sizes . . . RMA coded . . . $\frac{1}{2}$ watt at $\frac{1}{8}$ " x $\frac{5}{16}$ " and 1 watt at $\frac{1}{4}$ " x 1 " . . . Also supplied in conventional RADIAL LEAD Style . . . $\frac{1}{2}$ watt - 1 watt or 2 watt.



CERAMIC TRIMMER CONDENSER

where greater stability than ordinary types is required. Supplied with neg. temp. coefficient of .006 MMF/MMF/C°. With or without mounting brackets.

CERAMIC CAPACITOR

Small "special purpose" for h.f. circuits where temperature compensation, low power factor, or absolute permanence are important. 1000 V.D.C. leakage resistance more than 10,000 meg. Power factor less than 1%.



 **SEND FOR CATALOG NO. 23**

Centralab

Follow the Ball AT NORTHWESTERN

WITH RAYTHEON TUBES

End of the first quarter . . . Northwestern nothing, Notre Dame nothing! The announcer's voice is clear and life-like above the crowd noise because Dyche Stadium—like many other university athletic fields—is using dependable RAYTHEON TUBES.

Remember these RAYTHEONS are "rock" tubes, the kind that are giving such outstanding service everywhere. Backed by the years of experience of expert engineers, who are constantly pioneering in tube design and construction . . . constantly anticipating future requirements in the fast-moving radio circuit field.

When you use RAYTHEONS for replacements you know you are supplying tubes that meet the most exacting demands of important users, yet they cost you no more. RAYTHEONS build good-will . . . good-will builds good business!

No wonder the business men in service work use RAYTHEONS!

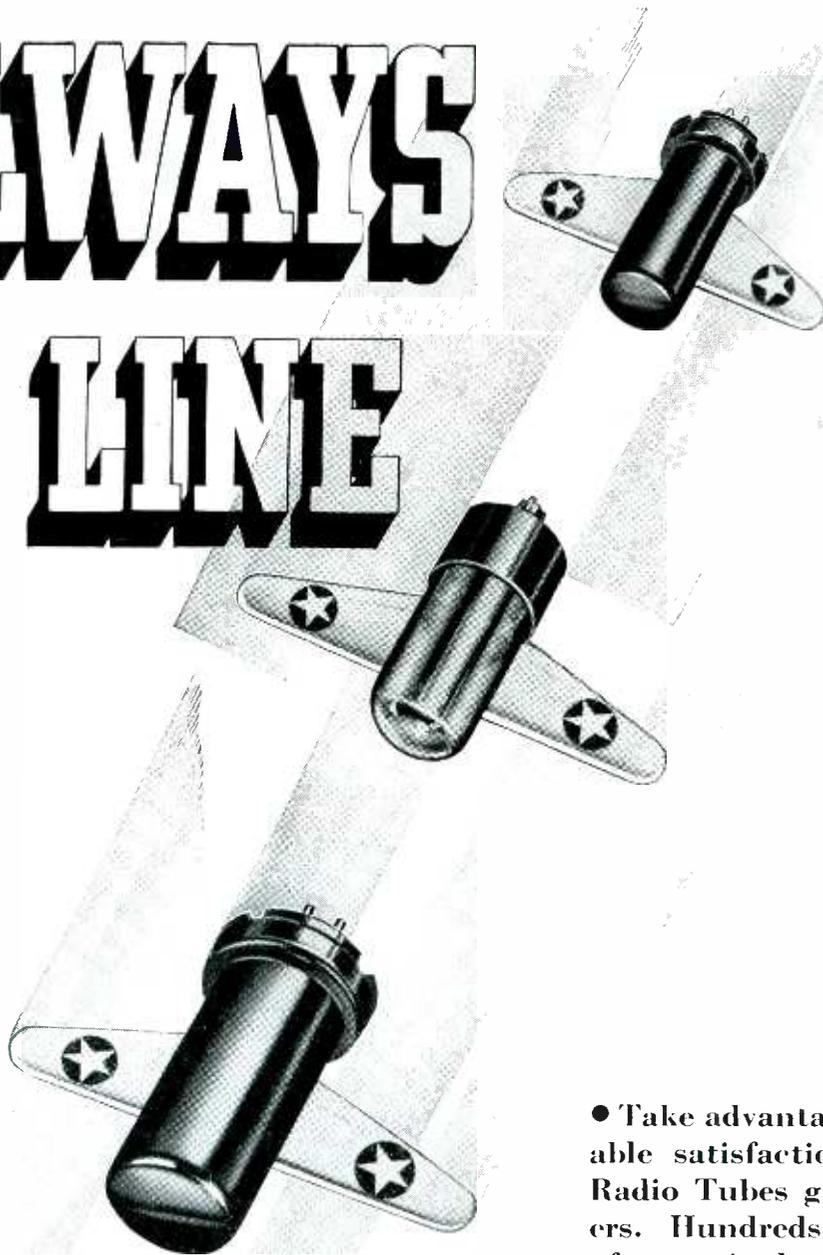
Your RAYTHEON distributor is a good man to know . . . see him without delay.

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



WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS

ALWAYS IN LINE



• Take advantage of the dependable satisfaction that Ken-Rad Radio Tubes give your customers. Hundreds of letters tell us of amazingly better reception after Ken-Rads are installed. Here is one: *"The reception on the broadcast band is much sharper and what interference there was has been eliminated."*



For Better Tube Business Recommend

KEN-RAD

DEPENDABLE *Radio Tubes*

KEN-RAD TUBE & LAMP CORPORATION, INC. • OWENSBORO, KY.

Makers of Ken-Rad Radio Tubes and Ken-Rad Electric Lamp Bulbs

Busy days are here...

FOR SERVICEMEN

**Keep them profitable
with dependable
test equipment!**



**NOW AVAILABLE
FOR FM AND TELEVISION**

WESTON

Model 787

UHF Oscillator



Fundamental frequency coverage from 22 to 150 megacycles. No harmonics . . . no band switching. Used with portable antenna or standard output leads. Reads 40 kc per division at 40 mc. Self contained battery operation; compact and extremely portable.

Today, as never before, the American public *wants radio* and can afford to pay for radio. Proof is that the demand for new sets has virtually doubled. But with long deliveries prevalent in so many fields, more old sets probably will be retubed and repaired than ever before. » » » A period like this is *made to order* for the servicemen with WESTON Test Equipment. For WESTONS help produce greater profit on every job. Measurements are simpler, surer . . . trouble can be spotted quicker . . . when these basic, direct-reading instruments are used.

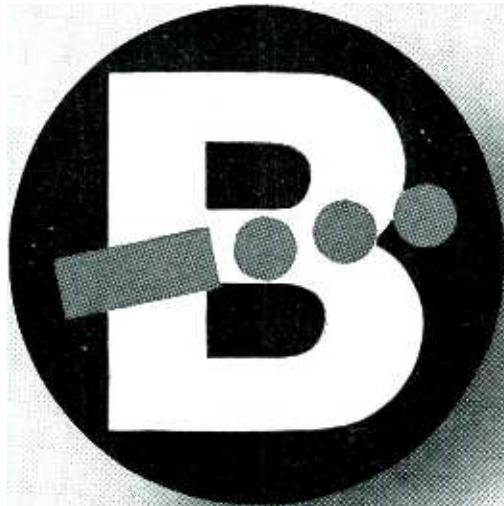
But the *big profit* from WESTONS is shortly to come; for FM and television are rapidly getting into stride. *These same WESTON Test Instruments fully meet the new servicing problems involved. No new and expensive equipment will be needed for the job.* Thus it *pays . . . and continues to pay . . .* to use dependable WESTONS for all servicing needs. Weston Electrical Instrument Corporation, 581 Frelinghuysen Avenue, Newark, N. J.

WESTON

Test Instruments



"B"—in type and radio code—is the symbol of RCA's "Beat the Promise" Campaign



Symbol of a Pledge



"Beat the Promise"—RCA's Pledge to Uncle Sam—highlights a campaign to speed National Defense!



Signed by thousands of members of the RCA family, the pledge shown here symbolizes a determination not merely to meet delivery of radio equipment to the Government, but whenever possible to *Beat the Promise* by completing equipment *even sooner* than the commitments specify!

I PLEDGE MYSELF

to do all in my power not only to fulfill all the obligations we have undertaken to meet the requirements of our Country's national defense program, but wherever possible to
BEAT THE PROMISE.

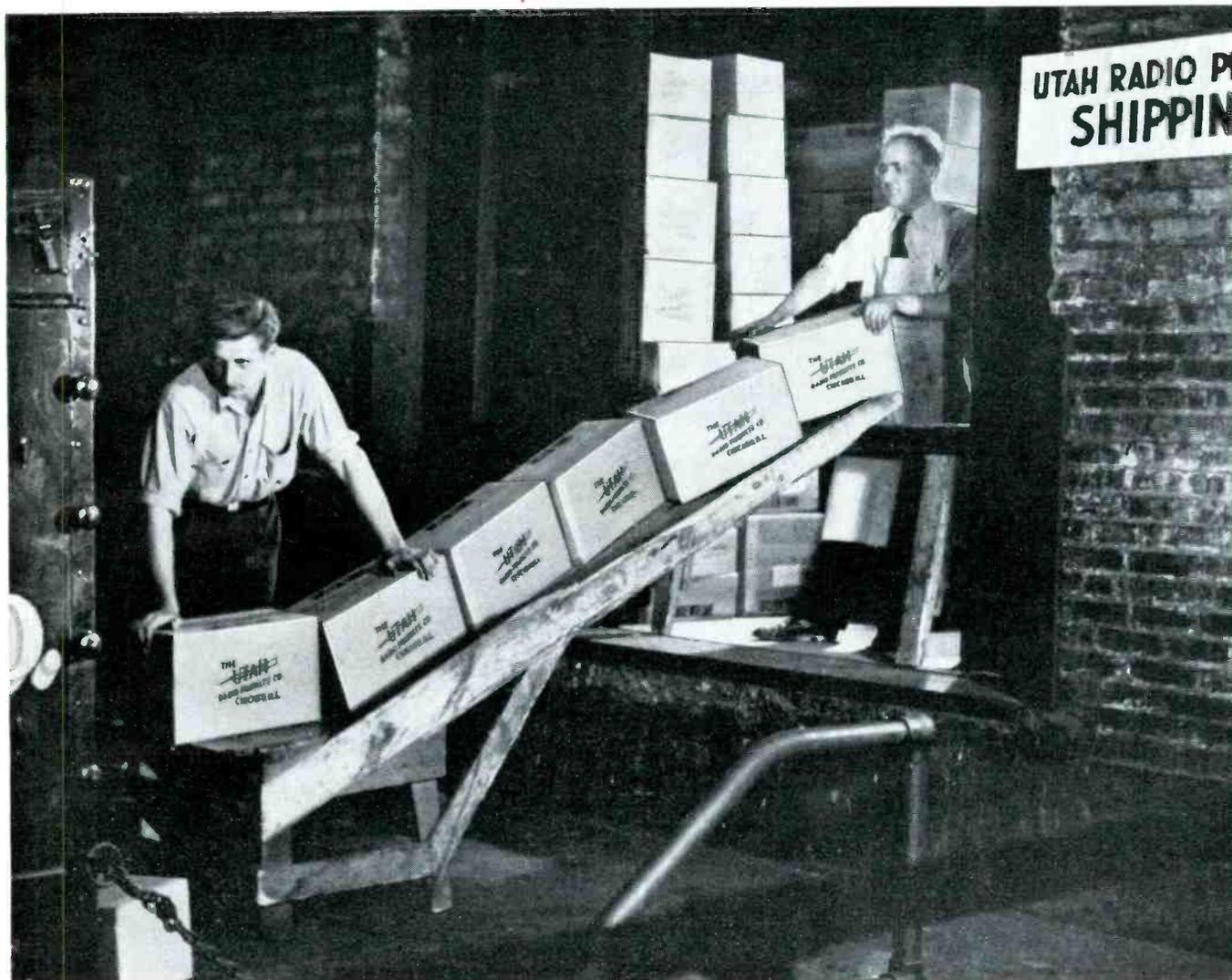
The patriotic spirit behind "Beat the Promise" has been translated into *action*. With traditional RCA cooperation, everyone is helping to speed production and cut down waste. Many delivery dates already have been beaten... and there will be no let-down in the months ahead!



Radio Corporation of America

RADIO CITY, N. Y.

RCA Manufacturing Co., Inc. Radiomarine Corp. of America RCA Laboratories National Broadcasting Company, Inc.
R. C. A. Communications, Inc. RCA Institutes, Inc.



This Door is Closest to Our Customers

● By truck and by train, a steady procession of Utah parts bridges the distance between this shipping room and scores of receiving platforms. The needs of Utah customers from coast to coast are today being met as promptly and completely as possible.

Co-operation with the National Defense Program and its necessary restrictions on some materials is being met by the all-out effort of Utah engineers. The greatly increased demand for Utah parts is requiring the experience, knowledge and skill of the entire Utah production staff. And the demand for Utah speakers, transformers, vibrators and Utah-Carter parts continues to grow.

Utah is anxious to make new friends—to prove that it is to their advantage to do business with Utah Radio Products Company. Yet, under existing circumstances it may not be possible to meet all new requirements.

Utah appreciates the loyalty of its regular accounts and will continue to give them the best service which can be maintained. The shipping room door will continue to be nearest to our customers.

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



TRANSFORMERS
SPEAKERS • VIBRATORS • UTAH-CARTER PARTS

DO YOUR BIT for national defense . . . with a calendar!



Mark on this calendar the days that you have had to wait for deliveries of the new Stromberg-Carlson line. Every one of them is a sign of your cooperation in America's great defense program.

For Stromberg-Carlson, along with other manufacturers of vital products, is doing its share in speeding the government's emergency demands.

Naturally this has caused great readjustment of normal peacetime business. But be assured that we are bending every energy

to get merchandise to you, consistent with our government's requirements for defense products and the availability of supplies and fine workmanship.

And the full new Stromberg-Carlson line is worth waiting for. It gives you FM leadership based on the longest field experience with FM reception . . . dramatic,

human interest advertising in *Life*, *Time*, and *The New Yorker* . . . quality products backed by 47 years of pioneer work in sound transmission and reception . . . and a price structure and franchise that protect your profits.

You can sell this line with the confidence that "*There is nothing finer than a Stromberg-Carlson!*"

STROMBERG-CARLSON

ROCHESTER, NEW YORK

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

FM's *Profit Promise*

DEALERS can sit back and wait for program service to grow but the system will assume its proper place in the business faster if they step in now and help it

FREQUENCY MODULATION today dangles right before the eyes of the industry its greatest profit promise in years.

Manufacturers initially inclined to discount the system as an experiment have been impressed by the granting of commercial licenses and the growing backlog of applications on file with the FCC, are now scaling their hats into an arena until recently occupied by just a few "visionaries." At least four of the many factories with nationally known names now producing FM receivers are planning to pivot fall salesmanship on such models in combination with AM tuners and automatic record changers. A fight for first place in this new field via the promotion route is in prospect.

Intensive merchandising of FM is now considered to be very much worth the effort for, assuming that equipment is designed with such objectives in mind, the system admittedly can provide the best quality and the lowest noise level available to listeners since the beginning of the radio art.

MANUFACTURERS expressing skepticism concerning the public's willingness to pay for reception realism and freedom from extraneous racket and not yet engaged in FM production are beginning to wonder.

They note, for one thing, the success with which phonograph record makers are converting "swing" fans into lovers of good music which must obviously be reproduced with the best possible quality. And they are reminded that while the public has for some time bought sets largely on a price basis it has never completely ceased to hope that some day receivers would "cut out static."

Knowledge that designers hard pressed to produce sets "at a price" have worked convenience and appearance nearly to the practical limit at the expense of quality leads many to speculate, further, that the industry now has little choice but to return to this basic yardstick of radio performance anyway if replacement interest is to be maintained. And this idea grows as it becomes apparent that emergency measures must reduce the effectiveness of price alone as a sales inducement in any event.

The radio industry can once again feature qual-

ity as its number one replacement inducement without appearing to backtrack. For FM has the "newness" necessary to excite the public and its bid for fame and fortune is, at the same time, based almost wholly upon a quality appeal.

DEALERS can add to or subtract from the speed with which FM assumes the major place in the radio merchandising picture for which it is unquestionably destined. They can sit back and wait for more stations to take the air and for those already operating to improve their programs. Or they can step in now and, by their promotional effort, help swell the audience upon which broadcast advertising revenue providing the funds for such expansion largely depends.

To men who still remember the extremely sketchy service which was sufficient to start AM receiver merchandising on a large scale it appears that FM has already progressed to a point where no dealer with vision and initiative needs more "on a silver platter" to get going. In areas already served it can be and should be immediately sold to those people who have always been "naturals" for the last word in quality, to whom any price within reason is of little consequence even when a radio at present in use is comparatively new. In such areas additional sales should also be possible among customers not especially sensitive to a straight quality appeal yet certainly interested in receiving "all the locals" and about ready to replace older sets anyway. And in localities where FM is just a "promise" similar selling should also occur to some extent for, with the exception of extremely isolated districts, it is now a foregone conclusion that before equipment sold in the next year outlives its usefulness FM programs will be found on the bill of fare.

Probably the most important contribution the trade can make toward its own future at this time is to explain FM to the many people who, curiously, still scarcely know it exists.

To everybody, everywhere, *talk FM up!*

W Mac Donald

Editor

SOMETHING OLD AND SOMETHING NEW

When the 6th Avenue Merchants of Nashville staged their "Gay Nineties" review windows full of relics from the days of Diamond Jim Brady, sound equipment (note horns above jeweler's window and microphone just below in street) played an important part. It described proceedings to a crowd of 25,000 when awards were made for the best old-fashioned costumes



PHOTOShorts

Pictures from the News
to help you SELL

TRICK WITH GREASE PENCIL

Porcelain refrigerator finishes are not harmed or permanently marked by grease. Knowing this, a Syracuse dealer obtained a grease-pencil (commonly used by artists) and wrote his sales message right on the outside of the box illustrated. Markings easily rub off if a slightly moistened soft cloth is used



FM LAUGHS AT GYRO

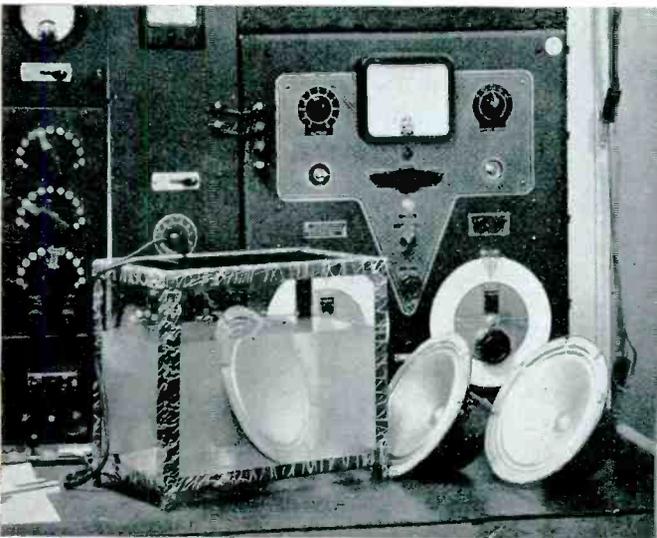
Out on the Great Lakes with the D&C Line's Captain Kiessling of the steamer Western States went this Freed-Eisemann receiver. The captain and Detroit's W45D wanted to see if FM made reception possible through the racket caused by the direct-current motor driving the ship's gyro-compass (in foreground) and sparking at breaker-points on its rim. P.S. It did, despite the fact that reception with the same set switched to AM proved impractical



NO GAS, BEFORE OR AFTER 7

Unique auto and home radio service station operated by Tennis Milam of Decatur, Alabama, capitalizes on the fact that people deal where the parking is easy. Resembling a gasoline

station, the shop does not sell gas (note absence of pumps). Nor, despite signs advertising Coca-Cola, does Milam sell soft-drinks. He gets paid to keep those signs there



WAR IMPROVES SPEAKER DESIGN

Cinaudagraph "Mallards," waterproofed to navy specifications, produce interesting phenomena when tested under water. Frequencies up to 15,000 cycles continued to emanate from this one while those below 30 cycles (and no pun intended) were damped out. Ripples on the surface bore a definite relationship to the responses at various points on the cone and apex structure

DISPLAYS FOR SWING AND CLASSICS

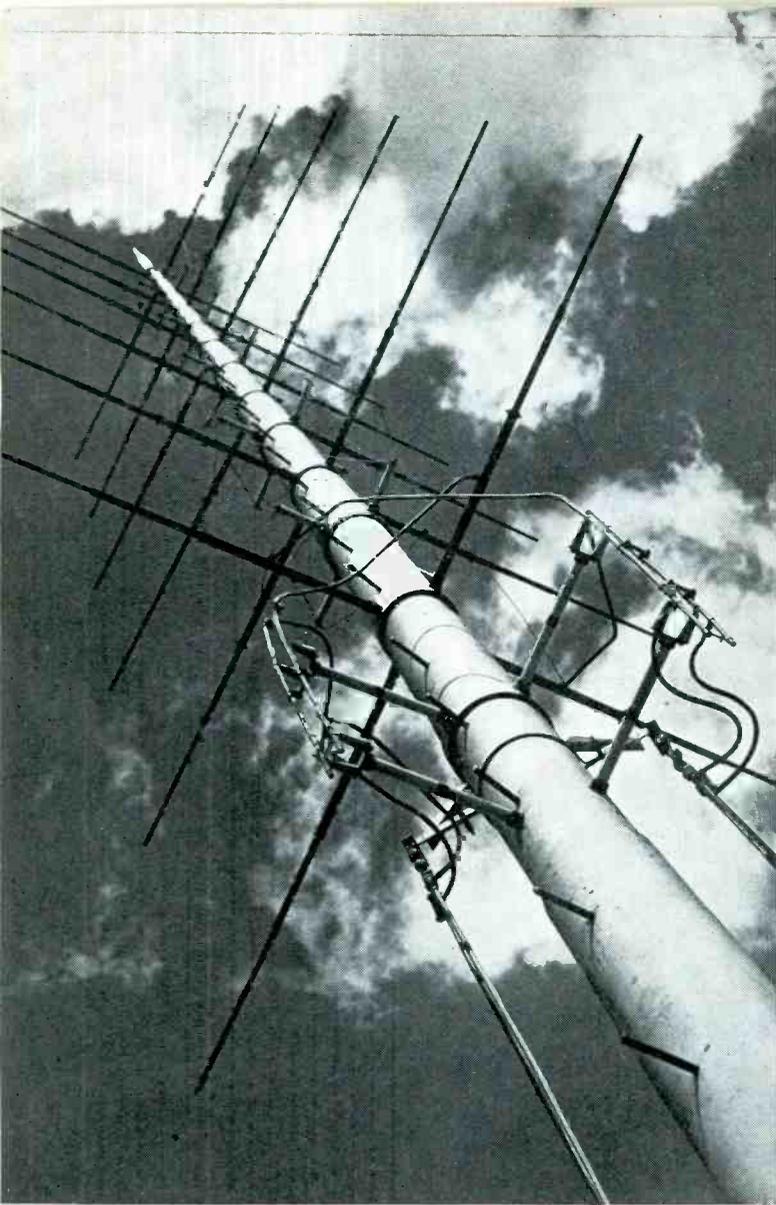
Angled shelves on walls of Maxwell Mogull shop in Miami illustrate effective, compact method of displaying and storing both popular (below, left) and classical (right) records



REAL PENNY SERENADE

Everybody's primed remote-controlled, nickle-grabbing juke boxes but few have so far nurtured this one that feeds on pennies and "takes" between \$1.50 and \$3.50 per unit per week in spite of its fare of coppers. "Phonettes" appear to be unique in that (1) each unit plays at voice-level for just its immediate audience and then only if its individual maw contains a coin (2) every customer who inserts a penny hears what's left of any selection already playing plus one complete new disc and (3) listeners take the regular musical bill of fare and can make no ala carte selection. Obviously, such installations make the most money when several units are fed pennies simultaneously, in which case the remote record-player just plays one disc and then stops





FM *in New*

STATIONS, distributors and retailers back system with expanded program service, cooperative promotion and aggressive merchandising effort



HEIGHT MAKES MIGHT—New transmitting "turnstile" antenna at W65H, Hartford

ALL OUT—Springfield's Freedman Radio now stocks five different FM makes

WITHOUT A DOUBT, frequency modulation has experienced a more rapid advance in New England than in any other part of the country.

This is entirely natural. FM experimental stations first "opened up" in this area and, over the past year and a half, pioneer broadcasters have been doing a bang-up job on both program service and promotion. Set makers, quick to take advantage of early broadcasting facilities, have been successfully using New England for initial merchandising tests.

Radio Retailing has just conducted a survey in the central New England area, visiting three particularly hot spots for wide-swing transmission — Hartford, Conn.; Springfield and Worcester, Mass. Personal calls were made on station owners, jobbers, and leading retailers to check progress.

Live-wire Broadcasters

New England is already served by seven FM stations, three operating commercially and four experi-

mentally. Three additional stations are under construction and eight more are waiting for authorization from Washington.

All seven operating stations are obviously operated by live-wire broadcasters. Several are engaged in setting up improved antenna systems, new transmitters, and are expanding program service.

First call was made on general manager *Paul W. Morency*, W1XSO, Hartford, who expects his commercial "green light" about October 31, at which time separate program schedules will be arranged for the FM station. Now using top programs originating over AM station WTIC. Finds steady increase in listener interest, as reported by mail and direct surveys.

Franklin M. Doolittle, W65H, Hartford, predicts a rapid acceleration for entire industry from this point on. Right now, this station has a number of billboards spotted around Hartford, highlighting the features of wide-swing transmission. W65H is on the air from 2 to 10 p.m. daily.

Westinghouse stations W1XSN, Springfield, and W1XK, Hull, operating experimentally, generally carry regular network programs. W1XSN is now engaged in erecting an improved FM antenna array.

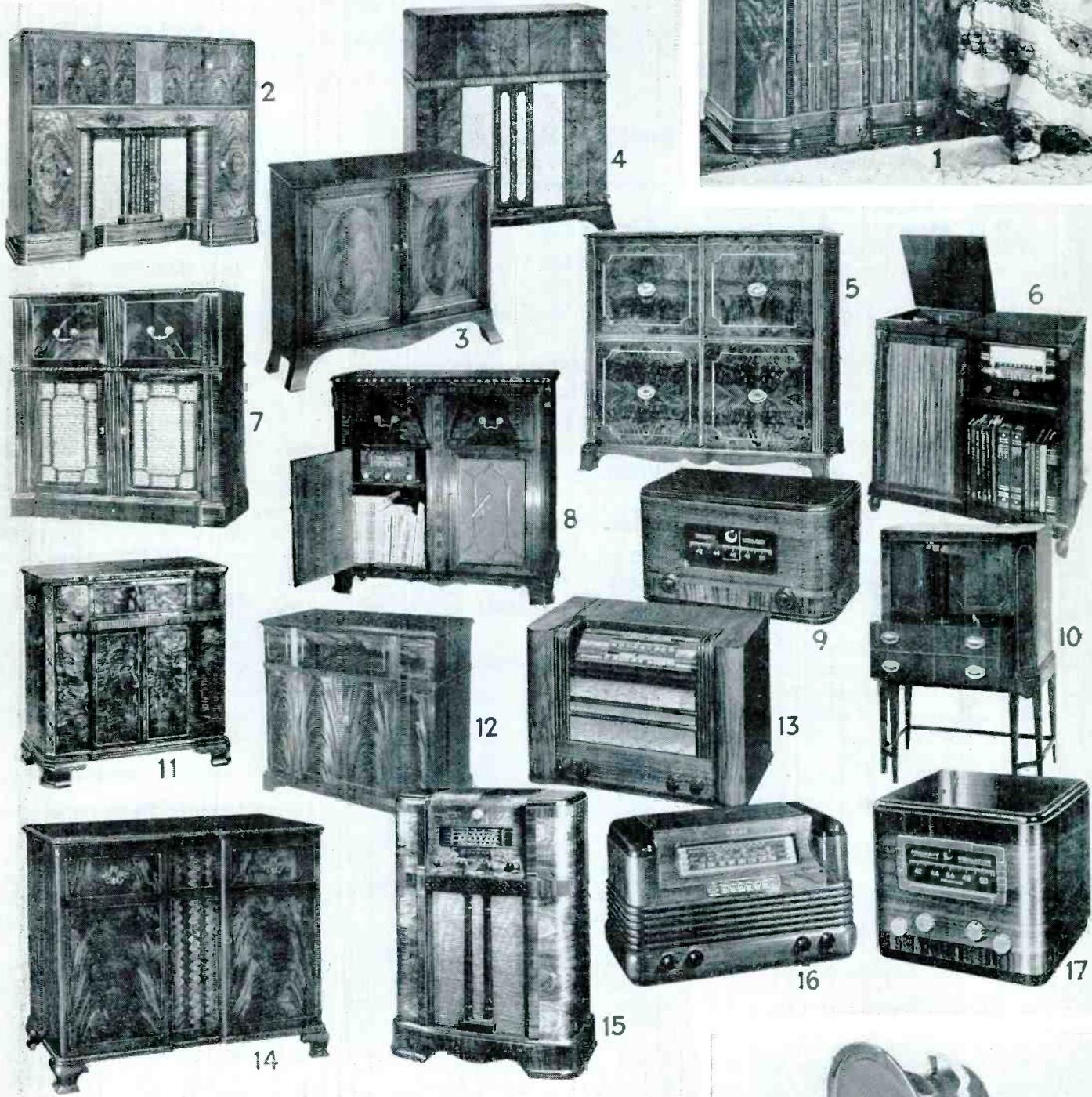
E. E. Hill, W1XTG, Worcester, says the step-up in '42 receiver sales locally should be three to four times that of '41. Promotes FM throughout central New England with movie trailers and demonstrations. The latter is a tie-in with dealers staging shows in churches and organizations like Rotary Club. On the air 18 hours. Power is to be stepped up to 5,000 watts late this month.

John Shepard, 3rd, W43B, Boston and W38B, Mt. Washington, emphasizes the fact that stations provide 16-hour daily FM service to many sections of New England which never before received a satisfactory fulltime AM program service. Says it's up to jobbers and dealers to get complete low-down on new sets and be able to intelligently sell them to public.

Personal calls were made on jobbers in Hartford and Worcester

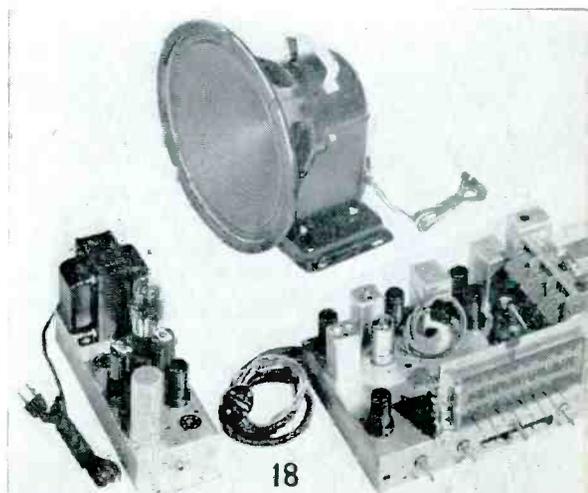
England

By W. CARL DORF



VARIETY of Makes and Models

TYPICAL FM RECEIVERS—(1) Zenith 12H670 (2) Crosley 22CP (3) Ansley "Coven-try" (4) Howard 718XFMA (5) Stromberg-Carlson "Autograph" (6) Musaphonic "Regency" (7) General Electric LFC1228 (8) Wilcox-Gay A114 (9) Meissner (converter) (10) Brunswick 299FM (11) Farnsworth CK1112 (12) Philharmonic "Regency" (13) Pilot T301 (14) Freed-Eisemann "Aristocrat" (15) Motorola 17FM41 (16) Philco 350T (17) Sentinel 270FM (converter) (18) Espey (chassis)



18

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for their individual slants on dealer and public interest. Concensus of opinion was that music lovers here were already sold but that more promotion was necessary to stir up general public.

Distributors Active

One typical jobber, *General Electric Supply, Hartford*, reported 15 per cent increase in FM model sales in first 8 months. Expects 5 times step-up in '42 over '41. Plans large scale promotion with noise elimination demonstrations, movies, and broadcast announcements.

Hatry & Young (same city), distributing Meissner tuners, says sales in these units over past 8 months were up 300 per cent. Since first of year has sold and installed over 200 special FM antennas, getting an average of \$15 per job. Says dealers generally are inclined to slight this accessory business.

Philco's distributor for this area, *Roskin Radio*, finds dealers and public very much interested in combination AM/FM sets. Back orders on hand for nearly 1,000 sets.

Another jobber, *Stern & Co. (Zenith)*, also brought up the aerial angle, and said the dealers should insist on a good dipole with every FM sale. Said many retailers were neglecting this angle.

Calls were made on two jobbers in Worcester. The first, *Coghlin Electric*, said they were about to break with announcements over local AM station about features of new G-E FM sets. Thought Worcester had more FM sets in use than any other city of its size in the country. (Last survey figures showed about 400 units sold in this territory.)

Radio Maintenance Supply Co. of this city reports increasing sales in FM converters. Big part of clientele (technicians and hams), are constantly asking about wide-swing transmission.

Hartford Dealer Promotions

Majority of retailers in central New England were found to be extremely interested in FM. This was particularly true of Hartford and Worcester.

G. Fox, large department store in Hartford, handling all the big-name sets, will hold a show in the latter part of October in store auditorium. Invitation goes to public through mailing and newspaper ad-

vertising. Staged similar show last November and found it paid. Says FM can't be beat as a means of "selling up."

Another dealer, same city, *Mc Coy Radio*, reports 95 per cent of sets sold by his store include FM. Stresses to customers, that receivers with FM provide insurance against obsolescence.

Tuckels, Inc., large appliance and radio merchandiser, was in the midst of redecorating two large rooms to

it found public response constantly increasing and had no fault to find on this score. Reports a 400 per cent increase in FM sales so far this year. Finds no problem in servicing these sets. Further advised that technical staff was continually trying out new dipole aerials, arrays and special lead-ins for best results. Says if the dealer knows all the answers to FM antenna installations he is bound to get the jump on his competitors.

Springfield Retailing

Opinion in Springfield seems to be split on the subject of FM. One dealer said if his customers asked about it he was glad to demonstrate its features but otherwise left it entirely alone.

On the other hand, *Damarest Radio* with a hot-spot in the central shopping district, is completely sold on FM and plugs its features in this order (1) elimination of static, (2) tone fidelity and (3) reduction of man-made interference.

Steinert Hall, selling pianos, radios and records, right across the way, reports more and more inquiries from their clientele. Customers are as a regular policy shown all the advantages of owning a receiver equipped for frequency modulation.

Freedman Radio, carrying five different makes of FM sets, is naturally "all for it." Ready to arrange for store or home demonstration at all times. Prefers the latter as it clinches more sales on high price receivers.

Worcester Methods

One dealer in the city of Worcester, *Amidon*, has been specializing in the sale of FM sets for past two years. Every model in this dealer's present stock includes FM. Finds it mighty important that salesmen are completely sold, says that's the only way to really move it. Servicemen are trained to snoop out openings for demonstrations.

Two leading department stores in this city carried FM models in stock but seemed luke-warm on promotion.

Manager of radio department, *Steinert Hall* branch in this city, advised that they have sold over 100 period sets since first of year and practically every one included new service. Says FM is a "must" in any set selling over \$150.

New England FM Stations

Commercial

W39B Mt. Washington
W43B Boston
W65H Hartford

Experimental

WIXSO Hartford
WIXK Hull
WIXSN Springfield
WIXTG Worcester

Under Construction

W53H Hartford
W67B Boston
W81SP Springfield

Applications Pending

BOSTON	Columbia B. System
BOSTON	Boston Edison Co.
FALMOUTH	Portland B. System.
MANCHESTER	Radio Voice of N. H.
NEW BEDFORD	E. Anthony & Sons
PROVIDENCE	Outlet Company
PROVIDENCE	Cherry & Webb B. Co.
WORCESTER	Worc. Telg. P. Co.

be used for demonstrating period AM/FM sets. Wondered why leading set makers didn't do more advertising of wide-swing transmission over AM channels.

One store owner in Hartford, found to be "sour" on the subject, said his public "put FM in the gadget class" and clients were well satisfied with the quality piped through the \$39 receivers. (Does a big job with compacts and portables.)

Big parts house and set dealer, *Sceli Radio Service Inspection*, said

FM for everyone Today

**By Using This
MEISSNER *FM* CONVERTER
With ANY Radio Set**

There is now no need for anyone to be denied the pleasures and advantages of Frequency Modulation. The Meissner F-M Converter is easily connected to any radio set—in neat, compact, walnut cabinet to match any set. Only 13" wide, 7" high and 6¾" deep—includes 8 tubes—AC powered—provides a complete new R-F and I-F system—uses only the audio system of the present receiver! The radio public is rapidly becoming F-M minded and will welcome this economical attachment!



**Incorporating the Genuine
Armstrong System of Frequency Modulation**

All Meissner F-M products are fully licensed under patents of E. H. Armstrong and are guaranteed to conform in design to his recommendations and specifications. The Meissner F-M Converter is the most popular member of this F-M family and maintains the high standards of design and performance that insure complete satisfaction.

MEISSNER F-M CONVERTER, Complete **\$44.95**
Model 9-1047A List Price.....

Write Today for Free Meissner Complete Catalog!

ADDRESS DEPT. R-10





The **POKER-FACE**

... sees, hears and knows more than you think



The **BUTTERFLY-BRAIN**

... lacks confidence in own opinion, or yours



The **CHRONIC-KICKER**

... erects barrier of squawks to avoid being pushover

Handling the

SIX distinct customer types are encountered in the course of the average radio dealer's day. And each one requires a different sales technique

By ERNEST W. FAIR

CUSTOMERS currently encountered in retail stores, cynical salesmen say, may be divided into six easily recognized types, i.e.: The *Poker-Face*, the *Butterfly-Brain*, the *Chronic-Kicker*, the *Price-Chiscler*, the *Know-It-All* and the *Timid-Soul*.

There are many sub-divisions of these general types, of course. But they are the main groups. And each one apparently requires an entirely different sales technique.

Pin 'Em Down

The *Poker-Face*, hardest of all to handle, never says much.

This is the type of individual who hears everything and sees everything. Cannot be closed through suggestive selling. Answers only "yes" or "no" to questions. Retains a blank expression, displaying neither interest nor lack of interest, no matter what statement one makes. (Brr-r-r!)

This type of prospect is particu-

larly alert mentally, believe it or not. Try plain reasoning. These people often know a good deal about radio so discussions must be carefully presented.

They must be "pinned down" to something definite as soon as possible. Repeated questions must be asked until a definite "yes" provides a lead for the best angle upon which selling may be based.

Put on Pressure

Next comes the so-called *Butterfly-Brain*.

Hard to pin down to any decision. Just when one thinks this customer

has been sold he or she changes their mind. Generally, indcision is due to lack of confidence in own opinion, or in those of the salesman.

Sales pressure is a tricky thing to use. But this type is the one for which it is best suited. Experts are assertive and positive, do not permit the prospect to think over a point long enough to become indcisive about it.

Testimonials from local customers are material aids here.

Tell Them They're Right

Then there is the *Chronic-Kicker*, the individual who is never satis-



The PRICE-CHISELER

... takes it for granted that you need his dough to survive



The KNOW-IT-ALL

... generally has a smattering of misinformation



The TIMID-SOUL

... really wants to be taken by the hand

TOUGH Ones

fied with anything, who is continually finding fault with everyone and everything.

Dissatisfied with price, appearance of cabinet, tone and anything else that may occur to them. Constant complaints, threats to take their business elsewhere.

Naturally, if there is a real basis for dissatisfaction in past dealings the error should be corrected. However, with this type of customer there is generally little if any such basis.

It is an almost impossible task to convince this customer that he or she is wrong. It is not, however, so difficult to convince such a customer that a "mistake" was made through no one's fault. It is sometimes advisable even to admit a small mistake, correct it and thus retain the business.

Adjustments on price are dangerous with this type and should not be made. They will tell their friends.

Use Your Own Judgment

The *Price-Chiseler* is fourth.

Always wants a discount as a "personal favor." Will spend fifteen minutes to half an hour attempting to bring price down five cents.

Several different methods for handling them are suggested. Sometimes the salesman may successfully explain that the store cannot cut price because of "regulations." Others may effectively point out that the basic price quoted keeps the store's margin of profit so low it cannot possibly make any further reductions.

Say Yezzir, Nozirr

Also, we have the *Know-It-All*, who acts the part.

Knows "everything" about radio. Somehow or other, the Good Lord dished them out an exceptionally generous portion of knowledge when they were created, or so they think. Actually they know little or nothing

about anything but make believe that they do.

Never contradict what such prospects have to say. Experienced salespeople have found that the best method of handling this type of customer is to tactfully agree to their remarks. Some salesmen, while agreeing, actually guide the conversation with their own opinions, adding their own statements in such a manner that the customer thinks these are actually his or her own.

Flattery is a sure method of handling the *Know-It-All*.

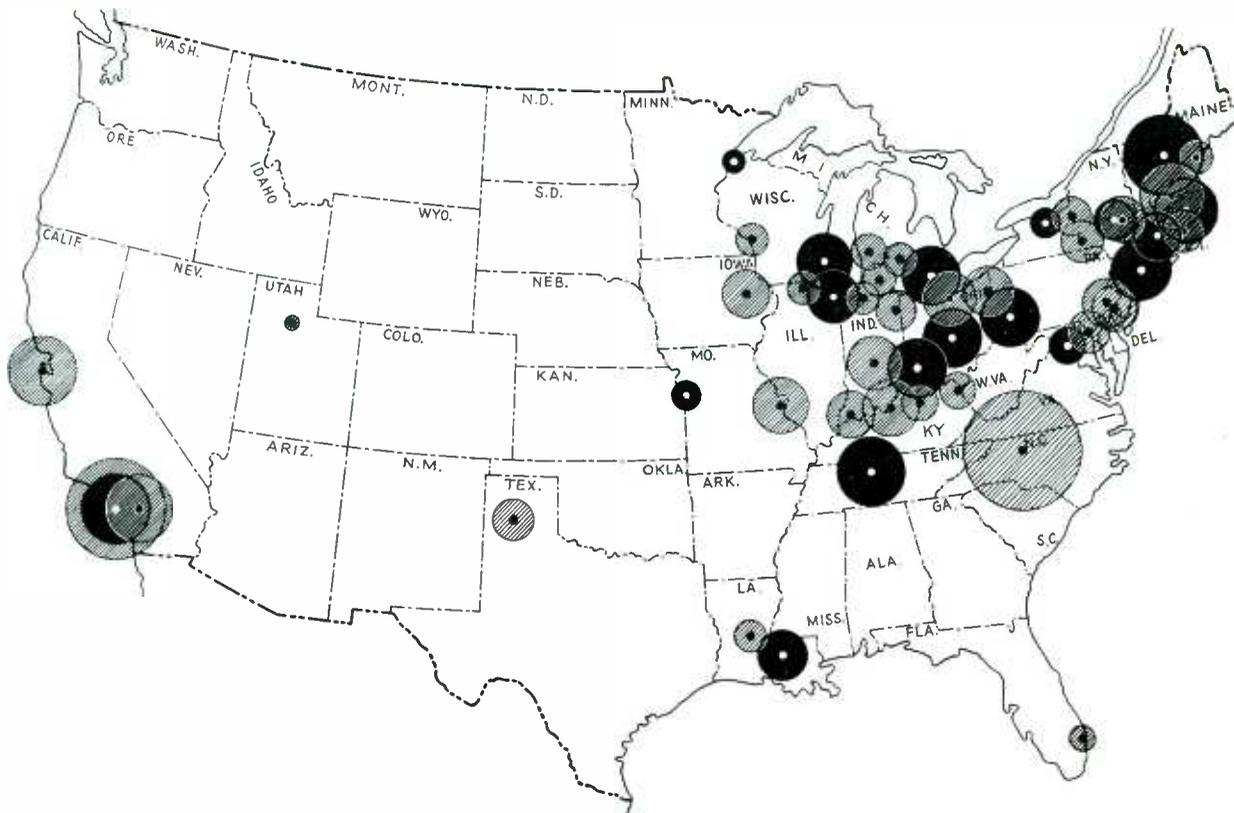
Gentle These Along

Sixth and last is the *Timid-Soul*.

Such people are sensitive, need to be gently helped to a decision.

Old people in particular need kindly and sympathetic treatment, as do those who have physical handicaps making them dependent.

With such prospects, thank the Lord, you can be your sweet self and still sell!



FM *Service Areas*

BECAUSE the coverage attained by frequency modulation stations is largely governed by the height of their transmitting antennae with respect to surrounding terrain (a phenomenon characteristic of the ultra-high frequencies upon which such stations operate rather than one peculiar to FM itself) Federal Communications Commission licenses specify minimum acceptable service area in square miles.

Dots in the center of solid black circles on the accompanying map indicate cities in which stations are already operating under commercial or experimental licenses. The solid circles themselves illustrate theoretical service areas of the most powerful stations in these cities, as conservatively estimated by the FCC. Shaded circles show proposed FM coverage by stations under construction or awaiting licenses.

FM reception is possible considerably beyond conservatively estimated service areas, with some sacrifice of performance where signal strength is below the level required to fully actuate specific receiver circuits. Performance may, on the other hand, be fully comparable with that attainable within the circles where listeners at remote points are located on high hills or employ directional receiving antennae producing compensating pickup gain. Then, too, stations located on the edge of thickly populated areas (such as those on the coasts) will undoubtedly "beam" their transmissions to secure better coverage of such areas at the expense of thinly populated sections, distorting or elongating the circles.

Occasional "opening up" of the ultra-high frequency spectrum

(rare reflection from the "heavyside layer") will at times permit reception over materially longer paths than those indicated. It is also possible that some few listeners located near the edge of even conservatively estimated service areas may not secure satisfactory reception where they are located "down in a hole" or behind major obstructions. Such experiences will, however, be the exception rather than the rule and, for merchandising purposes, the circles may be considered the most practical present-day guide to FM markets.

The number of stations at present operating in, or proposed for, cities dotted on the accompanying map may be determined by consulting the list appearing on page 12 of Radio Retailing's September issue and additions noted in the column "FM Highlights," appearing in this present number.

Little things that Count **Music While They Work**



ASSEMBLING a radio tube is as exacting and taxing a craft as exists. The tolerances are so fine, the parts so delicate, that it is vital for those who put the parts together to be completely at ease.

In all the Hygrade Sylvania factories soft, as well as brisk and buoyant music accomplishes relief from the tension of very careful work. The vast, airy assembly rooms are filled with cheery melody—relaxing the minds and the hands of the women who are engaged in the important work.

It may seem a “little thing” . . . this music . . . but it’s a “little thing that counts” heavily in the unfailing quality of Sylvania Tubes. By such attention to little things, Hygrade Sylvania is constantly adding to the accuracy of its manufacturing methods—and, in so doing, adding to the ever-increasing reputation of Sylvania Tubes.

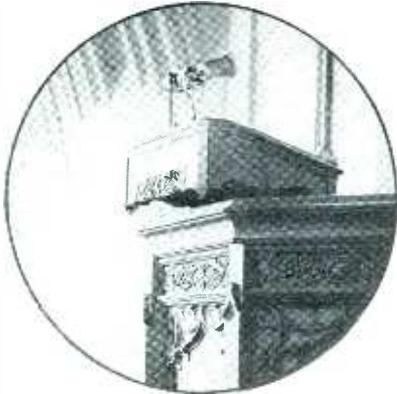


Sylvania Radio Tube Division

HYGRADE SYLVANIA CORPORATION **EMPORIUM, PA.**

500 FIFTH AVE., NEW YORK • SALEM, MASS. • ST. MARYS, PA. • IPSWICH, MASS. • TOWANDA, PA.
Also makers of Hygrade Lamp Bulbs, Hygrade Fluorescent Lamps and Miralume Fluorescent Light Fixtures

MICROPHONE—"Salt-shaker" type at pulpit (below) is duplicated at nearby lectern, permitting parson to rove between the two



SPEAKER—One horn (right) does entire job, is mounted in decorative housing suspended 20 feet from floor in center of Gothic arch above the pulpit



SOUND Goes To Church

THERE was more truth than jest in the oldtime observation that the baby with the most powerful wailing apparatus was destined to become the village parson. Many an earnest young divinity student was advised to leave the ministry because his voice was not considered strong enough.

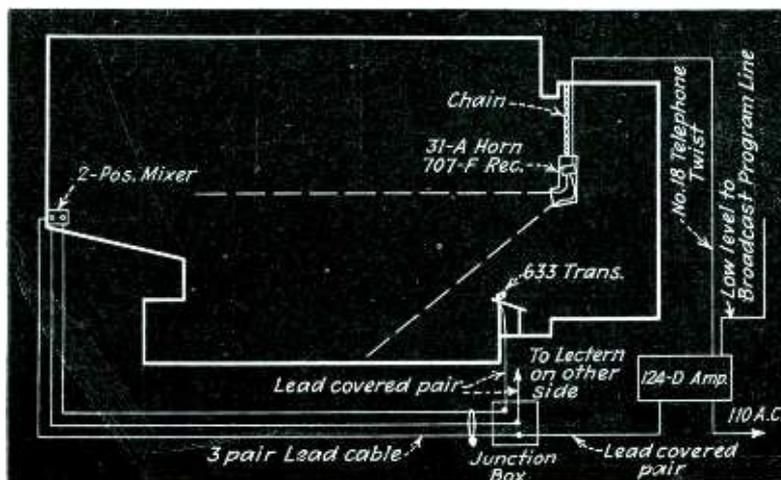
Today, this condition no longer applies. The reason is effective use of reinforcing apparatus such as that recently installed in Harbison Chapel at Grove City College (Pennsylvania) by F. C. Millard's Modern Sound Systems (Pittsburgh).

Problem was to increase audibility at rear of long, narrow, high Gothic chapel and in front of balcony when seats were filled (Acoustics seemed

satisfactory due to cork-treated ceiling and wood-covered trusses despite hard plaster walls and slate aisle flooring until maximum capacity of 900 was approached). It was solved by locating Western Electric microphones at pulpit and lectern, installing an amplifier in a nearby robing room, hanging one horn capable of providing a uniform sound field over a horizontal angle of 120° and a vertical angle of 40° above the pulpit and including a two-position remote mixer in the rear of the balcony.

Total cost, exclusive of installation and wiring, was \$632.80 and college president Dr. Weir C. Kettler says the system functions so smoothly that the congregation now hears well yet is scarcely conscious amplification is in use.

CIRCUIT—12 to 20 watt amplifier is conveniently located in robing room adjacent to chancel of chapel



Radio

LATEST ESTIMATE of the number of radio receivers in use in Central America at the end of 1940 is as follows: Guatemala, 18,000; El Salvador, 12,000; Honduras, 17,000; Nicaragua, 4,500; Costa Rica, 17,000.

There is no local radio manufacture of any consequence. On the other hand, 75 percent of the transmitters used for commercial broadcasting are homemade!

Almost invariably, distributors act both as wholesalers and retailers. They generally have a force of two to ten travelers to supervise country sub-dealers. Practically all sub-dealers work on a consignment basis and their discounts rarely run over 25 percent. List prices are generally set at 100 percent mark-up above the actual "landed" cost, which includes duties, ocean freight, insurance and local freight charges.

Mainland Sales Methods

Eighty-five percent of all radio sales in Central America are made on time payments. The average down payment is from 10 to 20 percent and the balance is spread over 18 months. (In the past year, because of poor conditions in coffee-producing countries, payments have become increasingly difficult to collect.)

Radio servicing is frequently poor, slow and expensive to the customer. The average salary for native servicemen is from \$40 to \$60 per month. Some distributors have recently hired radio servicemen from the States to run their shops and to train native personnel. Such men have received salaries of about \$200 per month, with the distributor paying for round-trip passage. The term of their contract is generally for three years.

Radio salesmen work usually on a straight-commission basis, running from 6 percent to 12 percent of the selling price of the radio.

(Except in Guatemala and Costa Rica, there is no real long-wave broadcasting. With the introduction of long-wave transmitters in other Central American republics a vast new field for cheap long-wave sets will be opened. These

Retailing in LATIN AMERICA

CENTRAL AMERICA and the WEST INDIES constitute an export market nearly as important as South America itself, discussed in these columns in August

cheap sets would be purchased by workers who, with rare exceptions, have not been able to afford even the smallest all-wave sets.)

Merchandising in the Islands

Most important market in the West Indies is, obviously, Cuba.

All American radio brands of any consequence are familiar names there. The economy depends entirely on the sugar crop, and European war conditions have already tended to raise prices, with the usual result of an upward tendency in buying power.

The population is 4,253,000. Havana accounts for 58 percent of the total payroll income.

Five and six tube table models are most in demand.

Distributors sell to dealers at 40 percent discount, with greatly fluctuating terms and conditions, including consignment.

Latest estimates place the number of sets in use at 250,000. About 50 different brands of radio sets were imported last year.

Cuba is comparatively well supplied with radio dealers and servicemen and there are a large number of radio stations in its principal cities.

Puerto Rico, another West Indian island, is becoming important as an export market.

Stores devoted exclusively to the sale of radios, combinations and records are rare. As a rule, radio is retailed through furniture or automobile accessory stores and most of the business is done on the installment plan with a down payment of about 20 percent and the balance spread over a period of 12 months.

There are no specializing distributors in the business and sets are im-

ported, for the most part, by retail establishments dealing directly with American manufacturers.

Radio salesmen work on a commission basis and "hustlers" manage to make a nice living according to local standards. Good reliable servicemen are scarce and can command an equivalent of \$50 a week if they are competent.

(In recent months the extension of Army and Navy facilities in Puerto Rico has rejuvenated the island. Conditions have greatly improved and employment and purchasing power are rising very rapidly.)

An Important "Primary" Market

Mexico, frequently considered a "primary" market rather than Central American, has a population of nearly 20,000,000 (of which 30 percent is Indian); an estimated 600,000 sets in use; excellent broadcasting and considerable government interest in the education of the people through all available means, including radio.

The country has three main merchandising areas; the central, which

(Continued on page 48)

Estimated 1940 U. S. EXPORTS

	Sets	Parts
Costa Rica	\$ 61,100	\$ 5,000
Cuba	535,960	86,900
Guatemala	78,900	7,300
Honduras	24,500	6,600
Mexico*	1,615,900	80,100
Nicaragua	32,300	2,100
Panama	283,200	29,900
Puerto Rico	390,640	24,100
Salvador	35,000	2,900

* Frequently classified a "primary" market



URBAN AND SUBURBAN—Jorge Paloma's "Casa Musica," in the heart of Guatemala City and Ernest Ruiz' "Radio Andrea," five miles outside San Juan, Porto Rico. Both do big radio sales jobs



TIME-PAYMENT Rules

RETAILERS are already reasonably familiar with the major provisions of Regulation "W", issued August 21 by the Federal Reserve System's Board of Governors following President Roosevelt's August 9 executive order concerning consumer credit.

(Those, who are not, should immediately obtain a copy of Regulation W from the Federal Reserve Bank or branch in their own Reserve District . . . see addresses on this page . . . and it is also recommended that all subsequent inquiries regarding the regulation be similarly addressed.)

Major Provisions

Retailers know, for instance, that:

1. Maximum permissible time for the installment credit sale of new or used radio receivers, phonographs

and combinations is now (effective September 1, 1941) 18 months.

2. Minimum cash down-payment on merchandise in Group C (in which radio and most household electrical appliances are classified) is henceforward 20 per cent of the cash price of the article, including accessories, delivery, and installation charges and sales taxes but less trade-in allowance.

They also know that:

3. Regulation W applies strictly to financing of purchases by the ultimate consumer and affects in no way whatever dealer financing of merchandise purchases from distributors or manufacturers for resale.

Important Exceptions

Retailers are not, however, universally aware that:

(a) Sales need not adhere to the provisions of Regulation W until after December 31, 1941, if the customer's total credit responsibility is under \$50, provided payments are approximately equal and equally spaced and the transaction is to be cleaned up within 9 months.

(b) Regulation W will not apply at any time where installment sale contracts covered by approximately equal and equally spaced payments mature within 3 months after the first day of the calendar month next following the date of the deal.

(c) All contracts may, for book-keeping convenience, be given any date within 15 days of an actual credit transaction.

(d) "Lav-away" plan contracts involving deposit of money with dealers in advance of merchandise delivery need not be dated until such delivery is actually made.

Nor do many appear to know that:

(e) The Regulation definitely applies to rental-purchase contracts, any plan involving an option to buy and even to less clearly defined plans of similar nature involving total payments equal to or greater than the cash value of the retailed article.

Obviously designed to make it difficult for retailers so inclined to avoid the letter of the law is the

provision requiring that installments be payable in approximately equal intervals not exceeding one month. (There is an exception here, however, which indicates that as much as four months may be skipped in a contract where customers furnish an affidavit claiming "necessity" due to seasonal income variation, or to encourage off-season sale of merchandise. Provisions of Regulation W with respect to maturity and down-payment must, nevertheless, be observed.) Installment payments must also be substantially equal in amount or, at least, be so arranged that no installment is substantially greater than any preceding installment.

License Requirements

While some of the provisions of Regulation W are undoubtedly flexible and all of them subject to change (retailers are urged to consult the FRS concerning questions of interpretation) it appears clear that:

Radio retailers are automatically licensed to sell sets on time up to December 31, 1941. They will, however, have to file application for an actual license with the FRS for continuation of time-payment selling after that date, obtaining the necessary forms from that body.

(Licenses may be suspended, in case of violations, in connection with just one department of a business or the whole of it. Such suspensions may be for specified periods or indefinitely and it will interest the trade to know that penalties for violations may by law be as steep as \$10,000 fine, 10 years in jail, or both.)

Effective Dates

Beginning October 1, 1941, complete records of all time-payment transactions must be kept, one copy to be retained by the retailer and another given to the customer. Information to be included in such records comprises such things as identification of the article, cash pur-

(Continued on page 48)

For DETAILED INFORMATION

Write:*

ATLANTA	104 Marietta St.
BALTIMORE	Lexington & Calvert Sts.
BIRMINGHAM	18th St. & 5th Ave., N.
BOSTON	30 Pearl St.
BUFFALO	270-276 Main St.
CHARLOTTE (N. C.)	110 South Tryon St.
CHICAGO	230 South LaSalle St.
CINCINNATI	Fourth and Race Sts.
CLEVELAND	E. 6th St. & Superior Ave.
DALLAS	Wood and Akard Sts.
DENVER	17th and Arapahoe
DETROIT	160 Fort St., West
EL PASO	351 Myrtle Ave.
HELENA	Park and Edwards Sts.
HOUSTON	Texas Ave. & Caroline St.
JACKSONVILLE	Church and Hogan Sts.
KANSAS CITY (Mo.)	10th St. & Grand Ave.
LITTLE ROCK	3rd and Louisiana Sts.
LOS ANGELES	10th and Olive Sts.
LOUISVILLE	5th and Market Sts.
MEMPHIS	3rd and Jefferson Sts.
MINNEAPOLIS	73 South 5th St.
NASHVILLE	228 Third Ave., North
NEW ORLEANS	Carondelet St. & Common
NEW YORK	33 Liberty St.
OKLAHOMA CITY	226 West 3rd St.
OMAHA	1701-5 Dodge St.
PHILADELPHIA	925 Chestnut St.
PITTSBURGH	Grant St. and Ogle Way
PORTLAND (Ore.)	6th and Oak Sts.
RICHMOND	9th and Franklin Sts.
SALT LAKE CITY	S. Temple & E. State Sts.
SAN ANTONIO	Jardin and Villita Sts.
SAN FRANCISCO	Sansome & Sacramento
SEATTLE	2nd Ave. and Spring St.
ST. LOUIS	411 Locust St.

* Address FEDERAL RESERVE SYSTEM bank or branch nearest you.

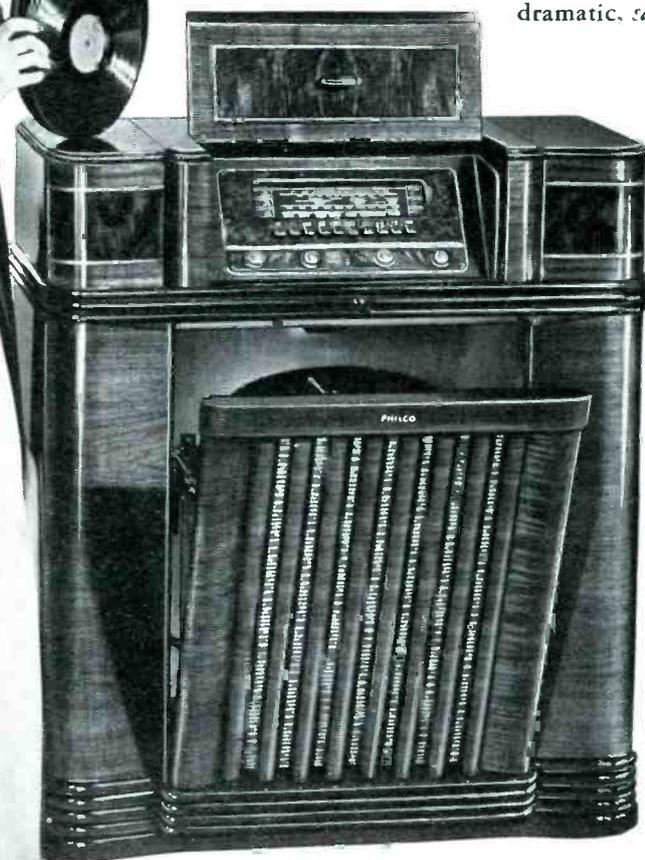
PHILCO INVENTIONS

have made the PHONOGRAPH
a New Source of Profit to
the RADIO Dealer!



The spectacular inventions of Philco engineers have put new glamour and new sales appeal into the radio-phonograph. Thanks to these inventions, thousands of *radio* dealers find themselves in the *phonograph* business, with its higher unit sales and bigger profits. Philco now leads in radio-phonograph sales . . . and leads again, for 1942, in new, dramatic, *saleable* radio-phonograph features:

1. Music on a Beam of Light
2. Philco Automatic Record Changer
3. Stroboscope Pitch and Tempo Control
4. New 1942 Philco Tilt-Front Cabinet
5. Exclusive New Philco FM System



**PHILCO 1012
RADIO-PHONOGRAPH**

One of the beautiful Philco models with the exclusive features that make Philco the *profit line* of the radio and phonograph industry!

**PHILCO ALL YEAR 'ROUND
FOR PROFITS ALL YEAR 'ROUND**

**SEE YOUR PHILCO
DISTRIBUTOR NOW!**

FM Highlights

ACCORDING to a recent statement by Major Edwin H. Armstrong production figures (gathered by the Major from FM licensed manufacturers) now indicate a factory output approaching 1000 FM sets a day. Some 17 manufacturing firms making sets under the basic Armstrong patents, are currently preparing more than 75 different models for the Fall market. FM Broadcasters in latest bulletin says distributors are reporting back orders at least 20 percent ahead of sets available. This Association further reports FM receiver sales show an increase of 27.6 percent for August over the preceding month of July. Latter month had shown a 20 percent step-up over June. FM set sales, says FMBI, have shown substantial increases for the past four months. The national total FM sets now in use is estimated at about 70,000 and FM proponents are quite certain that by Christmas the FM audience will top the 100,000 mark. According to FMBI's breakdown the city of Chicago currently, leads in FM sales, with Los Angeles a close second and New England, New York City and Detroit fighting it out for third place.

BETWEEN Sept. 19th and Oct. 1st four more FM applicants got the "nod" from the FCC to construct FM transmitters in their respective cities. The new comers are: W53D, The Goodwill Station, (WJR) Detroit, 45.3 mc., area 6880 sq. miles. K45SF, Hughes Tool Company, San Francisco, 44.5 mc., area 10,800 sq. miles. K53LA, Earle C. Anthony, Inc., Los Angeles, Cal., 43.7 mc., area not less than 38,000 sq. miles. And the Commercial Radio Equipment Co., of Kansas City, Mo., 44.9 mc., area 4400 sq. miles. These latest grants bring the total FM transmitters thus far authorized by Washington to 59. Fifty-one stations still await official action. WJR's grant provides Detroit with its third FM outlet. Stations W45D and W49D are already on the air with commercial programs. The grant to K53LA, Los Angeles, is unusual from the fact that the FCC stipulated that this station must file within 60 days a suitable application providing for coverage of not less than 38,000 sq. miles which embraces San Diego and Bakersfield, Cal.

DURING the week of Sept. 15 when the "celestial northern lights" and a magnetic storm disrupted communications over good part of eastern United States, it was reported by FM listeners that there was no "black outs" in reception and no trouble from atmospheric interference.

STATION W59C, (FM outlet of WGN and Chicago Tribune) made its com-

mercial debut on Sept. 21 with a daily 12-hour schedule of special programs. Has already established a record in selling largest single amount of FM air-time to one account. Signed up Marshall Field department store for a full hour's program seven days a week, for 52 weeks. Typical rate charges for new station show charge of \$75 for 1 hour between 6:30 and 10:30 PM. For half hour within same time, \$55. At opening ceremonies, with 500 invited guests present, station directors demonstrated FM's high fidelity and absence of noise. Musical director, Harry Weber, had two pianists play Paderewski's "Minuet." The first pianist was heard through an FM set while the second played the same melody before the audience. At intervals the set was turned off and the pianist in the room played, then it was switched back on and only the radio piano notes were heard. The audience, it was said, was unable to tell the difference.

IT IS INTERESTING to note the divergent opinion on FM, some with and some without axes to grind. The New York Times newspaper commenting on the FM situation in New York City, stated on October 1, that "current demand is heavy for FM sets, with manufacturers unable to fill all orders coming in." On the other hand, the Wall Street Journal had the following to say: "FM broadcasting will be soft-pedalled during the emergency, brought about by an acute shortage of materials, for new stations, and new receiving sets."

STATION W65H, Hartford, Conn., is said to be the first user of billboards for promoting wide-swing transmission. This station has set up a number of these



displays throughout Connecticut outlining the features of FM as shown in the accompanying illustration.

IF NEW YORK CITY's plans are authorized by its Budget Committee, this city's Police, Fire and Sanitation departments will be equipped with FM radio apparatus to provide a new type of inter-departmental communication system. It will make possible simultaneous transmission of facsimile reproduction and voice broadcasts over the same radio channel.

Pres. Knowlson of RMA Resigns

Appointed to Priorities Division and named chief aid to Director Donald M. Nelson

WASHINGTON—President J. S. Knowlson of the Radio Manufacturers Association has resigned to become Deputy Director of the OPM Priorities Division and chief aide to Director Donald M. Nelson.

Until a successor to Knowlson as President of RMA is formally chosen by the Association's Board of Directors next month, Paul V. Galvin of Chicago, Chairman of the RMA Set Division and also of its Priorities Committee, has been chosen as Acting President.

A resolution expressing the regret of RMA and the industry at his retirement as the industry leader was adopted unanimously by the RMA Executive Committee.

RMA News

Hold conclave in Chicago on National defense problems

CHICAGO—A good part of the radio industry under the RMA, gathered at the Hotel Stevens, for three days, Sept. 17-18, to discuss national defense and priority problems. During the three days various meetings of the RMA Executive Committees were held, as were the Association's Priorities Committee, Set Division, Parts and Accessories division, and other groups.

Chairman Paul V. Galvin presided over the special meeting of the Set Division, for the consideration of priorities and also problems relating to the new excise tax.

Advance information on new tax problems will be given to all RMA members. A conference regarding the proper administration of the new law was held in Washington Sept. 23 by Chairman A. H. Gardner of the RMA Legislative Committee and Bond Geddes, executive vice president of RMA.

The following nine new membership applications were approved by the Executive Committee at its Chicago meeting: Andrea Radio Corp., and Ansley Radio Corp., both of Long Island City, N. Y.; Garod Radio Corp., Brooklyn, N. Y.; General Industries Co., Elyria, Ohio; Hamilton Radio Corp., New York City; Packard-Bell Co., Los Angeles, Cal., and Sprague Specialties Co. of North Adams, Mass.

Electrovox Moves Offices

NEW YORK—Electrovox Company, makers of Walco needles, have moved its general offices (heretofore in New York City) to the general plant at East Orange, N. J.

On the Newsfront

New Radio and Appliance Taxes

President signs new revenue bill, Effective Oct. 1

WASHINGTON—When President Roosevelt, on Sept. 20, signed the new 3½ billion dollars revenue law he put into effect October 1 the largest tax bill ever, for these United States.

Taxes on home radios and refrigerators under new law increases from 5½ to 10 per cent.

Electrical appliances, including ranges and home washing machines are taxed 10 per cent under the new law.

Radio tax alone is expected to yield about 9½ million dollars a year, while refrigerators and air conditioning apparatus is expected to provide about 21 million dollars. Records are figured for about 5 million dollars.

The RMA says new measure will present many new problems for manufacturers and also the trade. In general, parts and accessories not taxed under the old law will continue their exemption under the new law.

Radio Pioneers Names '42 Officers

LOS ANGELES—Radio Pioneers of Southern California held their annual election of officers on August 28 and named the following executives for the

coming year: president, George Tivy; first vice-president, Jack Magner; second vice-president, George Marshall; and Jack Perlmuth was reelected secretary.

Radio Pioneers of Southern California said to be oldest organization of its kind in the United States, as membership is limited to manufacturers, representatives, jobbers and dealers who have been actively engaged in the radio business since 1924.

San Diego Association

Elects new officers and announces Ninth Annual Electrical Show

SAN DIEGO—The following officers and directors were selected by vote to head the Bureau of Radio and Electrical Appliances of San Diego County. President, R. E. Harris; first v.p., C. W. Kinmore; second v.p., Charles Kerridge; and treasurer, Sam L. Hall. Directors: H. L. Benbough, Jr., Taylor Brown, Harry Callaway, A. K. Chamberlain, Paul Du Pont, Elmer B. Hazie, E. W. Meise, William Powell, Ben Rogers, P. P. Schmitt, Paul Weinstock and Lou Wiese.

The Ninth Annual Electrical Show to be held under the sponsorship of this Bureau has been set for November 25 to 30, inclusive, at Balboa Park. With anywhere from 50,000 to 75,000 new people in San Diego since the Show of last Fall, it should be best show on record.



CROSLY'S COSGROVE—Who was recently appointed member of Defense committee in refrigeration field

R. C. Cosgrove Receives Defense Appointment

CINCINNATI—R. C. Cosgrove, vice president and general manager of manufacturing division of The Crosley Corp., was recently appointed a member of the mechanical household refrigerator sub-committee of the Electrical Defense Industry Advisory committee.

Invitation to Cosgrove to serve on this committee was extended by Sidney J. Weinberg, chief of the bureau of clearance of defense industry advisory committees, at the direction of the OPM and on recommendation of Lewis A. Jones, governmental presiding officer of this sub-committee.

The sub-committee will advise the OPM and other defense agencies with respect to the problems of the mechanical refrigeration industry growing out of the defense program.

NRPDA Meeting

Arthur Moss, executive secretary, at Youngstown, Ohio gathering

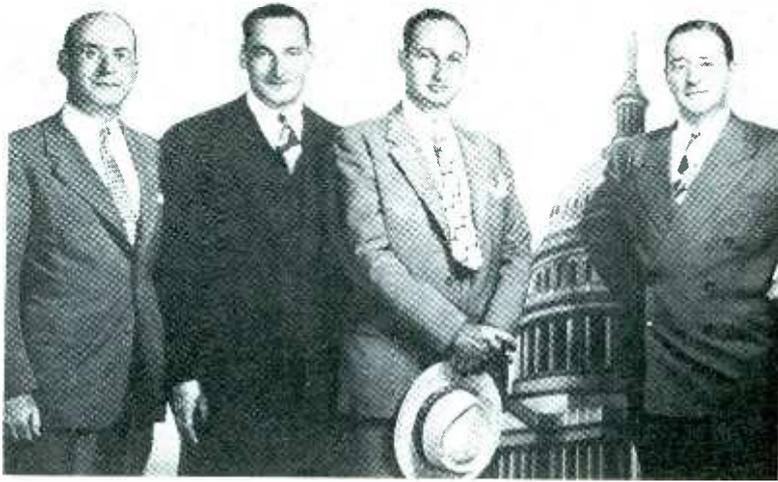
NEW YORK—National Radio Parts Distributors Assn. advises that the NRPDA jobbers from Ohio, West Virginia and western Pennsylvania met on September 14 at the Hotel Ohio in Youngstown, at which time the entire picture of national defense as it affects the radio parts distributor was discussed and it was recommended that a special committee be appointed to represent the association in Washington and its dealings with the parts manufacturers.

RTG Meeting Nov. 9

ROCHESTER—The Radio Technicians' Guild of Rochester will hold its Third Annual Info-Meet on Sunday, November 9 at the Sagamore Hotel in this city. As last year, it will be held in conjunction with the I.R.E. Fall Meeting which takes place the following three days, Nov. 10-12.



HAWAIIAN CHAMPS—J. J. Nance (extreme left), Zenith's vice-president, presenting new portables to Hawaiian Catholic Youth Organization boxes on their visit to Zenith's factory. Broad smiles say "many thanks" for new radio companions on boxing tour of the "States"



ON OFFICIAL BUSINESS—Priorities Committee of Chicago's Sales Manager's Club on recent visit to Washington to consult with OPM on radio industry ratings. Left to right: S. N. Shure, J. J. Kahn, counsel K. G. Prince and W. J. Halligan. Also a member of the committee is H. E. Osmun, not present when photo was taken

Gentle Hint On Pricing

OPM's Henderson requests that increases reflect extra excise tax and no more

NEW YORK—To *Radio Retailing* October 2 from Leon Henderson, Administrator of the Office of Price Administration, went a telegram directed to the attention of radio equipment manufacturers, reading as follows:

"We request that there be no pyramiding of the Federal manufacturers excise tax. The increased prices paid by consumers as result of new levies should in no case reflect more than actual dollar amount of total excise tax. This policy should apply where excise taxes are continued and increased as well where taxes are now being levied for the first time."

Raytheon Ups Haines

NEW YORK—A. E. Akeroyd, manager of replacement sales for Raytheon Production Corp., announces the appointment of E. R. Haines as sales promotion manager with headquarters at the New York office.

Haines has been Chicago district manager for Raytheon for past seven years and brings to his new position nearly sixteen years experience in the radio tube field.

The midwestern territory formerly presided over by Haines will now be under the direction of Russell O. Lunf.

Reps Form New York Chapter

NEW YORK—The newly formed New York Chapter of "The Representatives" held its first meeting on September 25 and elected the following officers: Robert Bruer, president; Martin Camber, vice president; and Ben Joseph, sec-treas.

President Bruer appointed the following committees: constitutional, under the

chairmanship of Dan Bittan; membership, Dave Sonkin; and entertainment, Martin Camber.

Bill Carduner of 296 Broadway, New York City was installed as a new member, and the National Organization also announces that it has accepted as its first female member Mrs. Dorothy L. Keller, wife of Ted Keller of the Keller Company, Council Bluffs, Iowa.

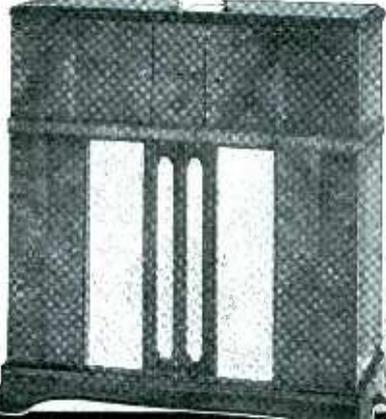
The HOWARD Sheraton ... the 1942 Money-Making "FM" Phono-Combination!

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

Model
718X-FM-A

CHECK THESE FEATURES—

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



INVESTIGATE TODAY!

HOWARD RADIO CO.

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

LEATHER RADIO CABINETS!

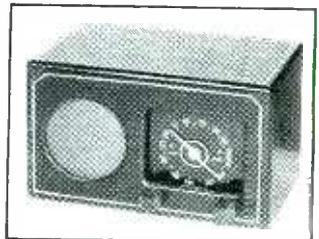
Beautiful gold tooled leather distinguish these cabinets from the standard radio. Simply replace regular cabinets with our leather cabinet and you have a custom radio which means price protection and the right mark-up.

Cabinets in stock for RCA 14X, Emerson 336, GE 500, Philco PT 26, Zenith 5D 611, etc.

You can solve your delivery problem due to cabinet shortages by having us supply leather cabinets for your private brand chassis.

FREDERICK KUGEL COMPANY
1233 SIXTH AVENUE NEW YORK CITY

Manufacturers! Let us solve your cabinet problem. WE CAN DELIVER.



The Nationally Advertised Phonograph Needle

Sell Fidelitone Floating Point Phonograph Needles for greater profit, faster turnover and complete customer satisfaction.

PERMO PRODUCTS CORP.

6415 Ravenswood Ave.
Chicago, Ill.

Manufacturing
Metallurgists





PAUL S. ELLISON—Sylvania's new advertising director

Sylvania Names Paul Ellison Director of Advertising

NEW YORK—The Hygrade Sylvania Corp. has just appointed Paul S. Ellison director of advertising and sales promotion. Ellison joined the company 10 years ago and has held the post of advertising manager and renewal sales mgr. of the Radio Tube Division.

He is prominent in many industry activities, and was chairman of the Sales Managers Club, Eastern Group, from 1938 to 1940.

Continental To Build New Plant

CHICAGO—Negotiations were recently completed by Ross D. Siragusa, President of Continental Radio & Television Corporation and H. Perry Phelps of the Clearing Industrial District, Inc. for the purchase and construction of a new Admiral factory.

The new building will be located at 4150 Knox Avenue in the Montrose Manufacturing District, Chicago. It will be a one story structure and will contain approximately 50,000 square feet of floor space with an option on an additional 90,000 square feet of ground. This new plant will be used for the exclusive manufacture of radio equipment for defense purposes. Vice President, J. H. Clipping, will be in direct charge of all government defense contracts.

The manufacture of Admiral sets will continue in present plant at 3800 Cortland St., this city.

RMS Releases New Service Price Chart

PHILADELPHIA—To combat ill effects of recent article in well-known consumers magazine on radio servicing, Philco has just mailed to all members of Radio Manufacturers Service a new metal chart (12 by 16 inches) of standard service charges as recommended by the R.M.S.

Headed: "Our Charges for Radio Service and Repairs are Standard and Reasonable, as recommended by Radio Manufacturers Service." Lists 64 charges, with "90 Day Guarantee" statement set in large print at bottom.

RCA Adopts New Slogan

CAMDEN—The Commercial Policy of the RCA Manufacturing Company during the national defense period has been summed up in a comprehensive three-word slogan, "Fewer But Finer," which is being displayed on an attractive placque in RCA Victor dealers' stores throughout the country, according to L. W. Teegarden, Manager of the Radio and Tube Divisions.

"This statement of policy is being distributed to dealers through RCA Victor wholesalers as a means of telling the public of our sincere effort to cooperate in every way with the National Defense effort, while at the same time doing our best to satisfy as much as possible the

commercial demands for our products," Teegarden explained.

Emerson Dresses Showroom With Three New Murals

NEW YORK—The lobby and showroom of the Emerson Radio and Phonograph Corp. has been further beautified by a series of three new murals portraying the various stages of development of the radio art.

Painted in oils by a well-known artist, the murals illustrate: Marconi experimenting with radio and envisioning its wide-spread usage, radio as it is utilized currently in homes and other locations, and radio in the future.

Everyone Can Use this Handy OHMITE Ohm's Law Calculator

OHMITE OHM'S LAW CALCULATOR
SOLVES ANY OHM'S LAW PROBLEM WITH ONE SETTING OF THE SLIDE

OHM'S LAW FORMULAE For Reference Purposes

THIS SIDE UP TO 1000 OHMS

1 FIND VOLTS, AMPERES, WATTS, RESISTANCE ON SCALES ABOVE

WHEN OHMS ARE KNOWN Move slide to set known value over. Then read other values from scales. **WHEN OHMS ARE NOT KNOWN** Set pair of values containing one known factor and move slide to set the known value together. Then find one of the other values on OHM and OTHER scale of scales. **OHMS**

2 FIND STOCK NUMBER OF STANDARD UNITS

All items are in Stock for immediate shipment. Move slide to set value required on small scales. Then read the stock No. including the figure on the large scale. In range of 100 or 20 some units indicated by name on large scale. The stock number is the number on the small scale. A larger size unit can be used to reduce operating temperatures in the range of 10 ohms and above. **OHMS**

OHMITE MANUFACTURING COMPANY CHICAGO, ILLINOIS, U.S.A.

Solves any Ohm's Law Problem with One Setting of the Slide

YOU'LL use this remarkable Calculator every day—it's so simple, easy and complete! Does not require any slide rule knowledge. All values are direct reading on the Calculator. Figures amperes, volts, watts, ohms—quickly, accurately.

Scales on two sides cover the range of resistances from .1 ohm to 10 megohms, also the range of currents, wattages and voltages commonly used in radio and commercial work. A setting of the slide also tells you the stock number of the resistor or rheostat you may need. Size of Calculator only 4 1/2" x 9".

Send for Calculator—Today! At your Jobber or Use Coupon!

There's nothing like it. It was designed for you by Ohmite Engineers—and made available for only 10¢ to cover cost of handling! Why be without it! Get your Calculator at your Jobber or clip the Coupon and mail it today.

ONLY 10¢ to cover handling cost

OHMITE MANUFACTURING CO.
4871 Flournoy Street, Chicago, U. S. A.
10¢ in coin enclosed. Send Ohm's Law Calculator

Name _____
Address _____
City _____
State _____
Radio Ret. Oct. '41

Be Right with OHMITE

RHEOSTATS • RESISTORS • TAP SWITCHES

General Electric Showing

Distributors preview new radio line.
Includes five new FM models

BRIDGEPORT—On Friday, Sept. 12, eastern distributors of General Electric gathered in this city to preview this company's new combinations and FM radio sets.

The meeting was formally opened by Dr. W. R. G. Baker, mgr. of radio and television department, who spoke on primary obligations of the company towards the national defense program. Followed by H. L. Andrews, vice president in charge of the appliance and merchandise department, who stated G-E was going to continue right along in the radio and appliance business, subject only to necessary curtailment. He thought materials might get tighter in the near future but in few months expects this material shortage to loosen up.

Receiver sales manager, A. A. Brandt, presented the 19 new models and advised that G-E was going to promote portables for 12 months in the year. Highlighted company's five new FM models, three combinations and two consoles. Stressed the fact that new FM sets were being offered this season at approximately the same price as previous models not so equipped.

H. J. Deines, radio advertising manager, stated that the opportunity for intelligent promotion was never greater, the shortage of merchandise notwithstanding.

Other speakers at the showing included P. A. Tilley, assistant manager of the radio and television department and Howard Bennett, manager of tube sales.

General Electric To Stress FM in Advertising and Promotion

NEW YORK—A substantial part of the advertising and sales promotion of the 1942 line of General Electric radios is designed to do an educational job on the advantages of frequency modulation radio, according to H. J. Deines, advertising manager of the G-E radio and television department.

National magazine, cooperative newspaper, and standard broadcast radio advertising are planned, and a variety of promotional items for frequency modulation have been prepared. The entire program, Deines explains, is keyed to a pace for continuous and steady promotion of FM.

An incidental FM promotion will result from an album of recordings by Hazel Scott and the Golden Gates for dealer use in phonograph demonstrations.

Missionary work for FM, carried on for several years by G-E with field demonstrations by experts, will be greatly expanded through a color and sound motion picture and a complete FM demonstration kit which includes both miniature FM and AM transmitters.

Majestic Guarantees Prices

To First of Year

CHICAGO—E. A. Tracey, general manager and chairman of the board of the Majestic Radio Corporation stated, in recent interview, that this company is guaranteeing to all radio dealers that the October first prices on new 1942 Majestic radios will not change before January first.

Motorola's New Ad. Program

CHICAGO—The Galvin Mfg. Corp., makers of Motorola receivers, is utilizing the popularity of Disney cartoons in a series of full page ads to appear in the Saturday Evening Post and other publications. The Disney cartoon characters are employed to point out the new Motorola developments like "3-Dimension Vita-Tone" incorporated in their new 1942 models.

M. S. Despres Receives Defense Appointment

NEW YORK—Maurice S. Despres, president of Dale Radio Co., New York, has just been appointed chief of the Radio and Battery Division of the Durable Goods unit, according to an announcement from the Office of Price Administration.

NOW Is The Time...

Says Wilcox-Gay, to go to the aid of the dealers. But, no drastic action is necessary, because the manufacturers of Wilcox-Gay Recordios already have the answer to the present crisis—H. U. S. This sales policy, H. U. S., stands for "higher-unit-sales." In normal times, it has proved effective, and it will prove more effective now. The reason for the success of the H. U. S. policy is that it is built around a product of high quality which is upheld by an ever-enlarging, quality-conscious market.

Recordio dealers are no longer at a loss when faced with merchandise "on order." Their sales volume can be maintained by fewer but larger sales. This is possible through the wide-spread popularity of Recordio.

Wilcox-Gay is the world's leading manufacturer of home recording equipment and recording discs.

WILCOX-GAY RECORDIO
RECORDER - RADIO - PHONOGRAPH COMBINATION
WILCOX-GAY CORPORATION • CHARLOTTE, MICH.



University

THE NATIONAL DEFENSE REFLEX LOUD SPEAKER LINE

To-day the major portion of all public address installations are related to the U. S. National Defense Program.

University has the largest line of High Efficiency Reflex Loud Speakers each specifically fitted for National Defense needs.

Every one of University Reflex Speakers have been used in many National Defense installations.

The qualifications which made University the Superior speaker for civilian use have made University the National Defense Standard.

UNIVERSITY LABORATORIES
195 Chrystie Street New York City



Duotone '26 2
CUTTING and PLAYBACK

NEEDLES Produce!

Produce . . . sales for you and pleasure for the "ultimate consumer"! A most complete line for record lover and every recordist, powerfully packaged on cards and in cartons . . . the LINE OF BIGGEST POSSIBILITIES!

Write for samples and prices

DUOTONE CO., Inc., 799 Broadway, N. Y. City



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.

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 1020 COLLEGE DRIVE
READRITE METER WORKS, Bluffton, Ohio

Dealer Helps

DISPLAY FIXTURE — *RecorDisc Corp.*, New York City, has a new display fixture patterned to hold 3 sizes of home recording blanks as well as consumer literature. Measures 20 by 24 by 7 inches. Available through jobbers.

SALES AID—This new *Philco* radio display is designed for use in either the



shop window or floor display. Highlights "Beam of Light" automatic record changer.

FALL MATERIAL—*Raytheon* announces two new window displays, (R800 and R801) recommending Raytheon tubes for better performance. First one produced in colors and priced at 25 cents each. Latter, connected to radio repair service, free. Numerous other aids available, like metal signs and wall banners.

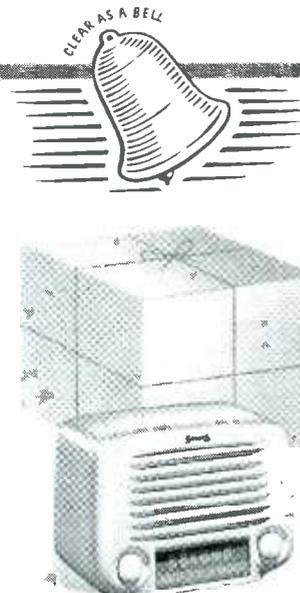
SPEAKER CATALOG—*Thordarson's* new 600F catalog contains descriptive information on entire line of amplifiers and data on speaker field supply.

1942 CATALOG—*Fada* has a new large-size catalog for its dealers, containing descriptive data on the '42 line of receivers. Also outlines information on promotional material.

SILENT SALESMAN — *Emerson's* new floor display, shown below, holds eight different models. Available through Emerson distributors. Display is cen-



tered on photomontage depicting the potential use of radio in the living room, bedroom, office and other locations.



THE DYNAMIC SONORA PACKAGE SELLING PLAN

This, the first successful Jobber Package Plan for profitable radio selling, is another milestone in the long series of SONORA successes.

In a nutshell, the Package Plan is built around a complete home entertainment line of proved and tested "Best Seller" models. They are priced for attractive, protected profits. They are easy to sell right over the counter. There are no service problems. There are no heavy inventories . . . turnover is quick. Promotional cooperation is aggressive, complete—backed by all the power of a great name in the music reproducing world—to help you sell . . .

SONORA Jobbers everywhere endorse the Package Plan enthusiastically . . . just another evidence of SONORA's progressive merchandising . . .



SONORA
RADIO & TELEVISION CORP.
CHICAGO

OFF the Dial

A LARGE UTILITY with considerable experience in the promotion of "package" deals involving the combination sale of several electrical appliances and sometimes a radio through "cooperating dealers" is known to be playing with the idea for possible application to servicing. As we understand it, the trade would be "invited" to forward to a central office all calls for repairs, such work to be done by jobber service departments and/or other "super service" stations set up and equipped for this specific purpose. Retailers relaying such calls would receive a commission "kick-back." Calls received by the central office direct from consumers would also pay "cooperating" retailers a "rakeoff" on some territorial basis and, inasmuch as the electric light company-sponsored central office would be liberally supported by direct consumer advertising might be received in sufficient number to considerably alter the character of the service business in the area in question. Merchandise "package" plans have been both praised and damned by dealers. Applied to repairing, the idea appears likely to stir up even more difference of opinion, warrants close watching.

PARTS JOBBERS affiliated with the NRPDA seem to be successfully "needling" manufacturers out of the idea that increased costs due to the emergency program need not be passed on to the ultimate consumer but can be absorbed without raising lists by cutting the distributor discount. At least three factories that tried this "easy way" are reported as rescinding their initial discount cut orders and raising the lists following hot and heavy discussion with Association execs and individual members.

SET DISTRIBUTORS appear, in many instances, to be shipping hard-to-get stocks to small dealers who have "played ball" in the past, stalling larger accounts and particularly chains in normal times inclined to chisel and too big to trifle with when merchandise is plentiful. Thus the desire of certain manufacturers to preserve the goodwill of topflight retail outlets if necessary at the expense of small fry is being nicely counterbalanced by the personal score-settling of distributors who, after all, are in the driver's seat when it comes to actually spreading merchandise around a territory.

PRICES must naturally rise on much of our merchandise but this month's spadework out in the field leads us to remark that while the average dealer wants lists boosted he thinks there have already been instances where too rapid stepups have "queered" pending sales. This, it seems, applies particularly to compacts. While we are on the subject

of prices it should be reported that our Washington correspondent, who told us some time ago to watch for government-policed price "ceilings" on radio equipment before the end of the year, now advises that such control is apt to be laid on the line before then. He further suggests that ceilings will probably be erected first over parts and then over sets.

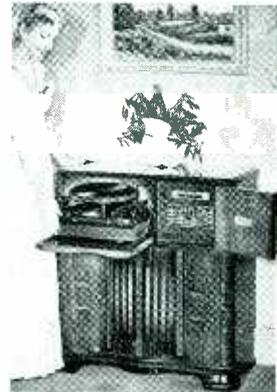
EXPORT sale of radios "Made in America" for foreign firms with purchasing offices here was severely rapped during the month by an RMA subcommittee expressing the conviction that materials used in such sets might to better advantage be employed in the production of receivers using American trademarks. Thus, thinks the subcommittee, American manufacturers would strengthen their position in foreign markets and particularly South America, while at the same time aiding the government's "good neighbor" policy.

NOISE, says the Department of Commerce (which can always be depended upon to spread the very newest news), emanates in considerable gobs from the ignition systems of motor trucks and busses, can be eliminated at the source by shielding sparkplugs and wiring as well as by other means during the original motor design. The problem, we are told, is being "studied" by the American Standards Association and by a committee of RMA engineers, with the FCC complacently keeping tabs on "progress." To all this feverish activity we, as dyed-in-the-wool shortwave fans, say "Amen" . . . for the umpty-umth time in the last ten years. But what we really would be interested in knowing is when, oh when is somebody actually going to do something about it?

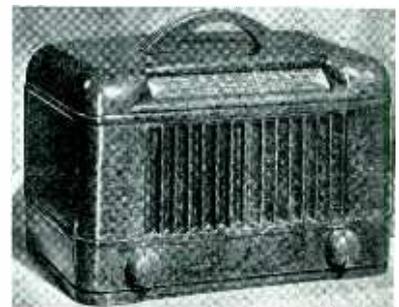
THERE'S A MORAL in this story we're sure you'll figure out: Knowing of our connection with the radio business and also of our amateur radio proclivities, many personal friends and more casual acquaintances come to us for advice when their sets go sour. Curiously, most of those who initially express a desire to buy the best possible new receiver wind up casually inquiring about discounts. While those asking where they can get good repair service really want to know where they can get good repair service.

TALKING SHOP with a friend of ours the other day, we were asked how radiomen kept their eye on the business ball in view of the overshadowing importance of international events. We told this story: "A street-sweeper working close to the curb accidentally flicked some debris onto the silken ankles of a passing dowager. Incensed, she determined to annihilate the man with a single sentence, austere remarked: 'How can you, my man, tolerate such perfectly awful work?' To which the sweeper, looking down at the mess at his feet, dryly remarked: 'Lady, this may be debris to you, but to me it is bread and butter.'"

New



RCA CONSOLE COMBINATION RADIO with automatic "Magic Brain" victrola, model V-215, has 9-tube radio, 3-band chassis, 12-watts output. Record changer rolls out of the cabinet when the phonograph compartment is opened. Mechanism is completely automatic, no need to touch the tone arm or shut the mechanism off. Cabinet is built of matched walnut and mahogany veneers. RCA Mfg. Co., Camden, N. J.



RADIOLA PLASTIC TABLE TYPE radio, model 526, features new station-spreader dial that "spreads out" the 25 and 31 meter foreign bands for simplified tuning of shortwave broadcasts. Has 5 tubes, 5-inch speaker and receives two bands. RCA Mfg. Co., Camden, N. J.

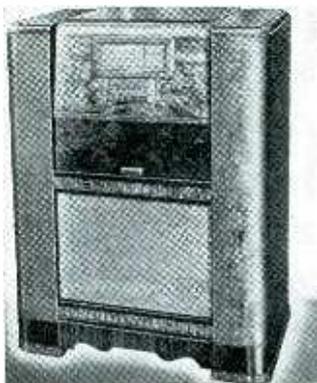


SONORA PHONO-RADIO-RECORDER with automatic record changer has 9 tubes and plays twelve 10-inch or ten 12-inch records. Cabinet has adequate storage space for record albums, recording discs, and microphone. Features 6 pushbuttons, 12-inch speaker and receives 2 bands, standard and foreign reception. Sonora Radio & Tele. Corp., 325 N. Hoyne Ave., Chicago, Ill.

Products . . .



EMERSON COMBINATION PORTABLE phono-radio, model 452, is available in cabinet of sharkskin-grained simulated leather. Five tube superhet tunes standard American broadcasts. Dial is mounted on front of cabinet to permit tuning of radio without raising cover. Equipped with light-weight tone arm. Plays 12-inch records with lid closed. Measures 8 high, 13 3/4 wide, and 16 inches deep. Emerson Radio & Phono. Mfg. Co., 111 Eighth Ave., New York, N. Y.



SENTINEL CONSOLE COMBINATION, model 269-F, with a automatic record changer concealed in sliding drawer, plays 10 and 12-inch records in automatic sequence. Features illuminated record compartment, lifetime needle, and self-starting motor. Receiver is a 9-tube, 3-band ac superhet, tuning the standard broadcast, police and shortwave bands. Equipped with 12-inch speaker and pushbutton tuning. Sentinel Radio Corp., 2020 Ridge Ave., Evanston, Ill.



AUTOMATIC TABLE TYPE RECEIVER, model 220, covers the full foreign 13-meter band and standard American band. This 6-tube superhet has slide dial with large numerals, built-in loop aerial, and is housed in new style walnut veneer cabinet. Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.

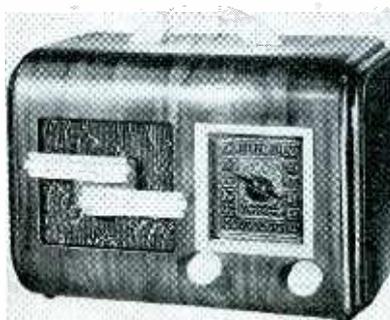
PHILCO CONSOLE COMBINATION, model 1008, a photo-electric radio-phonograph with automatic record changer, Stroboscope Pitch and Tempo Control. This 9-tube superhet is housed in walnut cabinet measuring 38 high, 29 3/4 wide, and 15 1/8 inches deep. List price \$144.95. Philco Radio & Television Corp., Philadelphia, Pa.



PHONOLA PORTABLE Phono, model 884, hand wound type, is housed in luggage tweed case. Measures 16 1/2 x 7 1/2 x 13 inches. Has 9-inch plated rim turntable. Plays 10 and 12-inch records. Record compartment carries fifteen 10-inch or 12-inch records. Waters Conley Co., New York Office, 17 East 42 St., New York, N. Y.



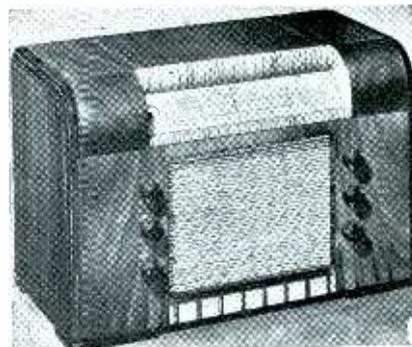
GENERAL TELEVISION TABLE-TYPE RADIO, model 49, is a 5-tube ac-dc superhet with 5-inch speaker. Tunes standard American broadcast and police calls. Walnut cabinet measures 6 1/2 high, 9 wide, and 5 inches deep. General Television and Radio Corp., 1240 N. Homan Ave., Chicago, Ill.



FARNSWORTH CONSOLELETTE, radio-phonograph combination, stands 28 1/4 inches high and is low enough to be placed under most windows. A 7-tube superhet. Receives standard and shortwave bands. Has 6 pushbuttons, an automatic record changer with automatic illumination of this compartment, and provides space for storing albums. Equipped with permanent record playing stylus. Measures 33 1/2 wide and 17 1/8 inches deep. Farnsworth Tele. & Radio Corp., 3700 Pontiac St., Ft. Wayne, Ind.



HOWARD FM CONSOLE COMBINATION, Model 718FM-C, has 14 tubes, 3 gang tuning condenser, special 12-inch speaker, tuned rf on broadcast band, automatic record changer. Receives FM, AM and two short wave bands. Chippendale period cabinet is available in stump walnut or diamond matched mahogany. Measures 37 1/8 high, 35 wide, and 8 1/4 inches deep. Correct list price, \$229.00.



HOWARD TABLE-TYPE, 10-tube, 3 band radio, model 868T, is the latest addition to this company's 1942 line. Tunes 540 kc to 22 mc. Features Howard band expander for fast and accurate logging of short wave stations. Has inverse feed-back push-pull audio system, and 8-inch speaker. Housed in modern designed cabinet. Howard Radio Company, 1731 Belmont Avenue, Chicago, Ill.

PHILCO AUTOMATIC RECORD CHANGER claimed to have more automatic operation than ever before. Loading and unloading made very simple. No posts to turn, no blades to lift. Plays 12 ten-inch or 10 twelve-inch records. Tone arm adjusts itself automatically. No controls to set, new gentle operation. Philco Radio & Tele. Corp., Philadelphia, Pa.



REGAL AMPLIFIER PORTABLE RECORD PLAYER with 3-tube amplifier plays 10 and 12 inch records. Record compartment holds 12 records. Operates on 110 v. 60 cycle. Measures 7½x13x18½ inches. Available in 3 colors model 101, two-tone Cordovan; model 102, blue gray; and model 103, alligator. List price \$32.50. Regal Amplifier Mfg. Co., 14-16 West 17 Street, New York, N. Y.



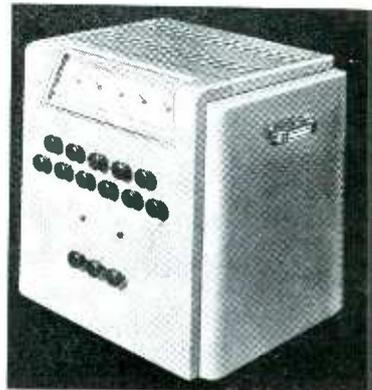
TONKABINET REVOLVING TABLE record holder, style 5135. Holds approximately 200 records in albums. Top measures 26x26 inches. Height 27½ inches. Genuine mahogany cabinet with boxwood inlay. Tonk Mfg. Co., 1912 North Magnolia Avenue, Chicago, Illinois.



MOTOROLA AUTOMATIC RECORD CHANGER played 38,000 records, non-stop,

without cracking or chipping a single record. Motorola engineers give all the credit for this performance to their patented roller release which they claim insures smooth, noiseless, perfect-working action over an extended period of time. Galvin Mfg. Co., 4545 Augusta Blvd., Chicago, Ill.

BELL SOUND 100-WATT AMPLIFIER, model 700, powered by twin amplifier units of 50-watt output, either of which will operate the system alone when desired. Frequency response is 30 to 12,000 cycles within plus or minus 1½ db, with tone controls in normal position. Output impedance, each amplifier, 1.25, 2.5, 4, 8, 15, 250, and 500 ohms. Has 19 tubes. Bell Sound Systems, Inc., Columbus, Ohio.



CROSLLEY STYLUS with rounded tip of large radius to replace the old-fashioned phonograph needle has been announced by this company. It is claimed that it increases the life of phonograph records ten times, requires only one-ounce pressure on the record. The large radius tip rides on the top portion and never rides the distorted bottom portion of the record groove, so that old records sound almost like new. Crosley Corp., Cincinnati, Ohio.

No shortage here . . .
and SALES ARE BOOMING!
WALCO Genuine Sapphire **NEEDLES**

LIST PRICE
now \$1.00



Always the leader — again the season's big volume seller — WALCO Genuine Sapphire Needles enjoy greater popularity than ever! Many leading phonographs employ WALCO sapphire jewel points — similar to those used in WALCO Sapphire Needles — as permanent equipment.

Music lovers everywhere prefer WALCO. Here's one fast-moving line you can keep on selling, keep on profiting from, for WALCO's supplies and facilities are equal to the tremendous demand.

Let this **WALCO Dispenser** SELL FOR YOU!



Attractive, sales-boosting WALCO package — mounted 12 to a self-selling counter card. This eye-arresting WALCO merchandiser is designed to quadruple your needle sales.

CALL YOUR JOBBER TODAY

or wire us for complete information, prices and consumer literature on **WALCO Genuine Sapphire Playback Needles and Cutting Styli, and the new WALCO Jewel Point Pickups.**

ELECTROVOX COMPANY, INC.

356 GLENWOOD AVENUE • EAST ORANGE, N. J.

HAVE YOU NOTICED HOW
GENERAL RECORDS
KEEPS GROWING?
It's because there's plenty profit for dealers in this quality line of specialty Albums and new package ideas. Watch us grow!
ALBUMS JUST OUT! **DEEP SEA CHANTEYS**
SOD-BUSTER BALLADS
NEW! Fast Selling Packages **NAUGHTY BUT nice**
MOOD MUSIC for the HOME
A few good territories still open for Jobbers.
GENERAL RECORDS Co.
1600 BROADWAY, NEW YORK.

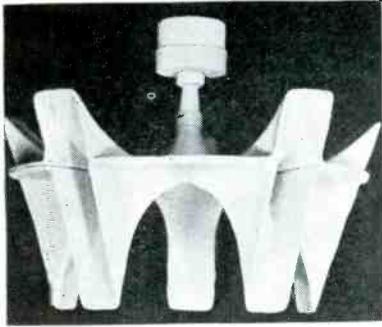
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RAILWAY EXPRESS is both easy and economical to use for swift transportation of shipments, large or small. There's no extra charge for convenient pick-up and delivery within our regular vehicle limits in all cities and principal towns. Insurance up to \$50 valuation per shipment included. For service, phone.

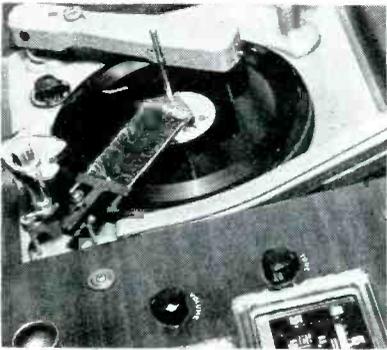
RAILWAY EXPRESS
AGENCY INC.

NATION-WIDE RAIL-AIR SERVICE

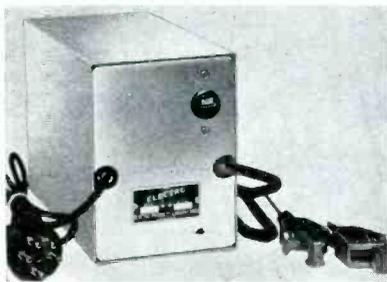
RCA SPEAKER of new design pours sound projected uniformly over a 360 degree area throughout a radius of 50 feet from the five evenly spaced apertures of this All-Way loud-speaker baffle. A single mechanism is used to operate the speaker, with 5-, 10-, 12-, or 15-watt units used interchangeably. Measures 20 inches high, 20 inches deep and weighs 10 lbs. RCA Mfg. Co., Camden, New Jersey.



RECORDIT "BRUSH-OFF," new rotary record brush, developed by this company is designed to keep cuttings away from the recording needle, and to prevent skips from occurring on records being made. The manufacturer claims that the brush will prevent cuttings from interfering with good recording whether the brush rolls constantly, skids, or slides. Recordit Company, 555 Bedford Ave., St. Louis, Mo.



ELECTRO SYNCHRO POWER SUPPLY, model 2500, furnishes 6 volts filament and 300 volts 100 milliamperes DC power from a 6 volt storage battery. Complete radio-audio filter system, input and output battery cable, plug, clips and fuse are provided with this unit. Net price \$12.00, f.o.b. Chicago. Weight 8 lbs. Electro Products Labs., 549 West Randolph St., Chicago, Ill.



AEROVOX RESISTORS are being made still smaller by this company in keeping with the trend towards more compact radio components. The new 1/2 and 1 watt units are considerably smaller than previous units bearing the same wattage ratings and type numbers. The size reduction of these insulated molded carbon resistors is due to improvements in the resistance elements, and in no way reduces the load-handling properties of the units. Aerovox Corp., New Bedford, Mass.

RADIART VIBRATORS

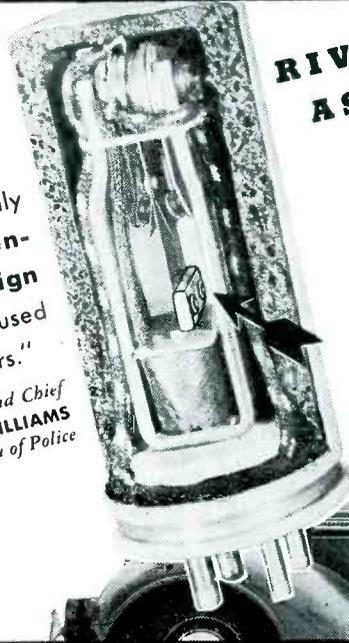
"come through" in the toughest test of VIBRATOR DEPENDABILITY

RIVETED ASSEMBLY

"We can easily see the better engineering design and materials used in your vibrators."

—Sgt. **STONE** and Chief Radio Operator **WILLIAMS**
Denver Bureau of Police

RADIART VIBRATORS last longer because of their RIVETED ASSEMBLY. No brazing or welding to injure tempered parts.



THE RADIART CORP., CLEVELAND

WORRIED BY "WHICHES"?



Which BATTERY GOES IN WHICH MODEL?

Is battery replacement a hobgoblin to you? Want to take the mystery out of the replacement business? Just send for a free copy of the "Burgess Replacement Guide to Portable Radios" — the handiest little *which*-chaser ever compiled. Tells you at a glance *which* battery goes in *which* radio, every time! Edited and

recommended by Homer G. Snoopschaw, B.R.S. (Battery Replacement Specialist), who sat up day and night to gather this essential data for you!

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Simply drop a line to Homer G. Snoopschaw, care of this company, for your free copy of the "Replacement Guide."



BURGESS BATTERY COMPANY, FREEPORT, ILL.

BURGESS

The COMPLETE Replacement Line

Heavy-duty
**OIL-FILLED
Capacitors**



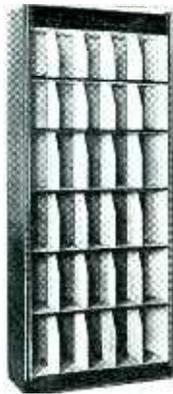
Here are two recent additions to the Hyvol Transmitting Capacitor Line, to meet higher voltage requirements in P-A systems, high-power rectifiers, electronic assemblies, radio transmitters, etc. Type —12 (left) provides high-voltage pillar terminals in minimum height, due to separator ribs in cap. Type —14 (right) has single pillar-insulator terminal for maximum insulation between live terminal and grounded can. Both are immersion-proof. Both with adjustable mounting ring.

Type 12—2 1/4" dia. Can. Can Height in Inches				
Mfd.	2000 v.	3000 v.	4000 v.	7500 v.
.01	...	...	...	3 1/4
.02	...	...	...	3 1/2
.03	...	...	...	3 3/4
.05	...	...	...	3 7/8
.1	2 1/4	2 3/4	2 3/4	3 3/4
.25	2 1/4	3 3/4	3 3/4	3 3/4
.5	3 1/4	5 1/4	4 5/4	4 8/4
1.0	3 3/4	...	...	...
2.0	5 1/4	...	...	...

Type 14—1 3/8" dia. Can. 3000 v. D.C. Working	
Mfd.	Height in Inches
.01	2 1/4
.05	2 1/4
.1	2 3/4

Ask Your Jobber . . .

He'll gladly show you or tell you about these Hyvol oil-filled capacitors. Ask for latest catalog. And while you're at it, ask for free subscription to monthly Aerovox Research Worker. Or write us direct.



A. BITTER ALBUM STOCK CABINET, model #110, in walnut finish birch, measures 22 1/2 wide, 86 high, and 15 inches deep. Holds about 250 albums. The dimensions and design are the same as the Standard Record Rack, model #100, and they can be used interchangeably. A. Bitter Construction Co., 27-01 Bridge Plaza, North, Long Island City, New York.

ATLAS SPEAKER VOLUME CONTROL, model RC-1, adjusts the volume of individual speakers. Provides uniform tapered, gradual control of volume from full ON to OFF position. Has conservative rated power handling capacity of 10 watts. Electrical components include special tapered wire wound potentiometer and fixed vitreous resistor for power absorption at minimum volume settings. Overall diameter, 3 inches. List price, \$3.50. Atlas Sound Corp., 1449 39th St., Brooklyn, N. Y.



DUOTONE CACTUS NEEDLE SHARPENER, a handy device utilizing the turntable of the phonograph like an emery wheel. It sharpens the needle in a jiffy. Lists at \$1.00. Duotone Co., Inc., 799 Broadway, New York, N. Y.



PHILCO LONG-PLAYING NEEDLE, capable of playing 4,000 phonograph records without changing, has been developed by this company. It can be used on the old, heavy electric phonograph arms without increasing record wear. The outstanding characteristic of the new needle is its hard point made of a highly polished precious metal. Individually packed, list price \$1.50. Philco Radio & Tele. Corp., Philadelphia, Pa.

**NEW BEST SELLER IN
HOME RECORDERS!**



Here's Talk-A-Phone's newest hit—a sensational 2-Speed Home Recorder! (1) Makes Records at 33 1/3 or 78 RPM; (2) Plays Records at either speed; (3) Works as PA System. 5 Tube Amplifier; 3 1/2 Watts Output; 6 1/2" Speaker; Electric Eye; with Crystal Microphone. Plays 10" and 12" records with lid closed. In handsome luggage-type portable case; 16" x 16" x 11". Quality-built—priced for volume sales! Write for details.



**A Complete PHONO LINE—20 Models!
COMPLETE INTERCOM SYSTEM LINE!**

Profit-Builders all! Wired and Wireless Players Player-Amplifiers, Changer Players, etc. Also fast-moving Intercommunication Systems priced to sell. Take on these profitable lines! Distributors—a few choice territories still open. Dealers—see nearest distributor or write to us direct. Prices, discounts literature sent on request.

Talk-A-Phone Mfg. Co.
1217K W. VAN BUREN ST.—CHICAGO



The need for controlled processes and uniform quality in parts has been answered by Triplet in setting up manufacturing facilities that make the company practically self-sustaining in the fabrication of instrument and tester components.

Shown here is a view of one section of the automatic screw machine department in the modern Triplet plant where essential parts—some as minute as the smallest used in watches—are turned out 24 hours a day. More and more, Triplet has turned to wholly automatic fabrication of materials to speed up production and to eliminate any possibility of human error. To assure parts best suited for Triplet needs, company engineers have pioneered in the design and manufacture of countless fabricated materials including switches, bar knobs, resistors, jacks, special adapters, etc.—a complete service intended to give each user the fullest measure of satisfaction.

THE TRIPLET ELECTRICAL INSTRUMENT CO.
Bluffton, Ohio

New
BITTER ALBUM RACK
for
BETTER DISPLAY
BIGGER ALBUM SALES

"NO progressive record dealer can afford to do without efficient album storage equipment. For efficiency at low cost, you can't buy better than Bitter," say satisfied store executives.



Bitter Album Rack
No. 110

Holds about 250 album sets. Same dimensions as Bitter Standard Record Rack (No. 100)—2' 10 1/2" long, 7' 2" high, 15" deep; same design; same standard finish—walnut finished birch. May be used interchangeably or together to form attractive unit.

Attention Radio Stations

You can't afford to do without Bitter Record Stock Cabinet No. 100 and its big time and space saving features. Holds 500 16", 500 12" records, 75 album sets. Same dimensions as above.



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

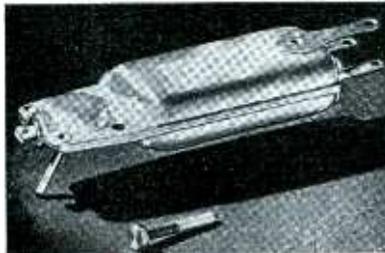
Record Sellers! Take advantage of the boom in records. Install Record Bar* today. It's compact, it's attractive and above all it assures highest quality reproduction that makes it easier to sell more records.

BIG 1942 CATALOG, FREE!

A. BITTER
CONSTRUCTION CORP.

Brewster Bldg., Long Island City, N.Y.

CLAROSTAT RESISTOR POWER CORDS can be obtained from this company despite the general and growing shortage. An adequate supply is still on hand. These power cords have 3 conductors enclosed in heavy braided covering with a tie cord at the chassis end and a molded rubber plug at the other. Clarostat Mfg. Co., 285 N. 6th St., Brooklyn, N. Y.



SHURE "HI-LO" CRYSTAL PICKUP CARTRIDGES developed by this company now make available 1.4 volts output at 1000 cps with one ounce needle pressure. Will replace other flat-type cartridges in pickups with pressure of one ounce or more. Set screw permits changing of needle without replacing entire cartridge. Sturdy metal case. Model W42AN cartridge, complete with permanent sapphire point needle lists at \$5.00. Shure Bros., 225 West Huron St., Chicago, Ill.



PRECISION MULTI-RANGE TESTER, series 834, equivalent in size to a man's hand, offers 18 voltage ranges, 0-12/60/300/600/1200/6000 in ac-dc and power output, at 1,000 ohms per volt; 4 current ranges, 0-1.2/12/60/600 mls; 3 resistance ranges, 0-5M/500M/5 megs; and 6 decibel ranges from -10 to +70 db. Precision Apparatus Company, 647 Kent Ave., Brooklyn, N. Y.

Big Profits

FROM NEW BUSINESS

SELLING **GTC**

PORTA-POWER



New!

GTC
MODEL
"C"

FOR NON-ELECTRIFIED RURAL DISTRICTS

Operates from 6-Volt Storage Battery

Replaces "A" and "B" batteries in 1 1/2 volt portable or farm radios, having 4, 5 or 6 tubes. Supplies 1 1/2 "A" and 90 volts "B." Gives high quality reception at low cost operation.

List price \$13.50 — **COSTS YOU \$8.10**

For R. E. A. DISTRICTS
use these GTC

PORTA-POWER
MODELS

to Convert Battery Radios to Power Line Operation

MODEL "P" For 6 volt radios "Twin-Powered"

Converts 98% of all 6 volt radios. Vibration disturbance is eliminated. High fidelity performance assured.

List price \$15.00 — **COSTS YOU \$9.00**



MODEL "L"

For 2 volt radios

Supplies "A" and "B" and "C" power to 4 to 8 tube battery-operated radio sets using 2 volt tubes.

List price \$11.00
COSTS YOU \$6.60

MODEL "U" For 1 1/2 volt portable or farm radios

Powers any 4 or 5 tube portable or farm radio using 1 1/2 volt tubes. Provides "A" and "B" power. List price \$8.50

COSTS YOU \$5.10

MODEL "G" For 1 1/2 volt radios of 4, 5, or 6 tubes

For 1 1/2 volt radios of 4, 5, or 6 tubes requiring more power than Model "U" provides. List price \$10.50

COSTS YOU \$6.30

Free Literature and Further Information on Request

GENERAL TRANSFORMER CORP.
1254 W. VAN BUREN ST. • CHICAGO, ILLINOIS



HOW'S YOUR STOCK OF FIBRA NEEDLES?

NOW! FIBRA offers the *Only* Cactus needle for **AUTOMATIC Record Changers!**

A Complete line of Cactus, Steel, Sapphire and recording needles—All mounted on dignified Counter Cards to sell themselves, for you...

FREE! Humorous Booklets for your Customers with every order!

FIBRA Development Co.
1600 Broadway, New York City

A few good territories still open for factory representatives.

Busy BENCHES



NEAT ARRAY—Wurlitzer's, New York City, service manager says with the five test instruments shown in picture, he is now equipped to take on all sets from midgets to latest television units



READY TO GO—Testing equipment in Carl Fisher's service department (New York), does double duty, in and out of shop



MEN IN WHITE—This is only a portion of Radio Hospital's (Hartford, Ct.) service shop. Another bench with same complete equipment is duplicated on opposite side of shop. Proprietor E. C. Augstein is shown in action operating on a motor car set

New

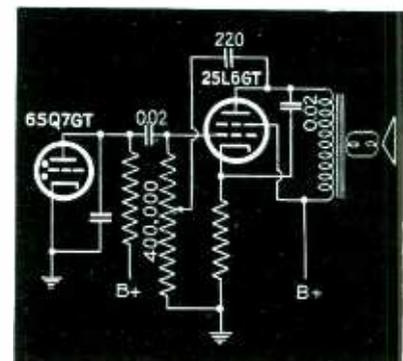
Feedback Tone Control

A novel application of inverse feedback for control of the high audio frequencies is shown in the accompanying diagram.

The grid resistor of the 25L6GT beam power tube is composed of the full resistance of a 400 M ohm potentiometer. The moving arm of this control is connected through a 220 mmf. mica condenser to the plate of the power tube.

The reactance of the condenser at high audio frequencies allows feedback of these frequencies to the grid of the tube when the arm is turned to that end of the control. This results in attenuation of these highs at this setting. At lower audio frequencies the condenser reactance is greater, in fact the lower the frequency the greater is the condenser reactance. Consequently little feedback of lows takes place and they remain practically unchanged.

As the control arm is rotated toward the ground connection the amount of feedback voltage decreases while signal voltage at the grid remains constant



and the decreased degeneration results in an apparent increase of highs.

It will be noticed that the cathode of the power tube is unbypassed resulting in constant current degeneration.

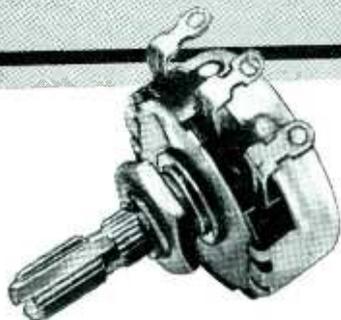
In this type of circuit there is no frequency discrimination and distortion at both high and low frequencies is kept to a minimum in the Emerson FH chassis containing both of these feedback circuits.

Phasing Speakers

When two speakers are operated together in a receiver it is necessary that they be properly phased, in other words the two cones should move in and out at the same time.

When once properly phased it is

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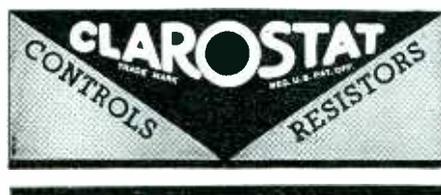
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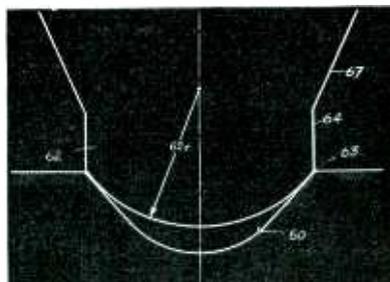
Groove-top Needle

In the process of manufacturing records the surface of the master disc is initially made of a waxy composition, usually harder in the interior. Thus in cutting this disc a cleaner cut is made at the top.

In the lower part of the groove the composition is more plastic, does not cut so cleanly and greater pressure is required to cut the full depth and push away the tailings. This causes the lower part of the groove to become irregular and this result is accentuated as the tip of the cutter becomes dulled because of excessive wear.

Phono needles or reproducing styli usually fit well down into the groove of the record in order to reproduce sound effectively. Thus the stylus follows the irregularities at the bottom of the groove which tends to result in a loss of response to the desired modulation, in increased response to undesired modulation and in increased distortion.

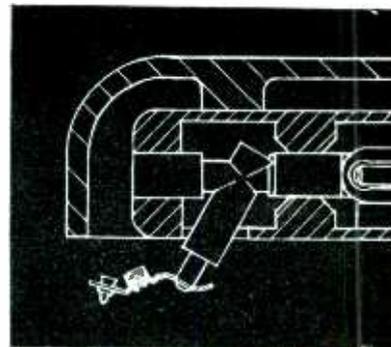
With the exception of steel needles, most styli have a small rounded point having a radius of about 2.3 mils. Styli having radii over 2.4 mils have been classified as seconds; and, if the radii exceeded 2.7 or 2.8 mils



or about 20% of 2.3 mils, they were discarded as virtually useless since they caused increase in directly radiated sound, a rapid record wear, and various other disadvantages.

One of the Crosley engineers discovered that by increasing the radius of the stylus tip from 3 to 6 times the increase previously thought permissible, certain unexpected and desirable results could be obtained. To mention but one, the results obtained with a 4 mil radius show a twofold reduction in acoustic radiation over the minimum occurring with a 2.5 mil radius. Perfected by John Reid of Crosley this larger diameter of the stylus permits it to follow the record groove along the upper edges and allows the lowest point of the stylus to clear the irregularities at the bottom of the groove as shown in the diagram.

Further reduction of acoustic radiation and other benefits could be obtained by providing a stylus having a relatively small mass, by providing an arrangement for connecting the stylus to the crystal cartridge which is stiffness-controlled instead of mass-controlled, and by damping the system



to control the transfer of forces to the pick-up. This, in electrical analogy, is equivalent to making the system capacitively reactive, instead of inductively reactive, throughout the range of frequencies desired to be reproduced from the inscription on the record and to providing resistance to lower the peak at which resonance occurs. This was accomplished by simply providing a jeweled stylus of light weight and connecting it to the chuck of the crystal cartridge by a berillium bronze spring and by attaching to the spring a small block of viscaloid which controls the movement at the resonance of the combination. This assembly is illustrated in the cross-section view of the tone arm.

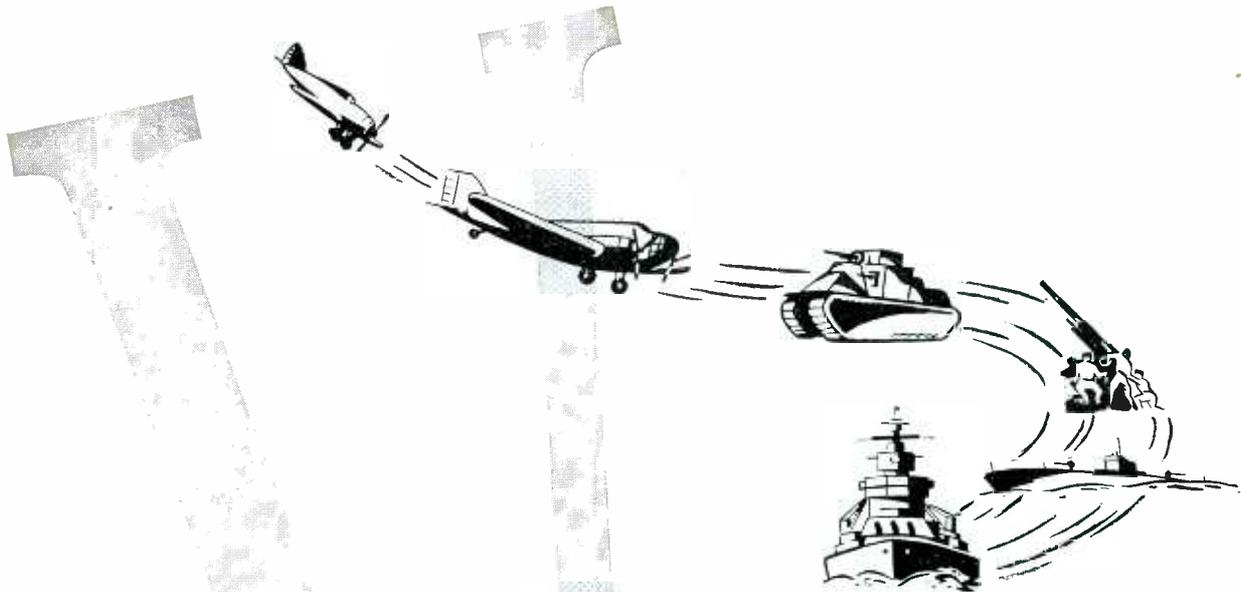
By choosing the proper constants the output obtained in respect to frequency is such that no compensating circuits are needed between the pick-up and the grid of the amplifier tube. This results in increased voltage being delivered to the grid of the amplifier, as compensating circuits conventionally used result in a loss in voltage of 18 db or more.

With this stylus, the factory reports that records might be played continuously on a record-changing phonograph for 500 times with little perceptible wear, while records played with a 2.5 mils sapphire for the same number of times were covered with a fine powder scraped from the groove and were so badly eroded as to be practically worthless. Not until the record played with the new stylus reached 2000 playings did the record show a similar amount of erosion.

OPPORTUNITY to Write

FOR YEARS readers have written and we have bought "Tricks of the Trade" items dealing with the repair of specific receiver makes and models and these continue to be a valuable asset to our columns.

WE BUY longer articles concerning the servicing of general receiver types as well and sometimes wonder how many readers realize that we prefer to obtain such material from men actually engaged in the repair business and therefore most likely to follow a practical rather than an engineering slant.



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How to Service OSCILLATORS

DEFECTS which have little or no effect upon other stages sometime kill the operation of this one entirely

By JOHN H. POTTS

MANY servicing "headaches" originate in the oscillator circuit of superheterodyne receivers. Defects which do not greatly impair the operation of other stages often cause serious trouble in oscillator circuits. It is not strange that this should be so since the oscillator is by far the most critical of all circuits in operation and adjustment.

Sometimes troubles are intermittent and hard to identify as oscillator breakdowns. Often it is not easy to isolate the defective part even when the trouble is localized to the oscillator circuit. In some cases proper operation can not be restored even by replacing every part in the oscillator stage because the actual defect may begin in some other section of the receiver.

In other cases it may be necessary to revise completely the oscillator circuit in the set to be repaired in order to accommodate available replacement components. So, let us look into this subject and see what common oscillator troubles are, how they may be located, and what can be done to fix them.

Typical Circuits

Typical oscillator circuits are shown in the accompanying diagrams. Those shown, to aid discussion, employ two tubes, one as the mixer, one the oscillator.

In Fig. 1 the output of the triode

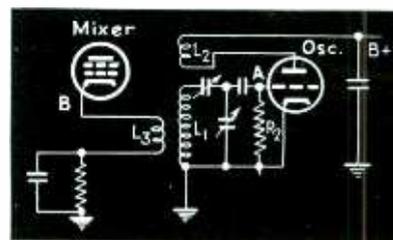


FIG. 2—Inductive coupling from the oscillator to the mixer with a bypassed cathode resistor

oscillator is fed through condenser C1 to the cathode of the pentode mixer. Note that the cathode resistor R1 is not bypassed. If it were, as indicated by the dotted lines, it would serve to short-circuit the oscillator voltage applied to the mixer and little or no reception would result. We mention this because it is frequently the case that many sets with obscure defects develop such troubles because of mistakes by inexperienced servicemen, many of whom have the belief that bypassing every cathode resistor must necessarily improve receiver performance. In circuits such as this, it is important not only that no condenser shunt the cathode resistor but also that the condenser C1 and its associated wiring be kept well away from the chassis to avoid capacity to ground.

Insofar as the oscillator circuit itself is concerned, during operation grid current flows through R2, caus-

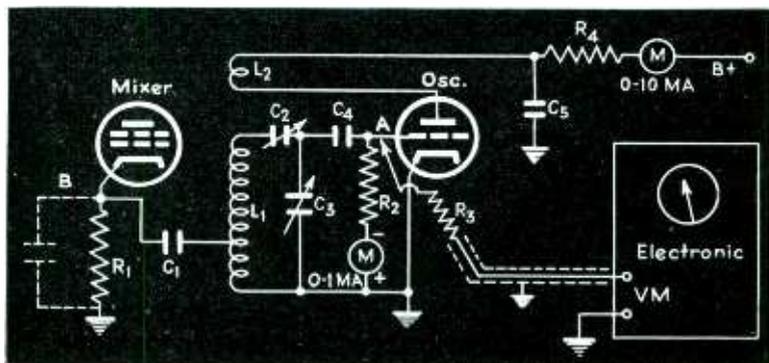


FIG. 1—Check points for a typical oscillator stage employing capacity coupling to the cathode of the mixer

ing a voltage to be developed across this resistor so that point A becomes negative with respect to ground. If, for any reason, the oscillator is inoperative, the voltage at A will be zero or even slightly positive. To measure this voltage an electronic voltmeter, or other extremely high input resistance meter, is best. Most electronic voltmeters have a 1-meg. resistor built into the probe (shown as R3 in Fig. 1) which isolates the capacity of the voltmeter leads from the oscillator circuit and thus avoids detuning the circuit under test.

Alternatively, an 0-1 ma milliammeter may be inserted in series with R2 as shown and the current in the circuit may be read. The actual rectified d-c voltage across R2 is then equal to the reading of the milliammeter times the resistance of R2 (usually about 50,000 ohms). Thus, if the reading of the meter is 0.2 ma (equal to .0002 amps) and the grid resistor is 50,000 ohms, the voltage is 50,000 times .0002 or 10 volts. We should expect the voltage to be from 10 to 20 volts (negative, of course) in receivers operating over the standard broadcast band. This voltage should remain fairly constant as the tuning condenser is turned over the band. On short-wave bands, however, such uniformity is not to be expected, but the voltage should be fairly high because a low oscillator voltage means reduced sensi-

tivity in the entire receiver.

Often there will be a 2-to-1 variation in voltage from the high to the low frequency end of the dial. It is a good idea to make a check over each band of an all-wave receiver, because occasionally you may find points over the tuning range where the voltage reading drops to zero; this indicates a "dead spot" and the band affected should receive attention. Possible causes of inoperation over a portion of the range are a defective tube, disarranged leads, moisture absorption in coil, wiring and associated parts and corrosion of the oscillator tuning condenser wiping contacts, creating a high resistance in the tuned circuit.

Plate Current Variation

If neither an electronic voltmeter or an 0-1 milliammeter are available, a 0-10 ma milliammeter can be inserted in the plate circuit of the oscillator, as shown in Fig. 1. The reading will change if the grid is touched with a finger or if oscillation is stopped by short-circuiting one of the oscillator coils. This meter will serve to indicate uniformity (or the lack of it) of oscillation but is not nearly so convenient to use as the grid meter. As the electronic voltmeter does not require any connections in the circuit to be unsoldered, it represents an excellent method for this type of check.

It is not enough to be able to check uniformity of oscillation; we need sometimes also to be able to check oscillation frequency. Many signal tracing instruments are equipped with tuned r-f receivers and indicators for just this purpose. When tuned to the oscillator frequency, an indication is obtained. Since this indication is obtainable even when the probe is not directly connected to the receiver under test, it is particularly valuable in checking intermittent receivers. Quite often, with such receivers, any metallic contact to the set is sufficient to restore operation, making troubleshooting very difficult. By this means, it may be ascertained if trouble is present in the oscillator circuit without actually making a connection to the set.

If no signal tracing instrument is available, it is possible to substitute an all-wave receiver, preferably one equipped with an indicator eye. When the set is tuned to the oscillator frequency, it will then be indicated on the tuning eye and frequency may be determined from the dial setting of the receiver.

The presence of the oscillator voltage in the mixer circuits of Figs. 1 and 2 can also be checked in the same manner. When a connection is made at point B and the signal tracing instrument is tuned to the oscillator frequency, an indication should

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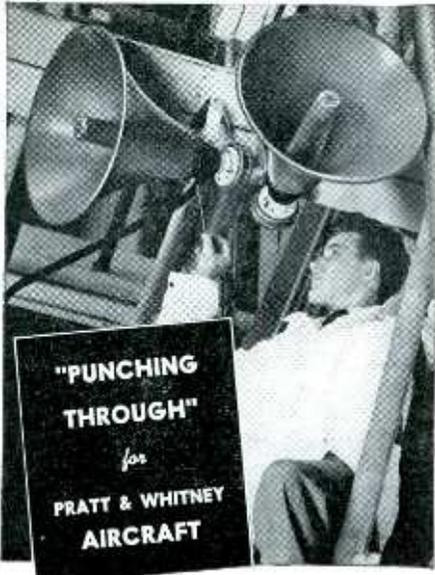
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be obtained. A sensitive vacuum tube voltmeter is also useful for this type of test, although it will not, of course, indicate the oscillator frequency.

Another type of circuit is quite popular, in which the oscillator and mixer stages are combined in one tube and coupling takes place within this converter tube. In many respects these may be checked as already described for separate oscillators and the additional troubles and methods of repair peculiar to this type will be discussed in an early issue of *Radio Retailing*.

TRICKS of the TRADE

RCA 99K

Squeals . . . variable pitch when volume control is adjusted. Trouble probably in section of multiple electrolytic condenser. Disconnect red wire of this unit from h.v. end of divider and try a 12 mfd tubular electrolytic between this tap and negative connection which is the 3rd tap from other end.

RCA U40

Change in volume . . . look for leaky ave bypass condenser.

Signal shift on dial calibration . . . remove old oscillator trimmer condenser from tuning assembly and replace with piece of aluminum next size in thickness. Use aluminum solder to fasten to condenser frame.

RCA 94X

Hums . . . bypass cathode of 6J7 tube with .25 mfd. condenser.

RCA 95T

Poor bass response . . . increase capacity of .005 plate condenser of 41 output tube in accordance with bass response desired.

RCA Q44

Chokes up with antenna connected . . . check 220 nmf. condenser in can of a.v.c.-i.f. transformer for open.

PHILCO 112

Intermittent oscillation, stops when set is switched off and then on . . . caused by condenser in bakelite case, as stamped No. 3615-J on side. Contains two condensers, the one bypassing the yellow resistor is at fault.

RCA 320

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RCA Q33

Squeaks as volume control is advanced . . . dress leads from 6F6G output tube away from grid circuit of 6SQ7.

RCA 45X1

No reception, but voltages show OK . . . check oscillator coil mounted on output transformer for open at terminals.

RCA 8Q1

Distorts . . . check volume control for increase in resistance.

SENTINEL 73B

Audio howl . . . replace volume control.

ZENITH 5S319

Intermittent . . . replace .02 mfd. condenser to arm of volume control. Movement of control tends to pull terminals apart. Leave enough slack when replacing condenser.

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6SL7GT—A single ended twin-triode amplifier of the high mu type with

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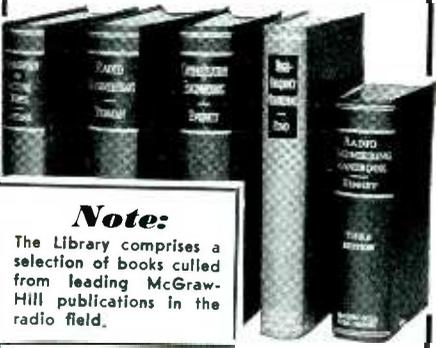
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(Continued from page 25)

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Mexico is a good illustration of the necessity for short-wave reception. The best stations and programs are in Mexico City, but these cannot be heard in the north except by short-wave.

TIME-PAYMENT

(Continued from page 26)

chase price of article plus accessories, installation or service charges but without interest, finance charge or insurance. Noted elsewhere in the same record must be the down-payment amount, description of any goods accepted in trade plus an estimate of its monetary value, the deferred balance amount, amount of insurance, if any, discounts extended, time balance owed and proposed terms of payment.

Beginning November 1, 1941, credit renewals, revisions and additions on sales made since September 1, 1941, will be permitted where these are necessary due to some legitimate customer difficulty, provided the new contract complies with Regulation W provisions. (Renewal, revision or addition may be arranged on transactions entered into prior to September 1, 1941, without conforming with provisions of the Regulation.)

Beginning January 1, 1942, it seems that monthly payments may not be less than \$5 on contracts subject to control by Regulation W.

It is also interesting to note that: While non-compliance with Regulation W may get retailers in serious "dutch" with the government it will not, according to the FRS, affect the right of dealers to enforce such contracts insofar as their relationship with their own customers is concerned.

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Be sure to compare this new 1942 Farnsworth line on every point. Call your distributor. Or write, wire or phone Farnsworth Television & Radio Corporation, Fort Wayne, Indiana.



(CK-74) The Corinthian, this year's greatest value leader—a cabinet of dignity and simplicity. Superb 9-tube radio and Farnsworth's new "Velvet Action" Record Changer.

(CK-92) The Sheraton leads the "furniture field"—authentic period design. 9 tubes with 11-tube performance. Sapphire stylus. Farnsworth DeLuxe Changer with Play Control and Record Storage.

(CK-93) The Georgian leads the "big set" field—luxurious lines characterize this impressive combination. 9 tubes with 11-tube performance. Solid top. Swing-out Farnsworth DeLuxe Changer. Sapphire stylus.



Frequency Modulation — Farnsworth quality is also available in Frequency Modulation receivers, in both period and modern cabinets.

Farnsworth
KNOWN FOR TONE

MAKERS OF RADIO AND TELEVISION TRANSMITTERS AND RECEIVERS, THE CAPEHART, THE CAPEHART-PANAMUSE AND FARNSWORTH PHONOGRAPH-RADIO COMBINATIONS



Eyes LIGHT! When they See
Motorola
1942 Home Radios and Automatic Combinations

**MORE NATIONAL MAGAZINE
ADVERTISING THAN EVER!
PLUS A GIGANTIC KEY CITY
NEWSPAPER AD CAMPAIGN
Over 200 Million Readers**

We don't care *where* your customers are . . . this year's Motorola Advertising will *tell* and *sell* them often! In Walla Walla, Tuscaloosa or Greater New York . . . wherever the Saturday Evening Post, Collier's, LIFE, Liberty or Movie-Radio Guide are read . . . your customers will see and *read* about Motorola.

This year Motorola's Ads are *bigger* and *better* than ever. They're full columns, half pages and full pages . . . in black and white and in color. They're stoppers! Big, dramatic illustrations that turn "by-passers" *into* buyers!

MOTOROLA DEALERS GET MORE HELP!

Motorola's new advertising promotion *works for you* . . . in your local newspaper, on road signs, in your store — also floor, counter and window displays. Motorola's plan is complete, comprehensive . . . organized with just one point in view . . . *more sales for you!*

Motorola HAS Everything

- Finer Automatic Changer PHONOGRAPH-RADIOS
- WIRELESS Automatic Record Changers
- HOTTEST PORTABLES
- Supreme CONSOLES
- BIG! TABLE MODELS
- 3-Dimension VITA•TONE

Motorola
AMERICA'S FINEST RADIO
FOR CAR and HOME

GALVIN MFG. CORPORATION • CHICAGO

