

RADIO

*and
Television*

RETAILING

NOVEMBER • 1941

A McGRAW-HILL Publication Price 20¢

*Business
under the
Emergency Program*

HOW to Meet Merchandise Shortages

See page 19



WHERE to Get Men

See page 18

P.R. MALLORY & CO. Inc.

MALLORY

Replacement VOLUME CONTROLS

The Greatest Advance Ever Made in Tapped Controls

THE PERFECT SIZE FOR EVERY APPLICATION!



Completely New ...And All-Mallory

PRECISION-BUILT LIKE A FINE WATCH!



MORE RUGGEDNESS THAN YOU'VE EVER SEEN BEFORE!



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



You've probably been up a tree over this matter of tapped controls.

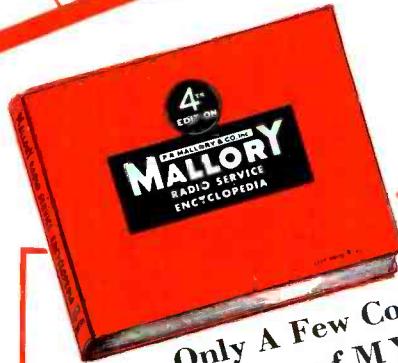
But this new Mallory Tapped Replacement Volume Control has put an end to confusion and worries!

Entirely new mechanically and electrically, this control gives you everything you've looked for! Installation is easy and foolproof. The shafts can't pull or twist loose. The A-C switch *snaps on*. There's no assembly work required!

What's more—Mallory controls mean quiet operation... smooth attenuation... gradual increase or decrease of volume. 16 controls fill 85% of your replacement needs. See them at your Mallory distributor's today—and they will be *your* controls from now on!

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

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



Only A Few Copies of MYE Left!

Don't Miss Out! Order Yours Today!

Phone Your Distributor Now!

There's A Growing Swing To Mallory Replacement Condensers!

Complete coverage... color-coding for instant voltage-identification of paper tubular condensers... mounting features that others have tried to copy... long-life construction... all help account for this swing to Mallory. No other line of replacement condensers gives you such complete and dependable coverage!



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

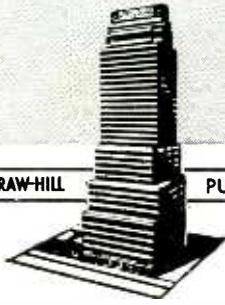
RADIO

and Television RETAILING

A McGRAW-HILL

PUBLICATION

NOVEMBER 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

EMERGENCY MESSAGE.....	13
SALES PHOTOSHORTS.....	14
WHERE TO GET MEN.....	16
CHAIRSIDE CONVENIENCE.....	18
HOW TO MEET MERCHANDISE SHORTAGES.....	19
ABOUT THAT TAX.....	20
USED RADIO SPECIALIST TALKS.....	21
SOUND AT WORK.....	22
FM CATCHES PUBLIC EYE.....	23
UTILITY SERVICE PROPOSAL.....	24
CHRISTMAS GIFT PREFERENCES.....	30
PREVIEW OF NEW PRODUCTS.....	31
OFF THE DIAL.....	36
ON THE NEWSFRONT.....	37
SPECIAL SERVICE BENCHES.....	44
CIRCUITS OF THE MONTH.....	45
TRICKS OF THE TRADE.....	47
SERVICING CONVERTERS.....	48



SALES STATIC . . . I bought three tubes at the drug store but it still won't work.

McGRAW-HILL PUBLISHING CO., INC.

RADIO and Television RETAILING, November, 1941, Vol. 26, No. 11. 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 9 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

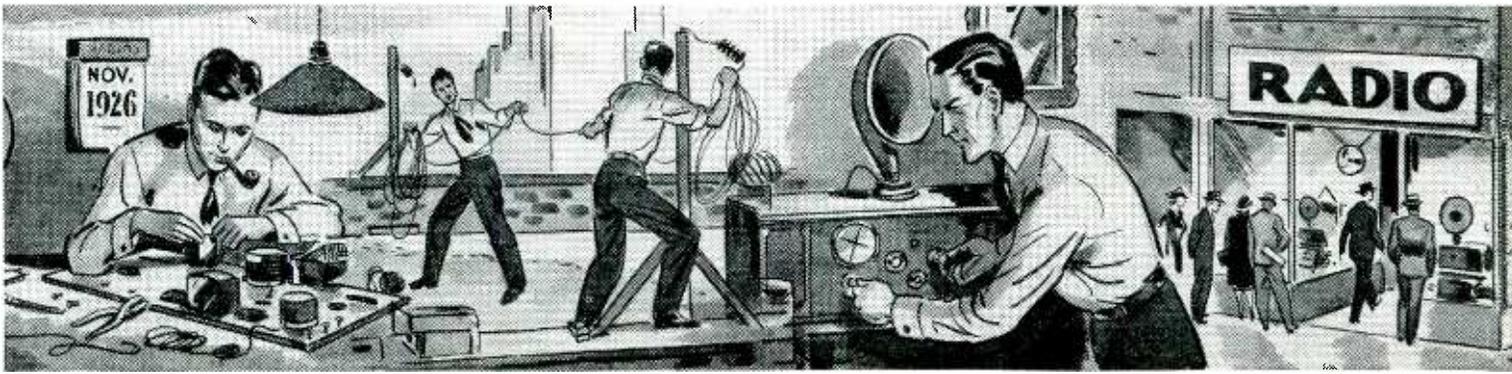
JAMES H. MCGRAW, JR., President
 Howard Ehrlich, Executive Vice President

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
 J. E. Blackburn, Jr., Director of Circulation



The Story of Two Novembers...

This is November—and our Birthday Month:
The Fifteenth Birthday of Network Broadcasting
—But this isn't just a story about us.

This story is about some things that grew up with us
Between two Novembers, 15 years apart . . . a story
that's bigger than we are,
And we know it.

It isn't only something on a calendar.

And it isn't the sort of thing that you can analyze
By counting the colored counties on a map.

Though a map's one way to look at it . . .

A map can show you how, for instance,
In nearly every county of America,
We can bring our people together, as into one room
—Out in Montana, down in Rhode Island, across the
plains of Texas—

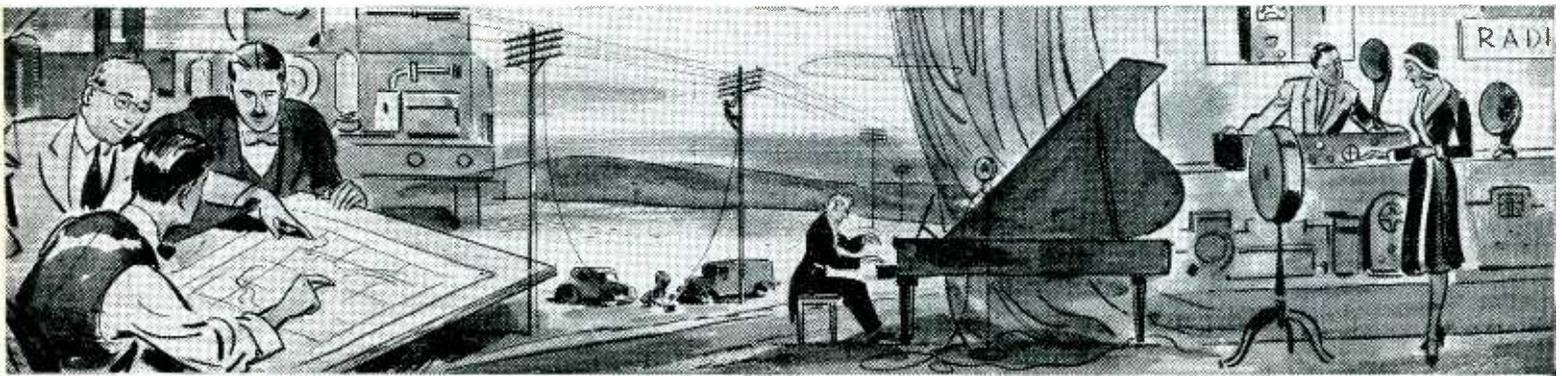
When the President speaks to the people . . . when
the destiny of the nation rests with the people
. . . or when the people want to be told
The facts that a people should hear.

Yes—and a map can make you feel, perhaps,
How rich and poor, strong, weak, young, old
(But Listeners all!)

Are gathered today into a transcendent unity
Beyond achieving in that other November
15 years ago. We have removed forever
Cracker-barrel sectionalism . . . misunderstandings
between City and City, State and State.
And something has been born that was not here
before.

Other generations may have dreamed
What these last 15 years have made come true:
The pioneer, rolling westward through days of dust
And days of snow,
May have dreamed how some day we should end





The isolation of geography,
 Binding New York to Cheyenne with the speed of
 light: hurtling darkness and storm, and through
 wind and lightning speaking
 From the Atlantic to the Pacific, with

One voice
 To one nation
 Indivisible!

* * *

But the story isn't only in the maps . . .
 It's in the people, after fifteen years.
 It's a pattern in the people.

One-fourth of our people have lived with Network
 Broadcasting
 Since the day they were born . . .
 And more than a third of us have lived with it
 Since we were five years old.

Count *that*, when you measure
 The strength, the power, the influence
 Of Network Radio today
 On the minds of Americans!
 It's a pattern in the people . . . Look around you.

It's a pattern in their living: their waking, their work-
 ing: their leisure and laughter: their dancing and
 buying. They get up to network radio, and they go
 to bed to network radio.

It's a habit . . . and you can't erase it.

* * *

During these 15 years, the National Broadcasting
 Company has become a part of America.

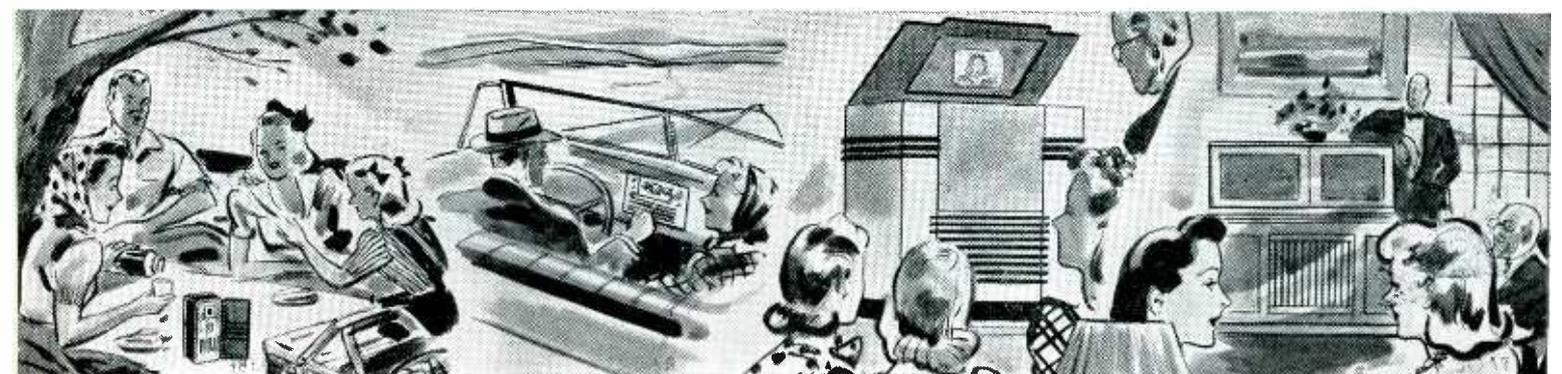
It belongs.

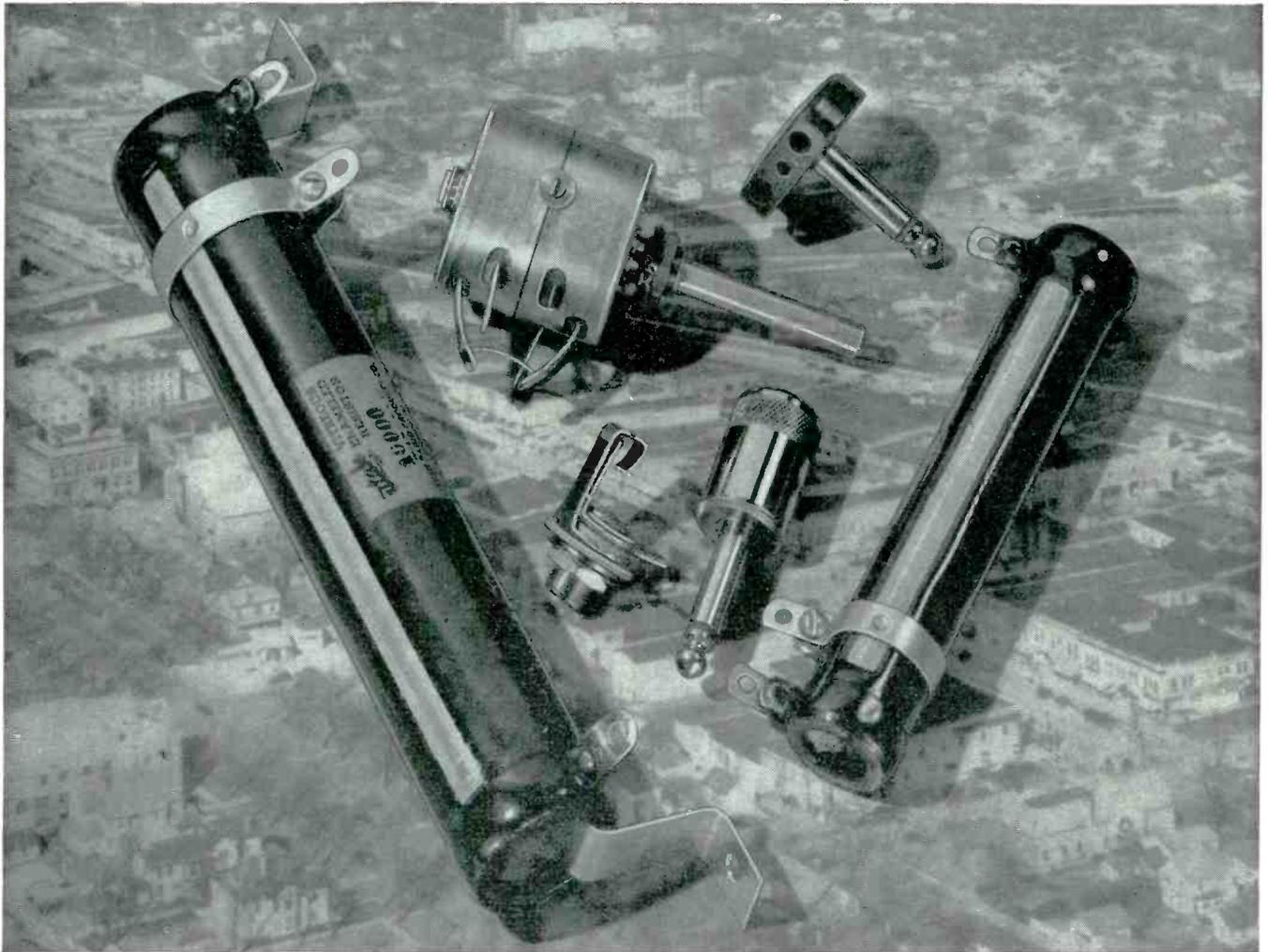
Let's say it simply:—

For 15 years, the National Broadcasting Company
 has been proud of its job. It's been a big job, and
 we've tried to give our best to it. We must have.
 For today, as every day since November 15, 1926,
 more American families listen to NBC programs
 than to those of any other broadcasting system!

NATIONAL BROADCASTING COMPANY

A Radio Corporation of America Service





Why Utah-Carter Parts Keep Millions of Users Satisfied . . .

● In offices, factories, homes and experimental laboratories, the country over, Utah-Carter parts are keeping the users of numerous types of equipment satisfied. Because dependable performance is assured at every Utah-point, the proper functioning of the entire unit is protected. The dangers of failure because of "the loss of a horse-shoe nail" are eliminated.

You, too, can be sure that your work and your reputation are protected when you insist on the use of Utah-Carter parts. Utah engineering keeps abreast of all industry developments. Utah precision manufacturing assures maximum dependability and economy.

Utah-Carter parts are distributed nationally through recognized jobbers and dealers. Be sure the Utah trademark is on the carton. If your supplier can't furnish Utah-Carter, write us direct. 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.

IT PAYS TO INSIST ON THESE HIGH-VALUE UTAH-CARTER PARTS

VITREOUS ENAMEL
RESISTORS

VOLUME CONTROLS
Wire-Wound Type

Improved Carbon Type
POTENTIOMETERS

RHEOSTATS • PLUGS • "T" and
"L" PADS • LONG and SHORT
JACKS • IMPJACKS • JACK-
SWITCHES • PUSH-BUTTON
SWITCHES • PLUG-IN TYPE
D. C. RELAYS



UTAH-CARTER PARTS
SPEAKERS • VIBRATORS • TRANSFORMERS



HERE'S PROOF
THAT BUYERS PREFER...

Emerson

with "Miracle Tone"

Reprinted
from **NEW YORK WORLD-TELEGRAM**

Emerson Big Radio Seller

A reader study of radio buying habits just completed by a newspaper here indicates that Emerson radio sets for use in the home have been purchased predominantly by the public during the last three years. Of all home radios bought in the first six months of 1940, more than 25 per cent were Emerson. This represents a substantial increase over 1938 and 1939, when Emerson also led the field with over a 19 per cent purchase preference for each of those years.

This reproduction from an article in the **NEW YORK WORLD-TELEGRAM** of October 16, tells the whole story. In one of the world's most competitive markets, **EMERSON** out-sells all other home radios. That's proof of leadership! Emerson will out-sell them all in your store, too!



Here Are 3 Great Reasons Why Emerson Leads!



Model 413

GET EUROPE DIRECT

6-Tube AC-DC Superheterodyne . . . International Broadcasts, Standard Broadcasts and Police . . . 6" Oval Dynamic Speaker . . . AVC . . . Tone Control . . . Band-Spread Slide-Rule Dial . . . Handsome two-toned bakelite cabinet.



Model 428

3-WAY PORTABLE—Plays On Own Power, Plays on AC, Plays on DC

6-Tube Superheterodyne . . . 6 1/2" PM Dynamic Speaker . . . AVC . . . DeLuxe luggage type case with removable hinged door; simulated leather in choice of 5 colors.



Model 447

AUTOMATIC PHONORADIO—for Continuous Playing of 10" or 12" Records

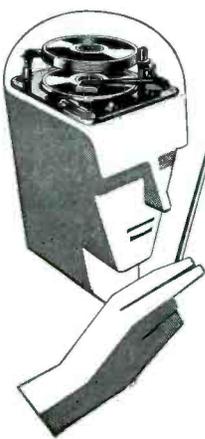
7-Tube AC Superhet. (Incl. Extra Rectifier) . . . Standard Broadcasts and Police . . . 6 1/2" Dynamic Speaker. Feather-Weight Tone Arm . . . Table model of selected walnut veneers.

There are 50 Great New 1942 Models — Write Your Distributor Today for Full Details

EMERSON RADIO AND PHONOGRAPH CORPORATION • 111 Eighth Avenue, New York, N. Y.



SCORES OF SWEETIES IN EVERY STATE



This new Magic Brain RCA Victrola has what it takes. Out on its own for only a couple of months, it's already the possessor of mash notes galore.

Why so popular? Well... we did a little analyzing and think this lineup gives the answer:

- 1 NEW ROLL-OUT RECORD CHANGER!** It glides out automatically. Your customers load records at comfort level.
- 2 REAL LIFE TO MUSIC...NO MORE OBJECTIONABLE MECHANICAL NOISES!** The New Jewel-Lite Scanner and lightweight Flexible Tone Bridge, important parts of the Magic Tone Cell, recreate records with brilliant tone fidelity and completely eliminate objectionable needle chatter.
- 3 NO NEEDLES TO WORRY ABOUT!** Old-fashioned needles are entirely eliminated by the tiny sapphire point of the Jewel-Lite Scanner of the Magic Tone Cell.
- 4 RECORDS LAST INDEFINITELY!** By exerting astoundingly light pressure

on records, the revolutionary Magic Tone Cell extends record life indefinitely.

5 RECORDS PLAY, STOP, CHANGE—AUTOMATICALLY! Just push a button and the Magic Brain does all the work—even turns motor off when records have been played.

6 TELETUBE RADIO! Standard, short-wave and foreign reception with powerful push-button set containing Teletube and new Audio System for finer amplification.

The instrument to push is the one with "oomph." RCA Victrola Model V-215 (illustrated) has it.

It means money to you!



RCA Victrola

RCA Manufacturing Co., Inc., Camden, N. J.
 A Service of the Radio Corporation of America
 For Canadian models
 write to RCA Victor Company, Ltd., Montreal

If You Want the Best

... We Recommend these new "Coaxial" Speakers

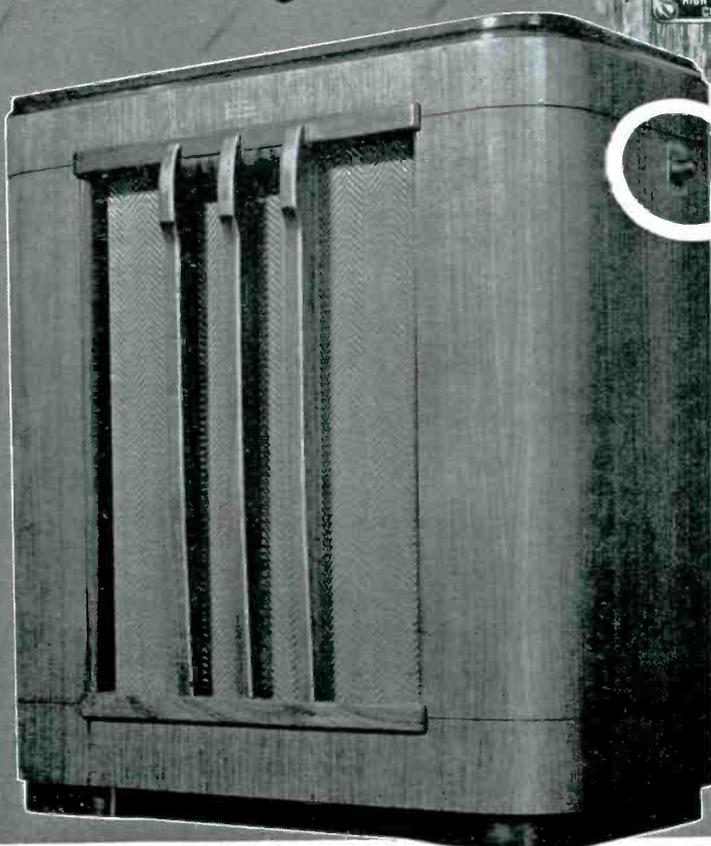
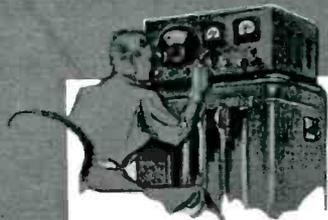
Ideal extension reproducer for home, club, or institution. Insures full realization of the potentialities of the finest FM or AM receivers.



Excellent "across-the-room" unit for natural, more enjoyable reproduction with chairside tuners and combinations.



Recommended by manufacturers of professional type FM/AM receivers. Be sure you can enjoy FM at its best!



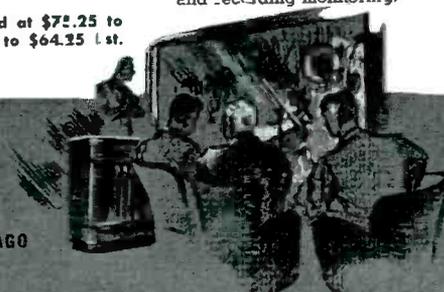
Brilliant Performance plus Complete Versatility with these New Jensen "Coaxial" Speakers

Not one—but two important achievements are combined in these new Jensen Coaxial Speakers and Reproducers! First... extended-range high-fidelity performance that meets the most critical professional requirements. Second... complete versatility, made possible for the first time by the new Jensen High Frequency Control. Now one reproducer covers every listening requirement, instantly adjustable for most satisfactory results on everything from wide range FM to home phono records. And the cost is so low it will surprise you. Data Sheet No. 120 gives complete details. Write for it today.

Four complete reproducer types with 12" to 15" speaker sizes, priced at \$75.25 to \$118.75 list in striped walnut cabinets. Utility cabinet models down to \$64.25 list. Coaxial speakers only as low as \$29.50 list.



Smooth, extended-range high-fidelity response eminently qualifies these reproducers for the most exacting service in FM/AM broadcast and recording monitoring.



Jensen

JENSEN RADIO MFG. CO., 6601 S. LARAMIE AVE., CHICAGO
CABLE ADDRESS: "11RAD" CHICAGO

F.M. AT ITS BEST!

CROSLEY

LEADS WITH 14 EXCLUSIVE "FIRSTS"



IN this superb massive cabinet of precious woods is the finest musical instrument Crosley has ever built. It has four bands, including F. M. 12 tube* radio-phonograph combination, with the patented Floating Jewel Tone System virtually eliminating needle noise and surface scratch; and that other exclusive Crosley feature—the Master Tone-Control.

There are two Crosley FM Console Models in vertical cabinets without Record-Players.

(*Including rectifier and four double purpose tubes.)

**The Best Value You Can Offer is Crosley F. M.
With 14 Exclusive Features That Will Make F. M. Sales!**

CROSLEY F. M. receivers really give F. M. reception at its best. The weakest signals are received with noise reduction and fidelity does not change for weak or strong signals. The exclusive Crosley band width switching reduces adjacent channel inter-

ference. Even repeat points on the dial are eliminated by the Crosley 13,700 Kilocycle I. F. Every Crosley F. M. set has four band reception. The model above is indicative of the quality in the Crosley line. Write, wire, or phone today for further information.

THE CROSLEY CORPORATION
CINCINNATI, OHIO

POWEL CROSLEY, Jr., President

HOME OF WLW—"THE NATION'S STATION"—70 ON YOUR DIAL

WHERE RECEPTION IS DIFFICULT

THEY DEPEND UPON **RAYTHEON** TUBES
ON THE SUPER CHIEF

Los Angeles to Chicago in 39 hours and 45 minutes on the streamlined Santa Fe Super Chief! One of America's fastest and most luxurious trains . . . Motion Picture Stars, famous writers and internationally known industrialists all ride the Super Chief.

Radio reception on the Super Chief must be the best obtainable . . . that is why the Santa Fe chose RAYTHEON TUBES. They knew they could depend upon RAYTHEONS to deliver peak performance at all times.

There must be a good reason why so many service-men and dealers are turning to RAYTHEON TUBES for replacement . . . You can have the answer by asking your RAYTHEON distributor today. Remember, for all the extra quality . . . RAYTHEONS Cost No More!

Raytheon Production Corp.

NEWTON, MASS. · NEW YORK · CHICAGO · LOS ANGELES · ATLANTA



WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS



*Testing Crystal Cartridges
against Astatic's established
standards of operating efficiency.*

**ASTATIC
CRYSTAL
PRODUCTS**

*are made to
conform to*
**ESTABLISHED
LABORATORY
STANDARDS**

*of Operating
Efficiency*

● That the greater number of leading manufacturers of electrical phonographs and radio-phonograph combinations prefer and use pickup arms equipped with Astatic Crystal Cartridges is evidence of Astatic Cartridge superiority. Careful design, engineering and assembly have contributed to their operating efficiency and dependable service over a long period of time. Whether it is Crystal Cartridges, Microphones, Pickups or Recording Heads, Astatic products can be depended upon to measure up to your highest expectations.

See your Radio Parts Jobber
or write for Catalog.

ASTATIC

THE ASTATIC CORPORATION

YOUNGSTOWN, OHIO

Licensed Under Brush
Development Co. Patents

In Canada:
Canadian Astatic Ltd.
Toronto, Ontario

Announcing

The Merger of "Radio Retailing" with "Radio Today"

THE publishers of Radio Retailing are happy to announce that, in December, this publication will be merged with Radio Today.

We have taken this step in the belief that your interests, and the interests of the entire radio industry, will be better served by the greatly expanded and improved editorial service which the consolidation will make possible. The new Radio Retailing, combined with Radio Today, will therefore bring to you in one magazine the services and features of these two outstanding publications—features which have attracted to them the largest and most responsible groups of retailers, servicemen, distributors and manufacturers that have ever been assembled.

In coming issues of the new consolidated magazine, you will find many of the same features which have heretofore characterized Radio Retailing. Certain members of the Radio Retailing organization will continue with the new consolidated magazine, which will be published by Caldwell-Clements, Inc., 480 Lexington Ave., New York, the present publishers of Radio and Television Today. Thus, Radio Retailing will again be under the direction of O. H. Caldwell and M. Clements, who for so many years supervised its publication for McGraw-Hill.

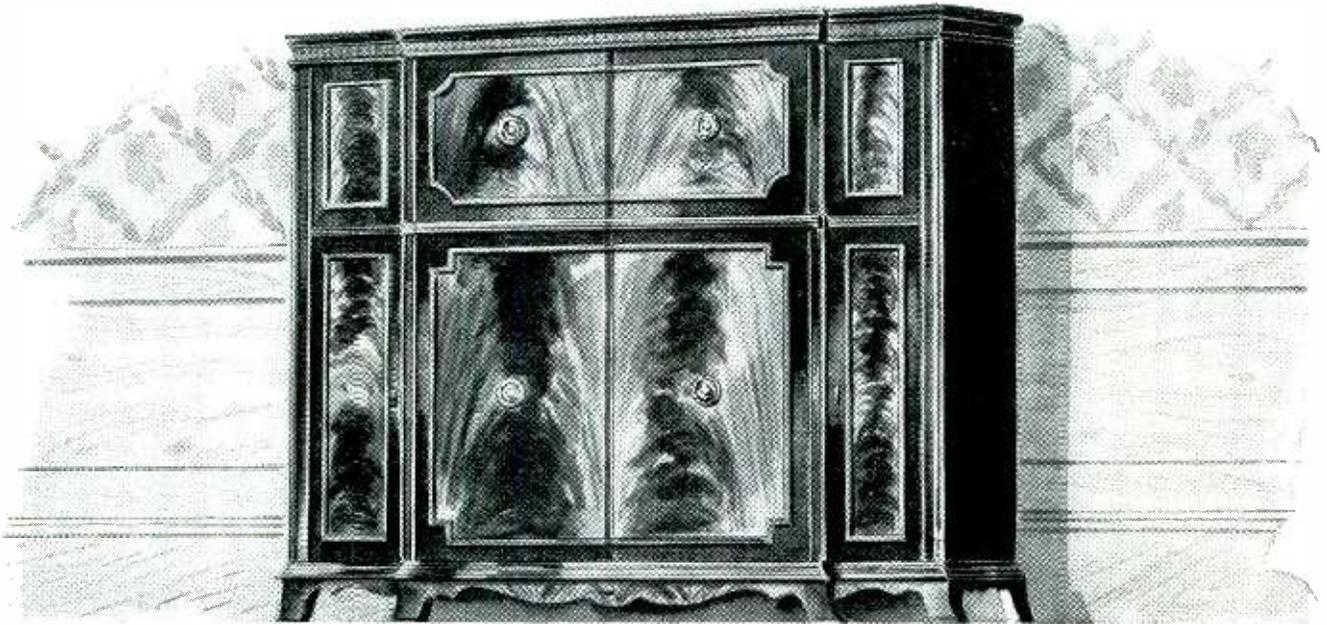
Beginning December, one copy of the merged magazine will be sent to each paid subscriber. To those subscribers who have paid for both Radio Retailing and Radio Today, an extension will be made to cover the full number of issues paid for.

The McGraw-Hill Publishing Company, for the past 16 years publishers of Radio Retailing, wishes to take this opportunity to express its appreciation of the support which the readers have given us. We know that the consolidation of these outstanding publications, with their similar high concepts of usefulness to the radio trade, will provide an opportunity for wider editorial accomplishment and will merit your continued interest and loyalty.

THE MCGRAW-HILL PUBLISHING CO.



PRESIDENT

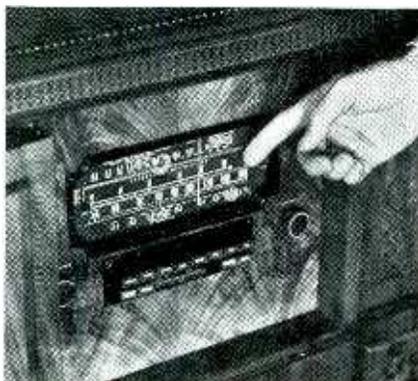


How to sell this De Luxe Radio-Phonograph Combination!



"This instrument brings you great music as the masters meant it to be heard!"

When you sell the Stromberg-Carlson "Georgian Model," you are selling an instrument that looms above all other radio and phonograph combinations as Beethoven towers over the world of music. Demonstrate it as a jeweler would show the finest watch made.



"You get FM, standard, and short wave broadcasts — but with a difference!"

The purity and fidelity of its reception and reproduction is without equal. Explain to your customer that with the exclusive "full-floating," Coaxial Speaker system every whisper and overtone of the program is held intact, without distortion. Remind him that the exclusive Acoustical Labyrinth blots out "radio-set boom," keeps tones brilliant.

"You'll be proud of this instrument and its performance for years and years!"

Your customer will want to know that the excellence of the "Georgian Model" extends from the authentic Georgian walnut (or mahogany) cabinet, down to the most hidden, soldered connection. His investment has enduring value. And always he has the satisfaction that, "There is nothing finer than a Stromberg-Carlson!"



"Its record changer is one of the finest made... and there is no better pick-up!"

The "Georgian Model's" phonograph plays both 10" and 12" records, mixed in any order, and stops automatically after the last record. Demonstrate how extended fidelity for records is obtained by pushing any FM button. Discuss the efficiency of the feather-light, permanent point pick-up that has no needles to change, and lengthens record life.

STROMBERG-CARLSON

ROCHESTER, NEW YORK

*Licensed under Armstrong FM Patents
A FINER RAD'IO FOR STANDARD PROGRAMS—THE ONLY RADIO FOR FM AT ITS BEST

EMERGENCY

Message

ALTHOUGH this message is, of course, addressed primarily to dealers, there will be no permanent injury to distributors and even those manufacturers who happen to read it.

Business is supposed to be enjoying the fruits of a "seller's market" brought on by diversion of critical raw materials to defense. Slow shipment of certain radio items has, for a fact, to some extent supported this pleasant phrase.

Radio Retailing nevertheless bets a subscription to its next twelve scintillating issues that there is not a man in the field who can prove that, because of the emergency program, he:

- (a) *Has absolutely nothing left on his floor to sell, or*
- (b) *has had his door beaten down by people rushing to buy.*

It is doubted that this unique offer will seriously overload the publication's mailing facilities. There are, in our estimation, several good reasons why the wager will probably find no takers at all.

FOR ONE THING, it is known that radio manufacturers collectively not only made and shipped more merchandise in the first ten months of this year than they did in the first ten of 1940 but *are still turning out sets in substantial number.*

For another, it is also known that most of the larger outfits and some of the smaller actually have more indispensable materials on hand at this time than they had one year ago and have developed substitutes for others.

For still another, it is noted that the initial impact of retail buyers trying to beat "ersatz" materials, time-payment restrictions and even the new tax to the draw is *already tapering back to near-normalcy.*

There is, of course, always the threat that some broad governmental edict radically reducing radio receiver production may be laid down (although no such ukase as those imposed upon refrigeration and automobiles has yet been proposed) and actually make sets rarer than hen's teeth. And there is always the promise that increase in consumer buying power due to defense industry employment may actually cause cash register bells to ring loud enough so that they can be heard above ordinary shop noises such as, say, the dropping of a pin.

The fact still remains that *neither of these things has yet occurred.*

ALL THIS TALK about a "seller's market" is positively dangerous, at least until such time as we actually have one. It leads men who would otherwise be on the job building profitable business for today and safeguarding demand for tomorrow to sit on their, oars.

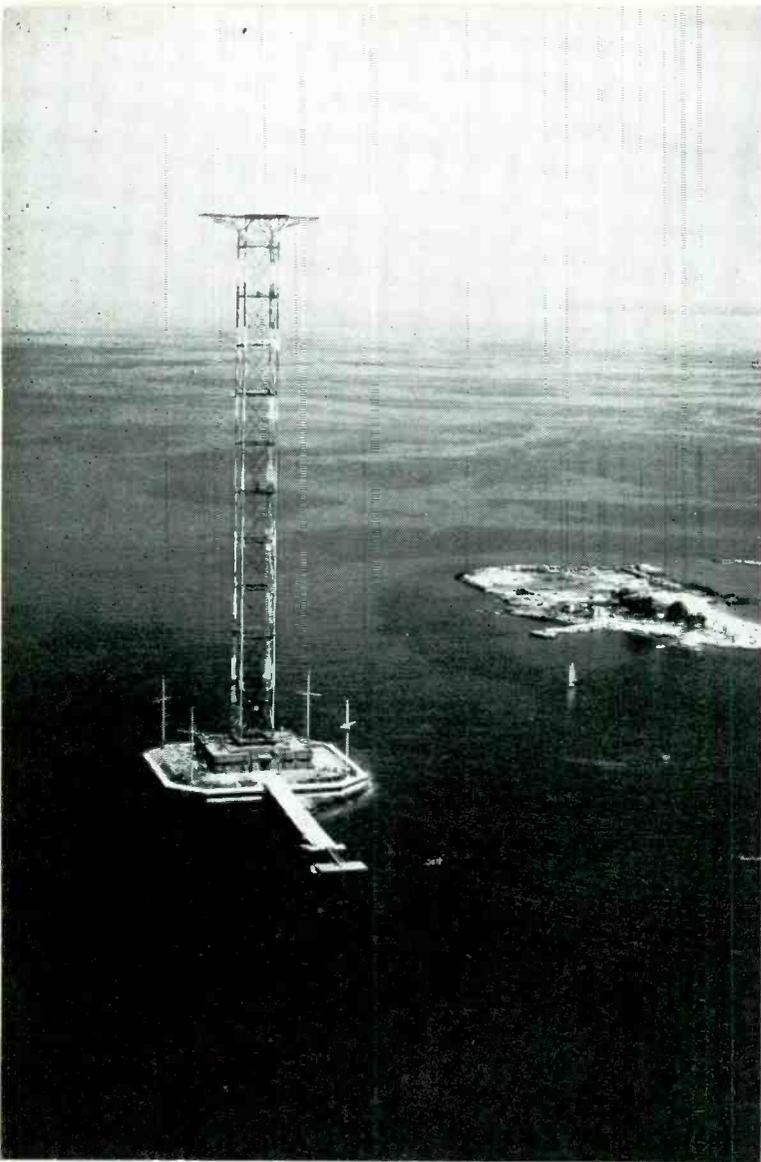
You know, and we know, that without continuous promotion of radio by every man and every means, this industry can and will find a way to produce one hell-of-a-lot more merchandise than the public will ever trot right up and buy of its own free will and accord.

Call the market what you will during the emergency but *keep that sales pressure on!*

W Mac Donald

Editor

PHOTO*Shorts*



PICTURE OF THE MONTH

WABC's new transmitter occupies tiny "Columbia Island" in Long Island Sound, just a few miles from the heart of New York City. Unique vertical antenna, new equipment in the building at the base of it and a perfect salt-water ground path has given its signals new "wallop" and quality



EAVESDROP ON THE WORLD

Soprano Margaret Speaks of the "Voice of Firestone" program sees at first hand how NBC's listening post at Belmore, Long Island, monitors broadcasts from major capitals 24 hours a day, passes translations along for inclusion in American news flashes. Linguist Jules Van Item tunes in a blast from Berlin

ANOTHER WAY TO SKIN A CAT

Stienert Hall's new shop in Springfield, Massachusetts, flies in the face of the current trend toward visual display of phonograph records, concealing stocks beneath counters. Manager says plenty of sales help plus an efficient indexing system peddles more platters for him

PRIZE WINNER

This giant reproduction of a turntable and pickup won a first prize among window display entries recently submitted by music merchants to their national association of stores. Designers: Elmore Goldthwaite and Catherine Bancroft of San Francisco's Sherman, Clay Company





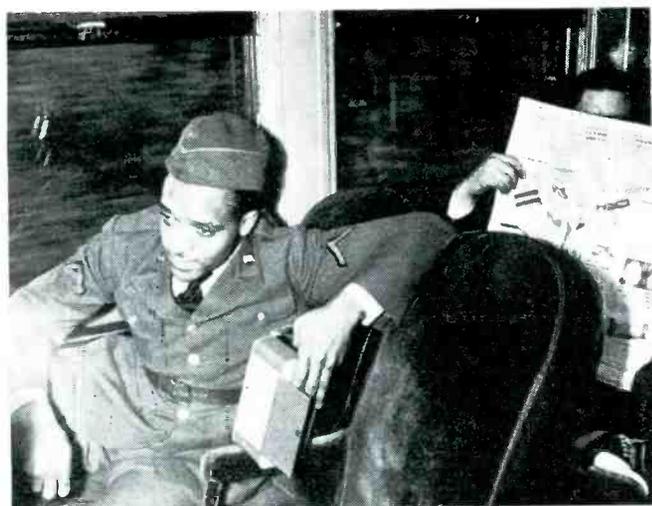
USO LICKS "WRITER'S CRAMP"

Soldiers and sailors stationed at the Norfolk, Virginia club for service men keep up the morale of the folks back home without the necessity for writing since the National Catholic Community Service installed a recorder, provided facilities for mailing discs



GOOD OMEN FOR AMATEURS

Complete "ham" station W2OEC, installed in the U. S. Signal Corps Replacement Training Center at Fort Monmouth, New Jersey, operates on a strictly amateur basis, handling messages between trainees and their homes. Men with licenses relax by operating Hallicrafter and Meissner equipment after the day's duties are over



EVERYDAY SCENE

Soldiers on leave find it tough traveling long distances between camps and their homes. Here's how private Roy Hewlin of the 366th Infantry, Fort Devens, Massachusetts, solves the problem with a portable radio while riding the B & A (left)

TRICKY TELEVISION PROGRAM

Arthur Murray dancers inject a note of novelty into "Fashion Discoveries," television fashion show transmitted over NBC's video rig WNBT

HOOKS SOUND TO SERVICE

Ask the driver of the service truck operated by Schweitzer of Racine, Wisconsin, about sound or inter-communication equipment and he trots back to his trailer, towed on all calls, rents, sells or repairs such equipment right on the spot



SERVICEMEN...

By **HAROLD F. JENKINS**

Fred C. Harrison Co., Elmira, N. Y.

THE FIRST solution that occurs to radio dealers when service personnel becomes difficult to hold due to the attractiveness of emergency work in local factories and the induction of men into the armed services is to "farm out" repairs.

A trend noted among those inclined in this direction is delegation of the title "Service Manager" to some non-technical employee, whose job it then becomes to pick up sets from homes, take them to the shop performing the actual work, relay the estimate and eventually return the finished job to the customer together with a bill. This recent innovation retains customer contact for the store while at the same time permitting it to secure favorable contract rates from technicians who need not leave their benches.

Other dealers, realizing that the extraction of full profit from service work may be of even greater importance to them in the event that merchandise shortages become more severe, are leaning in the opposite direction, making every effort to bolster their own technical personnel. To them, particularly, the following suggestions will prove useful:

Parts Jobbers May Know

Parts jobbers can often help dealers locate new, full time employees. Most jobbers know every radio man in the section they serve.

Some so-called "experimenters" are really good, contrary to general opinion. They've had the time to study theory as well as practice and, in some instances, are "up" on modern circuits to an even greater extent than practicing repairmen.

Jobbers can tell you where such men work, in places like gasoline stations and other low-pay jobs



Where to

HELP for retailer whose sales and service staff has been

outside the radio field. They are often willing to accept full time radio work.

Schools Are Good Bet

Radio schools will frequently furnish names of men in your locality who have completed or are completing radio service courses.

Men even part way through their courses can, in a pinch, do pretty good repair work. And there are always men who have completed their course but have never sought employment, merely playing with radio as a hobby. Attractive offers can frequently wean them away from present jobs.

While on the subject of schools, don't forget last year's high-school graduates. Many advanced schools have electrical or radio courses. Every year, among graduates, there are two or three who are outstanding in their class. Contact people in charge of such school classes and ask them to check their lists for most likely material.

All high-school graduates don't go to college. Some, though not experienced enough at first to do all kinds of repairing, make good second men when working under close supervision. These boys, with a little bench experience, will rapidly

develop into first class servicemen if properly directed.

Amateurs, especially the old-timers, are worth consideration. For years, they have made radio their hobby.

Although many amateurs have good-pay jobs in other industries, not all of them are happily employed. An appeal to the local "ham" club (nearly every town has one) should place you in contact with these men. Or, where no clubs exist, try the "Radio Amateur's Call Book," which lists all licensed operators and their addresses. Your parts jobber usually has a mailing list on hand, too.

Warning: Under the present existing emergency radio dealers, when attempting to replace servicemen, should not deliberately "raid" competitors. Such practice inevitably starts a mutually unprofitable cycle of "jockeying for position."

Another point: The day of cheap labor is at an end for full or part time radio men. Different sections vary, but in my estimation, few plans of compensation will in the immediate future attract and hold good men unless they are based on a very minimum earning of seventy cents hourly. This will mean increasing service charges, and it is high time that this happened.



SALESMEN . . .

By **JACK HAIZEN**

Terminal Radio Corp., New York

Get MEN

raided by factories with defense contracts and the draft

I HAVE BEEN ASKED the question: "Where can the radio retailer find salesmen to replace those drafted, or lured away by better paying defense jobs?"

Some dealers think that's no problem; they "won't need men if they haven't the goods to sell." Others think they need only throw "wrapper-uppers" into the sales force. Still others think they can get away with just letting customers help themselves.

Obviously, the first is a "sour" perspective. Most dealers have so far been getting a pretty fair proportion of the sets they order, despite the fact that increased consumer demand has caused them to order more heavily than last year. True, priorities will hit future radio production, but substitutes can change the picture over-night. For the second, you probably will agree that it takes more than a wrapper clerk to actually "sell" radios. And the third is inane in any major specialty business.

Tapping Other Fields

To dealers who are now confronted with the problem of finding salesmen and to those radio merchandisers who may be faced by it at any time I am only too happy to

offer the following suggestions:

First, there is no reason why good salesmen from businesses adversely affected by national defense needs cannot find profitable refuge in selling radios, particularly the more elaborate sets.

The men I would choose would have neat appearance, confident sales approach, poise, eagerness to

learn the relative merits of merchandise, ability to create desire for the models in stock and that natural alertness inherent in good salesmen to sense when the time is ripe to close a sale.

Technical radio knowledge would not be necessary. Selling radios demands sales talent, and "good salesmen" are equipped with this requisite, no matter what their line may be.

Three Good Substitutes

I've always admired the enthusiasm and warm personalities of automobile salesmen. If the recent layoffs of automobile factory workers and government priorities placed on this industry's materials are an indication of limited availability of cars in the near future, I know several automobile salesmen I will certainly approach. And if the

(Continued on page 50)

* Try These SCHOOLS		
	Average Age	Salaries Expected
DE FOREST'S TRAINING, INC. 2533 N. Ashland Ave., Chicago	21-25	\$20-\$35
DODGE TELEGRAPH & RADIO INST. Valparaiso, Ind.	19	\$25-\$30
INTERNAT'L CORRESPONDENCE SCHOOLS Scranton, Penna.	30	---
NATIONAL RADIO INSTITUTE 16th & U Sts., N.W. Washington	27	---
NATIONAL RADIO SCHOOL 5200 Euclid Ave., Cleveland	27	\$35
NATIONAL SCHOOL OF ELECTRONICS 529 S. 7th St., Minneapolis	23	\$20 Min.
NATIONAL SCHOOLS 4000 S. Figueroa St., Los Angeles	22-25	\$22-\$50
RADIO-TELEVISION INSTITUTE, INC. 480 Lexington Ave., New York	---	---
RADIO TRAINING ASS'N OF AMERICA 1559 Devon Ave., Chicago	28	\$25-\$35
R.C.A. INSTITUTES, INC. 1154 Merchandise Mart, Chicago	21-25	\$30-\$35
R.C.A. INSTITUTES, INC. 75 Varick St., New York	22	\$25

* Reporting trained servicemen available. (Others circularized by Radio Retailing cannot help retailers or wholesalers at moment)

CHAIRSIDE Convenience

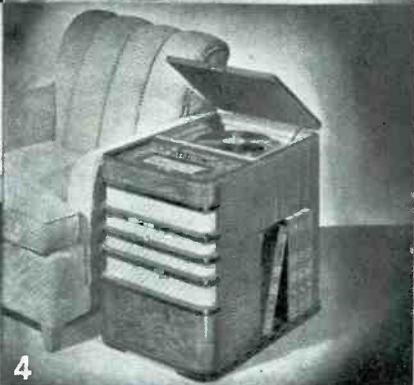
STYLE appeal is a potent weapon in the hands of dealers striving to "sell up" and thus compensate for possible loss of unit volume due to material shortages by increasing the dollars per sale.

This trend is largely responsible for renewed interest in "chairside" models among manufacturers, particularly since the design lends itself admirably to inclusion of automatic record-players currently intriguing the public.

Typical chairside radio-phonograph combinations, all handling discs automatically, are pictured here. (1) *Zenith's* 7S681 "Westchester" has seven tubes, tunes shortwaves as well as regular broadcast manually, handles up to 12 records, has storage space for albums, lists at \$125 fob factory. (2) *Ansley's* 51, available in a period cabinet as well as the modern style illustrated, uses 10 tubes, automatically plays up to 12 discs,

has storage space for about 75 records, lists at \$179.50. (3) *Freed-Eisemann's* 71 has 15 tubes, plays up to 12 records, has space for eight albums, tunes frequency modulation, shortwaves and broadcast, lists at \$235. (4) *Farnsworth's* CK73 has 7 tubes, covers shortwaves, and broadcast, handles up to 12 discs, has album storage space, lists at \$129.95 fob factory. (5) *Magnavox's* 28M has 7 tubes, plays fourteen 10-inch or ten 12-inch records automatically, tunes 545-1630 kc, and lists for \$135. (6) *Howard's* 808CH uses 8 tubes, tunes shortwaves and broadcast manually, handles up to 8 records automatically, has space for album storage, lists at \$139.

Will new automatic record-changers give chairside models such as these that "extra something" and move the style into top sales brackets this season? Many merchandisers think they will.



HOW to



DESPITE the fact that consumer demand seems to be moving steadily upward it appears likely that I will sell fewer radios in 1942 due to the difficulty of obtaining merchandise. Already my quota on one particularly popular model has been cut to one-third of what I feel certain, in the light of past experience, I could sell.

So, I've had to make a choice between two possible courses to counteract probable declining radio unit sales . . . handle more lines other than radio or attempt to increase the profit obtained from the radios I do sell. I have chosen the latter course, first because my reputation has been built around radio over a period of years and at considerable cost and, second, because material shortages will probably be equally or more troublesome in the sidelines which seem most suitable anyway.

I have devised a "four-point plan" to extract the necessary profit from future radio business. Early results appear promising.

New Advertising Policy

First, window display and newspaper promotion has been considerably altered. Whereas I formerly played up radios in weekly newspaper ads largely on a price basis, I now advertise solely by brands, with the "prestige" appeal uppermost.

Featured are radio-phonograph

Meet MERCHANDISE

Shortages

FOUR-POINT PLAN increases profit margin to compensate for threatened unit sales decline

By EUGENE SCOTT *Scott Electric Co., Denver*

values of top-flight sets, close most real prospects quickly.

Routine Sell-Up Practiced

Third, I am switching many sales to higher-price lines. Whereas prior to April of this year sales were distributed 50 per cent on volume in small sets between \$13.95 and \$25.00, 25 per cent in sets from \$25.00 to \$50.00 and 25 per cent from \$50.00 to \$150.00, the average now has swung to the top bracket.

The prospect-follow up plan is partially responsible. The fact that few low-price sets are shown, and that salesmen talk only "better radios" completes it. I now instruct my men to sell down from higher priced sets.

When a customer asks for a demonstration, salesmen show them the best model in the type desired, giving it a thorough demonstration even though they obviously do not want to spend the money. We let them learn the details thoroughly, and have found that they like to operate combinations themselves, out of curiosity if nothing else.

Our customers, so handled, usually buy as close to the set demonstrated as they possibly can. For example, we frequently demonstrate a \$150 radio-phonograph combination for as long as an hour. When customers "get the feel" of the instrument, they often buy either this model itself or one at \$100 which resembles it in many ways.

Cash Sales Encouraged

Fourth, we now strive for cash sales.

We're getting cash deals whenever possible, approximately 35 per cent at present, which represents an

appreciable increase from the 15 per cent we used to get in Denver's largely-credit market.

We "guess" whether the customer can pay cash when showing him the set he wants, urge cash payment by pointing out that he saves a service charge by doing so. With defense wages as a stimulant, we find today's customers are more willing to pay cash, even those entirely credit minded beforehand. I don't know whether there is a general uneasiness over the value of money or good salesmanship swings the balance, but we're certainly getting a much larger cash return than in past years.

We have, incidentally, eliminated trade-in acceptance on sets below a certain price range, although some special deals are still made with difficult customers. For the most part, I will not consider trade-ins on sales of less than \$40, even though used sets are becoming easier to move.

We're aiming for *clean* business rather than volume. And we've managed to raise our average sale by half without a great deal of trouble. *Taking the emphasis off price* is the best way to meet these new merchandising conditions.

Today's Big PROBLEM

WHAT modifications do you think are necessary in advertising, display, demonstration, selling, servicing and financing methods to meet new conditions imposed by the emergency program? Radio Retailing offers its editorial columns for further dealer discussion



combinations and console radios, always with a cut of the instrument but without price mention. In windows, the same theme follows through. All sets are now shown minus price cards, with emphasis on the favored, nationally advertised lines carried. I now emphasize quality and service right from the outset and take my chances on losing primarily price-minded prospects.

The current problem is not customers, but merchandise.

Slow Deals Speeded Up

Second, I now methodically attempt to speed up slow deal follow ups on higher priced radios and combinations.

I have listed all prospects who have shown interest in big sets during the past year, send salesmen out to invite such customers to come in, pointing out that these radios and combinations may soon be difficult to get, or cost much more. This policy was begun in April, has resulted in scores of sales of radios and combinations around the \$100 mark or better, with a minimum of selling cost.

Salesmen are now trained specifically to sell the better sets. I call in a manufacturer's representative, have him teach the staff all features of operation on both types of instruments. Sure of their ground, salesmen more confidently assert the

About That TAX

CONFUSION existing in the minds of retailers concerning the new Federal excise taxes on radio and allied equipment apparently arises from the fact that while most manufacturers continue to include or "bury" such taxes within their merchandise billings, some prefer at least temporarily to spotlight increased costs by showing taxes separately.

Such "split" billings (although the total of the two naturally constitute the dealer's true merchandise cost) have given rise to the mistaken impression that radio dealers are now in some new way responsible for the payment of taxes to the government. In reality, radio excise taxes are still collected solely from manufacturers in the same old way. There is, furthermore, nothing retroactive about the new tax schedule insofar as stocks to which the trade already holds title is concerned.

Equipment Affected

New radio taxes are manufacturing and not retailing taxes but dealers will nevertheless be interested in what they mean in terms of increased cost and complication to factories in this field.

Since October 1 radio and allied equipment manufacturers have had to pay the government 10 per cent instead of the 5½ per cent on factory sales price heretofore collected on most items. Included under the excise tax laws are: *Radio receivers, phonographs, phono-combinations, and records.* Included also, but only when they are "suitable for use on, or in connection with, or as component parts of" radio receivers, phonographs or phono-combinations and (this especially is important to note) sold separately by manufacturers are: *Chassis, Cabinets, Tubes,*

MANUFACTURERS' Responsibility

MAYBE you're one dealer who knows the new excise levy's purely a factory problem, requiring no new dealings between retailers and the government. But you'd be surprised how many think they are now directly affected by the law

Speakers, Powerpacks, Built-In Antennas and Phonograph Mechanisms. Thus, if a manufacturer sells a radio chassis separately he pays the government 10 per cent of its sale price, whereas if he installs it in a cabinet he pays 10 per cent on the overall sale price of the whole shebang and not on the chassis alone.

("Taxation-upon-taxation" may be avoided by manufacturers of receivers, phonographs, and combinations where purchased parts or accessories used in the assembly of such devices have already been taxed by obtaining "exemption certificates." Merchandise sold for export and the parts and accessories therein are, as in the past, exempt from excise taxes.)

Items Exempt

Radio and allied equipment items not specifically mentioned in the above list are assumed to be exempt from this particular Federal tax. Exemptions, unless the government later rules otherwise, are therefore extended to makers of such things as *Public Address Equipment, Office Communication Equipment, Transmitting Equipment, and Recording Equipment.* (Where these exempt items employ in their assembly purchased chassis, cabinets, tubes, speakers, powerpacks, built-in antennas or phonograph mechanisms "suitable for use in radios, etc., as mentioned several paragraphs above, such components or accessories would be taxed when leaving the factory originally producing them).

"Betwixt and Between"

Not quite so easy to classify but still a tax problem to be worked out by the manufacturer rather than the dealer, is the fact that parts and accessories not specifically mentioned in the excise tax list, such as *headsets, batteries, record-cabinets, albums, recording-blanks and needles* will be tax-exempt where sold separately by manufacturers but will be subject to the full 10 per cent tax when sold by manufacturers incorporating them in the assembly of, or selling them in conjunction with, radios, phonographs or phono-combinations.

(Automobile sets, for tax purposes, are considered in the same category as home receivers. Accessories for such sets, such as sparkplug suppressors, noise-suppression condensers, installation hardware, will be subject to the 10 per cent tax when sold by manufacturers "on or in connection with" the sale of the automobile receiver itself but not when sold separately. Car antennas, on the other hand, will be taxed 10 per cent where sold with a set by the set's manufacturer, 5 per cent where sold separately, this latter rate of tax being the one now in force on "automotive accessories").

All this apparent excise tax complication need not get the radio dealer "down." The manufacturers are the men who have to puzzle it out, see that the government gets its dough. They "take the rap" . . . at least with respect to bookkeeping.

USED

LAW of Birmingham tells how his unique second-hand set business has been built up in the last 10 years

By **GEO. H. WATSON**

FIX 'EM UP, advertise 'em in the classified columns, display 'em and be satisfied with a low markup. That is the way to make money reselling used radios, according to M. M. Law, who for the past 10 years has operated the Radio Bargain House of Birmingham. (Law handles some new radios, but has built his reputation as a used set dealer.)

Sales Methods

Used set buyers are bargain hunters, hence Law appeals to them directly by keeping a small ad running in the classified columns of local newspapers. This is where bargain hunters look, whether it is for automobiles, baby carriages or radios. (This discovery is what put him in the radio business 10 years ago. He was operating a small hotel at the time and a guest turned a radio over to him for sale. He advertised it and got 15 calls. Later he lost his lease on the hotel and launched out selling radios.)

Another plan of Law's is to keep a radio playing in front of his store all the time, with a sign advertising it as a "special" at a specified price. It is surprising how many persons come along and buy these specials without ever looking inside the store at other merchandise. Others want something better or different and come in and look around. In either case the special has done its work.

But the best advertising, according to Law, is "word of mouth." One bargain hunter tells about his "find" and his friends come in. He has sold

RADIO *Specialist* TALKS

sets to as many as three members of one family because of this fact.

Reconditioning Plan

"We recondition all sets before selling them for the simple reason that no customer will be satisfied with a set which sputters out on him a few weeks after purchasing, even if he paid only a few dollars for it," says Mr. Law.

"After we put a set in shape we are still willing to sell it at a low markup. We can afford to do that because we have low overhead, sell for cash only and make no deliveries. Our profit comes through turnover. We keep some 200 sets in stock, all of which will play if plugged in. And we have about 40 places to plug them in. Our service man keeps busy most of the time putting our own sets in shape."

Sources of Supply

Law gets some trade-ins when he sells new radios, but most of his used set stock in the past has been purchased from other dealers. Whatever the source, he picks his merchandise with an eye to re-sale at a profit. He doesn't take just any orphan model offered in trade in order to sell a new set, hence rarely gets stuck with junk. He is, naturally, well up on brands and models and their good and bad points, the result of specialized experience.

There is one peculiarity about the used set shopper, he points out. Such shoppers appear most interested in brands with which they are familiar, although these may not be leading

EMERGENCY Measure?

SHORTAGES of new merchandise may force dealers to extract more profit from the resale of trade-ins. To those who anticipate such a trend this article will be of considerable interest



OUTSIDE—Some shoppers buy "today's special" right from under its sign, without ever entering the store

INSIDE—Others are attracted by the low price of the special, yet spend much more money for something better on the floor



brands of today. Hence he finds it a pretty good point to ask the prospect what brand he owns or has owned.

Dollars and Cents

In conclusion, Law advises dealers planning on selling more used sets to gear their business to a faster turnover, with a small profit per transaction. He is willing to take as little as \$2 net profit on each set, figuring he

can always buy more sets than he can sell.

He has bought as much as a carload of used sets from one dealer at \$1 each. He spends an average of \$3 each fixing them up, sells many around \$6.95, and quickly. He estimates, however, that his average sale is between \$12 and \$15 and that about half of this represents labor and parts for reconditioning.

FM

RECEIVER SALES increase 71 per cent in one month as stations, manufacturers and trade step up promotion

By

W. CARL DORF

LATEST figures from FM Broadcasters, Inc., maintain there are now 120,000 FM sets in the hands of the public. Last reported on October 1, 70,000 sold. New totals thus represents step-up in sales of 50,000 units in one month.

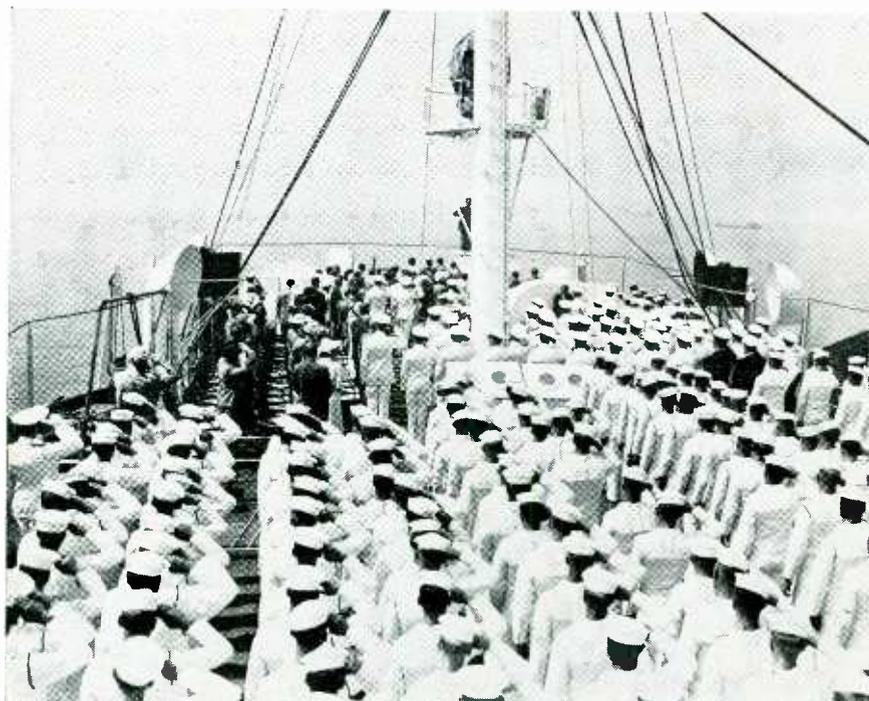
FMBI in earlier report stated that trade looked forward to reaching 100,000 mark by Christmas. FM proponents now have every reason to "crow," with sales already well over the goal mark and another month and a half to go.

FM Hotspots

Estimated figures give New York City and vicinity approximately 25,000 FM set sales. The city of Chicago in a little over a month tripled its number from 5000 to 15,000. (The "Chicago Tribune" station W59C went commercial on Sept. 21, and Zenith's W51C increased its power recently to 50,000 watts. These two events, no doubt, account for big sales increase).

Los Angeles claims 10,000 sets in use, while Detroit and Pittsburgh are figured for about 6000 each. Milwaukee has around 5000 units and Schenectady about 3000. New England area, including the cities of Boston, Hartford, New Haven, Worcester, and Providence, are believed to have 12,000 to 15,000 sets sold. Philadelphia has 2,000.

The grand total of FM sets in the above mentioned cities figures around 80,000 units, leaving 40,000 to be accounted for in other locations like Rochester, Nashville, Columbus, and Washington, D. C. A number of sets have also been sold to FM enthusiasts in other areas



LITTLE JOB—G. S. Alverson of New York handled commissioning services aboard the U. S. S. Solace by placing a mike next the mast, spotting sound projectors left and right at the stern

SOUND At Work



BIG JOB—Here's how the same sound equipment firm handled Madison Square Garden's outdoor bowl for fight fans, placing projectors high up around the lighting support. Lower photo shows control equipment at ringside. Power amplifier was concealed beneath ring



Catches Public Eye

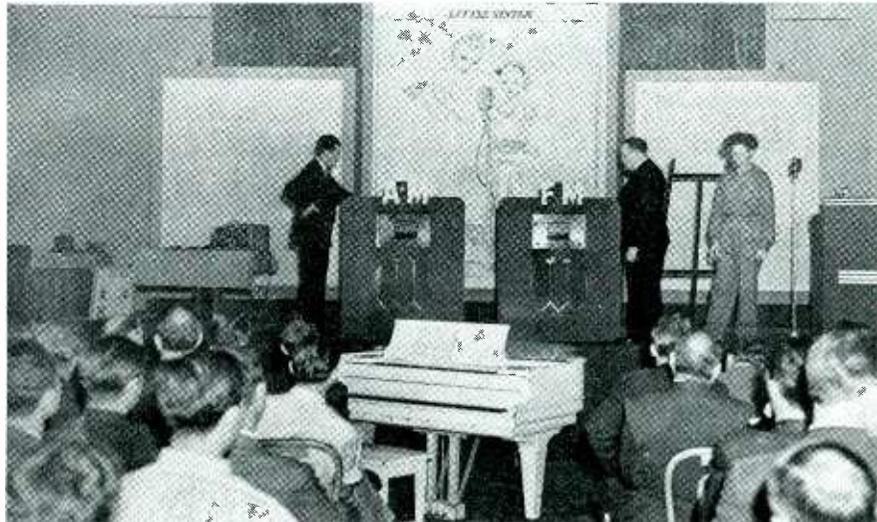
waiting to be served by frequency-modulation programs.

Station News

The American Network, Inc., reports signing up National Life & Accident Insurance Company, Nashville, Tenn., owners of station W47NV. New network is first chain with coast-to-coast ambitions. Hopes in near future to enroll outlets in more than 40 leading cities.

Station W45D, Detroit Evening News Association's outlet, on Oct. 17 went to full power with 50,000 watts. For the occasion, held appropriate ceremonies with Major Armstrong delivering principal address. This makes the third FM transmitter to go "commercial" with high power.

Zenith's station W51C, in Chi-



ANOTHER MASS MEETING—Paul De Mars, vice president of the Yankee Network, addresses Stromberg-Carlson dealers on FM in the Boston area (*below*)

DEALER DEMONSTRATION — Engineers of W59C, "Chicago Tribune's" New station, demonstrate advantages of FM to group of radio dealers (*above*)



cago, recently went to 50 kw., thereby increasing power 10 times. This station also reports the use of a new turnstile-type antenna mounted 45 stories above the loop district. Engineers estimate station's effective radius with new antenna and increased power will be 100 miles, extending in some directions up to 200 miles.

The Yankee Network station, W43B, of Boston, is now also operating with 50 kw. power.

Milwaukee's station W55M, operated by the Journal Company, is in the throes of installing a 50 kw. transmitter. Now operating at 1000 watts.

Station W53PH of Philadelphia is slated to be on the air by the 15th

of November. The event is to be saluted by a special 12-page FM section in the "Philadelphia Record." It is also expected that stations W49PH and W69PH, both Quaker city outlets, will be ready for operation January 1.

Additional FM service for New York City fans seems a certainty in the near future following report that W63NY, Marcus Loew Book- ing Agency, is expected to be on the air Thanksgiving Day. Its transmitter is located atop the Palisades, New Jersey.

The FCC designated the middle week of October for hearing three pending applications to be considered jointly, since all three request use

of the same channel, 43.5 megacycles. Trio includes W65H, Hartford; W57A, Schenectady; and Radio Voice of New Hampshire, Manchester, which seeks a new station serving 20,290 square miles.

To Help You Sell

FM manufacturers are not letting any grass grow under their feet in providing promotional material to help sell the new sets. Latest "dealer aids" include illustrated booklets explaining the ABC of FM, bulletins, demonstration kits.

General Electric has prepared a variety of items for new frequency-modulation sets, keyed to a pace for
(Continued on page 51)

FM SETS In Use*

NEW YORK	25,000
CHICAGO	15,000
NEW ENGLAND	12,000
LOS ANGELES	10,000
DETROIT	6,000
PITTSBURGH	6,000
MILWAUKEE	5,000
SCHENECTADY	3,000
PHILADELPHIA	2,000

*FM Broadcasters Inc.

UTILITY

Service Proposal

STIRRING UP a storm of pro and con discussion among New York City retailers is a proposal by the Consolidated Edison System (prepared by this power company's officials over the course of the past year and now being actively outlined to the trade) that a "super service" company be formed to solicit and perform repair work on all electrical and most gas appliances in the area served by its lines.

While adoption (for which no inauguration date has yet been suggested) hinges largely upon cooperation of manufacturers serving the city and their local distributors and to some extent upon the reception accorded the plan by dealers, details as initially visualized will be of immediate interest to readers at distant points to which the idea might readily spread.

Plan Highlights

Consolidated's proposal involves:

Formation of a new company (tentatively titled "Consolidated System Cooperative Appliance Service, Inc.") to set up and operate several super service stations with adequate personnel, test equipment and replacement parts stocks to take care of a volume of consumer repair work at central points within each of the five boroughs of New York.

Performance, without charge to the consumer, of necessary repairs covered within the guarantee period of appliances, manufacturers or their distributors to reimburse the new company for such work under a suitable subsidy plan. (Manufacturers might be asked to "consign" repair parts to the company for service.)

General appliance repairing for consumers requesting such service at desks to be set up in the cooperating Utility's branch offices and in the stores of cooperating dealers serving as "pickup depots" and receiving a fixed commission from the new com-

pany on all such work passing through their hands. (Cooperating dealers would be responsible for delivery of equipment to Utility branches, the new company arranging regular pickups from these points only but returning repaired items direct to consumers together with bills.)

Consumers to be acquainted with the services offered by the new company through heavy newspaper, billboard and direct mail advertising inclosed with the cooperating Utility's power bills. Utility branches and cooperating stores to conspicuously post standardized service charge charts.

Trade Reaction

Manufacturers and distributors of complete appliances (including radios) to whom economical handling of repairs during the guarantee period has at times been a problem are apparently intrigued in considerable number by Consolidated's proposal, as are some retailers relying largely upon merchandise sales for their revenue and little upon service work. Not so impressed are distributors of replacement parts and test equipment and retailers depending heavily or entirely upon repair revenue for their livelihood.

The new company, dealers in the last mentioned and most numerous category point out, would in effect be in direct competition for repair

work with those who are not appointed "cooperatives," preferring to both sell and perform their own technical services. Aside from the weight of the new company's proposed consumer advertising and prestige due to association with Utility offices, they say its incidental proposal to permit repair jobs to be financed (from three to six months to pay, at Utility offices or, perhaps, at branches of the National City Bank) would swing considerable consumer weight. Appointment of the company as official service headquarters for "within the guarantee period" repairs by nationally-known manufacturers would, it is also submitted, give it a further competitive advantage after the expiration of free service periods.

Even among dealers considering service a "necessary evil" there is some speculation, in the absence of definite details concerning proposed "commissions," concerning the ultimate effect of such a plan upon their overall profits. Some apparently accept the Utility's opinion that retail labor and capital heretofore employed in the actual performance of repair work might more profitably be turned to increasing repair sales. More express skepticism.

Consolidated's Reasoning

Reasons for proposal of the plan at this time, expressed by the Utility's E. F. Jeffe, include:

Need for cooperative effort to increase the trade's repair "take" and so at least partially compensate for any reduction of merchandise sales which might be forced by emergency period material shortages.

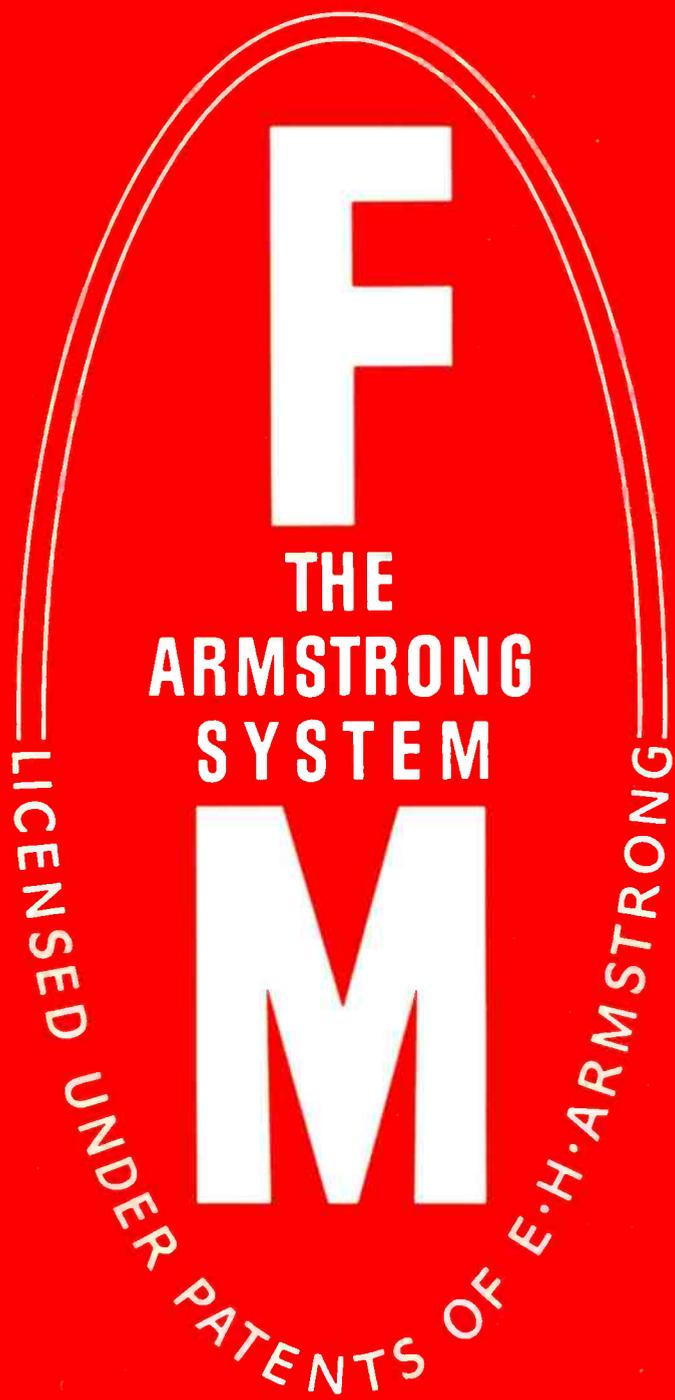
Desirability of countering, through cooperative promotion, uniform pricing and more satisfactory performance of actual work, consumer-magazine-fed public opinion growing

(Continued on page 51)

Something To WATCH

PACKAGE merchandising campaigns by power companies, in cooperation with dealers, have frequently been reported but Consolidated Edison's latest proposal indicates that at least this one Utility is now examining with speculative eyes the profits which might accrue from additional load through stimulation of repairs.

EMERGENCY curtailment of new merchandise production might easily recommend similar proposals to power companies elsewhere, should the New York experiment be tried and prove successful, with profound effects upon the trade, which must decide whether it wants such systems or not



**Manufacturers of Apparatus
Under
Major Armstrong's Patents**

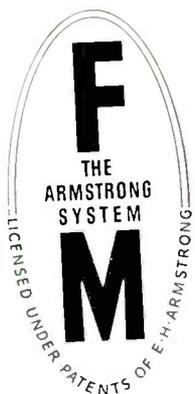
BROADCAST RECEIVING SETS

- Ansley Radio Corporation
- Espey Manufacturing Company
- Fada Radio & Electric Company, Inc.
- Freed Radio Corporation
- General Electric Company
- The Hallicrafters Co.
- Howard Radio Company
- The Magnavox Company, Incorporated
- Meissner Manufacturing Company
- Philharmonic Radio Company
- Pilot Radio Corporation
- E. H. Scott Radio Laboratories, Inc.
- Stewart-Warner Corporation
- Stromberg-Carlson Telephone Mfg. Co.
- Zenith Radio Corporation

**APPARATUS FOR
VARIOUS OTHER PURPOSES**

- Cover Dual Signal Systems, Inc.
- Doolittle Radio Inc.
- Finch Telecommunications, Inc.
- General Electric Company
- The Hallicrafters Co.
- The Hammarlund Mfg. Co., Inc.
- Howard Radio Company
- Fred M. Link
- National Company, Inc.
- Radio Engineering Laboratories, Inc.
- Western Electric Company

- HIGHER FIDELITY**
- WIDER TONE RANGE**
- GREATER NATURALNESS**
- NOISE EXCLUSION**
- IMMUNITY TO STATIC**
- REJECTS UNWANTED STATIONS**



A STATEMENT

I am repeating this statement because of its obvious importance to the radio industry and the public

By EDWIN H. ARMSTRONG

A major revolution is under way in radio broadcasting. Its basis is the new system of radio communication which, because the first system to employ a frequency-modulated wave with advantage, has become known to the public as "frequency-modulation," and as FM.

Frequency-modulation, however, can have two different meanings. It can mean the frequency-modulation that was in the text books when I was a student—any transmitter that will modulate the wave frequency and any receiver that will detect those modulations—or it can mean FM, the system that I announced to the radio world in November, 1935, in a lecture before the Institute of Radio Engineers.

FM is not just frequency-modulation. It is frequency-modulation PLUS. It is the PLUS that eliminates static and makes for a clarity and quality of reproduction impossible with the old system of broadcasting. And it is the PLUS that the radio trade must understand, if the industry is to progress along sound lines, and if the public is to be spared the disappointment of imitation and inferior apparatus.

FM was the product of more than 10 years of research and inventive effort, directed toward a single goal—the development of a radio system in which the transmitter would impress on the wave some characteristic not present in natural and man-made static, and in which the receiver would be deaf to all impulses except that particular characteristic.

In the course of years of experiments I discovered that there was one wave characteristic not found in natural and man-made disturbances—the wide frequency swing. It was that which led me to the basic FM inven-

for the PROTECTION *of the* PUBLIC

tion, the essentials of which are a transmitter that will produce this characteristic and a receiver that will respond to it and that will reject all minor frequency variations and all variations of amplitude.

A receiving set does not have to be an FM set in order to detect FM programs. Every amateur knows that his ordinary short wave set will pick up the FM transmitters. But only a real FM set will give the quality and freedom from noise that the public understands FM to mean. If a receiving set will not eliminate the effects of amplitude modulated disturbances it is not an FM set, and it is a fraud on the public to sell it as an FM set.

My experience as the inventor of FM has paralleled that of others who have made basic inventions. It took 10 years to master the unseen forces of nature and arrive at the solution of the technical problems, and several years more to translate that solution into apparatus that would give commercially acceptable performance. Then came 5 years of continuous effort to overcome those intangible forces which exist in every industry and which have their basis in the characteristic resistance of human nature to change.

The fight was won in May, 1940, when the Federal Communications Commission cleared the way for FM to proceed on a commercial basis. FM broadcast installations are now going ahead as rapidly as the present emergency permits, and sales of receivers are exceeding the most optimistic predictions. With the ending of the war, the use of FM is certain to expand at a rate reminiscent of the early days of broadcasting.

FM offers an opportunity such as seldom comes to an established industry. That opportunity will be impaired if the industry permits any part of the radio public to get its impression of FM from counterfeit sets.

Eduin H. Armstrong

ANSLEY RADIO CORPORATION

E.H. SCOTT

Doolittle

GENERAL ELECTRIC

REL

There is nothing finer than a
Stromberg-Carlson
frequency modulation
ARMSTRONG SYSTEM

ZENITH
LONG DISTANCE RADIO

Meissner
PRECISION-BUILT PRODUCTS

Stewart-Warner

FM
by
LINK

FADA
Radio

THE HAMMARLUND MANUFACTURING CO., INC.

ESPEY MFG. CO. INC.

COVER DUAL SIGNAL

Pilot
RADIO

Philharmonic

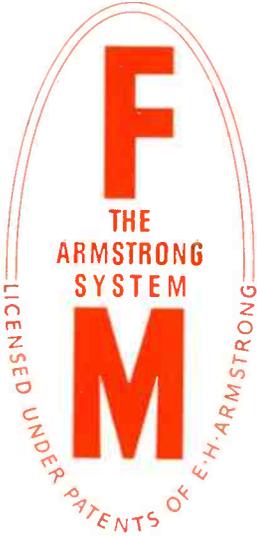
the hallicrafters co.

HOWARD

MAGNAVOX
THE OLDEST NAME IN RADIO

NATIONAL COMPANY, INC.

Western Electric
Finch facsimile
Brennan



Presenting
**NAMES THAT WILL GO
 DOWN IN RADIO
 HISTORY AS THE
 PIONEERS OF TRUE FM—
 ALL HAVING ADOPTED
 THE ARMSTRONG SYSTEM**

ZENITH PRESENTS

A POWERFUL MERCHANDISING PROGRAM IN TUNE WITH THE TIMES



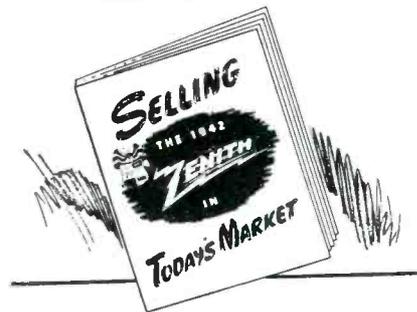
POWERFUL NATIONAL MAGAZINE ADVERTISING

Millions of messages will blanket the entire United States with the Zenith quality story all during the big Christmas selling season.



DRAMATIC SALES TRAINING SOUND FILM

Designed to help you sell quality in today's market. Dramatic, full of human interest! Don't miss it—The biggest thing of its kind.



COMPLETE RADIO MERCHANDISING PLAN BOOK

Chuck full of ideas—complete information on how to get your selling in "Tune with the Times"—Read every word of it.

Zenith is ready with the most complete radio merchandising program in the radio industry today. A program in "Tune with the Times." Not a warmed over program from the past season—but one that is completely new and designed specifically to help you sell a satisfactory volume under today's conditions—Another Zenith "First"—an aggressive program for hard hitting wide awake dealers who want to get back to real honest to goodness radio selling.

You Must Re-establish Quality Selling

Today's selling problems call for a new selling strategy. You must get back to quality selling and realize a full profit on every sale you make. The plus features of the 1942 Zenith line give you sharply defined advantages for this quality type of selling—and give your customers readily apparent "Reasons Why" for buying Zenith. Bracket for bracket, model for model, you'll find the Zenith line in tune with the times!

Zenith Has a Full Fall and Christmas Selling Program for You

Pictured to the left of this advertisement are but a few of the powerful merchandising aids Zenith has for you—Strong national magazine advertising, a dramatic hard hitting sales training film, a complete merchandising book to help you "cash in" in greatest measure on today's market . . . plus a line of quality radios with every important bracket adequately covered to appeal to the most people. In the '42 Zenith line continued maintenance of quality is evident in every model—and sustained public confidence is assured.

Write, Wire or Phone Your Zenith Distributor for Full Particulars

Learn all about the fast moving hard hitting Zenith program—how it will benefit you in your daily selling and how it will help you maintain the dollar volume you need for a profitable retail operation.

IT'S THE TALK OF THE INDUSTRY

THE SAME QUALITY
THAT HAS GONE
INTO ZENITH
RADIOS FOR OVER
A QUARTER OF A
CENTURY ALSO
GOES INTO EVERY
ITEM ZENITH BUILDS
FOR DEFENSE

ZENITH RADIO CORPORATION—CHICAGO

AMERICA'S OLDEST MANUFACTURER OF FINE RADIOS FOR THE HOME

CHRISTMAS Gifts Preferred

By **MAX MAYERSON**

Stix, Baer & Fuller, St. Louis

REMEMBERING from past seasons the difficulty people appear to have picking out Christmas gifts likely to please recipients, it occurred to us that development of statistics about our own market showing actual consumer preferences would permit us to guide customers intelligently and at the same time more closely estimate our own holiday season merchandise needs.

So, in October, a member of our research department placed questionnaires asking "What Do You Want for Christmas" in the hands of 4,275 people, including 900 employed by a large factory, 300 in college fraternity houses, 800 in a nearby army replacement station. We think the job covered a representative cross-section of the city's population. Over 75 different articles were listed so we also think prospects really exercised a "free choice."

Here are the results:

Portables High On List

Of all the many things men might want for Christmas portable radios were far and away their first choice, with 70 per cent of the men replying so specifying and 50 per cent checking radios of one type or another on their list.

High school girls ran a close second as prospects for small radios, also apparently preferring portables to other radio types. Younger girls, between 7

and 13 years of age, obviously wanted their radios to be of the compact variety working off the light lines. Business women seemed especially interested in models they could carry about, housewives wanted radios of all kinds but seemed particularly intrigued by portables while boys between 7 and 13 merely said they wanted their Christmas gift receivers to be "small."

Discs Acceptable Too

High school girls appeared to be the best prospects for the smaller variety of record-player, said they would appreciate presents of albums and even individual discs as well. Men also expressed a desire to own record-playing instruments of all varieties, said records themselves would be received with satisfaction.

Preferences might not be identical in other cities but inasmuch as the one in which we are located is reasonably typical I feel that our survey will interest other department store radio buyers. Certainly it indicates that radios, record-players and the discs themselves are a "natural" choice of many Christmas gift shoppers and should therefore be heavily displayed and advertised. And it also indicates that, within such promotion, the novelty appeal of portables should be stressed at Christmas, especially when addressing men.

BEST BETS

for		RADIOS and RECORD-PLAYERS	
1	MEN	1st choice	8th choice
2	HIGH SCHOOL GIRLS	3rd choice	2nd choice
3	YOUNGER GIRLS	9th choice	—
4	BUSINESS WOMEN	14th choice	—
5	HOUSEWIVES	14th choice	—
6	BOYS	14th choice	—

New



G-E "POCKETBOOK PORTABLE," model LB-642, presents still another version of the 6-tube battery-type receiver introduced by this company early in the year. Weighs about 6 lbs. with battery and is less than 10 inches wide, about 6½ inches high, and less than 4 inches deep. Halfway between the camera set and the larger luggage-type receiver. Operates on AC-DC or battery.



G-E TABLE-TYPE COMBINATION, model LC-658, with well-styled conservative cabinet of matched mahogany veneers is outstanding for its rather small size, 13 high, 16¼ inches wide. Automatic record changer plays twelve 10-inch or ten 12-inch records. Special feature, record-reject mechanism, permits the operator to reject any record of a series after it has begun to play. Radio has 6 tubes including rectifier, and 5-inch speaker. General Electric Co., Bridgeport, Conn.



RCA COMPACT TABLE COMBINATION, model V-135, employs 5 tubes, and plays up to 12 records automatically. Uses the Jewel-Point pickup, eliminating the need for needles. Measures 13 high, 16½ wide, and 17 inches deep. RCA Mfg. Co., Camden, New Jersey.

Products...



PHILCO FM TABLE MODEL receives the standard, FM, and short wave bands. Has 8 tubes. Two built-in antennas. Equipped with 9 pushbuttons for station tuning and band switching. Any button turns radio on. Improved electro-dynamic 6-inch speaker. Cabinet of sliced and solid walnut woods measures 11 $\frac{3}{4}$ high, 20 wide, and 13 inches deep. Model 355-T, illustrated, lists for \$67.50.



PHILCO FM CONSOLE COMBINATION, model 1013, has the charm of Hepplewhite period design, in plain or butt walnut veneers. Plays ten 12-inch or twelve 10-inch records automatically. Separate built-in FM aerial. Push-button operation for 5 stations. Covers three tuning bands. Philco Radio & Television Corp., Philadelphia, Pa.

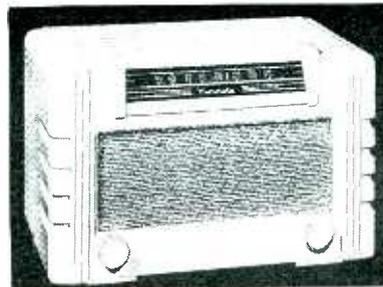


EMERSON PORTABLE ELECTRIC PHONOGRAPH, model 434, with 3 tube amplifying power unit has 6 $\frac{1}{2}$ inch speaker, self-starting constant speed motor. Finished cabinet in polished redwood saddle-calf simulated leather measures 7 high, 13 $\frac{1}{2}$ wide, 15 $\frac{3}{4}$ inches deep. Plays all records including 12-inch with lid closed. List price \$24.95. Emerson Radio & Phono. Mfg. Co., 111 Eighth Ave., New York, N. Y.

MOTOROLA SERIES 51x17 uses a beautiful two-tone leather effect covered cabinet, decorated with gold piping and fitted with ivory knobs, "disappearing" handle and ivory louvre grilles. Three different cabinet color combinations, maroon and ivory, green and ivory, and brown and tan are available. Five-tube ac-dc superhet radio. Measures 10 $\frac{1}{4}$ wide, 6 $\frac{1}{4}$ high, and 5 $\frac{3}{4}$ inches deep.



MOTOROLA TABLE-TYPE radio in ivory finished cabinet measures 13 $\frac{1}{4}$ wide, 8 $\frac{1}{4}$ high and 7 inches deep. Model 51x18, illustrated, has 5 tubes, large electro-dynamic speaker and built-in "Aero-Vane" loop antenna. Galvin Mfg. Co., 4545 Augusta Blvd., Chicago, Illinois.



PILOT CONTINENTAL model, radio-phonograph combination with automatic record changer covers the broadcast, shortwave and FM bands. Has built-in loop antenna, pushbuttons, 45 watts maximum output, lightweight pickup, two tuned stages of r-f on FM, two speakers, and 17 tubes. Pilot Radio Corp., 3706 36 St., Long Island City, N. Y.



STROMBERG-CARLSON FM CONSOLE COMBINATION is known as the "Autograph Model" has an automatic record changer. Model 935 PL, illustrated, receives FM, AM and short wave bands. Has 16 tubes, 10 $\frac{1}{4}$ -inch speaker, two built-in antennas. Plays 10 or 12-inch records. Has pushbutton tuning with automatic range shift on 8 stations, either AM or FM. Walnut Hepplewhite cabinet measures 3 $\frac{1}{2}$ high, 37 $\frac{1}{2}$ wide, and 17 $\frac{9}{16}$ inches deep. List price \$360.00. Stromberg-Carlson Tel. Mfg. Co., 100 Carlson Rd., Rochester, N. Y.



WILCOX-GAY CONSOLE COMBINATION, model A111, in modern design is a 9-tube set on straight AM broadcast but including the new FM tuning unit, as illustrated. Has automatic record changer. Provides space for albums. Has 12-inch speaker. Features the tilt-front tuning panel. Wilcox-Gay Corp., Charlotte, Mich.



CROSLLEY FM CONSOLE, model 22CB, featuring the "Rainbow of Sound" has 12 tubes including rectifier and 4 double purpose tubes. Receives 4 bands. Service switch gives choice of AM, FM sharp, FM broad, or phonograph. Equipped with 14-inch speaker and 6 pushbuttons for station selection. Has full-view, "Giant Circle" dial, 8 inches in diameter. Cabinet measures 41 $\frac{1}{2}$ high, 30 wide, and 13 $\frac{3}{8}$ inches deep. The Crosley Corp., 3401 Colerain Ave., Cincinnati, Ohio.



FOR TRIPLETT CUSTOMERS ONLY

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

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

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

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

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

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

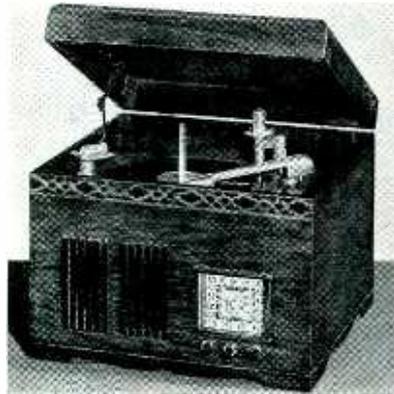
The present emergency is incidental and as we work towards the future, we will do our best to continue to merit your confidence and loyalty.

R. L. TRIPPLETT, PRESIDENT

The Triplet Electrical Instrument Company

Manufacturers of Precision Electrical Instruments and Testers

GAROD TABLE COMBINATION, model IC712, has automatic record changer with permanent needle. Plays 10 or 12-inch records. Receiver is a 7-tube ac superhet and employs a 6½-inch speaker.



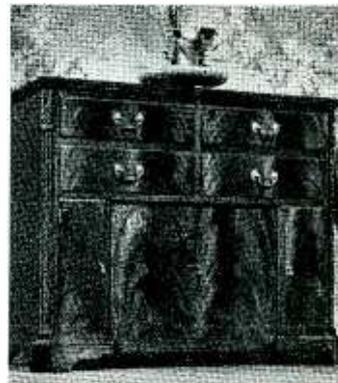
changer. A 7-tube receiver tunes the domestic and foreign broadcast bands; large clock-type dial, 6x4½ inches; 10-inch speaker; and 4 watts output. Cabinet of walnut woods. Sonora Radio & Tele. Corp., 2626 W. Washington Blvd., Chicago, Ill.

GAROD MODEL 3P85, an 8-tube, 3 band ac radio-phonograph combination with automatic record changer. Receives American and foreign broadcasts, and also provides for wide band spread in the short wave band. Equipped with 12-inch speaker. Cabinet available in either walnut or mahogany. Garod Radio Corp., 70 Washington St., Brooklyn, New York.



ZENITH FM RADIO-PHONOGRAPH combination, the "Trenton" model 14-H-697, has 14 tubes and is designed for standard, short-wave, and frequency modulation reception. Features automatic record changer and home recording and can also be used as a public address system. Available at \$395.

SONORA PHONO-RADIO with cabinet of walnut woods, hand-rubbed to piano finish measures 15¼ wide, 14¼ deep, and 11¼ inches high. Receiver is a 5-tube superhet. Phonograph plays both ten and twelve inch records with lid closed.



SONORA CONSOLE COMBINATION with automatic record changer plays twelve 10-inch or ten 12-inch records at a single loading. Phonograph is mounted in "Open-Sesame" tray which gives easy access to the record

ZENITH ARLINGTON model 22-H-698 also is equipped to receive FM, standard and the shortwave bands. Equipped with automatic record changer, intermixing 10 and 12-inch records. Features automatic tuning on both standard and FM, 22 tubes, 3 loudspeakers, and 50 watts undistorted power output. Price, \$650. Zenith Radio Corp., 6001 W. Dickens Ave., Chicago, Ill.

Feature **PHILCO** for Christmas!

Now, everything is ready for your Christmas selling! The finest, most saleable Philco line ever offered, plus a sparkling window display . . . new Christmas rotogravure section . . . a special series of dealer ads! Use them . . . feature Philco to profit best from the Christmas selling season!



PHILCO 1013
RADIO-PHONOGRAPH

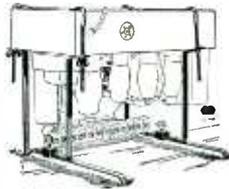
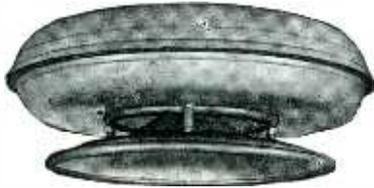
ONLY Philco offers these modern, saleable radio-phonograph features: Music on a Beam of Light. Philco Automatic Record Changer. Stroboscope Pitch and Tempo Control. Philco Tilt-Front Cabinet. Philco FM System. All of them exclusive, modern inventions that make Philco the *profit line* of the radio-phonograph industry!

**See Your Philco
Distributor Now**

PHILCO ALL YEAR 'ROUND

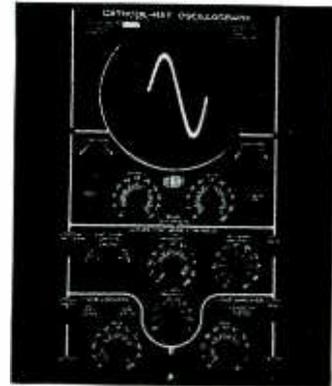
The Most Valuable Franchise in the Appliance Field!

UNIVERSITY RADIAL CONE speaker projectors, a new line announced by this company, were designed for uniform sound projection in all directions. Model RBP projectors have the compact construction of the flat ceiling type speakers and the tone quality of large well designed wall speaker enclosures. An "infinite baffle" sealed acoustic chamber is responsible for added bass response. All steel construction with "floating rubber" mounting and non-resonant rubber rims. Available for 12- and 8-inch cone speakers. University Labs., 195 Chrystie St., New York, N. Y.

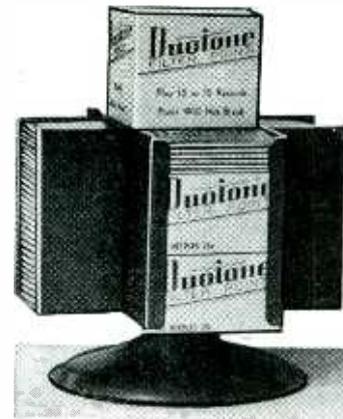


GENERAL CEMENT CHASSIS GUARDS, No. 709, that will protect your chassis and tubes. When working on set, chassis can be turned in any position without damage to set. Adjustable to fit all chassis. Complete pair, net price \$1.25. General Cement Mfg. Co., 919 Taylor Ave., Rockford, Illinois.

DU MONT BLACKOUT-PANEL type 208 oscillograph can be used under adverse lighting conditions or in total blackness when necessary. The specially processed steel panel is treated with luminous paint that retains its maximum luminosity for several minutes after exposure to ordinary light, and can be comfortably observed for an hour or more after that. The glow is of the same color and intensity as the standard medium persistence screen of the cathode-ray tube used, minimizing eyestrain. Allen B. Du Mont Labs., Inc., Passaic, New Jersey.



DUOTONE ROTATING METAL COUNTER STAND holds well over 100 full needle envelopes. Topped off by square gold cardboard poster with trade name prominently displayed on all 4 sides with a description of the product. Below on each of the 4 sides is a roomy metal rack holding over 20 envelopes with space for several more vertically placed for display. The name and type of needle are easily visible from above, directly in front, or at any of the sides. Duotone Co., Inc., 799 Broadway, New York, N. Y.



SAVE! BUY NOW
PRICES INCREASE
ON ALL RIDER BOOKS* AND RIDER MANUALS*
DEC. 15th.

★ There's only three weeks left in which to get these Rider Manuals and Rider Books at present low prices. Go over the list *now*, see the substantial savings you can make by acting *today!* Check the books you need and order *immediately.*

ALIGNING PHILCOS (2 Volumes)

Complete authorized data that makes alignment easier and quicker.

	After Dec. 14	Present Price	SAVE
Vol. I—1929 to 36	\$1.50	\$1.00	50c
Vol. II—1937 to 41	1.75	1.00	15c

FREQUENCY MODULATION

Explains F-M transmission as well as discussing the new F-M sets.

	After Dec. 14	Present Price	SAVE
136 Pages, 76 illus.	\$1.50	\$1.00	50c

OSCILLATOR AT WORK

Protect the investment in your present or future oscillator equipment. Read this book.

	After Dec. 14	Present Price	SAVE
243 Pages, 167 illus.	\$2.00	\$1.50	50c

VACUUM TUBE VOLTMETERS

Give practical aspects and underlying principles of various types of v.t. voltmeters.

	After Dec. 14	Present Price	SAVE
180 Pages, 113 illus.	\$2.00	\$1.50	50c

METER AT WORK

Enables you to get the most from your meters and guides you in selecting new ones.

	After Dec. 14	Present Price	SAVE
152 Pages, 138 illus.	\$1.50	\$1.25	25c

A. F. C. SYSTEMS

Complete explanation of all types of A.F.C.

	After Dec. 14	Present Price	SAVE
144 Pages	\$1.25	\$1.00	25c

JOHN F. RIDER
PUBLISHER INC.

404 FOURTH AVE., NEW YORK CITY
Export Division: Rocke-International Elec. Corp.,
100 Varick St., N.Y.C. Cable: ARLAB

SERVICING BY SIGNAL TRACING

An exposition of the theory of operation of all radio receivers. Explains the really fundamental method of servicing that is free from every limiting factor heretofore encountered.

	After Dec. 14	Present Price	SAVE
360 Pages, 188 illus.	\$3.00	\$2.00	\$1.00

(Also in Spanish Edition of 358 pages—price \$3.50)

CATHODE RAY TUBE AT WORK

This book explains the underlying theory and the circuits accompanying the Cathode Ray Tube. Present developments in the industry make this book a "must" for every serviceman.

	After Dec. 14	Present Price	SAVE
338 Pages, 460 illus.	\$3.00	\$2.50	50c

AN HOUR-A-DAY WITH RIDER BOOKS

96 pages each, profusely illus. on ALTERNATING CURRENTS IN RADIO RECEIVERS

on D.C. VOLTAGE DISTRIBUTION on RESONANCE AND ALIGNMENT on AUTOMATIC VOLUME CONTROL

	After Dec. 14	Present Price	SAVE
Each book	90c	60c	30c to \$1.20

RIDER MANUALS

For complete, authorized, servicing data, all in one place, there never has been an equal to Rider Manuals. Get the volumes that are missing from your shelf at today's low prices.

	After Dec. 14	Present Price	SAVE
Vols. III to VI Covering 1932 to 35	\$8.25	\$7.00	75c ea.
Vols. VII to XII Covering 1935 to 41	11.00	10.00	\$1.00 ea.

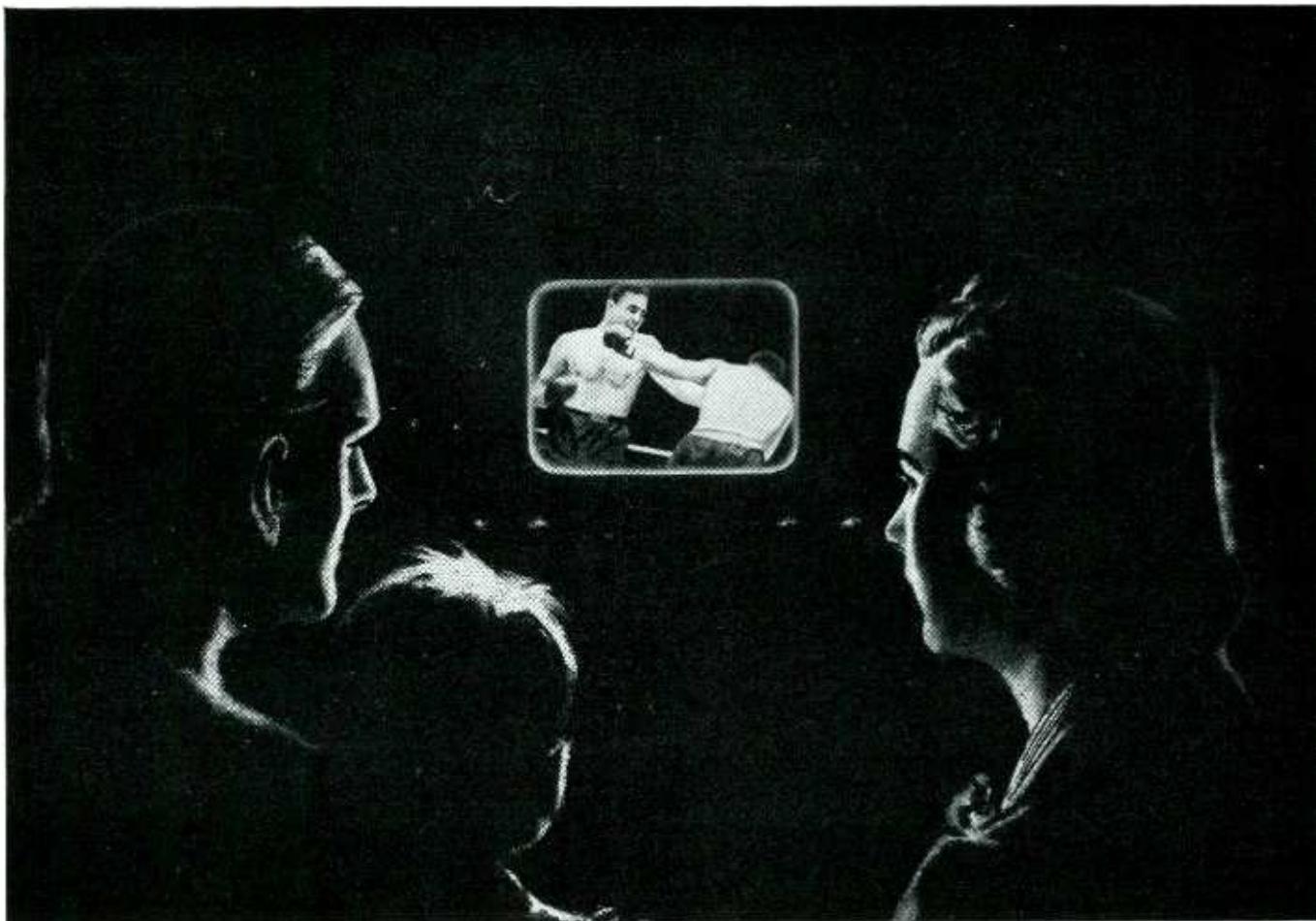
BUY NOW—Save!

***PRICES ON THESE 2 NEW BOOKS WILL NOT BE RAISED BY RIDER AT THIS TIME**

Abridged Rider Manual Vols. I to V
Servicing data on widely distributed sets issued between 1930 and '35.
2,000 pages—\$12.50

Automatic Record Changers & Recorders
Complete servicing information... Explanatory text and diagrams, etc.
700 pages—\$6.00

MORE NEW PRODUCTS reported ready is a majestic portable radio incorporating new "Range Finder." Delivers to begin this month... As a special added attraction Frederick Kugel takes a midget radio chassis, dresses it up in real leather and has unique new compact radio package, to offer "carriage" trade... Fibra Development has announced an "Automatic" Cactus needle, especially treated and hardened to the point where it will stand the gaff on modern record changers, playing from 8 to 12 discs... Something dealers have long looked for, a low priced record album cabinet of modified eighteenth century design, is now manufactured by Phonograph Products. Has five compartments for albums also provides space for magazines and measures 20 1/2 x 16 1/2 x 30 inches... A new, ultra-portable sound amplifier, built compactly and light in weight is offered by Philco. Measures 16x14x10 inches and weighs 35 lbs. complete. Features lapel mike with spring clip.



Thanks to Radio Research
Thousands now Look as they Listen!

On the New York air, these nights at 8:30 o'clock, it's television curtain time. It is estimated that 5,000 television receivers—all front-row seats—are lined up, mostly in homes and public places, to see the shows—the matinees and evening performances—15 hours of entertainment a week from the NBC studio stage and from fields of sport.

Study of statistics gathered by the NBC pioneer television station WNBT, which began commercial programs July 1, reveals that the video audience in the Metropolitan area already numbers about 18,000 in the afternoon and 30,000 in the

evening. On the average, more than 55% of the sets are turned on in the daytime and 80% at night. Seeing by radio is as simple as listening, as far as the receiver manipulation is concerned.

The programs range from fashion shows to prize fights, from spelling bees to a Wild West rodeo, from baseball to travelogues, and from football to illustrated news; while songsters, dancers, magicians, dramatists and bands add to the variety. That people can sit sixty miles away and look in on Madison Square Garden to watch the rodeo. To see a bucking bronco throw its cowboy

rider across the wavelengths is one of the wonders of this age.

Electronic research in RCA Laboratories has put the television shows into space. Electronics—that science which makes miraculous use of infinitesimal bits of electricity—is continuing radio's advance across the threshold of the "Television Age."

The main gateway through which television has emerged to become a service to the public is RCA Laboratories. It is from this magic realm that new wonders in radio sightseeing will come to give this and future generations new and dramatic visions.



RCA LABORATORIES

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

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

OFF the Dial

THERE WILL BE NO parts show, in the accepted sense of the words, when manufacturers, distributors and representatives convene at Chicago next June. Some factories may set up exhibits in their own private hotel headquarters and convention management will probably permit others to erect modest displays in rooms used for meetings but the exigencies of the emergency program evidently militate against the more elaborate booth arrangement to which the industry has grown accustomed.

INSTALMENT CREDIT regulations (see "Time-Payment Rules," page 26, October RR) have been amended, effective December 1, in several details, i. e.: (1) Regulations will not insist upon a down payment where such a payment would be less than \$2, provided all other conditions laid down are met. (2) Minimum monthly instalments may be less than the \$5 proposed provided terms of the sale are otherwise in line with the regulations. (3) A new optional arrangement permits new credit to a customer to be handled as a separate transaction, under the regulations, or added on to an existing contract where combined credit is to be paid up within 15 months. (4) Farmers may be extended almost any credit schedule to fit the seasonal nature of their income so long as the down payment and eighteen month maturity requirements are met, and provided that one-half of the balance is paid within one-half of the maximum maturity. (5) Extension of loans by finance houses for the purpose of paying down-payments on listed merchandise is prohibited and borrowers must, to guard against this contingency, sign a statement as to the purpose for which they want a loan.

COPPER SHORTAGES which recently induced the OPM to crack down on use of the metal in civilian products do not automatically curtail radio production, as first thought. The new restriction does not apply to essential functioning parts within a set such as the wire in transformers, merely prohibits the use of copper for trim, escutcheons and other non-working items for which substitutes may be devised. To guard against shortage of the metal, nevertheless, speaker and tube manufacturers in particular are known to be working with silver, which is no longer so very much more expensive than commoner materials which have because of the emergency become semi-precious. Aluminum is still tight and will probably remain so, but OPM still permits it to go in reasonable quantity to makers of radio parts which simply must have this metal to function.

EXPORT SALE of American-made radios by foreign firms, holding their customers in this way despite the fact that their own factories are in-

operative, was condemned by a special RMA committee last month. The Association itself said its Executive Committee had approved this resolution but we learn now that approval was later "taken back."

LETTERS from many rural readers complain about competition on appliance sales from cooperatives in one way or another riding on the coat tails of the REA. The U. S. Department of Agriculture, under whose wing REA functions, passes off such criticism by pointing out that: (a) Such associations do business wholly with their "membership." (b) "None of the membership" of such associations was in a position to pay for appliances before the cooperatives were formed and, therefore, this represents business which regular dealers could not have obtained anyway. (c) The associations are local affairs operating under local laws and, as such, are not subject to control insofar as merchandising methods are concerned despite the fact REA loans them money to build power lines. Just to make everything nice and cosy, the Department further states that "it has noticed quite frequently that manufacturers of refrigerators, when sales ran into the carload quantities for ultimate consumers, did not hesitate to go around regular dealer outlets." This is presumed to excuse everything.

EXCISE TAX law provisions (see feature article "About That Tax" elsewhere in this issue) sometimes exempt accessories when these are sold separately by manufacturers and not as part and parcel of a receiver sale. This being the case, we wouldn't be surprised to see more equipment shipped "less accessories" in the near future so dealers and distributors would do well to read all the fine print associated with prices in coming manufacturer promotion.

ARM Y RADIO equipment used during the recent southern maneuvers is reported to have been, in the main, satisfactory and in many cases brilliant. Extremely portable stuff such as "walkie-talkie" equipment did not pan out quite so well, however, and designers will obviously have a new job to do here.

AIRCRAFT DETECTORS used by the British have been headlined so much in the news that other radio equipment, no matter how important, has had to take a publicity back seat. This fact notwithstanding, we are told that radio "blind-landing" beams are now in general use and that these, plus extremely efficient ultra high frequency equipment in tanks, is doing a job. Experiments are also known to be progressing in the British Isles as well as in the United States in connection with complete remote control of bombing planes, so that these may eventually be sent to their objective, "triggered off" and returned to their fields without men going along.



PAUL V. GALVIN—New president of RMA

Galvin Heads RMA

Succeeds J. S. Knowlson who resigned to become OPM Deputy Director

WASHINGTON—The Board of Directors of Radio Manufacturers Assn. at New York on Oct. 15 unanimously elected Paul V. Galvin president to succeed J. S. Knowlson who resigned on September 18 to become Deputy Director of the OPM Priorities Division.

Galvin has been active in industry affairs for more than a decade. For several years he has been chairman of the RMA Set Division, and during the last year also the chairman of its important Priorities Committee. He is president of the Galvin Manufacturing Corporation of Chicago.

RMA Committee Changes

President Paul V. Galvin names new Priorities Committee chairman and fills two vacancies

WASHINGTON—A new chairman and several personnel changes have just been made by President Galvin of RMA in the Association's Priorities Committee.

Fred D. Williams of Philadelphia, executive assistant to the president of the Philco Corporation is the new chairman of the Committee succeeding Pres. Galvin who is retiring because of his increased duties as RMA president. Williams has been the vice-chairman of the Priorities Committee and, in past association with Pres. Galvin has been active and in close touch with all government interests of the industry.

The new RMA President also appointed R. C. Cosgrove, vice president of Crosley Corp., to the Priorities Committee, to fill the vacancy caused by the president's retirement from the committee.

Another change was the appointment of S. T. Thompson of Chicago, vice president of the Zenith Radio Corp., following the retirement from the committee of John R. Howland of that company.

The Committee held a meeting on October 29 in Washington to organize the Radio Defense Industry Advisory Committee.

On the Newsfront

Television and Defense

New cross-license arrangement.
Latest video programs

NEW YORK—Most important news item on television front was announcement of RCA-DuMont license-exchange agreement. The trade looks for big uplift in tele. with this new patent arrangement.

It is reported that the Hughes Productions Division of the Hughes Tool Co. of San Francisco has applied for a modification of construction permit, requesting the extension of commencement and completion dates from April 15, 1941 and Oct. 15, 1941 to December 15, 1941 and June 15, 1942 respectively. The same company of Los Angeles, covering its television permit, also asked for same extension dates.

Norman D. Walters, advertising executive, it is said, has advanced a plan to the FCC and the Defense Communications Board whereby the use of all existing television facilities could be utilized in the interests of national defense through the organization of a "Defense Club of Television." Thought many television sets now in manufacturer's warehouses could be distributed to key spots and along with the number of tele. sets now in use could be employed to great advantage for video use in national defense training.

Under program advancement, Philco's television station WPTZ presented its first full-length dramatic production on the night of Oct. 16 of a special video version of the Broadway hit "On Stage." Production was directed by Warren Wright, a WPTZ staff director.

The first wrestling bouts of the winter season went on the air over station WNBT Tuesday evening, Oct. 21, this program to be the first of a weekly series lasting through the cold weather months. This sport proved one of the most popular programs over NBC television last season.

Reps Hold Election

Dixie Chapter hear H. E. Osmun on Priorities

ATLANTA—The "Dixie Chapter" of The Representatives presided over by its President, H. W. Burwell, and James Millar, secretary, held a meeting on Oct. 4th devoted to the discussion of problems confronting radio parts jobbers. The following day the Chapter attended a sectional NRPDA meeting and were addressed by H. E. Osmun, a member of the Priorities Committee of the Radio Parts and Associated Industries.

The "Southwestern Chapter" elected

the following officers for the ensuing year: President, J. Y. Schoonmaker; vice-president, J. Earl Smith; and secretary-treasurer, T. C. Ruhlmg.

OPM To Organize

Radio Industry Committee

WASHINGTON—The OPM on Oct. 30 held an industry conference in Washington to receive nominations and organize the establishment of a Radio Industry Defense Advisory Committee as authorized by that body and the Department of Justice.

The committee will consist of twenty-nine members with nine chosen from set manufacturers, four each from tube and transmitting apparatus manufacturers, nine representing the parts and accessory companies, and three, miscellaneous and special equipment. Nominations for appointment were made by the respective groups, each group submitting double the number of representatives who will be named, later, as members of the committee. Previously informal meetings of the various groups were held to select the names of the nominees which were submitted to the government's presiding officer, Jesse L. Maury. When selecting members, consideration will be given companies' size and location.

This new radio industry committee is the nineteenth established by OPM for major industries and is purely advisory.

Production and allocation problems, both for defense and civilian purposes, together with conservation, simplification and efficient utilization of industry facilities, are among problems designated by Attorney General Biddle for consideration of the radio industry committee.



PHILCO UPS HARDY—Larry F. Hardy with Philco Corp. since 1932 has just been named manager of its Home Radio Set Division. In his new position, he will be in charge of the merchandising of all home models, including radio-phonographs

Ben Abrams Receives

OPM Appointment

NEW YORK—Announcement has just been made of the appointment of B. Abrams, president of the Emerson Radio and Phonograph Corporation, New York City, to serve on the Advisory Committee to Floyd B. Odium, head of the Contract Distribution Division of the Office of Production Management.

The committee is made up of twelve men representing various industries in different sections of the country and meets with Odium in Washington at periodic intervals.

IRE Convention Jan. 12-14

NEW YORK—Harold P. Westman, secretary of the Institute of Radio Engineers notifies the trade that the Winter convention and 1942 Radio Engineering Show of the IRE will be held at the Hotel Commodore, New York City, January 12-14, 1942.



WHEN SERVICEMEN MEET—Live wire radiomen and friends of the Radio Servicemen Assn. of Wilkes-Barre, Pa., gathered at recent Show and Dance. Officers are E. Buckman, pres., A. Renville, v. pres., J. Kennedy, treas., S. Keithline, sec., and directors, C. Foster Hick, Ed. Nowicki, Spencer Eddy, Ed. Tishler, Dan Davis and Pat. Manville

CLEAR AS A BELL



DELIVERING THE GOODS

● The times are helter-skelter. The writing of an order today is many times just a gesture. To get the goods on the shelf is another matter.

That's why it is worthy of note that SONORA is keeping faith with its Jobbers today. We are bending every effort to meet our obligations to our trade, filling our orders with energy, keeping dealers' shelves supplied with the merchandise they need for immediate sales.

If the goods can be delivered, SONORA will do it!

★

Sonora

**RADIO & TELEVISION CORP.
CHICAGO**



WALTER R. G. BAKER—New G-E vice president in charge of Radio and Television department

G-E Elects Five New Vice Presidents

Under latest set-up, company has four major operating departments

SCHENECTADY—President Charles E. Wilson of the General Electric Company on Oct. 27 announced the election of the following five new vice presidents by the board of directors: Walter R. G. Baker, Chester H. Lang, David C. Prince, Elmer D. Spicer, and Harry A. Winne.

Under the new set-up, the company will have four major operating departments with Radio and Television under vice president Baker, Appliance and Merchandise headed by v.p. H. L. Andrews; the Lamp department under v.p. Joseph E. Kewley; and the Apparatus department will be staffed by five vice presidents. They are, C. H. Lang, in charge of defense activities; D. C. Prince, application engineering; E. O. Shreve, commercial activities; E. D. Spicer, manufacturing; and H. A. Winne, design engineering.

Vice presidents W. R. Burrows and R. C. Muir, were appointed members of the president's staff.

W. R. G. Baker is one of the country's pioneers in radio. First joined G-E research laboratories in 1917. In 1939 he became mgr. of the radio and television department.

Chester H. Lang started with the company in 1919 as a traveling auditor. In 1940 he was made apparatus sales manager and chairman of General Electric's defense co-ordinating committee.

David C. Prince, current president of the American Institute of Electrical Engineers, joined G-E in 1913. Prince has 78 patents to his credit.

Elmer D. Spicer joined G-E in 1924. In August 1927 soon after the company began the manufacture of refrigerators he was made superintendent of this department.

Harry A. Winne joined G-E in 1910. Following many advancements throughout the years to 1937 he was named assistant to the vice president in charge of general engineering operations.



*The product
of 20 years of
specialization . . .*

CLAROSTAT CONTROLS

★ Complimentary letters by the hundreds have poured in to us from servicemen everywhere, regarding present-day Clarostat controls.

We awaited such confirmation of our engineering progress. You see, rather than announce radical improvements from time to time as we made them, we have quietly slipped in our refinements one by one. The perfected bakelite-support long-life carbon element, virtually immune to moisture and wear; the split-finger contact of special alloy; the right-angle terminal lugs free from soldering troubles—these and other features have been submitted purely on their own merits.

If you haven't used Clarostat controls recently, by all means try them. Make any test you wish. Ask your jobber for latest Service Manual. Or write direct to . . .

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



Stewart-Warner Convention

Distributors gather in Chicago to preview seven new refrigerators

CHICAGO—On October 15-17 Stewart-Warner Corp. held its 11th annual national convention of the Company's refrigerator division at Chicago's Edgewater Beach Hotel and at that time presented its new 1942 line of electric refrigerators.

New refrigerator line presented to the company's distributors included seven new models—three conventional models and four Dual-Temps.

Speakers at the national convention included Joseph C. Elliff, assistant general sales manager, who, with Gus Trefferson, assistant manager of the household appliance division, discussed general policy, distribution, mechanical features and the financing of the 1942 line. A. B. Dicus, vice president of Hays MacFarland & Company, the advertising agency; C. C. DeWees, advertising manager of the appliance division; and W. E. Macke, assistant, presented the national advertising program, dealer helps and local display plans. C. R. D'Olive, appliance division manager, introduced the new line.

The convention will be brought in replica to distributor salesmen at twenty sub-conventions held throughout the nation prior to Nov. 6.

A "LAB" to fit your pocket

Readrite
RANGER

MODEL 739

\$10.89

Dealer Net Price



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

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

WRITE FOR CATALOG

SECTION 1120 COLLEGE DRIVE

READRITE METER WORKS, Bluffton, Ohio

RECORD BAR* is "Going Over Big" There Must Be A Reason



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

BITTER RECORD BOOTH B1

When booth demonstrations are needed, you can be sure of the complete customer comfort that helps sell more records—with this popular Bitter Record Booth. Standard Construction: Laminated veneer panel in frame; glazing in upper panel. Built in sections; easily erected by handy man. Standard finishes: Kiln dried birch finished in Walnut, Mahogany or painted.



NEW 1942 Catalog, Write NOW!

1. Saves Time
2. Saves Space
3. Sells More Records

The facts tell the story! It's a fact that every day more and more leading record dealers switch to RECORD BAR* for bigger record volume, simplified record selling and highest quality reproduction. Take a tip from the leaders—install RECORD BAR*—Today!



Bitter Album Rack #110

This new album sales stimulator holds about 250 album sets. Same dimensions as the famous Bitter Standard Record Rack (#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.



Bitter Record Rack #100

This attractive, compact unit holds 500 10", 500 12" records, 75 album sets. Specifications same as #110. No progressive record dealer can afford to do without the big time and space saving features of this famous record rack.

ASK ABOUT BITTER RECORD DEPARTMENT DESIGN SERVICE

A. BITTER CONSTRUCTION CORP.

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



I GOT LOTS OF PRACTICE WHEN I PUT THIS DIGNIFIED FIBRA SELF-SELLING COUNTER CARD IN MY RECORD DEPT.!



YOU, TOO, can make sweet music on YOUR cash register! Just stock up on FIBRA Needles and Ring dem Bells!

A few good territories are still open for factory representatives. Write: **FIBRA Development Co.**

1600 Broadway, New York City
Largest Manufacturers of CACTUS Needles in the World



Individually tested
PAPER TUBULARS

- Although made and sold by the hundreds of thousands, each and every Aerovox paper tubular is *individually tested and guaranteed*. Please remember that. Also, constant refinement has resulted in a truly quality product regardless of low cost. Now in sparkling yellow, black and red label jackets.

TUBULAR PAPER CONDENSERS

- Type 484—400 v. D.C.W. .01 to 1.0 mfd.
- Type 684—600 v. D.C.W. .001 to .5 mfd.
- Type 1084—1000 v. D.C.W. .001 to .1 mfd.
- Type 1684—1600 v. D.C.W. .004 to .05 mfd.

● **Ask Your Jobber . . .**

He'll gladly show you and supply these paper tubulars. Ask for latest catalog. Also free subscription to Aerovox Research Worker. Or write direct.



RCA VISITOR—George Wedermeyer head of Wedermeyer Radio, Ann Arbor, and NRPDA chairman (left) meets President G. K. Throckmorton of RCA Mfg. Co., while visiting company's plant at Camden

New Radio Materials

RCA develops forty replacements for critical metals, uses twenty in current set production

NEW YORK—As a result of the search necessitated by national defense for alternate materials in radio sets, RCA Laboratories has developed more than 40 replacements, says many are superior to the originals in one way or another, announces that 20 are already in use in RCA's current radio production.

To save aluminum, intermediate transformer coil cans are being made of fabricated cardboard tubing, coated with moisture-resisting substance plus a thin sheet of copper foil. Additional aluminum was saved by using a plastic in the record-changer control segment of radio phonographs.

Plastics are under consideration to replace the metal housing that protects loudspeaker cones. To avoid possible shortages in the plastic field itself, experiments are proceeding with a felt substance made from shredded wood, cardboard paper scraps and sulphite pulp. Such a "mix" is moulded into required forms and treated with a moisture-resistant impregnant, is said to be as tough as either wood or plastic, may be covered with fabricoid or other surfacing and may even have metals bonded to it by thermofusion. Experiments are also in progress with "Lignin," a by-product of paper mills.

RCA chemists simultaneously report that they have found a replacement for the phenol-formaldehyde resins used in radio manufacture to impregnate paper tubes upon which wire coils are wound.

In the recording field, the Laboratories found certain types of ceramic materials, including glass, satisfactory as a replacement for aluminum and in certain respects better. Nickel, formerly used in the firm's recording studios as a facing on copper "masters" has been dispensed with, a new process about which details are not publicized, replacing it entirely.

DETROLA
AUTOMATIC RECORD CHANGER
RADIO-PHONOGRAPHS



THE WORLD'S
Easiest-to-Operate

Designed by
DETROLA
Engineered by
DETROLA
Produced by
DETROLA

AUTOMATIC RECORD CHANGER

They're simple, trouble-free . . . A child can operate them. You will marvel at this wondrous performance!

Every Model Has All Five EXCLUSIVE DETROLA FEATURES

1. The only Automatic Changer that plays home recordings
2. Gearless, noiseless operation.
3. Manual or automatic record selector.
4. New type center-post with amazing features for convenience in adding or removing records.
5. Free-floating tone-arm prevents record harm.

And That's Not All . . .

Each plays ten 12" or twelve 10" records—has feather-weight tone-arm, everlasting needle. Radio or phonograph. YOU GET PERFECT TONE!

Also Complete Line of **DETROLA** 3-way Personals And Portables **TABLE MODEL RADIOS** **FARM SETS AND RECORDIOLAS**

See Your Detrola Dealer

DETROLA
DETROLA BLDG. DETROIT, MICH.





HOWARD Spotlights the "FM" Market with the New "VICTORY" Model 718X-FM-C

This new 14 tube HOWARD Automatic Phono-Radio Combination is a positive sensation in beauty, performance and value. Its list of sales compelling features is truly amazing. Model 718X-FM-C has a powerful R. F. Stage effective on ALL FOUR BANDS—shortwave, standard broadcast and FM; bass and treble tone control; push-pull 10 watt output; special 12" Jensen FM speaker and improved automatic record changer with light weight pick-up.

The beautiful Chippendale period cabinet, custom made in HOWARD'S own factory, is available in Stump Walnut or Diamond Matched Mahogany. Has spacious compartment for record albums. The depth, color and range of tone is a revelation to every music lover. You'll find the new HOWARD 718X-FM-C unchallenged in its performance and unmatched in its ability to provide real profits for you. Write today for complete particulars about the valuable HOWARD selling franchise. You'll find it well worth while.

America's Oldest Radio Manufacturer

HOWARD RADIO COMPANY

1731-35 Belmont Av., Chicago, Ill. - Cable Address: HOWARDCO, USA

Replace with the Best!

ALLIANCE "EVEN-SPEED" PHONO-MOTORS

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

INDIVIDUALLY PACKAGED

● The low cost and quick, easy installation of "Even-Speed" Motors make it more practical and profitable to replace the entire unit when trouble occurs. The "Even-Speed" line of only four phono-motors provides a unit for 95% of all replacement requirements. Carry a few in stock. Each motor and turntable comes in an attractive carton for your greater convenience.

Ask your jobber or write direct for complete information and low prices.

ALLIANCE MFG. CO. • ALLIANCE, OHIO

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

"LONG" DELIVERIES?

Speed up "long" deliveries by specifying "RAILWAY EXPRESS" on rush orders. Fast passenger-train service with pick-up and delivery at no extra charge within our regular vehicle limits in all cities and principal towns. Just phone

RAILWAY EXPRESS
AGENCY INC.

NATION-WIDE RAIL-AIR SERVICE

IN SERVICE

Here we are again—we replacements for the many manufacturers that used Ken-Rad better tubes for initial equipment last year. Stock us for quick turnover and added profits. For we assure you completely satisfied customers. As one writes: "I know that your tubes will give me full satisfaction as I have been using them in my sets for some time and do not believe that there are better tubes on the market."

KEN-RAD TUBE & LAMP CORPORATION, INC.
Owensboro, Kentucky
Makers of Ken-Rad Radio Tubes and Ken-Rad Electric Lamp Bulbs

KEN-RAD
DEPENDABLE
Radio Tubes

SERVICE MEN HAVE BOUGHT OVER 100,000 SUPREME TESTERS

Be sure you see the complete SUPREME line before you purchase new test equipment. See your Jobber or write for new catalog.

WRITE FOR NEW CATALOG AND PRICES

SUPREME
TESTING INSTRUMENTS

GREENWOOD, MISSISSIPPI U. S. A.

Dealer Helps

SPECIAL CARTONS—*Audio Devices, Inc.*, New York City, has just brought out special new shipping cartons holding from one to three recorded glass base instantaneous blanks. The company and its distributors throughout the Nation are handling these shipping containers on a no profit basis to promote the wider use of the substitute glass base discs.

LATEST DISPLAYS—*Emerson* has a new type of window and counter display for three radio sets. For window showing where space is limited. Also announces a colorful and unique window decalomania. Available to dealers through distributors.

NEEDLE PROMOTION—Several new promotional pieces have just been released by the *Fibra Development Co.* on their steel and fibra needles. Includes two booklets, a label-descriptive sheet and a folder, the latter detailing company's full line of record needles.

HOME DEMONSTRATION—*Farnsworth* new floor display, illustrated below,



shows a home setting for new console and four compacts.

DISPLAYS ET. AL—*General Transformer Corp.*, has new display cards, window banner, and mailing pieces for promoting new "Porta-Power." Please mention *Radio Retailing*.

CATALOG NO. 125—By *Jensen Radio Mfg. Co.*, describes new Hypex projectors, coaxial speakers and reproducers with high frequency control. Other literature available from *Jensen* on loudspeakers for speech and music reproduction.

CATALOG—*Precision Apparatus Company's* new 1942 catalog contains 16 pages describing its complete line of radio and laboratory testing equipment. New catalog for general distribution either through jobber or by writing direct.

BULLETIN—*Westinghouse* announces a 12-page bulletin on its miniature a.c. and d.c. voltmeters and ammeters in the two inch classification. For copy, write to *Westinghouse Electric and Manufacturing Co.*, East Pittsburgh, Pa.

Because these Linear Standard Speakers are made of the Finest Material

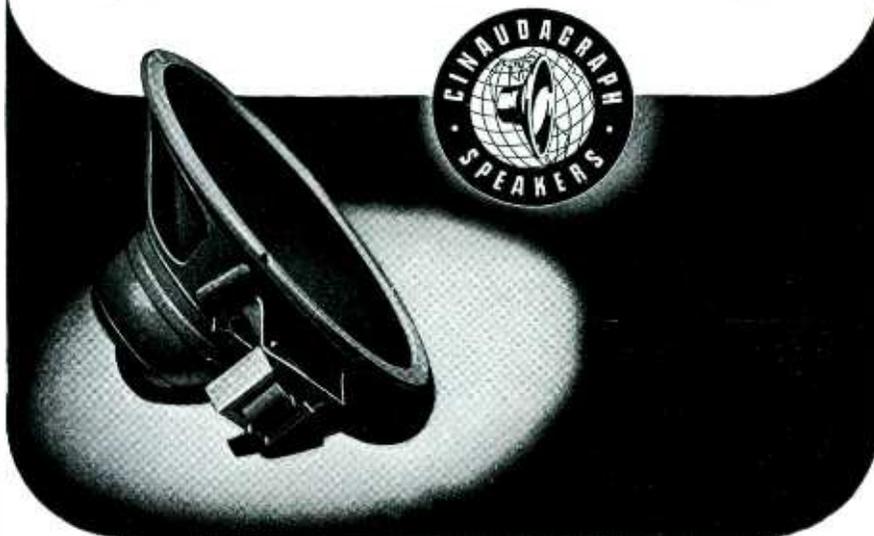
Precision = Fidelity

As definite as a Mathematical Formula is the Fact that Fine Material plus Precision Workmanship, properly applied, invariably equals FIDELITY . . . The Linear Standard presents the Ultimate in that type of reproduction.

Small wonder that CINAUDAGRAPH SPEAKERS are being chosen by the discriminating buyer—are finding their way into more and more installations!

Write now for full description in the Fall Catalog, just out, listing this, and all other models.

CINAUDAGRAPH SPEAKERS, Inc.
Dept. RG 921 W. Van Buren Street Chicago, Ill.



RECORDING DISCS WILL BE YOUR MONEY-MAKER THIS WINTER...



THE REASON IS SIMPLE AS A B C

- A**—Radio stations are the largest users of high quality recording blanks.
- B**—Radio stations have booked more business this fall than ever before. The busier they are the more recording they do.
- C**—Radio stations use more Presto discs than any other make.

Here is what they are buying: For their highest quality recordings, the NEW PRESTO GLASS BASE DISC AND ALUMINUM BASE DISCS *recoated* by Presto.

For their file and reference recordings the new, improved Presto MONOGRAM paper base discs.

Your radio station accounts will soon want these discs in quantity, and fast. Order now and be ready to deliver promptly from stock. There is no shortage of Presto discs in sight but with the season scarcely started our disc plant is running 3 shifts daily to fill the demand. Stock now while you can get quick delivery. Write today for prices and trade information.

PRESTO
RECORDING CORP.

242 WEST 55th ST. N.Y.

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

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

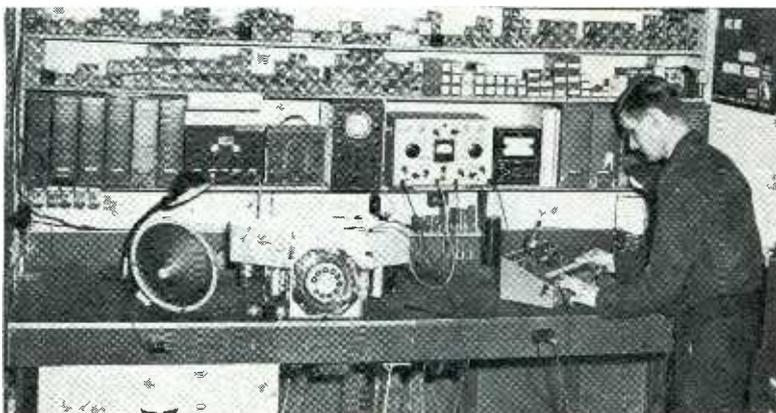


SPECIAL Benches

ON WHEELS—Rack mounted test equipment can go to "Mohamet" in the Kidder Radio service department, Madison, Wisc. Mounted on a rolling truck, instruments follow action around shop where needed



COMMUNICATION—To a specialist at a special bench go communication receivers at Davego—City Radio, New York. Full equipment for exacting work is at hand



ECONOMY—Needing a bench in a hurry, L. M. Tozier, Natick, Mass., utilized the large panels from refrigerator crates for the back walls, a vegetable bin from a trade-in box for the tool cabinet (lower left of photo) and chromium strips for trim on front edge of bench. He bought the sheet of Masonite used for table top of bench

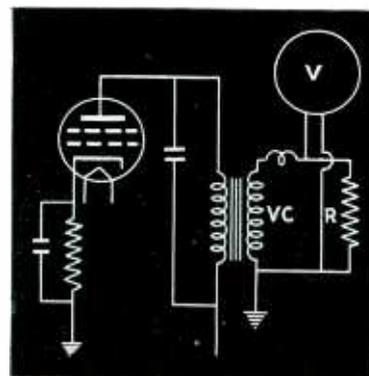
New

Power Output Measurements

By Willard Moody

A fairly accurate determination of power output when plotting the response of an amplifier or radio receiver in terms of frequency against output voltage is, most easily accomplished by substituting a standard resistor having no reactance for the voice coil.

The computation of output power would be very complicated were the voltage taken across the voice coil since it would be necessary to take a separate measurement of voice coil impedance and power factor. Attempts



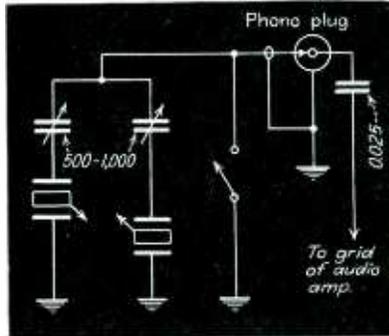
to compute the impedance from the inductance measured at 400 cycles or some other reference frequency will lead to erroneous conclusions as the inductance varies with frequency, sometimes in an unaccountable way.

First measure the voice coil on a good ohmmeter or bridge and substitute the equivalent resistance for the voice coil as shown in the diagram. The audio voltage developed by the amplifier may then be read on a high resistance voltmeter. Squaring this voltage and dividing the result by the resistance value will then give the output power. A further advantage of this method is that no howling sounds are heard since the speaker is inoperative.

Condenser Volume Control

Crystal cartridges used in phono tone arms vary somewhat in their a-f voltage output. Ordinarily the slight difference is never noticeable since phonos can be played side by side with

Circuits . . .



equal volume when the volume controls of each are set properly.

Where two crystal pickups are to be used to feed into the same amplifier, however, the setting for one pickup may need to be changed when the second pickup is operated. This condition of a single control and two pickup heads occurs in the tandem tone arm of RCA and the diagram shows the method employed to equalize the sound output. It will be remembered that this type of dual pickup employs two crystals, one that is actuated by the groove on the top of the record and the other by the groove on the bottom of the record.

Each cartridge is connected in series with a trimmer condenser that may be varied from 500 mmf to 1000 mmf. The two series circuits thus formed are in parallel across the input to the audio amplifier of the receiver. While one crystal operates, the inoperative crystal may be considered as a load to the first, however since a crystal is essentially a capacitive device no frequency discrimination occurs.

A certain amount of attenuation of the signal occurs and for this reason it is usually necessary to adjust both trimmer condensers until the volume output from the speaker is at the same level from both sides of the record. Records may then be played without any change in the setting of the volume control in the audio amplifier.

IN SOME SPEAKERS the connection of leads to the voice coil becomes unsoldered or broken. When the broken spot is hard to get at the cone may sometimes be cut in a "V" shape over the place to be soldered. Bend the point of the "V" back and solder the connection at the end of the winding through the opening. After repair carefully match the edges of the

flap formed and glue the cut portion back in place. Form a solid seam of cement over the cut.

Contact Potential and Zero Bias

Many new receiver models operate with the r-f and i-f tubes under conditions of zero bias when no signal is being received. When operated in this manner the effect of contact potential may affect the input impedance of these circuits. Regarding these certain factors of contact potential that may take place Sylvania supplies the following information.

Contact potential is due, in part, to the high initial velocity of the electrons emitted from the cathode which causes a small current flow in the external circuit to which the tube is connected. In zero bias operation when no signal is applied the only bias applied to the tubes is that developed across the diode load resistor due to tube and circuit noise in addition to the contact potential of the diode. This voltage is produced because some electrons actually reach the diode plate and flow through the load resistor producing a voltage drop across this resistor so that the diode end becomes negative.

In connection with zero bias operation it must be kept in mind that no two tubes in the receiver are likely to have the same value of contact potential and the value may vary in individual tubes during life. At the same

time the tubes on the avc line are also subject to contact potential.

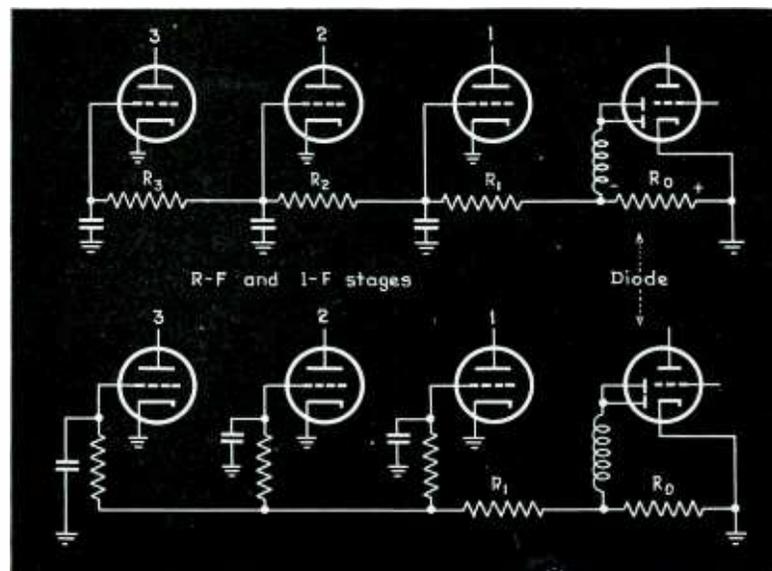
The difficulties arising from these factors will be described. As long as the contact potential of the diode is greater than the contact potential of tubes 1, 2 and 3, as shown in the upper portion of the diagram, then no current due to contact potential will flow through R1, R2 and R3, thus maintaining desirable operating conditions.

If the contact potential of tube 1 is greater than the contact potential of the diode then current will flow in the grid circuit of tube 1 until the voltage across R1 plus R0 equals the contact potential of tube 1. This current flowing in the input circuit of tube 1 reduces its input impedance and reduces the gain. The negative voltage across R1 also imposes a more negative bias on the other tubes on the avc line and further reduces the gain of all the circuits.

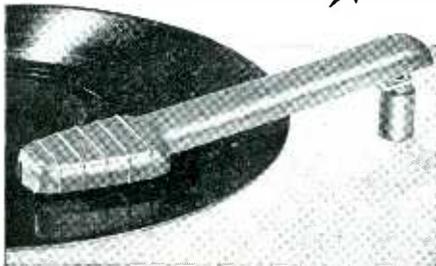
Increasing the value of R1 will reduce the grid current flowing and likewise the grid loading of tube 1. It will not, however, reduce the negative voltage developed across it and hence will not improve gain reduction of tubes 2 and 3.

Since the tube having the highest contact potential governs the negative voltage developed across R1 the circuit arrangement shown in the lower portion of the illustration would make this less important. Here each tube develops a smaller proportion of its contact potential voltage across R1 since the other resistors serve to produce part of the drop.

Zero bias operation of tubes is not the most ideal arrangement but economic factors have made it seem attractive. This has described some of the problems that must be kept in mind if reasonably satisfactory operation under zero bias conditions is to be obtained.



Webster Electric MODEL AJ1 Crystal Pick-Up



All the clarity and wealth of detail of the original performance without extraneous noise—that's what FM means in radio; and that's how the Webster Electric AJ1 Pick-Up reproduces recorded music.

This new light weight, low pressure Pick-Up finds NEW beauties in old (and new) recordings—brings out overtones, harmonics and nuances that have been hidden in record grooves for years because old style heavy pick-ups lack sensitivity to reproduce them.

Built as an integrated unit and precisely balanced for needle pressure of exactly 40 grams (less than 1½ oz.) the AJ1 Pick-Up practically eliminates surface noise and tone arm rattle . . . plays thousands of records without changing needles . . . prolongs record life.

Customers are thrilled when you install an AJ1 Pick-Up—they discover new delights in replaying old records and are stimulated to buy new ones . . . to enlarge and bring their libraries up to date.

The Webster Electric AJ1 Pick-Up is easy to sell, easy to install, and doubly profitable for dealers—you make a good profit on Pick-Ups as well as extra dividends from bigger record sales. Order a stock of Webster Electric AJ1 Pick-Ups today.

(Licensed under patents of the Brush Development Company)

WEBSTER ELECTRIC COMPANY, Racine, Wis., U.S.A. Established 1909. Export Dept.: 100 Varick St., New York City. Cable Address: "ARLAB" New York City



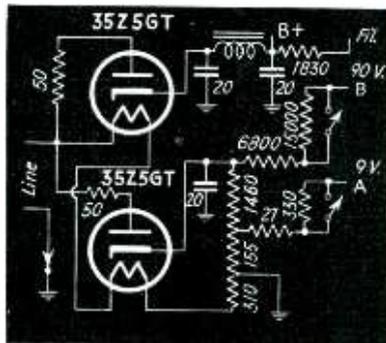
WEBSTER ELECTRIC

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

Dry Battery Charging

Various circuits have been employed by the set manufacturers to supply a charging current to dry batteries in the portable receivers. Most of these charged the batteries when the set was not in operation but the batteries may be charged during periods that the set is used on the line in the circuit shown.

Here a separate charging system consisting of a 35Z5GT rectifier tube and voltage dividing network and filter is contained in the receiver. Another tube of the same type is employed to



supply A and B voltages to the rest of the tubes.

The circuit is arranged to provide a very light charging current when the receiver is operated from either ac or

TURNER U-9S DOES THE JOB OF 4 MIKES



A twist of the switch gives you high impedance, 50-, 200 or 500 ohms, just as you choose.

Low impedance permits the use of less expensive, easier to get cables.

Response engineered to broadcast standards 40-9,000 cycles. Level—52DB. Gunmetal finish. List \$37.50

TURNER 22X-22D

Surefire operation under the toughest conditions at surprisingly low cost. Lots of eye appeal and built to take a lot of use.

22X Crystal, List \$18.50
22D Dynamic, List \$23.50

Crystals Licensed Under Patents of the Brush Development Co.

There's a Turner Mike Catalog Waiting for YOU.

Write
The
TURNER
Co.

915 17th St. N. E.
Cedar Rapids, Iowa



... with a Meissner FM CONVERTER

If you want fast turn-over here it is—the Meissner FM converter, it is your answer to second set sales that can be made right now! This converter has everything, eye-appeal, compactness, stability and best of all—simplicity in installation and operation.

The Meissner FM converter connected to any quality radio receiver gives FM performance at about one-third the cost. This is your opportunity to sell a fast moving unit, one that the public wants.

The FM converter is shipped complete with tubes, ready to operate. List price \$44.95. See your Jobber today.

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

dc. This is just about enough to maintain the batteries but not enough to charge up used batteries. A separate position on a three position switch is used for rapid recharging and shorts out the resistors shown.

The resistance voltage divider is designed to give a charging rate of about one third of the discharge rate, this having been found to give the best results. In the 207C and 207G chassis with this circuit Stewart-Warner recommends that the batteries be left on charge at least twice the length of time they were used. As the batteries age it is necessary to charge for a longer period.

To obtain the longest possible battery life the batteries should be placed on charge immediately after use. Charging every few weeks even when the batteries have not been used is also recommended. When the set is used on the house current at regular intervals the batteries are automatically maintained.

When the power selector switch is turned to the battery position the B batteries are connected to a neon bulb connected in a relaxation oscillator circuit that permits about three flashes of the bulb per second when the batteries are in a fully charged condition. When the battery voltage falls to about 72 volts the bulb then flickers about once a second and indicates that new batteries are needed.

Like the resounding tones of Old Trinity—played at will!



You can make easy, extra profits selling these new

CHIME RECORDINGS

World-favorite Xmas Music high-fidelity, 10" double discs

Songs and hymns for all denominations—for homes, churches, institutions, community observances, holiday celebrations, etc. Market ready-made by millions of phonographs, combinations and amplifier systems. Especially adapted for Church Tower amplifiers. Sure sales. Good margin. Write immediately.

These selections now ready:

- 1006 HARK! THE HERALD ANGELS SING
- 1007 SILENT NIGHT, HOLY NIGHT ANGELS FROM THE REALMS OF GLORY
- IT CAME UPON THE MIDNIGHT CLEAR
- 1008 JOY TO THE WORLD
- O COME, ALL YE FAITHFUL
- 1009 O LITTLE TOWN OF BETHLEHEM
- WHILE SHEPHERDS WATCHED THEIR FLOCKS
- 1010—THE FIRST NOEL
- WE THREE KINGS OF ORIENT

RANGERTONE, INC.
ELECTRIC-MUSIC

73 WINTHROP STREET

NEWARK, N. J.

TRICKS of the TRADE

PHILCO TRANSITONE AR-7

Hum not due to filters . . . look at under side of chassis and find a blue lead near the 7Y4 rectifier socket. Move and anchor this lead as far away from the rectifier socket as possible.

PHILCO 38-38

Motorboating . . . if the "C" batteries in this set get just a little weak motorboating is a common result.

PHILCO C-1550

Hums on low volume . . . ground

low end of volume control directly to chassis instead of socket eyelet. Eyelet develops resistance to ground.

RCA-VICTOR AC-DC

Oscillation with perfect alignment and new 12SK7 tube . . . install a .1 mfd 200 volt condenser from cathode to chassis of 12SK7 tube. Be sure to align the set after installing this part.

RCA AC-DC MODELS

Hum not due to filter condensers . . . check the filament circuit. Any cold soldered joint, loose connection or contact will show up as hum.

To Simplify Resistor Replacements . . .

*Only \$6.00 list for two each of these 5 universal sizes.

Use Adjustable 10-Watters for the Hard-to-Stock Sizes!



CLIMATE-PROOFED

IRC Power Wire Wound Resistors are made in a complete range from 5 to 200 watts—all standard types having the famous IRC "Climate-Proofed" Cement Coating to guard against the most common cause of power resistor failure.

Sure you try to stock frequently used resistor values in half, one and two watt sizes, but it's difficult to have them all on hand at all times, and it's tough to hold up a job while you wait for the one you need.

Stock a couple each of the IRC type ABA adjustable ten watters, 500 - 1000 - 2500 - 5000 - 10,000 ohms,* each of them adjustable by moving the slider for any resistance value up to the maximum.

These five units will handle any wattage requirements up to 10 watts and any resistance value from 50 ohms to 10,000 ohms. Use the low range units for high wattage-low resistance requirements because in all cases the wattage rating is based upon the full length of the resistor.

IRC Type ABA 10-watt Adjustable Resistors are made in all popular ranges from one ohm to ten thousand ohms and list at 60c each.



POWER WIRE WOUND

RESISTORS

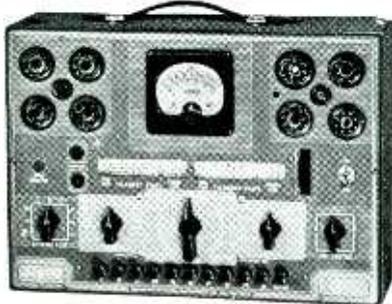
INTERNATIONAL RESISTANCE CO., 401 N. Broad St., Philadelphia, Pa.



Soldier with "Walkie-Talkie." Photo by U. S. Army Signal Corps.

Vital Communications!

Modern warfare has shown the necessity for up-to-date radio equipment. Keeping it in perfect working condition is equally important. We are proud that Jackson equipment has been selected by the U. S. Army Signal Corps for this purpose. Also other exacting branches of Radio Communication such as Airway, Police and Broadcasting systems use Jackson instruments. To maintain your reputation in the service field, bank on our reputation with these experts.



DYNAMIC TUBE TESTERS



Famous Jackson Dynamic test method finds "poor" tubes which pass for "good" in ordinary testers.

MULTIMETERS

Universal model 20,000 ohms per volt. Twenty-three ranges with automatic selection — accurate — rapid operation.

FREE! Write today for folder shown and also Catalog of all Jackson equipment.

THE
JACKSON ELECTRICAL
INSTRUMENT CO.
Dayton, Ohio



Servicing CONVERTERS

HOW TO FIND troubles peculiar to combination oscillator-mixer circuits

By JOHN H. POTTS

SERVICEMEN encounter many receivers today that employ a single tube combining both oscillator and mixer stages in one glass envelope.

Although these produce the same result as separate oscillator and mixer tubes, coupling or injection of the oscillator energy takes place within tube itself and meter readings may be misleading due to the common cathode circuit.

Typical Circuits

Examples are shown in Figs. 1 and 2, where the oscillator grid leak does not return to ground but to the cathode at point B. Since point A is positive with respect to ground due to the voltage drop across R_1 , the fact that the voltage measured at point A is zero or slightly positive does not necessarily indicate that the oscillator is inoperative. It may simply mean that the negative voltage at point A is not sufficiently great to counterbalance the positive voltage at point B.

The proper check in such circuits is to measure both the cathode voltage and the voltage to point A. If the cathode voltage is plus 3 volts and the voltage from point A to ground is plus 1 volt, the actual voltage across the oscillator grid leak is minus 2 volts and the stage is oscillating.

In Fig. 1, a parallel system is used to feed the oscillator plate. The resistor R_3 , used for the purpose, serves also to flatten the oscillator output and thereby makes for greater uniformity

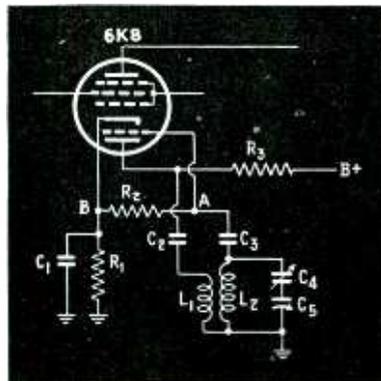


FIG. 1—Parallel feed oscillator using a 6K8 hexode-triode

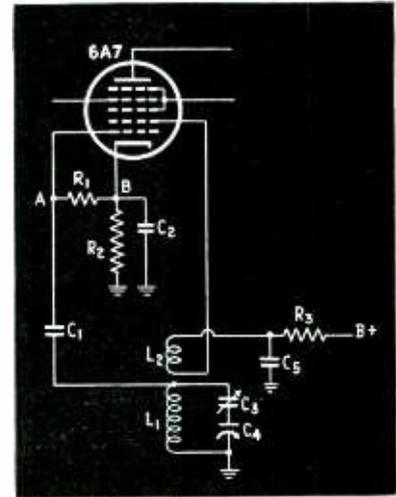


FIG. 2—Popular tickler feedback circuit with 6A7 pentagrid converter

of operation. If this resistor changes considerably in value, uneven output or "dead" spots at certain portions of the band may result.

In Fig. 3, note that a Hartley circuit is employed. This is emphasized since it seems that many are under the impression that the circuits employed for the 6A7 are equally suitable for the 6SA7. Such is not the case. The tubes are different in that G_2 is the anode grid for the 6SA7. The Hartley circuit is particularly suitable for the 6SA7; but not for the 6A7. This is pointed out in order that you may not be tempted to substitute an oscillator coil designed for a 6SA7 in a 6A7 circuit, or vice versa.

Dead Oscillators

No matter what type of circuit is employed, if the oscillator is dead, the set is usually completely inoperative. In some cases, where there is a strong local near the low frequency end of the dial, it will ride through the i-f and the signal will be heard "all over the dial." This is a common occurrence with ac-dc sets of limited selectivity. When no signal is heard, and the fault is localized to the oscillator, it is frequently advisable to restore operation temporarily by substituting another signal for the dead oscillator. This is done by connecting the output of a test

oscillator to the mixer, either coupling loosely to the signal grid or feeding directly to the oscillator anode grid.

The receiver is then tuned to a strong local and the test oscillator is set to produce a strong, unmodulated signal equal in frequency to that of the station to which the receiver is tuned, plus the intermediate frequency. Thus, if the set is tuned to 600 kc and the i-f is 455 kc, the test oscillator should be adjusted to 1055 kc. If there is nothing else wrong with the set, the station should be heard. This stunt is particularly useful when it is necessary to give estimates.

Curing Drift

Oscillator drift is a common trouble with older receivers and is usually caused either by changes in the capacity shunting the tuned circuit, or as a result of the effect of temperature changes upon components of the oscillator circuit. For this reason, if it becomes necessary to change the position of the oscillator in any receiver, particular care should be taken to keep the coil and other components well away from any hot objects, such as the rectifier tube, bleeder resistors, etc. Where fixed condensers are employed in the oscillator circuit, the use of temperature-compensated types will improve stability. Never leave a

trimmer adjusting screw loose. If it must be turned nearly all the way out to tune, it is best to check the dressing of the leads and shift them so as to minimize the shunt capacity. Often this will permit adding more capacity in the trimmer.

Variation in oscillator voltage may cause frequency instability. This variation in voltage often occurs as a result of poor power supply regulation. When the avc is acting on a strong local signal, the plate current of all tubes under avc control is greatly reduced; consequently the B-supply voltage increases. This increases the voltage applied to the oscillator, resulting

in a frequency change. With modern converter tubes, such as the 6K8 and, to a lesser extent, the 6SA7, the trouble is not so serious, but with some of the older sets the effect may be bad, particularly at the high frequency end of the tuning range. Voltage may be stabilized by employing a regulator tube, and this is the practice in some high grade receivers.

When frequency instability suddenly becomes evident in a receiver which previously performed satisfactorily, the trouble may be due to a decrease in the plate current drawn by one or both power output tubes. Since such receivers often employ no bleeders, the



Do you Service **AUTO RADIOS?**

— Here's Your Wire Insurance



Auto Radio Shielding



Shielded Low Capacitance Lead-in



Shielded or Non-Shielded Spark Plug Wires (also motor grounding cables)



Shielded or Non-Shielded Primary Wires

For Antenna Wire and Kits, Hook-up Wires, Microphone Cables, and all other specialized wires for radio and sound equipment—see Belden Cat. 841.



If you are getting your share of the millions of auto radio installations and service jobs—why not save yourself the complaints that result from wire failure?

Specify Belden Auto Radio Wires—part of the regular line—built to the same rigid quality standards that have made Belden a leading supplier to manufacturers since the inception of radio.

Be sure of good, permanent wire connections . . . buy Belden from your jobber.

Belden Manufacturing Company
4697 W. Van Buren St.
Chicago, Ill.

Belden WIRE

FOR GOOD CONNECTIONS

FAST, EASY WAY TO CUT HOLES IN RADIO CHASSIS



NO FILING, REAMING, OR TEDIOUS DRILLING

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

SEND FOR FREE COPY GREENLEE CATALOG 33E

GREENLEE TOOL CO.

1708 Columbia Ave.
Rockford, Illinois

YOU MUST HAVE
Dependable Test Equipment
IN YOUR SERVICE SHOP TODAY!

With receivers in greater use than ever before—at a time when set production is hitting new lows, RCP performance, making possible the servicing of more jobs in less time is vital to you. Don't take risks with inferior instruments now—cash in on the servicing business available with proven RCP equipment.



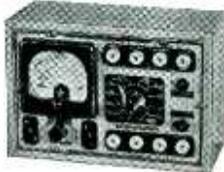
RCP 310C-4
TUBE TESTER
with "Rolindex"
tube test charts
Complete only **\$28.95**

Like all RCP instruments, the Model 310 is stripped of all non-essentials. Only those features that will make your service job more efficient are incorporated. Glance over some of these features. See if you don't agree that this is the best buy for the money.

Newest and finest brass-gear, mechanically operated Rolindex tube charts—low loss rotary switches—Dynoptimum test circuit with RMA specified plate voltages and loads. Tests every type of tube. *Separate noise, hum, intermittent tests. *Spare socket. *Hot, short and leakage test between elements. *Line voltage adjustment from 105 to 135 volts.

RCP 411

Supertester
Complete only **\$19.45**



Here's a tester designed for top efficiency. Equivalent of 33 individual instruments.

*5 range AC-DC voltmeter scale from 0 to 5,000 volts. *AC-DC amps from 0 to 25 amps. *DC milliamps 0 to 100. *DC microamps 0-200. *AC milliamps 0-500. *db meter from -10 to +69 in 5 stages. See other important features in catalog 125.

Today Defense gets preference on all supplies. Hence slower deliveries. Labor and raw material costs are increasing; hence, test equipment prices are going up. You can save yourself time and money by buying now. See your local distributor today. Ask him to demonstrate reasonably-priced RCP instruments. The best buy for the money. New catalog No. 125 now available. Prices subject to change without prior notice.



RADIO CITY
PRODUCTS CO., INC.
88 PARK PLACE • NEW YORK, N.Y.

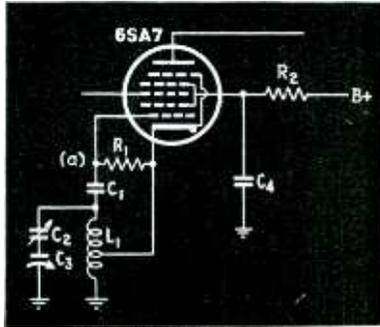


FIG. 3—Hartley oscillator with 6SA7 pentagrid converter

power tube load takes over this function. When the load is reduced, due to a decrease in plate current, AVC action causes greater than normal voltage variations, thus affecting the oscillator frequency.

Replacing Coils

It is frequently possible to substitute an oscillator coil designed for one receiver in that of another, provided the oscillator or converter tube, the intermediate frequency, the tuning range, and the gang condenser capacity are identical. Care should be taken to maintain the same lead length and positioning of parts as was originally employed.

WHERE TO GET MEN

(Continued from page 17)

meager selection of used cars in the "lots" I pass are manifestations of used car shortages, I know a couple of used car salesmen who would also consider selling radios.

I see by the papers that the furniture field is beginning to feel the result of shortages of woods, metals, paints and varnishes and certain types of upholstery materials. Modern furniture, utilizing large proportions of chrome metal, is already restricted. Furniture salesmen, in

my opinion, make excellent radio salesmen, particularly for "furniture" models. The retail furniture field would be one of my "best bets." Such salesmen could talk intelligently about period cabinets. This will be more important than ever, with the growing need for "sell up" on the higher priced sets.

Another Emergency Dodge

I would also check with outside salesmen like canvassers plugging vacuum cleaners. These salesmen are always looking forward to the

NO Flickers
with **LITTELFUSE**
MERCURY SWITCH



Quick dependable switch for hundreds of uses



Note in cutaway, baffle at end of electrode. Prevents splashing of mercury. Keeps light flicker-free. Central position of electrode makes it instantly operative in any position. For low-voltage circuits up to 25AC or DC, up to 10 amps, at 6 volts, and 5 amps, at 25 volts. For lights, in auto glove compartments, trunk, hood—radio, refrigerator door lights, pin games—many and varied services.

Sectional view showing Littelfuse anti-splash baffle.



FUSE POSTS

No. 1075 for 3 AG fuses. Meets Underwriter's requirements. Tool and finger operated types.

Types covering all requirements of small fuse applications and instruments. Many types are standard and

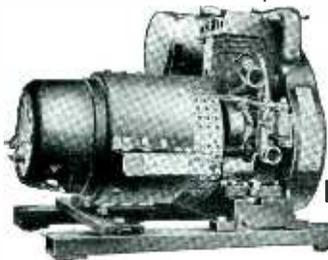
stocked. Specials quickly designed. Covers range from small glow fuses to industrial fuses up to 30 amps. Write for catalog.

LITTELFUSE INC.

4791 Ravenswood Ave. Chicago, Ill.

110 VOLTS AC ANYWHERE!

With KATOLIGHT. Furnish standard 60-cycle AC for operating sound truck equipment, AC radios, transmitters, flood lights, motors, moving picture projectors, etc. Ideal for stand-by for running oil burners, stokers, refrigerators, transmitters, etc., when power line fails.



A complete line of light and power plants ranging up to 10,000 watts capacity. Also 6, 12 and 32 volt battery charging plants, rotary converters, and frequency changers.

List prices \$50.00 and up.

Jobbers and Dealers Write For Latest Catalog

Kato Engineering Company

Elm and Front Streets
MANKATO, MINN., U.S.A.

GIVE 'EM SERVICE!

For the duration of the present emergency—your service business is of increased importance. Build good will by moving *fast!* RAILWAY EXPRESS, swiftly, surely transports appliances, spare parts, replacements—anything you order. No extra charge for pick-up and delivery within our regular vehicle limits in all cities and principal towns. Phone

RAILWAY EXPRESS
AGENCY INC.

NATION-WIDE RAIL-AIR SERVICE

time when they can do their stuff on the "inside." With a little instruction they should make excellent floormen.

The suggestion has been made, that with saleswomen on the inside, bell pushers like the above could take over both store and home demonstrations. This should fall right in with the increasing call for previews on the larger sets.

Need For Salesmanship Continues

In any event, do not tolerate indifferent selling even if limitations are imposed on the number of radios shipped to you.

Sure, if this occurs it will be a "sellers" market and not a "buyers" market—but, *it will still require skillful salesmanship to influence customers to buy what you have in stock and to assure you of the profits you will need, in the face of such shortages, to maintain your business.*

FM CATCHES PUBLIC EYE

(Continued from page 23)

continuous and steady promotion. Star promotional piece is new talking movie titled "Listen, It's FM." Next in line are 5-minute recorded programs themed "Swing To FM" in dealer demonstration kits, banners, and displays.

Meissner offers a catalog describing its new converter.

Stromberg-Carlson has a bulletin called "FM Notes," detailing latest developments and new angles on how to sell FM. Also new 4-page salesman's guide outlining S-C advancements in new broadcasting art. Also dealer mailings to specially selected groups aimed at arranging store demonstrations and home previews.

Zenith's "Progress Bulletin" contains helpful suggestions for distributor operations. Supplements this with "Radiorgan," issued twice monthly to authorized dealers and their employees.

UTILITY SERVICE PROPOSAL

(Continued from page 24)

increasingly detrimental to the entire appliance business.

Maintenance in operation upon the

a profit combination

that's here to stay

Audio's Handbook and Audiodiscs are natural front-counter companions... a great sales team that means sustained turnover and profits for you, month in and month out.

"How To Make Good Recordings" is in lively demand... and the sale of this popular book invariably boosts business on Audiodiscs.

So don't delay! Cash in twice on the recording market. Push Audio's Handbook and Audiodiscs for double profit. See your jobber for complete details, or write us direct, TODAY.

Here's the complete handbook for everyday recordists. Enjoyable, up-to-the-minute instruction on every phase of recording requirements and technique for home, school and business. Practical advice, information and trouble diagnosis, in non-technical language that everyone can understand. Profusely illustrated with photographs and drawings. 128 pages, with glossary of recording terminology. Thousands already in use; now going into its third printing. List price, only \$1.25.



High quality Yellow Label Audiodiscs in attractive, easy-to-merchandise packages. These double-sided, acetate coated recording blanks feature Audio's sparkling new achievement with glass base discs—a center hole and three drive pin holes. Popular priced for home, school and business recordings, you can sell Audiodiscs by the package. 10", 12" and 16" diameters (also 6", 8", 10" and 12" with steel base). Blue Label Audiodiscs, identical features and quality but coated on lightweight, thin aluminum base, 6½" diameter. Audiodisc list prices range from 30¢ to \$2.00.



AUDIO DEVICES

INCORPORATED

1600 BROADWAY - NEW YORK CITY

5 SPRAGUE ATOM TYPES

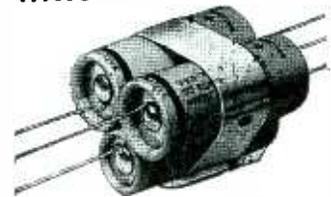
FOR BETTER, SMALLER, MORE ECONOMICAL REPLACEMENTS

● Of course you know Sprague Atoms—the "blow-up proof" midget dry electrolytic condensers that have literally made larger, old-style condensers obsolete. But did you know there are five different Atom types—types that make these popular midgets practically universal for any replacement job whether it be single-section, multi-capacity, lug-mounting, or calls for separate positive and negative leads? Did you know leading manufacturers specify Atoms for equipment to be shipped overseas—because Atoms are so uniformly dependable under bad atmospheric conditions? And did you know that Atoms are so rugged, they'll even stand up in many jobs where old style large dry and wet electrolytics were formerly specified?

Play safe. Use Sprague Atoms in every job.

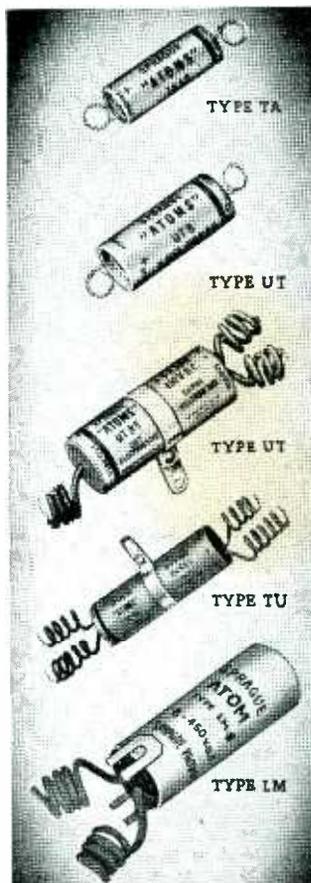
YOU SAVE THREE WAYS

Make up hard-to-get replacements by strapping individual Atoms together with ST Mounting Straps—supplied free! You'll find the combined Atoms actually smaller, often cheaper, and fully as reliable. You save time—money—space.

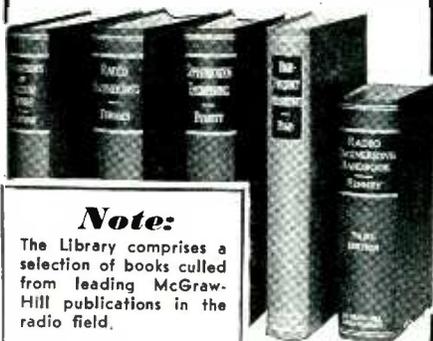


SPRAGUE CONDENSERS

Sprague Products Company,
North Adams, Mass.



NOW
a really high-powered
RADIO
ENGINEERING
LIBRARY



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

- ↳ especially selected by radio specialists of McGraw-Hill publications
- ↳ to give most complete, dependable coverage of facts needed by all whose fields are grounded on radio fundamentals
- ↳ available at a special price and terms

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

5 volumes, 3559 pages, 2558 illustrations
Eastman's FUNDAMENTALS OF VACUUM TUBES, 2nd edition
Terman's RADIO ENGINEERING, 2nd edition
Everitt's COMMUNICATION ENGINEERING, 2nd edition
Hund's HIGH FREQUENCY MEASUREMENTS
Henney's RADIO ENGINEERING HANDBOOK, 3rd edition

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

FOR 10 DAYS EXAMINATION SEND THIS ON-APPROVAL COUPON

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

Name

Address

City and State

Position

Company RR 11-41
 (Books sent on approval in U.S. and Canada only.)

Consolidated lines of all appliances at present in use and stimulation of consumers to restore to operating condition still other devices owned but temporarily shelved due to faulty operation.

Suggested Management

Sponsored by the Consolidated Edison System the new company might, the Utility suggests, be independently directed by a President and other officers paid for such full-time service out of operating income. Such officers would be aided in the direction of the company's affairs by a Board of Governors, consisting of:

- 2 Refrigerator Manufacturers
- 1 Home Laundry Equipment Manufacturer
- 2 Radio Manufacturers
- 2 Small Appliance Manufacturers
- 1 Air Conditioning Manufacturer
- 2 Range Manufacturers
- 3 Heating Equipment Manufacturers
- 2 Hotel and Restaurant Equipment Manufacturers
- 1 Major Appliance Distributor
- 1 Small Appliance Distributor
- 5 Cooperating Dealers

Officers would not be permitted to serve on the Board.

INDEX TO ADVERTISERS
November, 1941

Aerovox Corp.	40
Alliance Mfg. Co.	42
Amy, Aceves & King, Inc.	41
Armstrong System FM	25, 26, 27, 28
Astafic Corp., The	10
Audio Devices, Inc.	51
Belden Mfg. Co.	49
Bitter Construction Co., A	39
Cinaudograph Speakers, Inc.	43
Claroat Mfg. Co., Inc.	38
Crosley Corp., The	8
Detrola Radio & Television Corp.	40
Emerson Radio & Phonograph Corp.	5
Farnsworth Television & Radio Corp.	Inside Back Cover
Fibra Development Co.	39
Greenlee Tool Co.	49
Howard Radio Co.	42
International Resistance Co.	47
Jackson Electrical Instrument Co.	7
Jensen Radio Mfg. Co.	49
Kato Engineering Co.	50
Ken-Rad Tube & Lamp Corp.	42
Mallory & Co., Inc., P. R.	Inside Front Cover
McGraw-Hill Book Co.	52
Meissner Mfg. Co.	46
Midwest Appliance Parts Co.	52
National Broadcasting Company	2, 3
Ohmite Mfg. Co.	41
Permo Products Corp.	42
Philco Radio & Telev. Corp.	33
Presto Recording Corp.	43
Radio City Products Co.	50
Radio Corp. of America	35
Railway Express Agency	42, 50
Rangerone, Inc.	47
Ravtheon Production Corp.	9
RCA Manufacturing Co., Inc.	6, Back Cover
Readrite Meter Works	39
Rider Publisher, Inc., John F.	34
Sonora Radio & Telev. Corp.	38
Sprague Products Co.	51
Sromberg-Carlson Telephone Mfg. Co.	12
Sundt Engineering Co.	50
Supreme Instruments Corp.	42
Talk-A-Phone Mfg. Co.	41
Triplett Electrical Instrument Co.	32
Turner Co., The	46
Utah Radio Products Co.	4
Webster Electric Co.	46
Zenith Radio Corp.	29

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

SEARCHLIGHT SECTION

Address copy to the
 Departmental Advertising Staff

Radio and Television Retailing
 330 West 42nd St., New York City

FREE! Our 116-page Catalog of **FREE!**
 Washing Machine & Vacuum Cleaner Parts.
 Save money by ordering all your supplies from one dependable source.
 Quality, Service, Low Prices!
MIDWEST APPLIANCE PARTS CO.
 2722 W. Division St. Chicago, Ill.

LEGAL NOTICE

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of Radio & Television Retailing published monthly at Albany, N. Y., October 1, 1941.
 State of New York) ss.
 County of New York (

Before me, a Notary Public in and for the State and county aforesaid, personally appeared D. C. McGraw, who, having been duly sworn according to law, deposes and says that he is the Secretary of the McGraw-Hill Publishing Company, Inc., publisher of Radio & Television Retailing and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, McGraw-Hill Publishing Company, Inc., 330 West 42nd St., N. Y. C. Editor, W. MacDonald, 330 West 42nd St., N. Y. C. Managing Editor, None. Business Manager, Richard E. McGraw, 330 West 42nd St., N. Y. C.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) McGraw-Hill Publishing Company, Inc., 330 West 42nd St., N. Y. C. Stockholders of which are: James H. McGraw, 330 West 42nd St., N. Y. C. James H. McGraw, Jr., 330 West 42nd St., N. Y. C. James H. McGraw, James H. McGraw, Jr., and Curtis W. McGraw, Trustees for: Harold W. McGraw, James H. McGraw, Jr., Donald C. McGraw, Curtis W. McGraw, 330 West 42nd St., N. Y. C. Edwin S. Wiley and Curtis W. McGraw, Trustees for James H. McGraw, 3rd., Madison, N. J. Curtis W. McGraw, 330 West 42nd St., N. Y. C. Donald C. McGraw, 330 West 42nd St., N. Y. C. Anne Hugus Britton, 330 West 42nd St., N. Y. C. Mildred W. McGraw, Madison, N. J. Grace W. Mehrner, 73 No. Country Club Drive, Phoenix, Ariz. J. Malcolm Muir & Guaranty Trust Co. of New York, Trustees for Lida Kelly Muir, 140 Broadway, N. Y. C.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is: (This information is required from daily publications only.)

MCGRAW-HILL PUBLISHING COMPANY, INC.
 D. C. McGRAW, Secretary.

Sworn to and subscribed before me this 29th day of September, 1941.

[SEAL] H. E. BEIRNE,
 Notary Public, Nassau County. Clk's No. 93, N. Y. Clk's No. 974, Reg. No. 2-B-609.
 (My commission expires March 30, 1942)

Every FARNSWORTH Model

A standout in design and value



**THESE TWO TOP THE LIST
FOR CHRISTMAS GIFTS**



Model CK-58—Attractive single player combination. 5 tubes. Smartly styled two-section cabinet of selected walnut veneers. Outstanding value!



Model CK-66—A compact, moderately priced combination. 6 tubes. Farnsworth "Velvet Action" Automatic Record Changer. Beautiful two-section cabinet of walnut veneers.

EVERY MODEL is a display model and value leader. And they've "wow-ed" the public just as they won the acclaim of the wholesale and retail trade. There'll be many a Christmas stocking this year, proudly "filled" with a Farnsworth—the superb instrument "Known for Tone."

Now, more than ever, Farnsworth quality counts. Call your distributor today. Or write Farnsworth Television & Radio Corporation, Fort Wayne, Indiana.

↑
ONLY
28"
HIGH
↓



The Washington (CK-75)

Meets the long-felt need for an attractively designed cabinet which can be placed anywhere—alcove, library, dining room or den—fits under the window. Farnsworth "Velvet Action" Record Changer and record storage compartment.



The Companion (CK-73) (right)

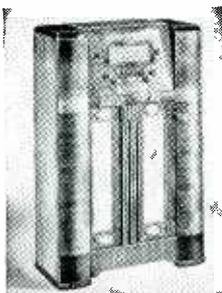
Offering the utmost in luxurious listening comfort, this charming version of a chair-side combination is a beautiful example of Farnsworth modern styling. Farnsworth "Velvet Action" Record Changer.



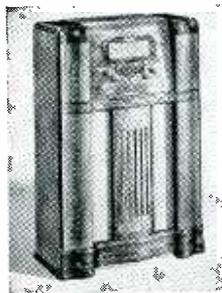
The Chippendale (CK-111)—This handsome Farnsworth combination is authentic Chippendale styling. Farnsworth "De Luxe" Automatic Record Changer, Play Control and record storage.



The Georgian (CK-93)—Solid top and luxurious lines characterize this impressive combination. Farnsworth "De Luxe" Automatic Record Changer, Play Control and record storage compartment.



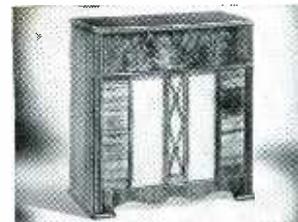
Model CC-90—9 tubes. Wide range electric tuning. Connection for television or FM adaptor. 12-inch dynamic speaker.



Model CC-70—7 tubes (9-tube performance). Wide range electric tuning. 12-inch dynamic speaker.



The Regent (CK-91)—A smart modern masterpiece. "De Luxe" Automatic Record Changer and record compartment.



The Corinthian (CK-74)—A divided top cabinet of dignity and simplicity. Farnsworth "Velvet Action" Record Changer. This year's value leader.



The Sheraton (CK-92)—A superb reproduction of authentic period design. Farnsworth "De Luxe" Automatic Record Changer, Play Control and record storage.

FARNSWORTH *Known for Tone.* MAKERS OF RADIO AND TELEVISION TRANSMITTERS AND RECEIVERS, THE CAPEHART, THE CAPEHART-PANAMUSE AND FARNSWORTH PHONOGRAPH-RADIO COMBINATIONS

80 Million Metal Radio Tubes



... and RCA is now producing
metal tubes at fastest pace in history!

Placed 18 inches apart, the 80 million metal radio tubes sold since 1935 would reach around the world! More important, these 80 million tubes attest the tremendous acceptance accorded by the industry to the finer performance of metal-envelope tubes!

CURRENT PRODUCTION of metal tubes is the greatest in history — for the amazing acceptance accorded to metal tubes is still increasing! 80,000,000 metal-envelope tubes have been sold since 1935 . . . and today *four* of the six largest-selling tube types are *metal* types!

**Will They
Be Available—?**

If you have found difficulty or delay in obtaining RCA Metal

Tubes, remember the reason: *it is not because production is low but because both defense and commercial demands are high. And defense comes first!*

Naturally, priority requirements in materials may limit the general availability of all types of tubes—for all types require valuable and limited metallic materials in their *internal* structure.



**“DESIGNED
FOR METAL TUBES”**

Means Better Equipment!

Look for metal-envelope tubes in the equipment you buy and sell. Remember that metal tubes give the highest efficiency . . . the highest performance standards . . . the highest reliability. And *that* means—lasting customer-satisfaction . . . extra good-will for you!



METAL TUBES

RCA Manufacturing Company, Inc., Camden, New Jersey

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