

RADIO *and Television* TODAY

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Burns and Allen—Selling Radios from the Studios—Page 15

Getting Your Slice of Christmas Cheer

NOVEMBER



*Don't be decoyed
by a condenser
that just looks like an*

*** FP (Fabricated Plate) CAPACITOR**

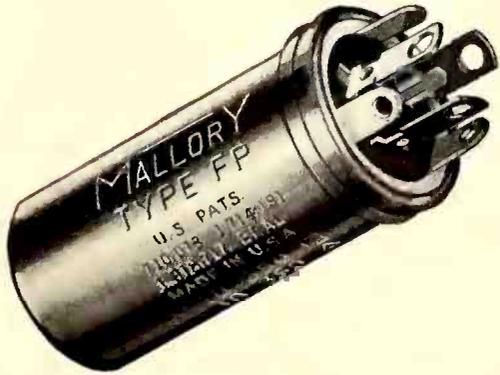
TRADE MARK
REG. U. S. PAT. OFF.

You can no more expect FP (Fabricated Plate) Capacitor performance out of any other condenser . . . no matter how much it may look like an "FP" . . . than you could expect flight from a wooden duck.

It was only natural that the success of FP (Fabricated Plate) Capacitors would invite imitation in appearance. But the *real* difference *cannot* be imitated. FP (Fabricated Plate) Capacitors are constructed by a patented process that involved great investments of time and money to develop. The result is a capacitor that sets a new high in characteristics and performance.

Low R. F. Impedance . . . better filtering efficiency . . . surge proof construction . . . smaller sizes without a sacrifice of safety or efficiency . . . freedom from corrosion . . . these are just a few of the revolutionary features of FP (Fabricated Plate) Capacitors.

*NOT etched construction



**Over a Million Now in Use
As Original Equipment**

Best evidence of the superiority of FP Capacitors has been their prompt adoption by leading set manufacturers. In addition to the millions already in use, future schedules call for the use of millions more. You'll be seeing them in all leading sets . . . and although they are being imitated in appearance, you can identify

them by the number (1) or (3) in a circle, stamped on every genuine Fabricated Plate Capacitor.

Every Desired FP Characteristic in MALLORY Fabricated Plate Tubular Condensers.

Mallory Type BB Condensers are Fabricated Plate construction in a one piece drawn aluminum can. Each is insulated with an attractive cardboard tube well marked for easy rating identification. Strong internal construction eliminates troublesome open circuits.

Remember only Mallory makes Fabricated Plate construction for replacement capacitors. The sooner you call your Mallory-Yaxley distributor and place your order . . . the sooner you'll shake hands with better profits.

Use
P. R. MALLORY & CO. Inc.
MALLORY
REPLACEMENT
CONDENSERS...VIBRATORS

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

Use
YAXLEY
REPLACEMENT
VOLUME CONTROLS

2 Great Sonora Opportunities

TV-48—IVORY—ONYX—
WALNUT, LIST \$10.95



TJ-63
LIST \$21.95

TP-188—IVORY—
WALNUT, LIST \$8.95

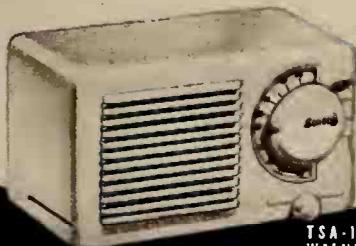


The "HOLIDAY PACKAGE LINE"

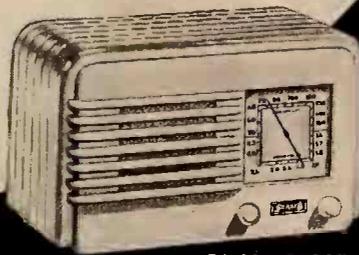
It's Hot—and it's Different! Here are six "Clear as a Bell" SONORA models that are "Holiday-Styled"—"naturals" for the big gift market—perfect packages for easy selling right over the counter! Jobbers—you can't beat this SONORA selection for resale to your dealers—if it fits right in the groove for profitable holiday merchandising! Low lists (nationally maintained)—discounts that spell profits—no service problems—quick turnover—a national name known to millions—styling that halts the holiday shoppers—performance that's hot—you get just what you've been looking for in the SONORA "Holiday Package Line!" See below for Free Trial Offer and go into action NOW!



TW-49—IVORY—ONYX—
WALNUT, LIST \$15.95



TSA-105—IVORY—
WALNUT, LIST \$12.95



TJ-62—IVORY—
WALNUT, LIST \$18.95

NEW "TRIPLE-PLAY" PORTABLE

Three radios in one—for 1.4 Volt—110 Volt A.C.—110 Volt O.C.—that's the new SONORA "Triple-Play" Portable—America's most versatile radio! An entirely new kind of portable—a perfect "Over-the-Counter Package"—released just in time for the holiday season. Just check these "specs": 6 tubes (not 5 or 4) in the smoothest-working, strongest Superhet circuit you could ask for; built-in "Sonorascope"—no aerial or ground required; new car-type giant circular dial; 5" P.M. dynamic speaker; A.V.C.; Sure-Switch for changing from battery to electric current; beautiful new luggage style case that looks and feels expensive—only 14" x 9" x 6" has protective lid; weighs only 13 lbs. with batteries. A perfect "Holiday Package" at a list price of only \$29.95.



KD-75
LIST \$29.95

Sonora Reports...

An increase in sales volume of 300% over the same season last year... the addition of new lines and production facilities... more than double the former factory space... concrete proof of healthy progress built upon steady devotion to sound principles of manufacturing and merchandising. Today, SONORA sets the trend for radio styling with designs that "click"—designs that have the industry asking: "What will SONORA create next?" Today, too, SONORA is setting standards for quality that win jobber, dealer, and consumer confidence...

FREE TRIAL OFFER TO JOBBERS ONLY!

We will ship you all, or any assortment of the "Holiday Package Line" Radios above, prepaid, for a full two weeks inspection and Free Trial. Put them through their paces; compare them; play them; show them to your trade. The sets you keep will be billed at jobbers' prices; those you return will not obligate you in any way. This offer means business—act now!

SONORA RADIO & TELEVISION CORP.
2626 W. WASHINGTON BLVD.
CHICAGO, ILL. Dept. T.R.

Ship us the following models on your Free Trial Offer:

- TP-188 TV-48 TW-49
 TSA-105 TJ-62 TJ-63 KD-75
 Send Full Details of Complete Line.

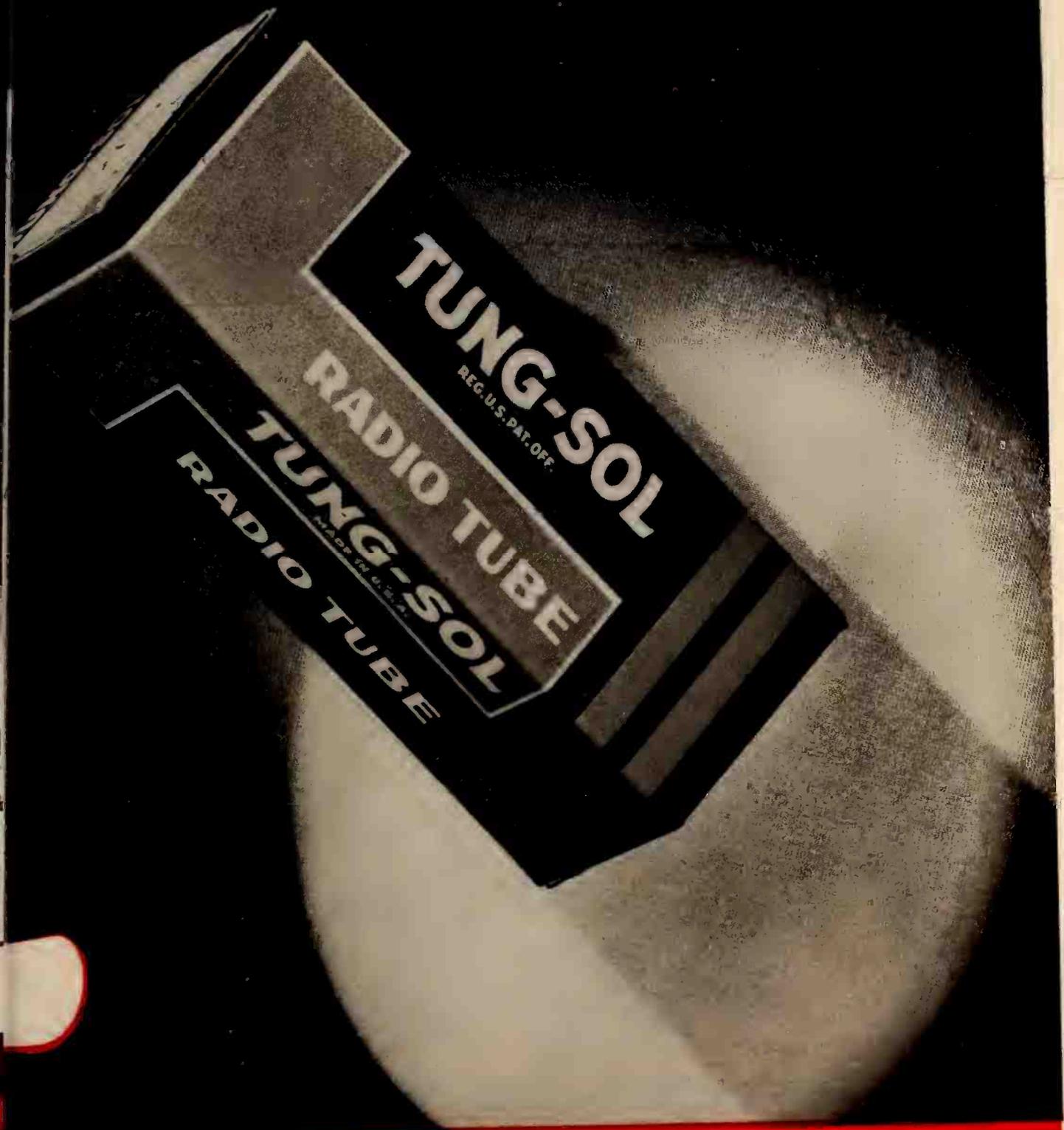
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ADDRESS _____

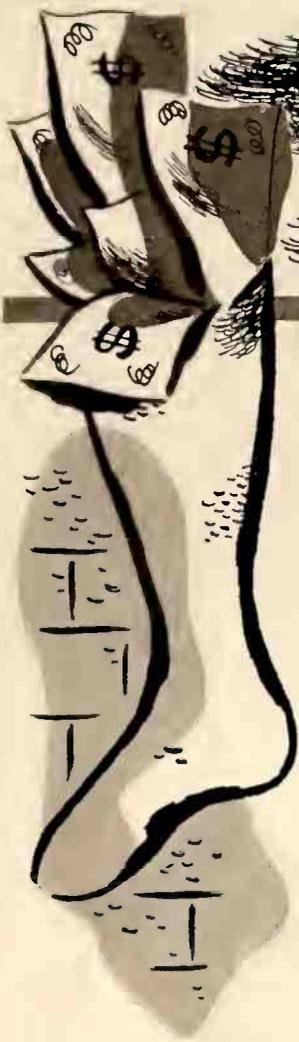
Sonora

RADIO & TELEVISION CORPORATION

2626 WASHINGTON BLVD. • CHICAGO, ILLINOIS



RADIO TUBES



More Christmas Profits

FARNSWORTH RADIOS are moving . . . *and how!* Farnsworth dealers are making money *now* . . . will make more this Christmas!

Here's one of many enthusiastic comments that have poured in from dealers all over the United States:

"I have had the Farnsworth Line in for only two weeks. I put it on the floor, right beside two other radio lines in my stock. I can tell you, honestly, this new line *is the hottest thing I've ever handled.* I'm selling more Farnsworth Radios than both of the other lines combined."

Christmas is just ahead

The Farnsworth Line offers you the biggest Christmas opportunity in many years . . . with outstanding radio gifts for every purse and purpose. A small table model for children *to hear their own programs.* A second model for bedrooms. Portables to send back to school with the children. Superb radio-phonograph combinations that make a

wonderful group-gift for the entire family. Study the representative models and their superlative features on the opposite page.

Prices are competitive

Set a Farnsworth Radio beside an comparable competitive model on the floor and its easy-to-see value will get the sale every time. And you get *proper margin of profit!*

Turn Christmas into cash

See your Farnsworth distributor now! Get the special Farnsworth Christmas display material.

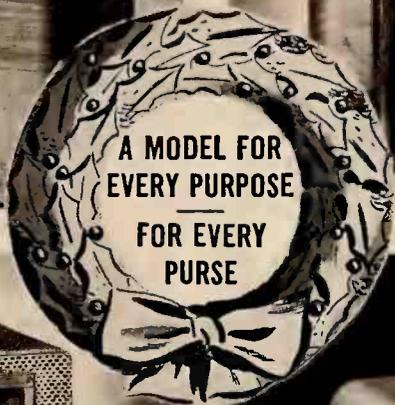
Build your Christmas business around a representative window and floor display of Farnsworth Radios. Tag them . . . "For Dad" . . . "For Mother" . . . "For Sister" . . . "For Brother" . . . and so forth. Push this Farnsworth gift idea for the holidays ahead . . . and your cash register will ring with the merry jingle of Christmas profits.

FARNSWORTH TELEVISION & RADIO CORPORATION, FORT WAYNE AND MARION, INDIANA

with Farnsworth

★ **A WONDERFUL GROUP-GIFT** for a family to chip in and buy. Every line of this beautifully proportioned radio-phonograph combination (AK-76) sings "What a buy!" 8 tubes. Flo-Lite dial. 3 wave bands. Shielded loop Bilt-In-Tenna. Push-button tuning. Compartment for records. Capehart record-changer. Television sound-connection. The low price will surprise you!

★ **A SPLENDID PRESENT FROM HUSBAND TO WIFE.** A charming low-boy console (AC-91) in a modern interpretation of period decoration. 10 tubes. Flo-Lite dial. 3 wave bands. Automatic volume control. Shielded rotatable loop Bilt-In-Tenna. Push-button tuning. Beam power output. Phonograph and television-sound connection. A model that's made to move fast—right now!



★ **FOR A SON OR DAUGHTER AT SCHOOL.** Or for family outings. Smart portable model (AT-31)—takes entertainment wherever your customers go. 5 tubes. AC-DC current or battery operation. Bilt-In-Tenna. Dial light on both AC and DC operation. At a price that makes customers want to pick it up and take it with them.

★ **FOR THE SMALL SON** who wants to hear his cowboy program. Suggest this plastic model (AT-15) as an ideal gift for his room. Just as convenient and attractive for the master bedroom. 5 tubes. AC-DC superheterodyne circuit. Push-button tuning for 4 stations. Bilt-In-Tenna. A lot of radio for a little money.

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45 VOLTS THAT

LONG-LASTING, SENSATIONALLY SMALL



EVEREADY

TRADE-MARKS

MINI-MAX

BRINGS THE
“B” BATTERY
BACK INTO
**BIG
TIME**

Actual size

JOLTED AN INDUSTRY!

28 PORTABLE MANUFACTURERS now building 1940 sets around "MINI-MAX" 45-volt "B" battery . . . a real break for "EVEREADY" dealers and distributors!

IMMEDIATELY upon the introduction of the "Mini-Max" 45-Volt "B" battery, 28 manufacturers of portable radios made a decision that vitally affects "Eveready" dealers.

They decided that the "Mini-Max" was to be the basis for their 1940 plans . . . they decided to build their portable sets around this amazing new battery. It's a cinch to know why . . .

"Eveready" "Mini-Max" offers the same number of listening hours as the conventional battery twice its size! And size for size it gives double the hours of service of conventional batteries!

Lastly—and most important—the compactness of the "Mini-Max" battery makes possible a portable that's really portable—and really practical!

No "Eveready" dealer has to look twice to see a tremendous, permanent market for this outstanding battery. For replacement alone it can efficiently power the majority of more than 300 models of portables, thousands of which are already in use. The "Mini-Max" "B" battery is *so good* . . . so

completely alone in its combination of small size, lighter weight ($\frac{1}{3}$ less), and long life . . . that no other replacement battery can touch it. And no consumer who has used it will touch anything else!

Here are some of the Top-flight portable radio Manufacturers using the "Eveready" "Mini-Max" "B" Battery:

ARVIN	GAROD	SONORA
CLIMAX	GENERAL ELECTRIC	SPARTON
COLONIAL	HOWARD	STEWART WARNER
CROSLY	KADETTE	STROMBERG CARLSON
DEWALD	MAJESTIC	TRAV-LER
EMERSON	MISSION BELL	TROY
ESPEY	PACKARD BELL	WESTINGHOUSE
FADA	RCA	WILCOX-GAY
FARNSWORTH	SENTINEL	<i>And Others!</i>
GALVIN (MOTOROLA)	SKY CHIEF	

NATIONAL CARBON COMPANY, INC.

General Offices: New York, N. Y., Branches: Chicago, San Francisco

Unit of Union Carbide  and Carbon Corporation

The words "Eveready" and "Mini-Max" are registered trade-marks identifying products of National Carbon Co., Inc.

THE BIGGEST SCOOP IN RADIO THIS YEAR!



RADIO FIRST AGAIN!



ADVANCE 1940 MODEL G-E
EQUIPPED WITH THE EXCLUSIVE
14-IN. DYNAPOWER SPEAKER

JUST OUT!

**THE SENSATIONAL NEW G-E
RADIO-PHONOGRAPH COMBINATION**

*At a Revolutionary
New Low Price!*

Model HJ-628

Radio and Television Division, Bridgeport, Conn.

**A MIRACLE
HAS HAPPENED
VALUES LIKE THIS
CAN'T BE REPEATED!**

Take a Look at These Specifications
MODEL HJ-628

1. G-E BUILT-IN BEAM-A-SCOPE (No Aerial—No Ground) First Offered To The Public By G-E
2. G-E 14-INCH DYNAPOWER SPEAKER First Offered To The Public By G-E
3. G-E AUTOMATIC PHONO-RADIO CONTROL TONE ARM First Offered To The Public By G-E
4. G-E 6 FEATHERTOUCH TUNING KEYS First Offered To The Public By G-E
5. G-E 6 PRE-TESTED TUBES
6. G-E SUPERHETERODYNE CIRCUIT
7. G-E SPECIAL TONE MONITOR CIRCUIT First Offered To The Public By G-E
8. G-E DE LUXE ROTOR CONTROLS
9. G-E FULL-VISION ILLUMINATED DIAL
10. G-E AUTOMATIC VOLUME CONTROL
11. G-E QUIET, CONSTANT-SPEED, SELF-STARTING MOTOR
12. G-E HIGH-FIDELITY CRYSTAL PICK-UP
13. G-E PLAYS 10 AND 12-INCH RECORDS
14. G-E "CUSTOM-CRAFT" CABINET

A GREAT SALES OPPORTUNITY
FOR HOLIDAY AND WINTER SELLING!

Write, wire or phone your G-E Radio Distributor
—today. Only a limited number of these new
G-E Model HJ-628 Radio-Phonograph Combi-
nations are available.

READY NOW

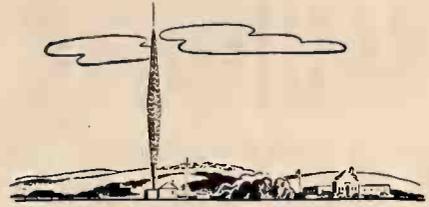
New Carryabout
Portable Radio Model HB-412
Operates on AC..DC..or Batteries.
Designed to use new Long-Lasting.

MINI-MAX
EVEREADY BATTERIES

GENERAL  ELECTRIC

*"Thermopylae Had Its
Messengers of Death, But
the Alamo Had None!"*

(Congressional Record)



RADIO could have rallied help for the Alamo

The tiny band of brave Americans besieged in the Alamo in March, 1836, by Santa Anna and his 4,000 troops fought a hopeless battle. Shut off from the rest of the world, they perished because they had no means of communicating their plight to their fellow countrymen.

Today Radio would carry the news as instantly as it brought the world news of Europe's new cataclysm.

R. C. A. Communications provides radio communication to and from 43 countries and among leading cities of the United States. This great communications system has already played a stellar part in keeping the world enlightened about the present critical events in Europe.

The National Broadcasting Company, another service of the Radio Corporation of America, has thrown the resources of its two nation-wide networks into the cause of making and keeping America the "best informed nation in the world."

Discoveries made in RCA Laboratories are incorporated in equipment manufactured by the RCA Manufacturing Company so that America can have at its command the most advanced means of radio transmission and reception.

The services RCA renders to radio offer unmatched opportunities for dealers. By helping make radio great . . . RCA helps to increase your volume of business and your profits. Experience proves it pays to go "RCA All the Way."



Radio Corporation of America
Radio City, New York

RCA Manufacturing Company, Inc.
National Broadcasting Company

Radiomarine Corporation of America
R. C. A. Communications, Inc.

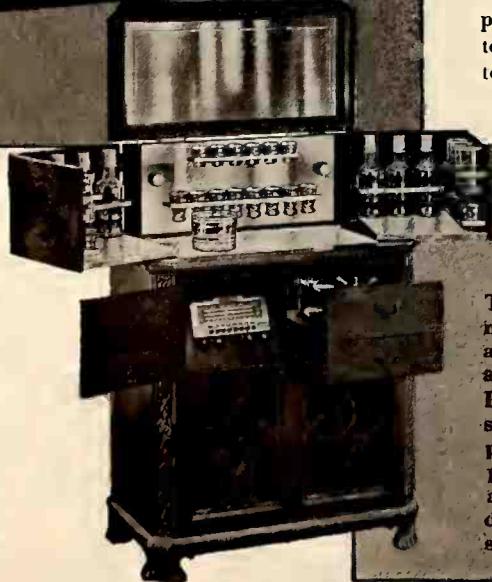
RCA Laboratories
RCA Institutes, Inc.

RADIOBAR ANNOUNCES DIRECT FACTORY-TO-DEALER FRANCHISE



CHIPPENDALE with Automatic Phonograph And PHILCO Radio

An exquisite cabinet creation of pure Chippendale design, houses a fully equipped bar, automatic record-changing phonograph, and 1940 PHILCO with electric push-button tuning. Here is an instrument with tremendous sales appeal.



***New Models! New Prices!
New Policy! Write Now
for Exclusive Territory!***

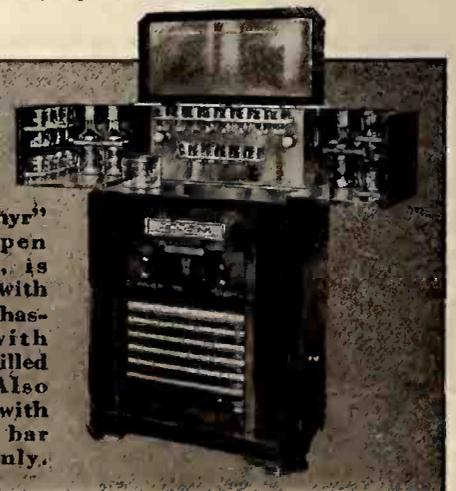
Now! Aggressive dealers can secure exclusive sales territory for RADIOBAR, on a high-profit factory-to-dealer franchise! The new 1940 RADIOBAR models have greater sales appeal than ever before. New features, greater value!

Available with PHILCO Radio or Universal Models for Any Chassis

Factory-equipped with PHILCO chassis, or shipped to you with plain undrilled panel for mounting any chassis you prefer. 1940 RADIOBAR gives you full latitude in developing your own sales plan for best results. And list prices give greater consumer appeal than ever before.

High Profit-Line! Protected Territory

Generous direct-from-factory discounts. Your own protected sales territory. Write or wire RADIOBAR today for full details and illustrated folder. Territories are closing rapidly . . . act now!



The "Zephyr" model, open at right, is available with PHILCO chassis, or with plain undrilled panel. Also available with doors for bar service only.

**WRITE OR
WIRE NOW**

RADIOBAR COMPANY of AMERICA

296 BROADWAY · NEW YORK

RADIO *and Television* TODAY

Thanks Giving

Not for a generation has any year given us more to be thankful for than has Nineteen Thirty-nine. Radio men realize this probably more keenly than anyone else.

Half the world's population is technically "at war," engaged in the grim business of destruction—of life—of liberty—of wealth—of happiness, and the radio trade knows full well what *that* means.

We should be thankful indeed, that the terrors of war do not lap the shores of our land. That we are still creating, not destroying. That the flower of our youth is not being led to slaughter.

We should be thankful too that—

We have freedom of speech.

We have freedom of assembly.

We have freedom of radio and press.

We have freedom to worship our God according to the dictates of our own conscience.

We should be thankful for all of these things, and for our government of the people—by the people—for the people.

* * *

Foreign ideologies are challenging the profit motif in a free capitalistic national economy. This hits the radio business man "where he lives."

If we value our freedom in the pursuit of life, liberty, and happiness, it is our obligation to prove again that the highest standard of living the world has ever known was no happenstance, but was

wrought by the sweat of our brow, the clearness and the correctness of our thinking.

We must push our standard of living up, and up, and up—till being a citizen of the U.S.A. will be preferred to a dukedom in any other land.

As business men, as radio men, ours is the obligation, (selfish, if you please)

To sell more things to more people.

To employ more people in making more things, to sell to more people.

To create wealth, by being worth our hire, and commanding our price.

To pay our co-workers ever more, that they may buy more of the products of others.

To bring more happiness to more people by showing them the joys and lasting pleasures to come to all the family, from an investment in good radios, and in better things for better living, electrically.

* * *

Sell the radio trade short if you must.

Cut and slash prices, if you know no better.

Outsmart the other fellow as you have so often tried to do.

But when you do these things, remember the hell you have raised in the past, and that there is no surer way to business suicide.

Only *damn fools*—or cowards—commit suicide. But they *do* leave the world a better place for their going.

Getting Your Slice of Christmas Cheer



Ewing Galloway

Masses of gifts start going into customers' arms; it's the dealer's job to let radio lead the list.

The next five weeks will probably witness the sale of more radio sets in your town than any similar period in its history.

But much of this radio business is not going to walk into your store and buy. *It's got to be sold.*

Sold on the *merits* of the new sets.

Sold on their lasting value as gifts.

Sold on the continuing pleasure their use brings.

The business is there—but like the cow, and her milk—you've got to take it from her—it won't come without help.

At Christmas radio enters into open competition for the customers' gift dollars with such things as books and fancies, scarfs and stockings, ties and slippers, cigars, and liquor, and a thousand and one other things, too.

TO LEAD THE PACK

Unlike the rest of the year, when radio is sold purely for what it is, and what it does, now it must be displayed and sold as a gift item in competition with other gift items.

Display—suggested gift displays, will be more productive of direct sales response during the holiday season than during any other period of the year.

Even if your sales are good, don't neglect your windows now, if you want to get all the Christmas business you can.

With many gifts to buy for many people, "what to give who" becomes a perplexing question.

Keep your windows alive with the spirit of the season, with practical gift suggestions.

Show some packages already "gift wrapped," around a tree, each tagged for some member of a typical family.

A small set for mother, for her sitting room or kitchen.

A set for dad, to hear the fights.

A short-wave set for the boy—and dad—to explore the far corners of the earth.

A small combination for jittery sister.

Nursery sets for the little tots.

A console or combination for the whole family, to enjoy good music, drama, and feature events.

From the department and chain stores we learn a merchandising lesson too. They take full advantage of the natural desire of most people to have their gift look more expensive than it actually is.

Get out your slow moving stock, last year's models, late model trade-ins, clean and polish thoroughly, sharpen your pencil and price them "right," display them with a bargain tag prominently.

Here's a radio window gauged for the holiday appetite—simple and dignified trim which makes "perfect gifts" out of glistening receivers.



Records bring the spirit of Christmas to every home. Get set for a rush on albums, children's records, and record players. Attractive window displays are the answer to bigger sales.



Lots of people will buy them now who would not be the least bit interested in a few months, and who would not pay more money for a current model.

CHANCE FOR EXTRA SALES

Some dealers make a practice of announcing these "gift-bargains" to their own customers only, by direct mail and phone. Others use them as "leaders" in their displays and advertising.

However you prefer to do it, now is the time to get rid of your slow moving stock and kill two birds with the one stone.

Make your customers happy with a gift-bargain, and put more of your money in the bank, less in frozen stock.

Many smart radio dealers have taken on small electric appliances particularly appropriate as gifts, and even other articles such as electric toys, records, cameras, to increase store traffic, expose more people to their radio displays as well as for the direct plus sales of these lines.

Others think it is better to stick to their regular lines of merchandise and use direct mail weekly during November and December to their own customer list, giving appropriate gift suggestions, one or two only, each week, on a more personal basis.

Whatever the dealer's preference may be, the fact has been proven beyond the slightest doubt, that the greatest sales return per advertising dollar wisely spent comes in the four weeks preceding Christmas. Dealers who do not advertise then, simply cannot get their full share of the holiday business.

GETTING PERSONAL

Another thought that helps sales, particularly of gift merchandise, is to personalize the use of the article. Relate the use of the gift article to some person, just as the customer thinks in terms of the pleasure and satisfaction

the person receiving the gift will get from its use. Such displays invariably are more effective and more productive.

Stores, and their personnel too, should reflect the gladness of the Yuletide spirit, in color, in cheerfulness, in courtesy, the better to be in harmony with customer's thoughts, and reflect a bit of "personality" in your customer relations.

Over the years these characteristics are very important in building goodwill, in bringing customers back again and again, until they think of your store as their store.

But it is more important during the holidays to emphasize your store's personality when many new customers are coming to your store, perhaps for the first time, and you compress into a single day more customer contacts than during a normal week.

And you have got to be more "Courtesy Conscious" during this season too, because as the business rush increases, and your nerves get taut, you are meeting customers with short tempers, and these two make an explosive mixture. Goodwill may be shattered when customer relations are allowed to drift.



The "Gift Shop" phrase on the front of the store of McKenna & Magno, Brooklyn, N. Y., was a nifty stunt for Christmas time.

Radio Names and News

Production Curve Slopes Upward

As late reports roll in, manufacturers are reaching new high production figures, and are still unable to keep pace with the deluge of orders.

Order backlogs are increasing.

Demand for consoles is increasing faster than for small sets, pushing the average unit price up.

Dealers report inventories are increasing, and to a large degree indicate manufacturers order backlogs are overlapping. There still is good reason to believe that this year will surpass all previous years in number of units sold, and will be second only to 1929 in dollar value.

Plan Frequency-Modulation Stations for N.Y. and New England

Establishment of the first network of "staticless" radio broadcasting is foreseen in the application which has just been made by John Shepard, president of the Yankee network, for permission to operate two frequency-

modulated broadcast stations—at the summit of Mt. Washington in New Hampshire and at Alpine, N. J.

The Yankee network based its application on the contention that FM radiocasting has passed out of the experimental stage and asked that stations using this method be authorized as regular radiocast stations.

MORE STATIONS

Parallel with the Yankee Network, experiments in frequency modulation are being made by the General Electric Company in Schenectady. After experimenting for a year with an FM station atop the State Office Building in Albany, the company decided to build an FM transmitter as part of its new television station in the Helderbergs, to be ready Jan. 1. Another experimental station already in operation has been built at Hartford, Conn., by Franklin Doolittle; and it is understood construction permits have been asked by persons in Detroit, Milwaukee, Los Angeles and other cities.

Frequency-modulated radiocasting, as compared with amplitude-modulated, the present type commonly em-



Perry Hadlock, GE manager of receiver activities, appears at recent huddle of field reps, with elements of new merchandising deal—a streamlined record player plus a console.

ployed, is the invention of Maj. Edwin H. Armstrong, radio-circuit inventor and Professor of Electrical Engineering at Columbia University. Major Armstrong, who perfected the super-regenerative and superheterodyne circuits for radio receivers, operates his own FM station at Alpine, N. J. Major Armstrong's invention produces a signal providing radio reception startling in its realism with greatly reduced static effects, either natural or man-made.

SERVICE WIDENED

The Alpine station to be built by Mr. Shepard would be a 50,000-watt station atop the Palisades, employing part of the antenna mast now used by Major Armstrong. The Mt. Washington station would be 5,000 watts, located 6,512 feet above sea level. Each of these stations with full power could cover receivers within a 75- to 100-mile radius of each of them. Together with the Paxton, Mass., transmitter, already operating they would serve virtually all the major cities of New England, from New York to Portland.

Majestic Radio in Reorganization Move

In a telegram to RADIO TODAY, W. B. E. Norins of Majestic Radio has outlined the action being taken on the reorganization of the firm.

Mr. Norins wired as follows: "Claude A. Roth has qualified as trustee of the Majestic Radio & Television Corp., Chicago, which is seeking reorganization under Chapter X of the Chandler Act.

"The purpose of this legislation is



Here's one of a series of sales conferences being held at Philco headquarters. Left to right, C. L. Van Zandt, Philco distributor, Huntington, W. Va.; Tom Williams of Tri-State Distributing Corp., Cincinnati; T. A. Kennally, Philco general sales manager, and Ed. Carney, east central division manager. Mr. Kennally reports that in one week recently, sales of Philco remote control models jumped 50%.



James S. Knowlson, chairman of the board of directors of Stewart Warner Corp., has been elected president. The company reports sales to be now "at the best levels of the year."

for the expeditious reorganization of corporations. Representations have been made to the trustee that additional capital will be forthcoming, so as to permit prompt reorganization and continuance of operation.

"The trustee is making an investigation of the affairs of the corporation with this end in view and will reach a prompt decision. In the interim the current business of the corporation will be continued by the trustee and current prices of the corporation merchandise will be maintained.

"Shipments of merchandise are going forward to distributors."

Radio's Thanksgiving Puzzle on the Cover

The matter of the location of the Thanksgiving date this year is just the sort of thing that should fall into the hands of Gracie Allen. There she is, with George Burns, on the front cover, with the dates even more tangled than President Roosevelt chose to make them. The youngsters are Sandra and Ronnie, who are an important and disarming part of the family.

When these artists go on the air, they manage to keep millions of people personally adjacent to their radio sets, and in that sense they are very much the business partners of the radio dealer. Theirs is another of the "programs that help you sell."

The Burns and Allen show is heard on 52 stations of the CBS net, on Wednesday nights. The program ranks 'way up among national favorites, and is a downright "must" for those who like glib comedy with a fine lift to it.

"MAGIC WAVES"

New Things in Radio. Present and Future Uses of Radio Tubes.

Weekly Broadcasts by
Dr. O. H. Caldwell
Editor of *Radio Today*

NBC Red Network, Friday Evenings
7:45 p.m. E.S.T. 6:45 p. m. C.S.T.

- Nov. 17—"Giant Voices." New Applications of Sound in Industry and Everyday Life.
- Nov. 24—"Sound Amplification." Hearing Inaudible Sounds. New Uses for Speakers.
- Dec. 1—"How to Select a Radio for Christmas." New Things in Radio for the Home.
- Dec. 8—"How Talking - Pictures Talk." Roles of Radio Tubes and Electric Eyes in Movies.
- Dec. 15—"Radio Shortwaves and Aviation." Flying Beams, Altitude Meters, Fog Landings.
- Dec. 22—"Radio and Ships at Sea." Radio Beams. Depthmeters, Fog Signals, Electronic Sextants.

Each program in the "Magic Wave" series will take up some important application of radio sets or radio tubes, showing how the principles of the listener's own home radio set are being applied in other fields, and thus giving the listeners a better understanding of the marvelous properties of his home radio set and the amazing service it brings.



Presenting the first vice-president of the newly organized National Radio Parts Distributors Ass'n., Elliott Wilkinson, who is a partner of the well known radio parts jobber house, Wilkinson Bros. of Dallas, Texas.

Radio Due for a Greater Season

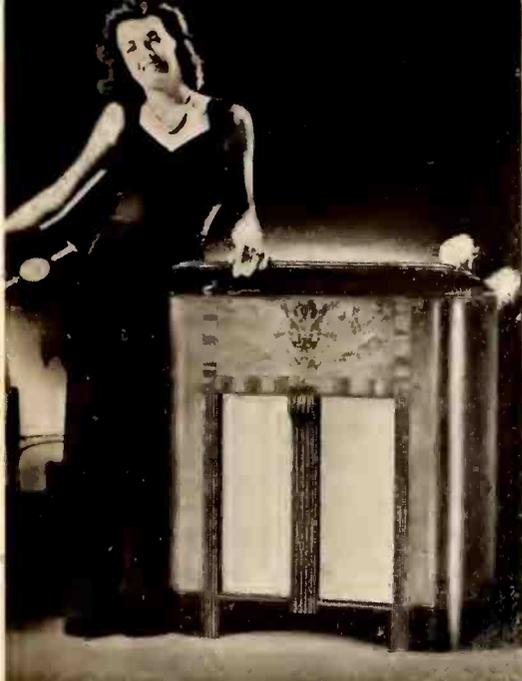
Industry executives are mincing no words about the utterly pleasant prospects ahead.

"The 1940 season looms as one of the best years in our history," says Sayre M. Ramsdell of Philco, who is feeling fine over the fact that production at his plants are breaking all previous records.

With the solid figures to back him, Mr. Ramsdell reports such trends as "sales far in advance of last year," and "one of the greatest radio buying years." And he declares that the European situation has made the public more radio-minded than it has been "since Marconi first tinkered with the wireless."



Tube tycoons become aggressive anglers for a week-end. These Hygrade Sylvania execs are, left to right, Henry Johnson, asst. ad mgr.; Paul Ellison, renewal tube sales and ad mgr.; the host, Norman Sewell, Philadelphia jobber; and tube salesman Geo. Scarborough. R. P. Almy, eastern sales mgr., snapped the photo.



GE combination console

★ H-708, 7-tube radio-phonograph combination console, with automatic record-changing device. Equipped for television sound, has 12-inch dynamic speaker, built-in loop antenna, 6 feathertouch tuning keys, 2 reception bands, and tone selector. General Electric Co., 1285 Boston Ave., Bridgeport, Conn.—RADIO TODAY.

Majestic portable phono

★ 5 tube super-het for AC or portable battery operation has built in loop antenna and spring motor phono. Model 1BR50BP. Majestic Radio and Television Co., 50th and Rockwell St., Chicago, Ill.—RADIO TODAY.

Stromberg-Carlson period model

★ This popular Chinese Chippendale model 400N employs five tubes in a superhet circuit. Covers the broadcast band and uses a 6-inch electro-dynamic speaker. Designed for AC operation only, model 400N lists at \$69.95. Stromberg-Carlson Mfg. Co., 100 Carlson Road, Rochester, N. Y.—RADIO TODAY.

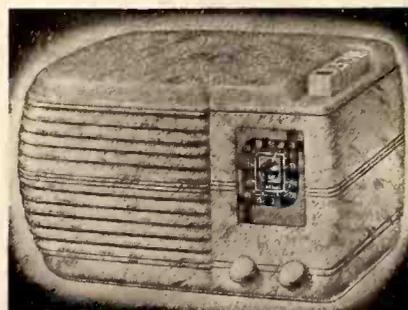


Profit Opportunities



Admiral table model

★ Model 384-5S, five tube AC-DC superhet is furnished in attractive walnut wood cabinet with matched carrying handle. Five high-voltage filament tubes are used and no line resistor is required. Underwriters' approved. The vernier dial covers the 540 to 1,730 KC band. The built-in Aeroscope gives no-aerial, no-ground reception. Five-inch permanent magnetic speaker. Continental Radio & Television Corp., 3800 W. Cortland St., Chicago, Ill.—RADIO TODAY.



Sentinel push-button model

★ Model 195ULTO, 5 tube, AC-DC superhet. Built-in loop aerial, connections to use exterior antenna and ground if desired. Automatic volume control. Dynamic speaker. Onyx or walnut bakelite cabinet. Sentinel Radio Corp., 2222 Diversey Pkwy., Chicago, Ill.—RADIO TODAY.

Crosley 3-power portable

★ Automatic, dual-power receiver operates on battery, AC/DC power. Uses 4 tubes when operated on batteries, 5 tubes on house current. Brown water-proof fabric, brown and red stripes. Model B549A, \$24.95. Crosley Corp., 1329 Arlington St., Cincinnati, Ohio.—RADIO TODAY.

Feature personal radios as Christmas gifts in attractive window displays.



Emerson table model

★ Model DB-315, 5-tube AC-DC Super-het, with "re-flex miracle tone chamber." 5 in. electro dynamic speaker. Automatic volume control. Inner-ceptor loop antenna. Matched butt walnut cabinet. Telescoping carrying handle. Standard American broadcasts. \$19.95. Emerson Radio and Phonograph Corp., 111 Eighth Ave., New York, N. Y.—RADIO TODAY.



Farnsworth phono-radio

★ A new table model combination radio phonograph in the 1940 line is AK17. The modernistic walnut cabinet is designed to play records with the lid closed. A crystal pick-up and single speed turntable handles 12-inch records. The half-circular dial is marked from 550 to 1,750 kc. List price \$29.95. Farnsworth Radio & Television Corp., Marion, Ind.—RADIO TODAY.

1940 Models

"No aerial-no ground" makes it easy to sell new models for every room in the home.



Crosley superhet

★ Model 649A with positive action push button, as well as knob tuning. 5 working tubes and plug-in resistor. Dynamic speaker. Built-in loop antenna. Bakelite cabinet, mottled brown. Other colors available. AC-DC. Crosley Radio Corp., 1329 Arlington St., Cincinnati, Ohio.—RADIO TODAY.

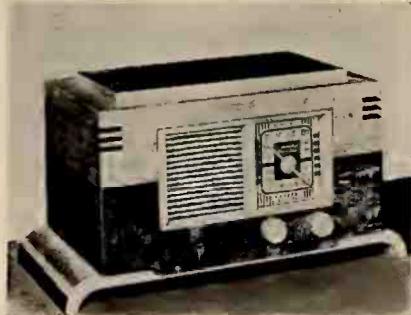


Arvin 6-tube model

★ No. 702, Arvin table model, AC-DC, superhet with push button and dial tuning. Walnut cabinet. Built-in phantom scope loop antenna. Permanent magnet 8-inch speaker. \$24.95. Noblitt-Sparks Industries, Inc., Columbus, Ind.—RADIO TODAY.

De Wald table model

★ Model C-500 is a five push button tuned receiver in attractive two-tone walnut cabinet. Set features built-in loop-antenna, slide-rule dial, 2 watts beam-power output. Tunes 170 to 550 kc. DeWald Radio Mfg. Corp., 440 Lafayette St., New York, N. Y.—RADIO TODAY.



Philco compact

★ Philco Transitone PT-61, "Jewel Case" model. Built-in loop aerial. Standard broadcast and police calls, automatic volume control. AC-DC. 5 Loktal tubes. Lower half of cabinet is Mexican Accra wood, upper half lighter-toned figured aspen. Cabinet rests on curved Birchwood pedestal base. \$19.95. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—RADIO TODAY.



Motorola table model

★ Deluxe model 71A features six push-button tuning, three wave bands, and continuously variable tone control. The modernistic design is carried out with a slide rule dial and horizontal louvered speaker grille. Cabinet finished in walnut. Galvin Mfg. Corp., 4545 Augusta Blvd., Chicago, Ill.—RADIO TODAY.

Delco console

★ Six station automatic tuning, self contained loop antenna, RF stage, television and phonograph connections, 12-inch electro-dynamic speaker are features of this 9-tube superhet that tunes 3 bands. End panels of sliced walnut, and white holly inlay on pilasters. United Motors Service, Inc., 30-44 Grand Blvd., Detroit, Mich.—RADIO TODAY.



Radiobar period model

★ Chippendale cabinet houses automatic record changer, Philco receiver, chrome and mirror finished bar. False drawers conceal radio and phono. Illuminated serving surface, and chromium racked glasses and decanters. Model 200-RBP. Radiobar Co. of America, 296 Broadway, New York, N. Y.—RADIO TODAY.

Lafayette table model

★ Model BB-27 mission design cabinet, AC/DC radio with 6 station push button tuning. Conventional knob and slide-rule type calibrated dial with inset tuning "eye." Superhet circuit. Terminals and switch provided for phono or television sound. Loop antenna. Radio Wire Television Inc., 100 Sixth Ave., New York, N. Y.—RADIO TODAY.

RCA automatic Victrola

★ RCA Victrola model U-42 featuring the "Protecto-tone Seal" compartment which isolates all extraneous noises incident to picking up music from records. Front doors conceal the record changer and radio controls. Two-band receiver, television attachment. Has built-in rota-table loop antenna. Cabinet, heart walnut veneer; doors 4-piece matched butt walnut veneer. RCA Mfg. Co., Camden, N. J.—RADIO TODAY.



Profit Opportunities in 1940 Models

Feature personal radios as Christmas gifts in attractive window displays.

"No aerial-no ground" makes it easy to sell new models for every room in the home.



Admiral table model

* Model 384-5S, five tube AC-DC superhet is furnished in attractive walnut wood cabinet with matched carrying handle. Five high-voltage filament tubes are used and no line resistor is required. Underwriters' approved. The vertical dial covers the 540 to 1730 KC band. The built-in Aerostope gives no-aerial, no-ground reception. Five-inch permanent magnetic speaker. Continental Radio & Television Corp., 680 W. Cortland St., Chicago, Ill.—RADIO TODAY.



Emerson table model

* Model DB-31S, 5 tube AC-DC Superhet, with "reflex miracle tone chamber," 5 in. electro dynamic speaker. Automatic volume control. Inner-Cepton loop antenna. Matched butt walnut cabinet. Telescoping carrying handle. Standard American broadcasts. \$19.95. Emerson Radio and Phonograph Corp., 111 Eighth Ave., New York, N. Y.—RADIO TODAY.



Crosley superhet

* Model 649A with positive action push button, as well as knob tuning. 5 working tubes and plug-in resistor. Dynamic speaker. Built-in loop antenna. Bakelite cabinet, mottled brown. Other colors available. AC-DC. Crosley Radio Corp., 1529 Arlington St., Cincinnati, Ohio.—RADIO TODAY.



Philco compact

* Philco Translone PP-6L "Jewel Case" model. Built-in loop aerial. Standard broadcast and police calls, automatic volume control. AC-DC. 5 Loktal tubes. Lower half of cabinet is Mexican Acacia wood, upper half light-brown figured aspen. Cabinet rests on curved Birchwood pedestal base. \$19.95. Philco Radio & Television Corp., Flaga & C Sts., Philadelphia, Pa.—RADIO TODAY.

Radio-bar period model

* Chippendale cabinet houses automatic record changer, Philco receiver, chrome and mirror finished bar. False drawers conceal radio and phone. Illuminated serving surface, and chromium plated glasses and decanters. Model 200-RBF. Radio-bar Co. of America, 236 Broadway, New York, N. Y.—RADIO TODAY.

Lafayette table model

* Model BB-27 melsion design cabinet, AC/DC radio with 8 station push button tuning. Conventional knob and sliderule type calibrated dial with inset tuning "eyes." Superhet circuit. Terminals and switch provided for phono or television sound. Loop antenna. Radio Wire Television Inc., 100 Sixth Ave., New York, N. Y.—RADIO TODAY.



RCA automatic victrola

* RCA Victrola model U-42 featuring the "Protecto-tone Seal" compartment which isolates all extraneous noises incident to picking up music from records. Front doors conceal the record changer and radio controls. Two-band receiver, television attachment. Has built-in rotatable loop antenna. Cabinet, heart walnut veneer; doors 4-piece matched butt walnut veneer. RCA Mfg. Co., Camden, N. J.—RADIO TODAY.

Motorola table model

* Deluxe model 71A features six push-button tuning, three wave bands, and continuously variable tone control. The modernistic design is carried out with a slide rule dial and horizontal layered speaker grille. Cabinet finished in walnut. Galvin Mfg. Corp., 4546 Augusta Blvd., Chicago, Ill.—RADIO TODAY.

Arvin 6-tube model

* No. 702 Arvin table model, AC-DC, superhet with push button and dial tuning. Walnut cabinet. Built-in phantom scope loop antenna. Permanent magnet 8-inch speaker. \$24.95. Noblitt-Sparks Industries, Inc., Columbus, Ind.—RADIO TODAY.

De Waid table model

* Model C-500 is a five push button tuned receiver in attractive two-tone walnut cabinet. Set features built-in loop-antenna, sliderule dial, 2 watta bean-power output. Tubes 170 to 659 kc. DeWaid Radio Mfg. Corp., 440 Lafayette St., New York, N. Y.—RADIO TODAY.

Delco console

* Six station automatic tuning, self contained loop antenna. RP stage, television and phonograph connections. 12-inch electro-dynamic speaker are features of this 8-cube superhet that tunes 3 bands. End panels of sliced walnut and white bolly inlay on pilasters. United Motors Service, Inc., 30-44 Grand Blvd., Detroit, Mich.—RADIO TODAY.

GE combination console

* H-708, 7-tube radio-phonograph combination console, with automatic record-changing device. Equipped for television sound, has 12-inch dynamic speaker, built-in loop antenna, 6 feather-touch tuning keys, 2 reception bands, and tone selector. General Electric Co., 1236 Boston Ave., Bridgeport, Conn.—RADIO TODAY.

Majestic portable phono

* 6 tube superhet for AC or portable battery operation has built in loop antenna and spring motor phono. Model 1BR50DP. Majestic Radio and Television Co., 60th and Rockwell St., Chicago, Ill.—RADIO TODAY.

Stromberg-Carlson period model

* This popular Chinese Chippendale model 400N employs five tubes in a superhet circuit. Covers the broadcast band and uses a 6-inch electro-dynamic speaker. Designed for AC operation only, model 400N lists at \$29.95. Stromberg-Carlson Mfg. Co., 100 Carlson Road, Rochester, N. Y.—RADIO TODAY.



Sentinel push-button model

* Model 19SULTO, 5 tube, AC-DC superhet. Built-in loop aerial, connections to use exterior antenna and ground if desired. Automatic volume control. Dynamic speaker. Onyx or walnut bakelite cabinet. Sentinel Radio Corp., 2222 Diversey Pkwy., Chicago, Ill.—RADIO TODAY.



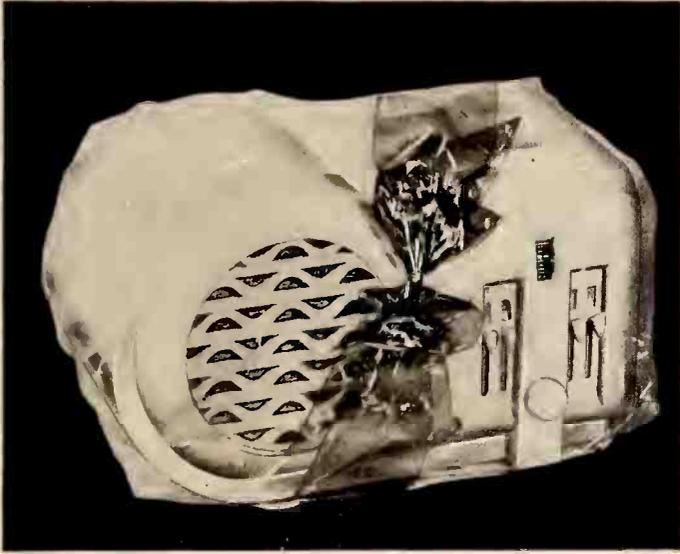
Farnsworth phono-radio

* A new table model combination radio phonograph in the 1940 100 is AKIT. The modernistic walnut cabinet is designed to play records with the lid closed. A crystal pick-up and single speed turntable handles 12-inch records. The half-circular dial is marked from 650 to 1750 kc. List price \$29.95. Farnsworth Radio & Television Corp., Muncie, Ind.—RADIO TODAY.

Crosley 3-power portable

* Automatic, dual-power receiver operates on battery, AC/DC power. Uses 4 tubes when operated on batteries, 5 tubes on house current. Brown water-proof fabric, brown and red stripes. Model B549A. \$24.95. Crosley Corp., 1329 Arlinton St., Cincinnati, Ohio.—RADIO TODAY.

Christmas Gift Naturals



The Stewart Warner Senior Varsity radio will make a hit on any campus. College sons and daughters will want one.

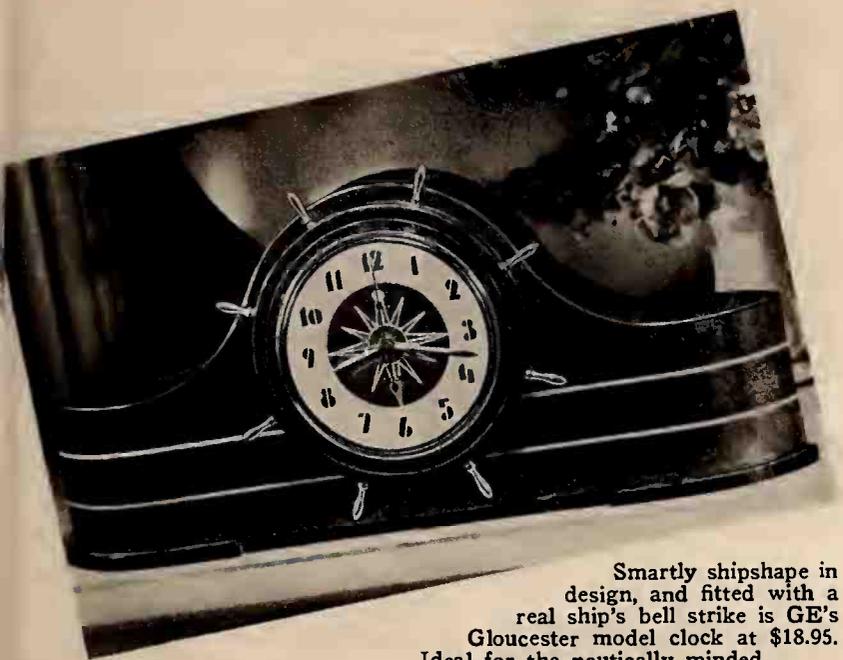
Your customers will soon be thumbing their check books and making gift selections by the hundred. Items on these pages will likely catch their fancy.

Give him a Schick "Pocket Dressing Room" kit with the new "Colonel" model shaver. Pigskin-grained case with mirror, comb and new "Whiskit" sells for only \$17.50. Schick Dry Shaver, Inc., Stamford, Conn.



An unusual and welcome gift which serves as a year 'round reminder of the donor is Edward's musical chimes. Edwards & Co., Norwalk, Conn.

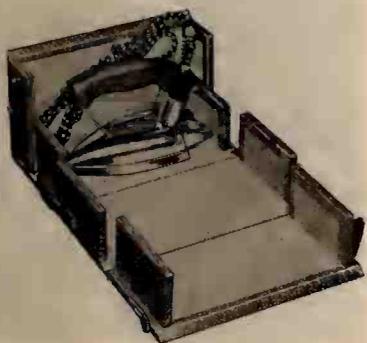
No more jumping out of a nice warm bed to shut off the radio! "Lullaby" bedlamp-radio is the reason. \$19.95. Mitchell Mfg. Co., 1550 N. Dayton, Chicago, Ill.



Smartly shipshape in design, and fitted with a real ship's bell strike is GE's Gloucester model clock at \$18.95. Ideal for the nautically minded.



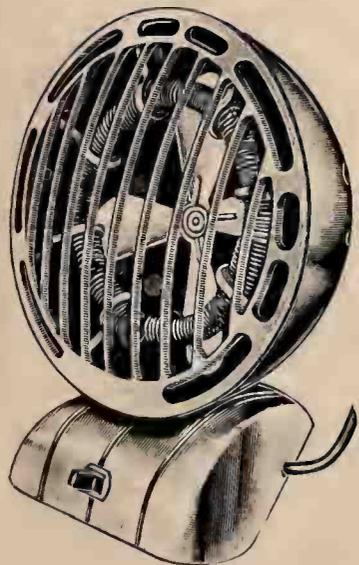
RCA's toy phonograph should be on every parent's list for Santa Claus to bring the children. Complete unit is \$4.95.



At the end of any trip there's always a few wrinkles in suits or dresses. Travelers will appreciate the Tra-Valet—a smart looking case opens up into a convenient ironing board and contains an electric iron. Bersted Mfg. Co., Fostoria, Ohio.

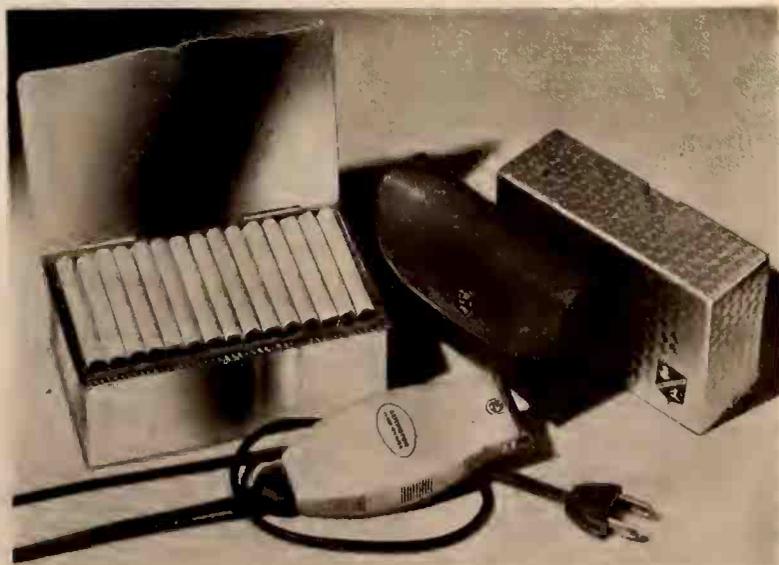


When nothing but a hot water bottle will do, Fenwal automatic heater maintains the temperature at a constant level, substituted for the stopper. Gives dependable, soothing comfort, and "controlled" safe warmth. Only \$3.90. Fenwal, Inc., Ashland, Mass.



There's nothing like Heat King \$7.95 portable air circulating heater for quickly raising the temperature so baby won't catch cold when being bathed. It makes chilly rooms comfortable. Nat'l. Die Casting, 600 N. Albany Ave., Chicago, Ill.

Remington-Rand, Bridgeport, Conn., offers two complete gifts — the close shaver packaged in a silver-plated cedar lined cigarette box for \$15.75.





The Run of Your Store—

They like to feel that the store is theirs. It means easy-going demonstrations, with everybody in a good mood, and everyone thinking that the whole store is friendly and useful. As against the rifle-shot type of presentation, a gentler "open house" attitude will garner more of the orders in the long run. Here's a salesman at Newark & Lewis, Hempstead, N. Y., getting smiles and general good will from a pair of prospects, who just naturally like easy chairs and music.

What the Customer Likes



Displays of "Show" Value—

Certainly the customer likes brief and to-the-point explanations of radio values. He likes a sales message presented with color and variety. Many display pieces of this type are simple outlines of "reasons to buy"—in this picture the Hellrung & Grimm store of St. Louis is using a complete set. It includes sharp arguments on "value up" and "prices down" and helps to simplify the selection of a radio, by naming exclusive features. Number of sets is smartly limited.

RADIO'S NEW FALL SEASON OVER WFBR



Programs "Now Playing"—

What his radio offers today, in terms of new features and old favorites, is something that customers will investigate. If you link these summaries with your new receiver values and your service offers, the setup is a sweet one. In this display built by Station WFBR of Baltimore, seven placards show the entertainment menu by days. The window proves that when radio makes its entertainment claims, there are plenty of details to back them up. WFBR cooperated further by broadcasting 15-min. tie-ins, and 21 spot announcements.

Compare them with any other combination



You'll agree these two new

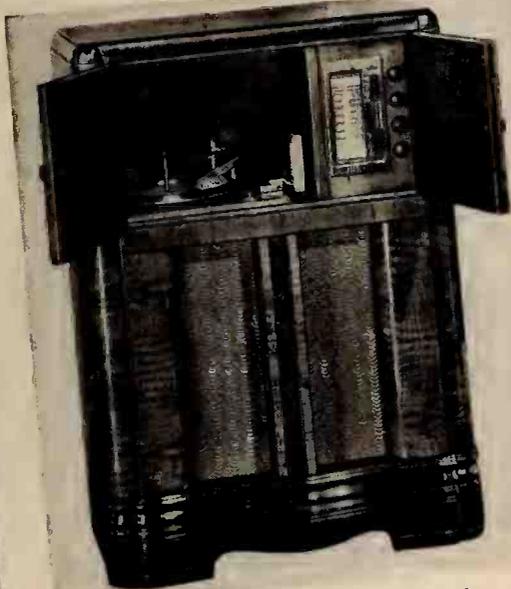
1940 RCA Victrolas

are unmatched

★ IN BEAUTY

★ IN PERFORMANCE

★ IN VALUE



RCA Victrola Model U-42 has a delightful cabinet with doors opening from front; Protecto-Tone Seal which closes turntable compartment *sound tight* so that only the pure Victor Tone is heard. Phonograph features Automatic Record Changer, bass and treble tone control, newly designed tone arm for quick, easy needle changing. 7-Tube Push-Button Tuning radio (plus Magic Eye) provides reception of American and Foreign stations, has Magic Loop built-in Antenna, Push-Pull Amplifier and 12" Electro-Dynamic Speaker for full, rich tone. Plug-in for Television Attachment and Television-Victrola Switch.

For finer radio performance - RCA Victor Radio Tubes
 Trademarks "RCA Victor" and "Victrola" Reg. U. S. Pat. Off. by RCA Manufacturing Co., Inc.



RCA Victrola Model U-40 is an outstanding value. Phonograph has Automatic Record Changer, Improved Viscaloid Damped Pick-up, 6 watts Push-Pull Output, 3-position bass-treble Tone Control, top needle loading tone arm, and other fine features. Radio has Push-Button Tuning for 6 stations, Built-in Loop Antenna, Plug-in for Television Attachment. Receives American and Foreign stations.

For best results, use Victor Needles



RCA Victrola

RCA Manufacturing Company, Inc., Camden, New Jersey
 A Service of the Radio Corporation of America



This smiling young lady quickly selects her favorite station with the single tuning button radio in the 1940 Ford.

A New Auto Radio Season!

New cars and Christmas season give dealer and serviceman extra profits

Now that the automobile show is over and the new cars are on the road, the public wants to get maximum pleasure from its motoring with a modern auto radio.

With the fast moving European situation demanding constant contact with news of the moment, motorists want radio in their cars. No longer is the winter season a period of stay-at-home for the motorist. New ventilating systems and car-heaters make winter traveling just as pleasant as those summer trips.

Right in step with the new safety features of the 1940 cars, is the push button tuned radio. With all of the new cars standardizing on dash-mounted receivers, push button tuning is a decided advantage to quick, accurate, and safe station-hunting. Single tuning-button receivers are making the job even more automatic. Pressing the control button from one to five times selects the corresponding station. The Philco model featuring single button control, employs an electro-magnetic solenoid to turn a rotary station selector-switch.

COWL ANTENNAS USED

New types of antennas are putting in an appearance, and very neat, too. The trend is definitely toward the single rod design. The reason is simplicity and good performance. Single hole mounting of the extension type antenna is popular because it is inconspicuous. Several new cowl antennas may be raised and lowered from within the car. A hydraulic system elevates the two or three sections to a height of 40 to 60 inches. When telescoped, only 3 inches project above the cowl. A single stroke

of the under-dash plunger raises the aerial to its full height.

Standard cowl antennas are furnished with neat molded insulators to fit the contour of the car body. Single and double point mountings are used on new cars. An under-hood mounted cowl antenna is available for the older cars with conventional type hoods. A special bracket supports the aerial from the screws holding the hood welt to the frame of the body.

SIMILAR CIRCUITS

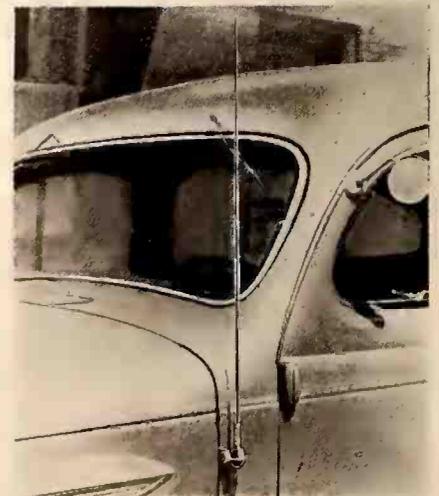
An important feature of static noise reduction in the new antennas, is a small metal ball mounted on the tip of the aerial rod. Its purpose is to reduce the noise caused by electrical discharges to and from the tip. It is well known that a spark will jump between two sharp-pointed electrodes at a lower voltage than it would if the electrodes were spherical in shape. The same reasoning applies to the auto-antenna. A noise voltage must be higher to discharge from, or to the ball tip of the antenna to cause noise in the set.

Auto radio circuits remain much the same as last year's models. The sensitivity and selectivity are ample for present needs and little has been done to further their high average. Tone quality has been improved in new models by the use of a larger speaker. Eight-inch electro-dynamics are now being used in most of the sets.

Installing the auto radio and licking the interference problem is still the serviceman's biggest job. New cars have more rubber cushioned parts than ever before with the result

that noise pick-up and radiation are more prevalent. Bonding of the interfering parts to the frame or engine block is the obvious solution to the problem. The difficulty lies in locating the part of the body radiating the noise. The only sure fire method is trial and error. A handy tool for trial grounding of suspected trouble-makers can be made from a piece of large-size shield braid and pointed test prods made from hard brass bar-stock. The prods should be sharp enough to cut through the scale, rust, and paint. For a trial location of the interfering section, the regular antenna may be removed from the set and a shielded lead used instead. By leaving a few inches of the lead exposed at the end

(Continued on page 38)



Cowl antenna for older type cars requires no drilling through body. Unit shown is made by Philco.

Saving of batteries by plugging in AC-DC current when available make **CROSLEY** portables highly saleable!

MODEL B-549A (Right) A fast seller because it has so many uses in the home and out of the home—appeals to ALL members of the family—and presents a great big value in its saving of batteries when a light socket is available to plug in the AC-DC extension. It's a splendid radio. You'll find its performance in reception and clarity of tone delight all who hear it.

The switch over from batteries to AC-DC electric current is automatic, which is a leading selling feature. Weight only 12 lbs. Complete with 200 hour batteries it's "hot." It moves swiftly at

\$24.95



YOU'RE there with a CROSLEY

MODEL B-439A (Above) Here we have the minimum in portables without sacrificing good quality, tone, volume and performance. 11 lbs. in weight. Size 11 x 6¼ x 5¾ inches. Air-plane luggage fabric adds smartness. Sold with batteries good for 200 hours.....

\$18.95

PORTABLE COMBINATION

MODEL B-5549A (Right) is an unmatched value and a strong Christmas item because it's a 24-lb. combination of the 549A chassis and a husky spring wound motor. Equipped with the automatic switch over from batteries to AC-DC current when outlets are available, it promises economy in operation. 1 to 8 records can be stowed away inside with everything snug and tight for toting anywhere. Complete with 200 hour batteries.....

\$39.95



The Crosley line is ALL fast moving with superhets at \$9.99, 2-band 7-tube superhets at \$19.99. Other table models to \$29.95. Consoles from \$39.95 to \$69.95 to deluxe combination consoles with Capchart record changers at \$114.50.

Prices slightly higher in South and West.

THE CROSLEY CORPORATION, Cincinnati Home of "the Nation's Station"—WLW—70 on your dial
POWER CROSLEY, Jr., President



The big parade of gift shoppers is under way. Here's Elsie Hitz, NBC radio actress, shown with the first of the buys.

Meeting Christmas Sales Demands

You'll have some new problems during the period of peak sales, but they can be solved by planning and thoughtful action

In the four weeks between Thanksgiving and Christmas, four to five times as many radios will be sold as during the month of July.

Such a wide variation in sales imposes great demands on a retail organization. As the pressure goes up, and personnel reach greater heights of nerve tension, many impressions left with your new customers which are not truly characteristic of your business.

Against these conditions, smart dealers always plan to protect themselves.

First is the matter of personnel itself.

New people, unfamiliar with you and your business may easily do as much harm as good, before they are trained, and by the time they are trained the peak demand has passed.

"BUY APPEAL" WINDOWS

Many dealers have found a practical answer to this problem in the temporary employment of former co-workers, and in the evening employment of other members of the families of regular co-workers. Some dealers, looking ahead, employ high school students, on a part time basis during the Fall and Winter, and have them well trained when the peak demand comes.

Much is needed in the conduct of a radio store at Christmas time besides salespeople.

First, is window display. It is very easy when everyone is busy to forget to change the window displays at regular times. But it is just as important, when people are looking for gift suggestions, to keep your window alive with "buy appeal" as it is when business is not so good.

If you can't find any other regular

time to change your windows, you may want to do as lots of other dealers do, and make window displays a Sunday job during Christmas season, even if you do need the rest.

NEAT STORE DISPLAYS SELL

Second is your store display. This must be kept clean, neat, orderly, and ready for demonstration all the time. Some dealers assign every person to a portion of the sales floor displays, and the first job every morning is to put the display in order, and clean it. This is done again when each person returns from lunch. And during the day, all salespeople are under strict instructions to return any display they disrupt in selling, to its original condition after each sale. Ten cents in the "kitty" each time a salesperson disrupts a display, or anyone fails

to keep their display section clean and orderly, the whole to be divided between those who kept their displays best during the holidays, provides an incentive, and creates a competitive urge to "beat the other fellow."

Sales mount fast in late November and December, and drop sharply in January.

Having in stock what the customer wants is important, but having too much inventory in January may be expensive.

So it's important to do most of your buying in direct relation to sales. Determine in advance what inventory you want in January, and remember you can always buy. Day by day check your sales against your inventory, and as stock comes down to your planned level, order the good sellers as you sell them, once or twice

(Continued on page 27)



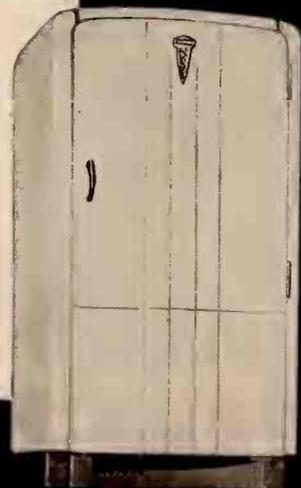
Red and green background is used by Tip-Top of Ossining, N. Y., to show up these sets as very "buyable." The soft cloth in Christmas colors made a simple and dignified setting for receivers and their neat, descriptive placards.

Watch NORGE!

- 1 Watch NORGE design make news year after year.
- 2 Watch NORGE styling pull store traffic.
- 3 Watch NORGE features build more sales.
- 4 Watch NORGE performance make satisfied users.
- 5 Watch NORGE quality build prestige.
- 6 Watch NORGE merchandising make Norge dealerships worthwhile.
- 7 Watch NORGE dealers go to town.

★ ACT... Fill in Name and Address... MAIL NOW!
NORGE DIVISION, Borg-Warner Corporation
Detroit, Michigan

Name _____
Address _____
City _____ State _____ R-T-1



THE INDUSTRY'S *Biggest* OPPORTUNITY!

Refrigerator Merchandising Action

Wife of Indiana Dealer Starts at the Very Beginning But With Help of Manufacturer Works Up Man Size Volume on Appliances

Just as if she were following a recipe for a cake or a pie, Mrs. C. A. Evans of Bloomington, Ind., went to work on a formula for selling appliances. She made an intelligent attempt to develop something of pleasant flavor and true texture, and people liked it.

The thing turned out to have a golden top, too. Evans Electric Co. is making plenty of money. Nearly 100 Kelvinator refrigerators have been sold this year, along with about 40 washers and ironers.

OPEN MIND

When Mrs. Evans started her sales career, she had no direct selling experience, but she knew how to deal with the public because of her activity in club work, parent-teacher and political affairs. Her attitude was that "I liked people and was not afraid to work."

She knew well enough that she had a good deal to learn about the tech-

nique of selling. Rather than trying to put up a false front, she was determined to learn the rules.

"My first step was to learn all I could about our products," she reports. "Next, I read everything I could get hold of, about selling. And then I began cooperating in every sales promotion that the manufacturers planned. We have been Kelvinator dealers for 18 years, and we find that this company's promotions have always been very effective. Our program is 'to play ball with the factory.' We have used the Kelvinator Cooking School, the letter writing contest, the Birthday Party, and more recently the Key Promotion."

FRIENDLY STORE

In these efforts the Evans policy is to sell the woman first, and the matter of getting into the Bloomington homes turned out to be easy, whether it was straight house-to-house work, or a follow up after the prospect had been to



Mrs. C. A. Evans, who illustrates the active and successful role that a woman can play in the merchandising of modern appliances.



Always in the midst of some vigorous promotion, the Evans Electric Co. counts on getting an impressive number of shoppers into the clean, sunny store.

the store. In this program, Mrs. Evans feels that women have an advantage—they know the detailed problems of the housewife and can talk about them in a sympathetic way.

The woman's touch is apparent in the Evans store, too. There are easy chairs, antique tables, and flowers. Mrs. Evans says also that "in the store we keep a Kelvinator in operation and loaded, so that we can point out the economy of buying in quantities. Of course I am out on calls every morning, but we keep a young lady there on floor duty."

There is always a trained service man around the place. Every time he finds a Kelvinator that has been in service a long stretch of years, the Evans store takes pride in it, and makes a point of the quality of the line.

KEY CAMPAIGN

In the Kelvinator Key Campaign, the Evans forces covered the town with cards, to which keys were attached, with the suggestion that the lucky keys will win big prizes if brought to the store and found to be the lucky ones. About 250 were dis-

tributed per day, with a total distribution of 5,500.

The result is that about one-third of the keys are returned and Mrs. Evans has a special registration sheet on which she gets information on ownership of refrigerators, ranges, washers, water heaters, ironers, irons, toasters, sweepers, etc.

She says flatly that "this is the best promotion we have ever used . . . it has given our washer sales a tremendous boost, besides the value of the new prospect list!"

The mailing list at this store has 1,000 names on it, and it is revised every six months. These people get typewritten letters or postal cards, telling of a new stock, a new plan of selling, special bargains, etc.

Here's how the Evans cards run:

Dear Mrs. Smith:

Our 1939 Kelvinators are here. When they came we thought we would write you about their attractive new features. But we are not skillful enough with words to give you a picture of their real beauty. Won't you come in and see them. Come now while our line is complete.

We also have a few bargains in new 1938 models.

Yours very truly,
EVANS ELECTRIC COMPANY
By—

SALES COURSES IMPORTANT

"Since I have been selling," says Mrs. Evans, "Kelvinator has given three sales courses, all of which have been very helpful. I remember that one of them was based on a series of 18 booklets, 'Sales Slants.' . . . I still carry the sales kit I got for completing that course.

"Just now, I have finished the Kelvinator Sales Training Course, which I found to be very fine. We were given concrete applications of sales principles that we already knew, but did not practice. The last book, 'Using Your Time Profitably' alone was worth many times the cost of the course."

Mrs. Evans had heard that selling was a tough game. She does not like that expression at all. She says it is a matter of professional skill, industry and courage. She believes that it's a high-grade business; she feels that salesmen are the ones who keep the wheels of industry turning.

XMAS SALES DEMANDS

(Continued from page 24)

a week, or more often if necessary, allowing for normal delivery periods from your distributor. The slow selling models should be cleared out of your inventory during this time, and so should not be re-ordered as sold. The important thing is to set up your January stock plan, know your pres-



Refrigerators are thus readied for Christmas selling—this display comes from Edison G. E. Appliance Co., in connection with new special Christmas Model.

ent stock and sales, and buy only as actually needed. A simple card record will do the job, so you won't lose sales of wanted models, and won't have a stock of unwanted models to eat up your profits.

MEET DELIVERY PROMISES

Many new customers come into your store during the Christmas Season. How you serve them may well determine whether you make a customer or lose one. Courtesy costs little, means much, yet is so often lacking when nerves are taut and muscles tired. But then too, is when customers' tempers are just as short. So smart dealers take extra precautions to see that customers are served promptly and pleasantly, that promises made are kept, and that the store is sold with every radio.

Delivery promises should be made to customers only after being certain of your stock, and the condition of your own delivery service, but once given, should be lived up to 100 per cent.

ORGANIZE PERSONNEL

It is always a good plan to arrange for an emergency, or reserve delivery service, in addition to your regular delivery service. If that fails to measure up to the demands of your promises, there are still taxi-cabs and your own car, that could not be used to better advantage than to keep a promise, and satisfy a customer.

Many a customer has been lost forever to stores which, in failing to deliver a gift as promised, took from the customer all the element of surprise in that gift, with all of the disappointment reflected to the store,

for an unthinking salesperson's indifference.

The answer to these, and many more Christmas details, is organization.

Before your personnel go under pressure, every problem of operation which you can foresee, should be definitely assigned to some one person. Most of our Christmas troubles come from the fact that what is everyone's job is no one's responsibility. Methods which serve well enough in slack selling seasons crack when the pressure goes on. Because most people will stick to the thing they are doing until it's done, many things are left undone when other work demands more and more time, unless each specific job is definitely assigned to a particular person.

The customer only knows how you treat her, what she gets,—not what you want to do, and the pay off comes from customer satisfaction.

Norge Shipments Register New Increases

The number of Norge products which went to distributors in October was 21,259, according to totals just released by Howard E. Blood, president, Norge division, Borg Warner Corp. He pointed out that this is 148.3 per cent of the figure for the same month of 1938.

Refrigerator shipments considered alone were found to be 183.4 per cent of those for October 1939, while washers were 141.8 per cent and space heaters 203.8 per cent.

These gains for October are well ahead of those for September, which showed Norge shipments to be 126.5 per cent of those for September last year.

After an introductory year in which the momentum of the great Philco name, the public demand and trade preference for a Philco product swept us far beyond our first year's quota . . .

PHILCO is Now Ready to Forge Ahead in Refrigeration with the

New 1940

PHILCO REFRIGERATOR

- **AN ENTIRELY NEW REFRIGERATOR**—*new* inside and out—completely redesigned from top to bottom by Philco.
- **PRESENTING** *every* up-to-date refrigerator feature science has conceived.
- **PLUS** brand-new improvements and inventions developed by Philco's refrigerator engineers and presented for the first time in the new 1940 Philco Refrigerator.
- **EYE-APPEAL AND BUY-APPEAL**—the most beautiful refrigerator ever designed, offering the most *complete* service in the refrigerator field.
- **AND NOW NAMED** the "Philco Refrigerator", a full-fledged member of the Philco family.
- **A FULL LINE** of outstanding values to clinch sales in *every* price bracket.

Philco All Year 'Round for Profits A

For 1940 — Isn't THIS the Kind of Refrigerator Proposition You'd Like?

- 1- A superior quality product with new, exclusive, advanced features that your salesman can "get their teeth into" and your customers instantly see and appreciate.
- 2- A product with a NAME . . . with REAL public acceptance.
- 3- A company behind the product that *knows* the appliance field, that specializes in appliance merchandising, that devotes its *entire* thoughts and activities to *your* problems and *your* profits.
- 4- The backing of a powerful advertising campaign in the national magazines and your local newspapers . . . plus a steady stream of promotional plans and material.
- 5- A strong, aggressive distributing organization that's schooled in merchandizing, experienced in service and not only supplies you with merchandise but goes all the way in local advertising and promotion to help you make sales.
- 6- A price structure that keeps you competitive and a discount policy that gives you the margin to make real money.

Coming Soon!

Year 'Round HOME RADIO • AUTO RADIO • TELEVISION • PHONOGRAPHS • RADIO TUBE PARTS • REFRIGERATORS • AIR CONDITIONERS • DRY BATTERIES

After an introductory year in which the momentum of the great Philco name, the public demand and trade preference for a Philco product swept us far beyond our first year's quota . . .

PHILCO is Now Ready to Forge Ahead in Refrigeration with the

New 1940 PHILCO REFRIGERATOR

- **AN ENTIRELY NEW REFRIGERATOR**—the latest in modern refrigeration science has been developed by Philco.
- **PRESENTING**—the new Philco refrigerator is a full-fledged member of the Philco family.
- **PLUS**—brand-new improvements and innovations developed by Philco's refrigerator engineers and presented for the first time in the new Philco Refrigerator.
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- 6- A price structure that keeps you competitive and a discount policy that gives you the margin to make real money.

Coming Soon!

Philco All Year 'Round for Profits All Year 'Round

HOME RADIO • AUTO RADIO • TELEVISION • PHONOGRAPHS • RADIO TUBE PARTS • REFRIGERATORS • AIR CONDITIONERS • DRY BATTERIES

Tubes Go to Laundry

New list prices bring forth dealer and distributor pros and cons

Just when radio dealers and servicemen could see no end to the tube chaos, no profits in the sale of tubes, the manufacturers put their heads together and *did* something about it.

With "deals," premiums, and cruises following each upon the heels of another, no one knew just what their tubes cost today, much less what they would cost tomorrow. And profits had vanished in the mad scramble for volume in the battle of the discounts.

The new tube pricing plan is certainly "just what the doctor ordered" for a sick business.

The whole purpose of the plan is to bring order out of chaos, to stabilize prices, and profits, and to stop the "40 off" battle of the discounts, to put the merchandising of tubes on a sound practical basis.

ORGANIZED PROGRESS

To simplify the price structure for everyone, from producer to consumer, 342 tube types have been grouped into 8 list price levels, with uniform discounts.

To overcome consumer resistance, list prices have been reduced to levels only a little above what customers

have been paying at most dealers' stores.

To stop "deals" and to stabilize prices, discounts to distributors and dealers have been reduced to reasonable and sound levels.

The whole plan is constructive, is sorely needed, and offers a real opportunity for distributors, dealers and servicemen to really merchandise tubes, and earn a profit for their efforts.

PLAN GETS SUPPORT

Distributors seem to be four-square behind the plan, and think they can make it work.

Dealers are a little divided in their opinions yet, while agreeing that the plan should have a fair trial. Some of the dealer objections are:

1. Dealer's mark-up, and therefore profits, are reduced.
2. People don't know list prices, so why not make them high.
3. Customers like bargains, and "40 off" sounds good to bargain hunters.
4. Sales won't increase, so lower prices mean less income.

But a far greater number of deal-

How the New Plan Stacks Up

List Price Group	No. of Tubes in Group	% of Unit Volume
\$.60	3	8.8
.70	8	16.3
.80	49	33.3
1.00	72	23.9
1.25	101	12.1
1.60	47	4.0
2.10	46	1.5
2.70	16	0.2

ers, more farsighted perhaps, than their slow-to-change brethren, see much merit in the new schedules. They point out:

1. Mark-up is not decreased since full list hasn't been the selling price, because of cut-price competition.
2. People do know the selling price of tubes, and a uniform price will prevent "shopping" and price complaints.

A SERIOUS MATTER

3. Selling at "40 off" builds a cut-price reputation, and casts suspicion on all your prices. People know pretty much that they "pay for what they get."

4. Sales can be increased, taking business away from non-radio dealers.

5. The plan has got to work if the tube business is worth being in.

Most dealers say there has been no change in their sales, as the result of the plan, as yet.

REFORM DUE NOW

In the large cities, there are still some cut-prices being shown, while old stocks prevailed.

Some dealers have reported that some manufacturers' representatives and wholesale salesmen did not seem too anxious to stabilize the prices. Said nothing would happen if they continued their "tube prices slashed" type of displays and advertising, if they did not quote actual prices. Over the counter prices could be anything the dealers wanted, so long as he didn't give a receipt.

Such practices should be stopped at their very beginning, and salesmen or dealers who follow them should be plainly shown that they are not needed in the tube business.

Dealers and distributors who permit these practices to go on in their own organization, from selfish motives, will one day know they have hurt themselves badly.

Here's a Chance for Clean-Up on Tubes

1. *Cooperative action by tube manufacturers has now taken tangible form.*
2. *Tube merchandising has new opportunity to lift itself out of its unstable, bargain-ridden doldrums.*
3. *The public can be given a clearer idea that new tubes are worth the price.*
4. *The new engineering developments in the tube market will get the benefit of healthy merchandising.*
5. *Dealers may settle down to a definite profit schedule for tubes, and concentrate on aggressive service and merchandising plans, rather than price promotions.*

Push the tube line
that gives you



DEPENDABLE ALL WAYS

PROFIT DEPENDABILITY — Sylvania's policies are keyed to give you Profit Dependability. You get real merchandising support, too, which helps to multiply your profits by multiplying sales!

PRODUCT DEPENDABILITY—Every Sylvania Tube is a scientific engineering accomplishment—a first rate product that you can be proud to recommend. More than 80 factory tests assure the Product Dependability of every Sylvania Tube.

COMPANY DEPENDABILITY — Hygrade Sylvania Corporation owns and operates three modern plants . . . does business in 124 countries of the world and offers you a complete and profitable line of fine products including panel lamps.

SYLVANIA

SET-TESTED RADIO TUBES

Hygrade Sylvania Corp., Emporium, Pa. Also makers of Hygrade Lamp Bulbs

" D E P E N D A B L E A L L W A Y S "



PHILCO 215RX. Features Wireless Remote Control of favorite stations ... an exclusive Philco achievement! 12 tubes, American and Foreign reception, Built-in Super Aerial System and scores of other improvements. A "sell-up" profit maker!



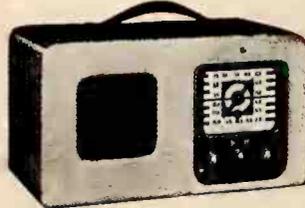
PHILCO 180XF. "Best-Seller" of all 1940 consoles! Built-in Super Aerial System with *Twin-Loop* Aerial and triple-power Television Tube for super American and Foreign reception. Electric Push-Button Tuning. Gorgeous Walnut cabinet.



PHILCO 165K. An American and Foreign reception value-leader console, with Philco's exclusive Built-in Super Aerial System. Electric Push-Button Tuning, Cathedral Speaker, Tone Control, Automatic Volume Control. Big Walnut cabinet. One of many popular-priced models.



PHILCO Transitone PT-43 One of a complete line of powerful, fine-toned, low-priced compacts ... featuring Philco-invented Loktal tubes and safety construction. AC-DC operation, built-in Loop Aerial. Walnut and plastic cabinet.



PHILCO PORTABLE 88T Another Philco *first!* Plays anywhere, indoors or out, without aerial or house-current. Powerful, clear-toned *foreign* as well as American reception. 5 Loktal tubes, R. F. Stage, built-in *Twin-Loop* Aerial. Airplane cloth case.



PHILCO RP-2 WIRELESS RECORD PLAYER. Philco invented! Plays records, with lid closed, through entire radio circuit *without wire connections* to set. Lifting and replacing tone arm starts and stops turntable. Fine Walnut cabinet.

Dealer Survey

"GREATEST IMPROVEMENT"

among 14 reasons why Philco dealers can depend on for a long pull ... and why they prefer

PHILCO

Year after year Philco is *first* with radio improvements that really count. First with the *public* ... as shown by Philco's 10 straight years of leadership! First with the *trade* ... as shown by an impartial nation-wide survey!

Consider some of Philco's recent achievements: Built-in Super Aerial System, with *Twin-Loop* Aerial and triple-power Television Tube; Wireless Remote Control—both exclusive with Philco! Loktal tubes; R. F. Stage in low-priced sets; SAFE low-priced Compacts; Self-Powered Portables; 1½ Volt Farm Radios; Wireless Record Players; DeLuxe Inter-Mix Record Changer—all Philco *firsts!* And these are only a few. No wonder "greatest improvements" is listed among 14 reasons why it pays to concentrate on Philco for turnover, volume and profit!

Every 1940 Philco is Built to Receive TELEVISION SOUND ... the Wireless Way!

Philco All Year 'Round for Profits All

Lists IMPROVEMENTS"

one radio line
profits over the
concentrate on

CO

Philco gives you ALL 3

"PLUG IN AND PLAY" CONVENIENCE. No aerial and wires to install. Plug in anywhere and play.

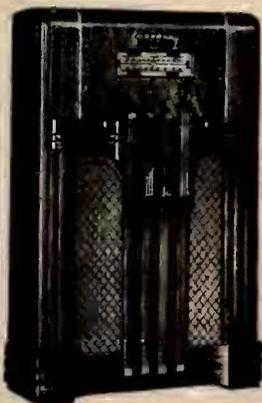
PURITY OF TONE. Greater freedom from power lines and man-made static, even in noisy locations.

WIRELESS POWER. Even gets *foreign* reception without an outdoor aerial. *Amazing performance!*

All three for full radio enjoyment. A mere built-in aerial, never it may be called, gives you just one or two. *Only Philco gives you ALL 3 . . . because only Philco has the Built-in Super Aerial System!*



PHONOGRAPH 509
Philco's spectacular De-Mix Record Changer plays 10" and 12" records together at one loading . . . a new feature for recorded music! American-made radio reception. Only Philco's super-value models.



PHILCO FARM RADIO 100F
Pioneered by Philco! Saves 2/3 of battery cost and current drain . . . gives electric-set performance, reliability, convenience and economy! New 1 1/2 Volt tubes, new-type circuit and speaker, new self-contained Battery Block.

DEALERS PREFER TO SELL PHILCO!

Reasons given by dealers in
a national survey

- | | |
|-------------------------------|-----------------------------|
| 1. Greatest Public Acceptance | 8. Finest Performance |
| 2. Most Widely Advertised | 9. More Satisfied Customers |
| 3. GREATEST IMPROVEMENTS | 10. Fastest Selling Line |
| 4. Lowest Service | 11. Better Parts Service |
| 5. Most Complete Line | 12. Greatest Sales Appeal |
| 6. Easiest to Sell | 13. Sound Factory Policies |
| 7. Greatest Market | 14. Most for the Money |

We believe that technical features make the best sales story. For that reason we prefer Philco, the radio that gives more engineering improvements for the money.

BERMAN RADIO COMPANY, Boston, Mass.

There's a good reason why we prefer to push Philco. It is 1940's most highly developed radio set.

DOWNES, INC., York, Penna.

Philco's Built-in Super Aerial System is a truly great improvement. It gives new convenience and new performance, plus amazing noise reduction.

EASTERN INDIANA OIL & SUPPLY CO., Geneve, Indiana.

For new inventions and real worthwhile improvements, we like Philco for 1940 best of all.

B & A RADIO & TIRE CO., Los Angeles, Cal.

Philco has lead the field in the 8 years we have featured this line, chiefly because of finer merchandise -- tone, dependability, latest improvements, finer cabinets -- and good dealer profits.

KESSEL & RUMMEL, Saginaw, Michigan.

We have handled Philco radios for the past ten years, and our experience has taught us that every worthwhile improvement that has been made in the radio field has been made by Philco.

SMITH'S RADIO SHOP, Nashua, New Hampshire.

Philco's Built-in Super Aerial System is typical of the many improvements Philco has brought to radio. We're going the limit on Philco for 1940.

BORELL'S ELECTRIC & MATTAG SHOP, Monroe, Wash.

ear 'Round

HOME RADIO • AUTO RADIO • TELEVISION • PHONOGRAPHS • RADIO TUBE PARTS • REFRIGERATORS • AIR CONDITIONERS • DRY BATTERIES



PHILCO 215RX. Features Wireless Remote Control of favorite stations... an exclusive Philco achievement... 12 tubes, American and Foreign reception, Built-in Super Aerial System and scores of other improvements. A "sell-up" profit maker!



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Dealer Survey Lists "GREATEST IMPROVEMENTS"

among 14 reasons why Philco is the one radio line dealers can depend on for *largest* profits over the long pull... and why they prefer to concentrate on

PHILCO

Only Philco gives you ALL 3

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- VFW PURITY OF TONE.** Greater freedom from power line noises and man-made static, even in noisy locations.
- SUPER-POWER.** Even gets foreign reception without an outside aerial. *Amazing performance!*

You need all three for full radio enjoyment. A mere built-in aerial, whatever it may be called, gives you just one or two. *Only Philco gives you ALL 3...* because only Philco has the Built-in Super Aerial System!

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There's a good reason why we prefer to push Philco. It is 1940's most highly developed radio set.
DORNER, INC., York, Penna.

Philco's Built-in Super Aerial System is a truly great improvement. It gives new convenience and low performance, plus maximum value for the money.
EASTERN INDIANA OIL & SUPPLY CO., Geneva, Indiana

For new inventions and real worthwhile improvements, we like Philco for 1940 best of all.
B & A RADIO & TUBE CO., Los Angeles, Cal.

Philco has led the field in the 8 years we have featured this line, offering features of finer workmanship... tone, dependability, latest improvements, finer cabinets... and good dealer profits.
KESSEY & RICHARD, Saginaw, Michigan.

We have handled Philco radios for the past ten years, and our experience has taught us that every worthwhile improvement that has been made in the radio field has been made by Philco.
SMITH'S RADIO SHOP, Keosau, Iowa

Philco's Built-in Super Aerial System is typical of the many improvements Philco has brought to radio. We're going the limit on Philco for 1940.
BOWELL'S ELECTRIC & MATTAC SHOP, Monroe, Miss.

Philco All Year 'Round for Profits All Year 'Round

WIRE RADIO • AUTO RADIO • TELEVISION • RECORD CHANGERS • BATTERY BLOCKS
PARTS • INDICATORS • AIR CONDITONERS • TUNING DEVICES

Record Profits Made Easy

Compact record counter combines unique demonstration system, ample storage space, and moderate cost.

For the benefit of the many small dealers who have asked us about "getting into the record business"—RADIO TODAY last month presented a model stock plan, together with a simple way of controlling it.

Following through, we now present for the first time, a model merchandising unit, designed by RADIO TODAY—expressly to fit the needs of the small dealer.

In only 20 square feet of floor space we have combined every necessary element to stock, display, demonstrate, sell, and wrap records and albums, for a \$5,000 annual business.

The fixture is so designed that it may be used as an island fixture in the center of your store, or if you prefer, along wall space, as a counter.

The units are of uniform construction and finish, and so, as your business expands, you may add units as needed, to the first unit.

ROOM FOR COMPLETE STOCK

Under the counter are standard record stock bins, for 10 in. records, 12 in. records, albums, envelopes, catalogs, needles, and accessories, providing ample space to handle up to 550 records.

In the center of the unit is a recessed glass top and front, display case, in which records, needles, acces-

sories, may be displayed in an attractive manner, where every customer must see, yet cannot touch or disarrange the display.

At each extreme end of the unit is a loudspeaking listening post, which may be used for individual record demonstrations, or for the promotion of special records.

At each end of the display case there is an earphone, for listening to a record being demonstrated.

This type of record demonstration has proven itself in one of the largest record departments in the country, and also successfully replaced the booths in one of the highest class department store record departments. It's thoroughly practical.

To make record demonstrations comfortable for the listener, knee-room is provided below each speaker compartment. Modernistic stools supplied with the record-merchandiser place the customer at just the right height to hear his favorite records.

One of the many advantages of this complete record-seller is that the sale and demonstration of records is under control of the clerk at all times. One person may demonstrate four records and take care of one or two customers all at the same time. Instead of giving the customer a half-dozen records to play by himself, the

small dealer can now personally handle more people and take better care of the merchandise.

UNITS IN PRODUCTION

Four single amplifiers are mounted in pairs in each of the speaker compartments. One turntable serves each amplifier and the volume control mounted on the motor board switches the amplifier and motor on simultaneously.

These units are now in production by A. Bitter Construction Co., Long Island City, N. Y., a well known fixture builder, and may be bought either with, or without, the turntables, amplifiers, and speakers, so that dealers who can supply this material from their own stocks, or who have their own ideas of building them, may do so. Descriptive literature may be had on request from the manufacturer.

This stock fixture, together with RADIO TODAY's model stock plans, and a simple means of controlling them, makes it easy and economical for any small dealer to get into the record business and get his share of the mounting record profits.

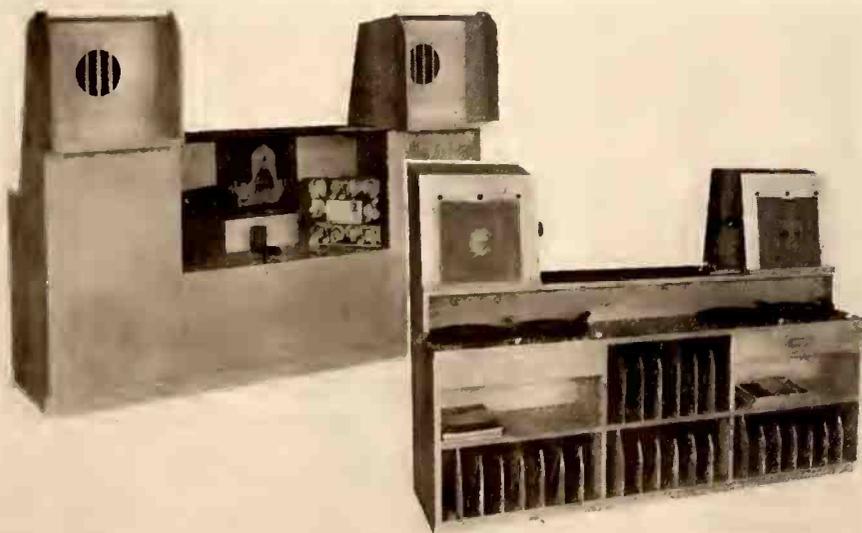
Will War Boost Record Sales?

A search of the Victor Talking Machine Company files reveals that the record business of that company more than doubled between the time the World War broke out and the entry of the United States into the conflict.

BIG SALES JUMP

Considering 1913 as a normal year, Victor record sales during 1914 were up 27 per cent; during 1915 the increase was 76 per cent over 1913; by 1916 it was 145 per cent better, and in 1917 record sales mounted to 161 per cent of the 1913 level. It is interesting to note that during the first half of 1914, the sale of records held steady at approximately the level of 1913. The increase that came following the declaration of war on August 14, 1914, was enough to pull the entire year's average up 27 per cent.

Increased purchasing power, and the desire for relaxation in music from the war news, are given as causes for the sales rise.



RADIO TODAY'S record merchandiser built by A. Bitter Construction Co. Unit consists of record storage space, four listening positions, and display case.

RECORD PACKS TRIMMED FOR CHRISTMAS APPEAL

"They'll look swell hanging on Christmas trees!" reads the introduction to a list of record albums and gift selections just released by one of the big disc makers.

The fact is, the record industry is this minute getting dolled up in those bright new Christmas trims, all ready to help dealers get extra profits from the holiday season.

For instance, RCA Victor has issued a long list of musical masterpiece albums, conveniently classified according to whether they're orchestral, concerts, ballet, chamber, piano, operatic, novelties, juvenile, etc.

Dealers will be able to decide which of these are suitable for mothers, fathers, sisters, brothers, etc., and will be able to stage their promotions accordingly.

Under the Victor Bluebird label are 12 new sets for children, including two special Christmas albums "Star of Bethlehem" and "Tinkle Tonkale Town."

At the Decca record headquarters, it was found that there are over 100

Wax worth watching

WAYNE KING and his orchestra playing Palais De Dance and Moonlight and Roses with VR by Mr. King—Victor 26394.

LOUISE MASSEY and The Westerners singing and playing South of the Border—Vocalion 05147.

ELLA LOGAN singing Are You Havin' Any Fun? and Something I Dreamed Last Night—Columbia 35251.

BENNY GOODMAN and his orchestra playing Scatter-Brain and One Sweet Letter From You, both with VC by Louise Tohin—Columbia 35241.

EVERETT HOAGLAND and his orchestra playing Bless You and It's All Over Town, both with VC by Don Burke—Decca 2773.

KENNY BAKER with orchestra singing South of the Border and Stop Kicking My Heart Around—Victor 26373.

FRANCES LANGFORD with Harry Sosnik and his orchestra singing Am I Blue and Between the Devil and the Deep Blue Sea—Decca 2747.

RUSS MORGAN and his orchestra playing I Must Have One More Kiss with VC by Carolyn Clarke and Sweet Moment with VC by quartet—Decca 2764.

Classical

JASCHA HEIFETZ with Boston Symphony Orchestra playing Concerto in D Major (Brahms)—Victor M-581.

EUGENE ORMANDY with Philadelphia Orchestra playing Divertimento No. 10 in F Major (Mozart)—Victor M-603.

KIRSTEN FLAGSTAD with piano accompaniment singing Im Herbst (Franz) and Im Abendrot (Schubert)—Victor 15645.

FELIX WEINGARTNER and the London Symphony Orchestra playing Symphony No. 1 in C Minor, Opus 68 (Brahms)—Columbia Set M383.

NELSON EDDY with orchestra singing four Indian love lyrics from Laurance Hope's "Garden of Kama"—Columbia Set X-150.



The sleek new record rack shown here fits nicely into the fast-increasing activity in recorded music. RCA Victor calls it "Ready Record Rack"—it holds 40 discs and is made of a single piece of Textolite. The rack, for home use, has already won one of the top awards in Modern Plastics Competition, sponsored by Modern Plastics Magazine.

handsome albums ready for the Christmas market. Many of these are already popular but some are brand new; Albums No. 94 and 95 are likely ones, titled "Christmas in Song," in two volumes.

POPULAR PRICED SETS

An example of Decca's appeal to children is the new "Songs of Safety" album by Irving Caesar, specially wrapped in a gift envelope.

All of the Decca albums are colorful in appearance and it is recommended that dealers display the *fronts* of the sets, for the best effect and the liveliest sales appeal.

FOR A BIG SEASON

Columbia Recording Corp. has announced that it will soon be ready with "extensive material for the Christmas season," so retailers may expect this aggressive firm to hit the market with merchandise of special interest.

If you look at the current record lists from the United States Record Corp. you will find many Christmas platters with lots of sales significance—holiday music in a popular vein.

One of these is the novelty record by Tommy Riggs and Betty Lou, with the titles "Silent Night" and "Jingle Bells."

Brand New Popularity for Recorded Music

Exceptional sales prospects for radio-phonographs are pointed out by John F. Gilligan, manager of the specialty division of Philco, in a special statement on how radio has been responsible for both the death and the rebirth of recorded music. Mr. Gilligan said that the estimate for combination sales this year is 650,000 units, "as the popularity of recorded music still mounting fast."

The Philco executive emphasized that "radio listeners about two years ago suddenly began to buy records and radio-phonographs for the music they wanted to hear again under the best possible tone conditions . . . by 1938, sales went over 370,000 radio-phonos and more than 40,000,000 records."

It was also revealed that the average price of the combination in 1927 was about \$750, compared with about \$100 in 1938.

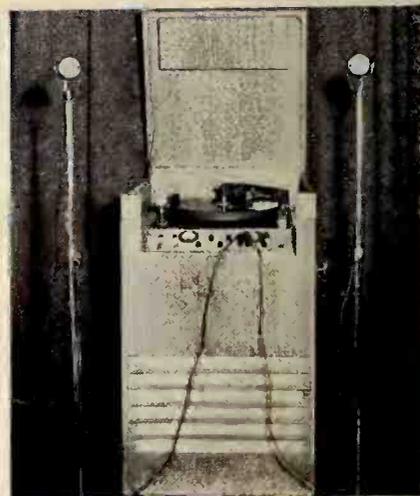
A New Wireless Job



Here's a new two-speed commercial type wireless record player by Philco. It sports an oversize motor, crystal pick-up and walnut cabinet, plays 10, 12 or 16 inch records.

Recorders Start Rolling

Holiday activities start the new machines spinning at a rate which means many extra sales for dealers



Presented as "the lowest priced professional model on the market today" is the Federal "Symphonic" recorder, with built-in mixer for two mikes, and feature ability as high fidelity radio or public address system.

him to take the initiative and to make the novelty suggestions to the prospects.

In many areas, some of these suggestions may strike the prospects as unheard of, but if the dealer is prepared to demonstrate or to cite instances where the plan has worked, the customer will be pleased, if surprised.

RECORDINGS BY THE DOZEN

It is a popular custom for orchestra leaders to distribute souvenir gifts among the members of the organization. This is a spot where dealers may step in and make an important sale by approaching a single person.

Dealers should not hesitate to spend extra time and effort on a prospect whose final decision will mean that scores of his friends will get an introduction to the whole idea of "personal recordings at Christmas time." For instance in the case of the orchestra leader, if he distributes a number of the personal records, it will doubtless occur to the individual musicians that they too might use the device.



Right in the middle of voice training classes in New Orleans schools is a Presto recorder, illustrating the importance of the educational market. At the mike is Miss Gertrude Mattle; adjusting the recorder is the instructor, Miss Olive Walker.

A merry Christmas would not be half so merry if it were not for the sound effects connected with the holiday. Carols, choirs, bells, Christmas programs and speeches, talking toys, the voices around the dinner tables, the remarks at family reunions, recorded greetings, etc., are all part of it.

For the radio man who has an interest in recorders and special recordings, all this has a socko meaning. It happens that these holiday sound effects are mostly of a "personal" nature, and there will be a big demand for private recordings of them.

A lot of singers, whether professional, amateur or students, will be making Christmas recordings for use as gifts or greetings. Most of these people have plenty of money to spend, and the dealer's acquaintance with them will turn out to be highly profitable.

There are thousands of entertainment houses whose schedules include some form of music, and at Christmas time they will be willing to use their musicians to make up special recordings, to send to their patrons in place of the usual house greeting card.

OTHERS ARE INTERESTED

This is also true of voice teachers or music instructors who don't mind combining advertising with their annual Yule greeting. These discs may carry short classics combined with a "commercial" announcement, or they might carry the voice of one of the instructors.

In many of these cases where it is perfectly possible for dealers to stir up some business of very substantial proportions, it will be necessary for



A peach of a window stunt, devised by dealer J. G. Blaney, Blaney Music Shop, Concordia, Kan. The display space was extended deep into the store, and inexpensive drapes used to form a "studio on display." Local artists make recordings on the RCA portable, while passersby watch. Otherwise, curtains at the back are drawn to permit display view of the whole front section of the store.

"CAP" SAYS—

Manufacturers—Listen!

It certainly is your privilege, Mr. Manufacturer, to distribute your products through a large number of small dealers, through a small number of large dealers, or even to sell direct, through no dealers.



H. L. M. Capron,
Merchandising
Editor

But you can't expect either dealer group to maintain a high morale and enthusiastic sales effort for your product if you are elsewhere cutting their throats!

Morale and enthusiasm are mighty important factors on the selling line of a sales organization—as on the firing line of an army.

No manufacturer can hope to have enthusiastic dealer distribution when he permits cut-price department store advertising.

If you don't want dealer distribution—that's fine.

But if you do—for your own sake and that of your dealers, stop trying



Watch how Philco is using the current interest in European short-wave reception, and seasonal interest in football, in this sales kit of five displays featuring wireless remote control and new aerial.

to be a trick circus rider on two horses at once.

It can't be done—long—at best. The merchandising methods of dealer and department store, are so diverging that you'll "do the split" to your own discomfort if you keep riding them both.

Dealers are plenty "fed up" with manufacturers who play both ends

against the dealer in the middle.

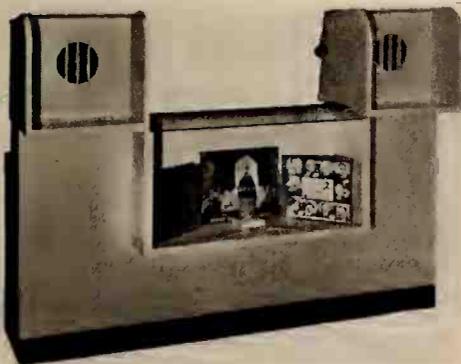
If you think the independent dealer is important, snuggle up to him on an honest basis. Stop cutting his throat by selling to discount houses, co-operative industrial buying groups, and predatory price cutters.

You'll find the dealer is just as loyal to you as you are to him.

You're foolish if you expect more.

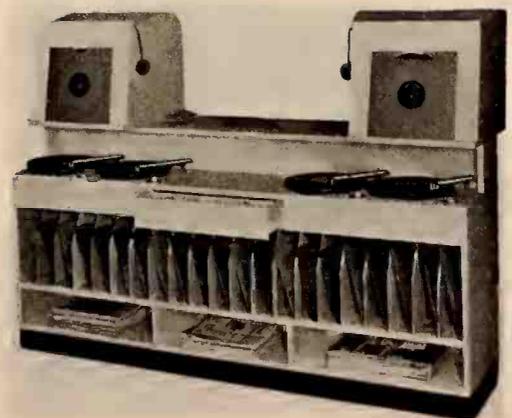
The RECORD BAR you've been waiting for!

Newest "Bitter" Unit in Which All Stock-keeping, Selling and Demonstrating Activities Are Centered in One Compact, Inexpensive Fixture.



- 1 Ideal unit for small dealers needing maximum economy in equipment and floor space. Takes only 12 sq. ft. floor space—Fits any size or shape or store—Island fixture or against wall.
- 2 Provided with record bins to hold 500—either 10" or 12" records and albums.
- 3 Four listening stations with separate turntables and amplifiers. Two earphones and two speakers. (Available with or without EQUIPMENT.)
- 4 Enclosed glass showcase for display of albums, accessories.

- 5 Provided with needle and accessories drawer; space for wrapping material.
- 6 Latest releases under glass in each listening station.
- 7 Standardized design. Add-a-unit when necessary. Retain original intact.
- 8 Send for free folder showing full line.



BITTER

A. BITTER CONST. CO.
2701 Bridge Plaza North,
Long Island City, N. Y.
EST. 1920



What happened when a Philadelphia radio dealer sailed into the camera business. Customer interest piled up, and now the photo business rates displays like this full window. Camera studies in the background, a batch of new clickers in front.

Cameras Click at Christmas!

If the radio dealer wants to wrap up some non-radio gift packages this year, camera merchandise is the kind that fits into his electrical selling and nets solid profits on the side.

The thing that adds excitement to the camera market during the Christmas period is that thousands of scenes and portraits are coming up at this time which people will be more than anxious to record on film.

Such things as family homecomings, groups of guests, Christmas parties, family Christmas trees, snow scenes, winter sports, dinner scenes, etc., are now due to be photographed by the



The slick new All-American Vokar features "Variocoupled Control," which automatically sets diaphragm opening in proper relation to shutter speed. From Electronic Products Mfg. Co., Ann Arbor, Mich., at \$15.



Just out is this "Hi-Lite" spot light for indoor camera fans, presented by Lafayette Camera Division, Radio Wire Television, Inc. Features include pre-focus bulb, light weight, wide focusing range, constant output, etc.

hundreds. A terrific amount of camera equipment will be needed for this work.

This extra interest is working for the dealer, besides the fact that he has a chance to sell the slick new cameras as gifts. The variety of models among the 1939 cameras makes them appropriate for all income brackets, for all classes and ages of people.

Among the radio dealers who have whipped up some new ideas for the selling of cameras during the Christ-

mas season, the following have been noted:

1. At this time of year, the "sentimental" picture is of the greatest interest and in the sample photos which are used around the cameras, the emphasis should be on children, fireside scenes and similar subjects.

2. The practice of using photos on Christmas cards is increasing its importance, and dealers may profitably help their customers with the mechanics of the process. However, action on this score should be taken early.

3. In every community there is some local subject of special interest to everyone. These may concern objects or scenes of a civic nature, local celebrities, or spots of historical interest. If a dealer will show pictures of these in his windows or on his counters, the interest will be substantially hiked.

NEW AUTO RADIO SEASON

(Continued from page 22)

and "probing" around the car, the general vicinity of the interference may be located.

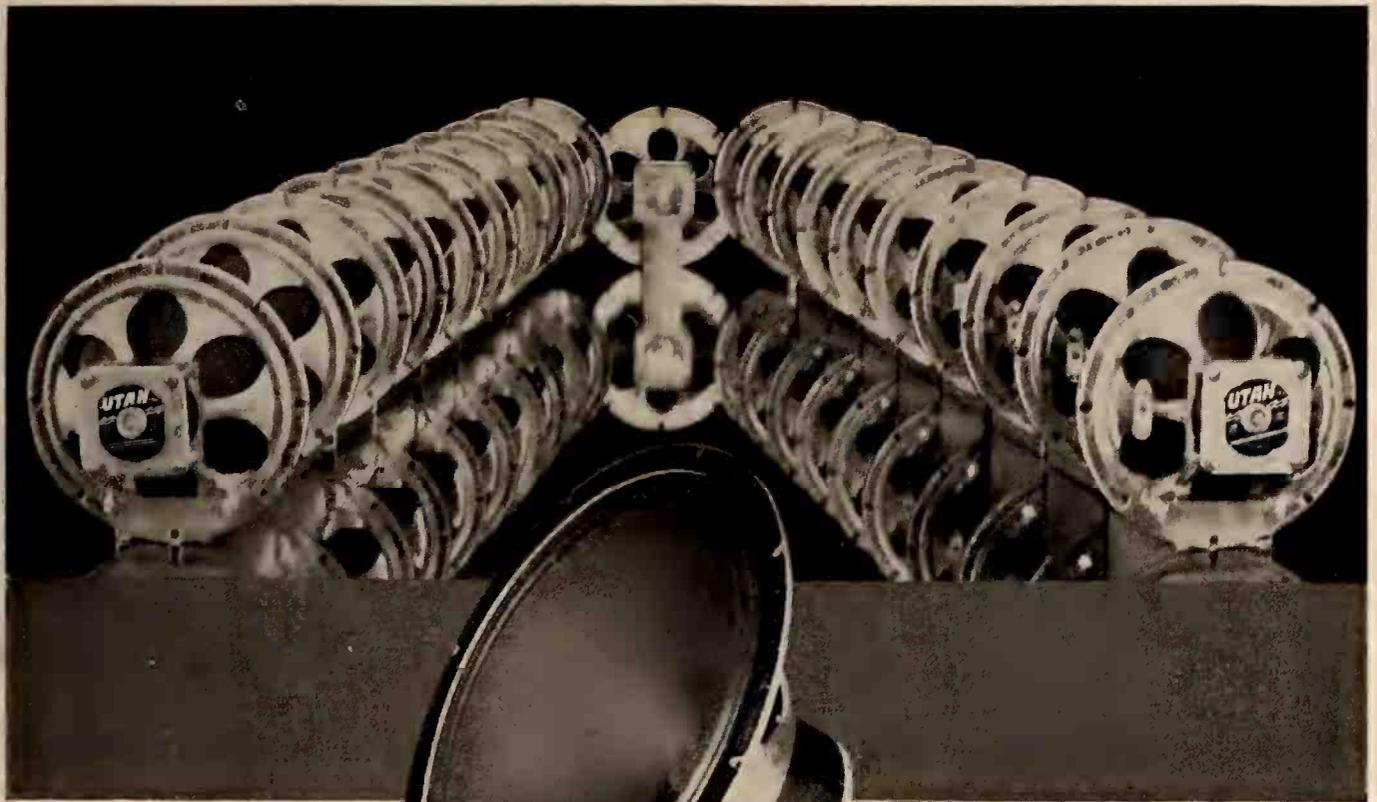
Beside the noise radiation by the various parts of the body not securely grounded, generator, high tension supply, wheel static, and electrical appliances can cause interference that is picked up by the antenna and power cable.

Generator brush sparking causes a characteristic noise whose pitch varies with the speed of the motor. A 0.5 or 1.0 mfd. condenser across the battery side of the cut-out will generally clear up the trouble unless the commutator is too badly pitted.

The adequate shielding now used on auto radios eliminates most of the high tension interference. If such noise does exist, it may come through the oil pressure line or the ignition control wiring. The copper oil line should be well bonded to the frame and the wiring coming through the fire-wall should be by-passed.

SELL AS CHRISTMAS GIFTS

With low prices an important sales point for the new cars, extras such as radios, are optional equipment. This means that the radio dealer can do a real job of selling a product he is familiar with—auto radio. Thousands of new cars will be sold in the next few months without a radio. Here are prospects who will want a new radio when a live-wire dealer demonstrates their many advantages. Auto radios make ideal Christmas gifts. Contact one member of a family sporting a new car and sell him the idea of giving the family entertainment and enjoyment on their motor trips.



UTAH SPEAKERS

GIVE YOU ASSURANCE OF AUDIENCE APPROVAL

YOU can use Utah speakers for every original equipment or replacement requirement with full assurance that they will give PLUS performance. Utah speakers have, for years, been passing successfully the many scientific tests of leading radio engineers. They are also out in front in the all-important consumer-listener tests, which determine the success or failure of sales and service work.

Properly selected, Utah speakers enable you to obtain maximum performance value from all other parts in receivers, P.A. systems, etc. Utah designing keeps abreast of all industry developments. Utah engineering and precision manufacturing provide maximum efficiency and performance. Insist on Utah-made parts and avoid customer dissatisfaction and the loss of time and money. If you don't have a copy of the 32-page, illustrated Utah catalog write for it today.

OTHER DEPENDABLE *utah* PRODUCTS

UTAH VIBRATORS

Well over a million radio sets are equipped with Utah vibrators.



UTAH TRANSFORMERS

A complete line to service practically every requirement — replacement, service, set builder, amateur, P.A.

UTAH-CARTER PARTS

High Value, Volume Controls, Potentiometers, Rheostats, Plugs, Long and Short Jacks, Imp Jacks, Jack-Switches, Push-Button Switches, D.C. Relays.



UTAH RADIO PRODUCTS CO.

814 ORLEANS ST., CHICAGO, ILL.

CANADIAN SALES OFFICE:

414 BAY ST., TORONTO, CANADA

Cable Address: UTARADIO CHICAGO

Typical Sound Installations

No. 3—Churches

Profitable field for public address equipment reaches its peak activity during the Christmas season

Plans for a merry holiday season this year include many a money-making job for the "sound" dealer. Installations in churches now claim the attention of the trade. The musical programs, plays and pageants that are such a prominent part of church activities at Christmas are ideal subjects for sound reinforcement equipment. These, and many other seasonal programs are assured successes with the quality, power, and depth that a good sound system can produce.

Christmas plays are especially enhanced by the recorded sound effects that are available. Children's tiny voices can be heard by fond parents sitting in the back row of the balcony, when sound reinforcement is used.

Chimes are especially popular at Christmas time. With the excellent recordings of chimes that are on the market, every church, large and small, may thrill its congregation and the immediate neighborhood.

YEAR 'ROUND ACTIVITIES

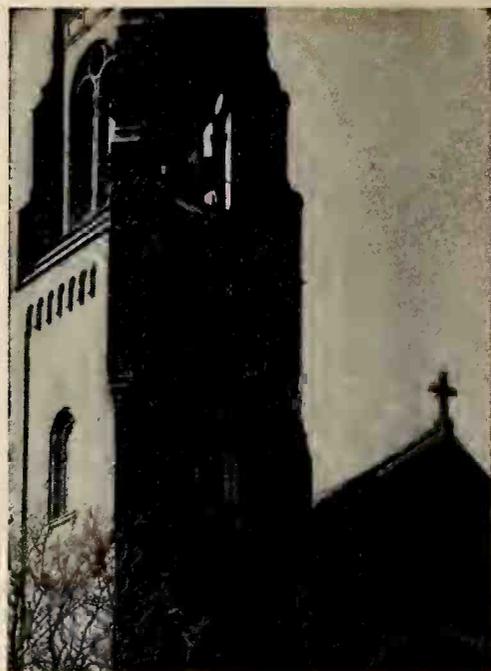
The church requirements for a sound system are by no means limited to the Christmas season. The many year-'round activities of every church are all potential users of sound equipment. Club meetings, ice-cream socials, bazaars, suppers, Easter plays, and special programs of all types are occasions that need and will use the advantages of a good sound system.

The musical programs that are so important to a church can be doubled in their effectiveness through the use of high-quality sound amplification. Choir and organ music may be enriched with increased power and tone. The uniform sound coverage over all the church is in itself a great improvement and reason for installing amplifying equipment.

In many of the older churches heavy wood paneling, high arched ceiling, and a deep balcony make it difficult to hear unaided sound well in all parts of the auditorium. Well designed layouts and appropriate equipment can supplement in the "dead" areas and make all parts of the room equally attractive from an acoustical standpoint.

The usual period of amplifier service will be intermittent. Equipment will only be in continuous use for two to three hours during plays or special programs and one to two hours during regular Sunday services.

This period of use means that the equipment will not command a special operator. The controls must, therefore, be simple and easily handled by the janitor or caretaker. Automatic record-players will be desirable because of the operator-freedom they will give. Chimes may be played automatically and timed by a clock to start and stop at predetermined periods. Simplified and automatic operation is a big selling point for the sound system.



Four trumpet speakers in tower of St. Andrew's church, Calumet City, Ill., broadcast chimes recordings.

BASIC EQUIPMENT REQUIRED

Each type of sound installation has certain requirements as to the quality of equipment required.

The complement of units required for a complete sound installation is divided into the "must" items and "optional" equipment.

1. High-quality amplifier of proper power rating, and a minimum of 3 input channels. See bar graph.
 2. Sufficient number of speakers to divide the power output and give uniform coverage. See bar graph for approximate number of speakers to use.
 3. Two microphones: one for voice and the second for choir and organ.
 4. 12 or 16 in. turntable.
 5. Chimes recordings.
- Optional equipment*
6. Headphone hearing aid units and controls.
 7. Vibra-harp.
 8. Set of tubular chimes (chime console).
 9. Extra mike for organ pickup.
 10. Church tower or spire speakers to be used with chimes.

The amplifier for church use, as in other public installations, must be of high quality. Poor tonal quality, hum, and non-linear response characteristics will give results that are far worse than the poor coverage of unaided sound. The sound man who makes the installation is in the responsible position of explaining the advantages of quality equipment. The poor sound systems are the most noticed and for this reason, it is important to make your jobs boost your sound business.

Recorded music and chimes are pleasing in cemeteries. The North Shore Garden of Memories, Chicago, is sound equipped by Webster Electric Co.



GOOD FREQUENCY RESPONSE NEEDED

The volume, tone and mixing controls may be incorporated within the amplifier, or built into a separate mixing panel. Custom built installations generally employ the latter method of control, while the "built up" jobs which use separate units have the controls in the amplifier chassis.

The power capacity of an amplifier for church use may be estimated from the graph shown. The width of the bar is the range of amplifier powers which will be satisfactory. If a choice between two amplifiers in the same power range must be made, select the unit with the greater capacity. The larger available power will mean improved quality at the lower and more normally used sound levels.

The frequency range of the church amplifier must be exceptionally good. The low-frequency response should be approximately 40 cycles to cover most of the low organ tones. For chimes and organ reproduction, the high frequency range should be 8,000 to 10,000 cycles. The response over this range should be uniform with not more than ± 3 db. variation.

Speakers for a church interior are usually mounted in a flat baffle. This type of housing gives the best appearance and a wide angle of sound coverage. Since a church has a low noise level, the "beam" directing effects of trumpet speakers are not required.

PUT SPEAKERS IN "DEAD" AREAS

The major advantage of a good sound system is the reinforcing of the natural sound in "dead" areas under balconies, etc. In these locations small

Equipment used in St. Andrew's church shown in rack on right consists of two Thordarson 60-watt amplifiers, turntable, and monitor speaker panel.

Complete amplifier, automatic record player housed in console cabinet. This unit was supplied by Rangertone, Inc., Newark, N. J., for church in that city.



PM's or electrodynamics in flat baffles are used to build up the level and give uniform sound coverage over the entire room. Where deep balconies are present, speakers should be located just under the leading edge, and focused down and across the seats. The sound in the balcony seats should also be reinforced with small speakers mounted on the walls or columns.

The number of speakers to use in a given installation depends upon several factors. When cone-type speakers are used (most common type for low power jobs) the output of the amplifier must be divided up so that a speaker will not receive more than its rated capacity. Except for the lower power amplifiers, each speaker handles less than the total output. The combined power ratings of the speakers must equal or preferably be greater than the rating of the amplifier.

The quality of reproduction is in-



Directional speaker is mounted above the cross-grille in St. Andrew's church.

creased by using larger speakers, since the normal sound intensity is below their rated capacity. Speakers driven at their full rating do not give the quality of reproduction that they would if run at a lower level.

USE SPEAKERS TO SPREAD SOUND

The bar graph shown gives an approximation of the number and size of speakers to be used with various amplifier powers. These values are to be used as a guide and not a hard-and-fast rule. The final decision on the number and power rating of the speakers to be used, depends upon the layout of the area to be served. The more complex rooms with coves, wings, and balconies will require a greater number of speakers to put the sound where it is needed. Improved sound coverage is realized when the amplifier power is diversified through a number of speakers.

The installations pictured are typical in the sense that they illustrate good layouts that have worked well. They may be larger or smaller than those encountered by the average sound man, but their principles apply to almost any job of their type.

The microphones may be any good type. The frequency range should be from 40 to 10,000 cps for the choir, organ, chimes and vibra-harp pickup.

MOUNT TURNTABLE SOLID

The turntable should operate at both $33\frac{1}{3}$ and 78 r.p.m. A high quality crystal pickup should be used to give full reproduction of chimes recordings.

An important thing to remember in the installation of turntables is that a good solid, level mounting will insure the best results. Vibration in the table

(Continued on page 52)

New Sound Products

Equipment for Every Sound Job

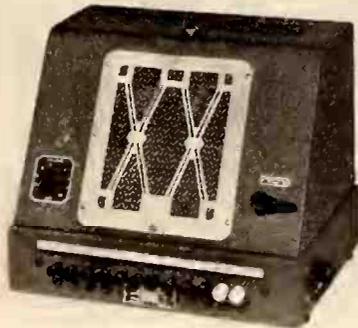


Helen O'Connell, vocalist with Jimmy Dorsey's orchestra, gets off a few high notes with the model 630 Electro-Voice dynamic microphone.



Lafayette sound system

★ Thirty to forty-watt sound system uses four channel amplifier with frequency response from 50 to 10,000 cps. Model 758T. Two channel remote control unit is also available. Complete with two 12-inch speakers and ribbon or crystal mike. Lafayette Radio Corp., 100 6th Ave., New York, N. Y.—RADIO TODAY.



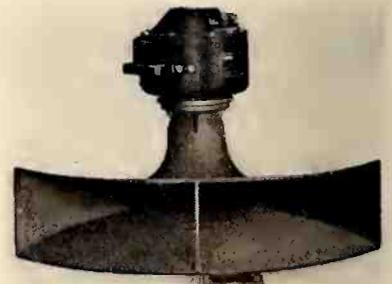
Operadio inter-communicator

★ Combination paging and inter-communication system with unlimited number of stations. Ten push buttons are provided on master unit and additional station switch banks may be added. Two way communication may be had between the master and any of outlying stations. Type BH. Operadio Mfg. Co., St. Charles, Ill.—RADIO TODAY.



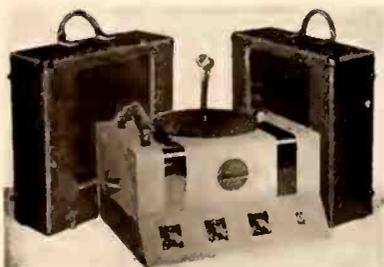
Amperite mike coupler

★ Transformer for matching impedance of contact mikes to radio phono terminals or grid of AF tube. Musical instruments may be played through the radio with improved effects. List price, \$3.00. Amperite Co., 561 Broadway, New York, N. Y.—RADIO TODAY.



Western Electric speaker

★ Model 31A horn is used for reproducing high frequency register from 400 to 6,500 cycles over horizontal angle of 120 degrees and vertical angle of 40 degrees. This wide angle coverage gives same effect as four trumpet speakers. New horn is of cast aluminum and suitable for indoor or outdoor use. Western Electric Co., 195 Broadway, New York, N. Y.—RADIO TODAY.



Audiograph portable PA

★ Operating from 6-volt battery or 110-volt power line, model AMR-25C delivers 25 watts output. Crystal phono pickup, inclined control panel, battery economy switch, and constant speed motor are featured. Licensed under ERPI. John Meck Industries, Randolph & Elizabeth Sts., Chicago, Ill.—RADIO TODAY.



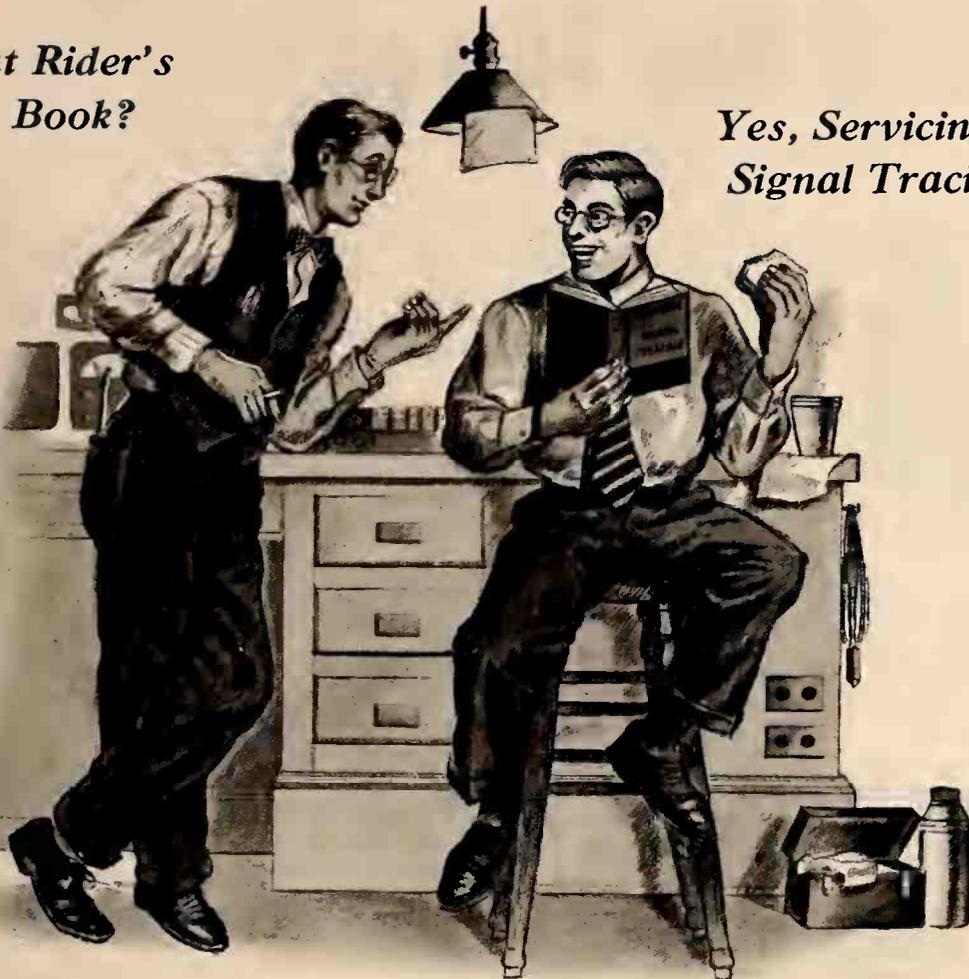
Clarion school system

★ Model S-468T all purpose school system has superhet tuner, 25-watt amplifier, speaker-microphone, inter-communicator amplifier, level indicator, and selector panel for 20 to 40 speakers. Six inputs for radio, phono, mikes and spare. List, \$292.50. Transformer Corp. of America, 69 Wooster St., New York, N. Y.—RADIO TODAY.

Brush Microphone

★ High fidelity crystal mike with response from 30 to 9,000 cps. Output level is -54db. Particularly suited for night clubs and ballrooms. Satin chrome spherical case for model QO and telephone black for model QOM. Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio.—RADIO TODAY.

Is That Rider's New Book?



**Yes, Servicing by
Signal Tracing.**

Whot d'ya think of it?
I think it's swell.

I don't mean the book, I mean do you think this new System of Rider's is any good?

Any good? Say, where have you been for the past two years! Don't tell me you don't know about servicing by signal tracing—it's the only true method of dynamic testing!

So whot? I can find out what's wrong with a receiver by the same method I've used for ten years.

Sure you can, and you can deliver your jobs on horseback, but it's quicker and cheaper to use a car. Receiver designs aren't as simple as they were ten years ago. The sets we're getting in here right now are so complicated that this new system of Rider's is a Godsend.

Yea, for Rider.

OK, get smart about it. But just take my word, you better read up on it today, because you're going to be using it tomorrow. If you're gonna keep up with competition you've gotta shoot troubles a lot faster than you have been because every year it gets tougher and tougher to "outguess" the new sets when they go bad.

So, how's what you call servicing by signal tracing going to make it easier?

By tracing the signal!—the one thing that's fundamental in any make receiver.—Find out where that departs from normal and you have found the trouble.

Then that method could be applied to servicing P. A. systems, Television or most anything.

Sure, any type of electrical equipment through which a signal passes. It doesn't make any difference whether it's a new or old receiver or one they bring out next year—tuned r-f or superhet—three tubes or thirty—they all are diagnosed by the same procedure if you use the signal tracing method.

JOHN F. RIDER, Publisher

404 FOURTH AVE. • NEW YORK CITY

Export Div.: Rocke Int. Elec. Corp., 100 Varick St., N. Y. C. Cable: ARLAB

NOVEMBER, 1939

It seems too good to be true, it sounds so simple.

It's like a lot of things. You feel like saying, 'it's a wonder nobody thought of that before,' but when you understand it you can't quarrel with it—it's good.

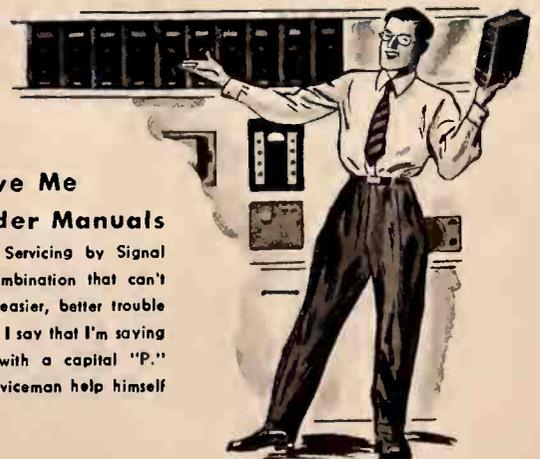
What's the book tell you?

In the first seven chapters Rider tells, in his easy to understand style, about the behavior of a normal signal from the antenna post to the loudspeaker, and signal characteristics at the points between. The rest of the book explains the signal tracing method step by step.

Let's see that book!

Sure, but you can't borrow it. It only costs \$2.00 and besides it's about time you spent some time and money getting ready for tomorrow's business.

Is that all that book costs? Why it's got 360 pages. I'm going to the jobbers this afternoon. I'll pick up my own copy.—And I hate to admit it to you, but thanks a lot for a darn good tip.



Believe Me

The Ten Rider Manuals

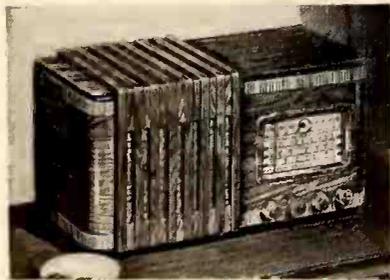
and the system of Servicing by Signal Tracing make a combination that can't be beat for faster, easier, better trouble shooting—and when I say that I'm saying they mean profits with a capital "P." They help every serviceman help himself to bigger money.

New Things



Kadette radio clock

★ Model L-40 features an attractive electric clock, radio and automatic radio switch. The clock may be used to turn the five-tube superhet on and off at any desired time. Built-in loop antenna. List, \$29.95. Kadette Radio Corp., Ann Arbor, Mich.—RADIO TODAY.



Lafayette table model

★ Model D-33 is a seven-tube superhet in table cabinet of selected woods. Three band tuning range, 24 mc. to 540. kc. Six-inch dynamic speaker. Available for 110 or 220-volt operation. Built-in loop an-

tenna and provision for phono or tele sound. Lafayette Radio Corp., 100 6th Ave., New York, N. Y.—RADIO TODAY.

Carter motor-generator

★ New light weight rotary converter available in 150 and 250 watt sizes with voltages up to 1,000 from input voltages of 5.5 and up. 150-watt size weighs only 13½ lbs. Carter Motor Co., 1608 Milwaukee Ave., Chicago, Ill.—RADIO TODAY.



Colorama color control

★ Colorama portable plug-in color-light control unit. Motor driven, entirely automatic, operates 1 complete color cycle per minute. 4 standard 150 w. reflector bulbs, color filters. Unit rests on floor, table or mounted on wall. Black crackle finish. AC. \$32.50. Waage Elec. Co., 27 Warren St., New York, N. Y.—RADIO TODAY.



RCA table victrola

★ Model R-60 is designed to play 10 or 12-inch records. Automatic mercury switch starts motor as soon as pickup is moved toward record. Other features are three-point tone control, auto-tone compensation, and electro dynamic speaker. Size 8 x 14 x 9¾ inches. RCA Mfg. Co., Camden, N. J.—RADIO TODAY.

JFD noiseless antennas

★ 3CH63C, special cowl antenna, one of new line of 1940 antennas. 3 sections, collapsed 30 in., extended 63 in. Complete with 36 in. low loss shielded lead. \$3.30. J.F.D. Mfg. Co., 4111 Fort Hamilton Pkwy., Brooklyn, N. Y.—RADIO TODAY.



Charg-O-Matic battery

★ Quirk Charg-O-Matic tiny portable storage cell for flashlight, bicycle lamps, etc. Small charging unit recharges storage cell from 110-120 v., 60 cycle, A.C. Lucite plastic case. Spill-proof. Quirk Charg-O-Matic Battery Co., Highland Park, Ill.—RADIO TODAY.

GE record player

The plastic cased wireless record player shown in use is model HM21. The new unit has a crystal pickup, self-starting electric motor, and is finished in rich mahogany.

RADIO TODAY



SPRAGUE TEL-OHMIKE

CONDENSER and RESISTOR ANALYZER

It Shows Up Intermittent Opens!

TEL-OHMIKE saves you money, not only by providing you with a basic instrument which allows you to use the meters you already own, but it saves you valuable working time. It enables you to make more complete and more accurate tests of ALL the characteristics of condensers and resistors in less time, than ever before at any price! TEL-OHMIKE measures capacity from .00001 mfd. to 2000 mfd. It measures leakage current and power factor of electrolytic condensers; it measures insulation resistance up to 10,000 megohms. It analyzes air, paper, mica, oil, dry and wet electrolytic condensers under their exact working voltages!

It measures resistance from 0.5 ohms to 5 megohms. All balance indications are given by a "magic eye" tube and all measurements are taken from large, direct reading scales. TEL-OHMIKE indicates open and short circuited condensers, and shows up intermittent open condensers and resistors. TEL-OHMIKE establishes new standards in economy and efficiency in test equipment design. See it at Sprague jobbers, or write directly for a free bulletin.



YOU BUY THIS

YOU ALREADY HAVE THESE



By using the milliammeter and voltmeter you already own with Tel-Ohmike, you have a modern obsolescence-proof instrument worth \$50 for a net price of only **\$29.70**

TWO NEW SPRAGUE LEADERS

KOOLOHM RESISTORS

The biggest improvement in 20 years—with more practical, useful features than any other resistor—for no more money.

Here are the wire wound resistors you have been waiting for—resistors you can use anywhere at full wattage ratings, even for the highest resistance values—resistors that are completely insulated and operate cooler—resistors that are different in construction and outstandingly superior in performance. All wire in KOOLOHMS is coated before winding with Rubencote, a new heat-proof, moisture-proof insulating material. This permits tightly interleaved windings, larger wire sizes, higher resistance values in less space, and perfect insulation throughout. No fine resistance wires! No cements or enamels!

Moisture-proof ceramic jackets provide rugged mechanical protection and high voltage insulation.

Resistance values guaranteed to plus or minus 5% accuracy. Non-inductive KOOLOHMS with zero inductance, even at 50 MC, and distributed capacitance of only 2.5 mmfd. are available at unheard of low prices! All units have Teledot indicators.

Your jobber now has Sprague KOOLOHMS in 5-watt fixed types; 10-watt fixed, 10-watt Non-inductive and 10-watt adjustable. Catalog Free.

Teledot Wattage Indicator

Koolohms take overloads better than any other resistors—yet, for double safety, the red dot (Teledot) on the ends of units automatically changes color and warns you when 25% overload occurs. No guesswork. Teledot tells you!

The Dot Changes Color

Wires Touch . . . But Don't Short!

Note the interleaved winding pattern of Sprague Koolohms made possible by perfect insulation of the wire itself. Note also (cut-away view) how units are protected mechanically, and insulated electrically, by a hard ceramic outer shell. No danger of chipping or breakage.

BY THE MAKERS OF FAMOUS SPRAGUE CONDENSERS

SPRAGUE PRODUCTS CO.
North Adams, Mass.

Servicing Mixer Stages

Characteristics, tests,
and new features in first detectors

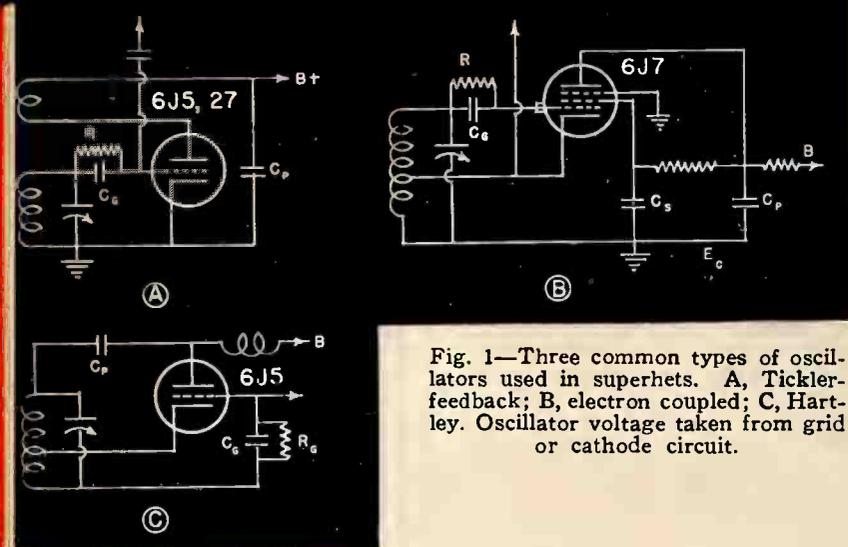


Fig. 1—Three common types of oscillators used in superhets. A, Ticker-feedback; B, electron coupled; C, Hartley. Oscillator voltage taken from grid or cathode circuit.

The heart of the superheterodyne receiver is the oscillator, and mixer stage or stages. Here the signal frequency is combined with a locally generated frequency to produce the intermediate signal that still retains the original amplitude modulation, or intelligence.

An analogous oscillator-mixer circuit could be conceived as two alternators, one representing the signal, and the other the local set oscillator. By varying the output voltage of the signal alternator, amplitude modulation would be effected. Conversely, varying the speed of the signal alternator and holding the output voltage constant would result in frequency modulation.

When the frequencies of the signal and oscillator differ by some fixed frequency, a resultant wave that bears the same modulation characteristics as the signal will be present in the circuit. Its frequency will be the difference between the signal and oscillator frequencies.

The oscillator signal voltage is nearly a sine wave and having a constant frequency difference with the carrier signal, a beat or intermediate frequency is produced.

SEVERAL TYPES OF OSCILLATORS USED

The oscillators commonly used employ several different fundamental types of circuits, all producing much the same results. Three types are shown in Fig. 1.

The most commonly used type of separate oscillator is the familiar tickler-feedback circuit. A portion of the AC plate voltage is coupled back to the grid circuit through the transformer action of the two coils, and thereby maintains oscillation, since the grid circuit losses are supplied from a part of the plate power.

The electron-coupled oscillator is featured by a high-degree of frequency stability. The screen-grid tube makes possible the use of the electron-coupled principle, since the screen electrode may be used as a plate in a typical triode oscillator circuit, such as the Hartley shown. The load in the plate circuit may be a resonant coil and condenser combination (not used in receiver oscillator circuits), or the plate may be grounded for rf through a bypass capacitor, thus putting it in par-

allel with the screen for rf currents. The frequency stability arises from the negligible effect of plate-voltage variation for a screen-grid tube. The voltage feedback from the plate to grid circuits is through the mutual coupling of the portion of the tank circuit between grid and cathode, and plate and cathode. The usual ratio of turns for the cathode-plate portion of the coil to the total coil is one to three. This gives a sufficient voltage feedback to maintain oscillation. For oscillator coils in the higher frequency ranges, the turn ratio may be slightly lower, 1:2.5, to compensate for the additional losses in the grid circuit at high frequencies.

OSCILLATORS SIMILAR TO CLASS C AMPLIFIERS

The Hartley oscillator is found in many forms, with the usual circuit variation being in the manner in which the plate voltage is fed to the tube. The electron-coupled circuit is a type of Hartley oscillator, and the two work much the same in respect to coupling of plate energy back to the grid.

Self-excited oscillators, regardless of the type of connection, are Class C amplifiers with provision for feedback of a portion of the plate power to supply

the grid losses and maintain the oscillations.

Class C amplifiers (and oscillators) have a characteristic, pulse-like plate current wave, and they are distinguished by the amount of grid-bias with which they operate. The average grid-bias for an oscillator is 1.5 to 2 times the cut-off value for the tube. Since the grid must be driven positive in order to draw current and develop its own bias, a large value of exciting rf grid-voltage is necessary. For the best efficiency this rf grid voltage peak should approach the minimum value of rf plate voltage.

As far as servicing oscillators is concerned, these ideal curves and fundamentals are only a means of explaining what occurs when certain components of the circuit are not operating properly.

COMPONENTS DETERMINE PERFORMANCE

The grid condenser C_g serves two purposes. First, it offers a low impedance path to the rf currents and, second, it maintains a uniform dc bias on the grid by charging on the positive grid cycles and discharging through the leak on the negative rf cycles. The capacity is not critical and 100 mmfd. is a

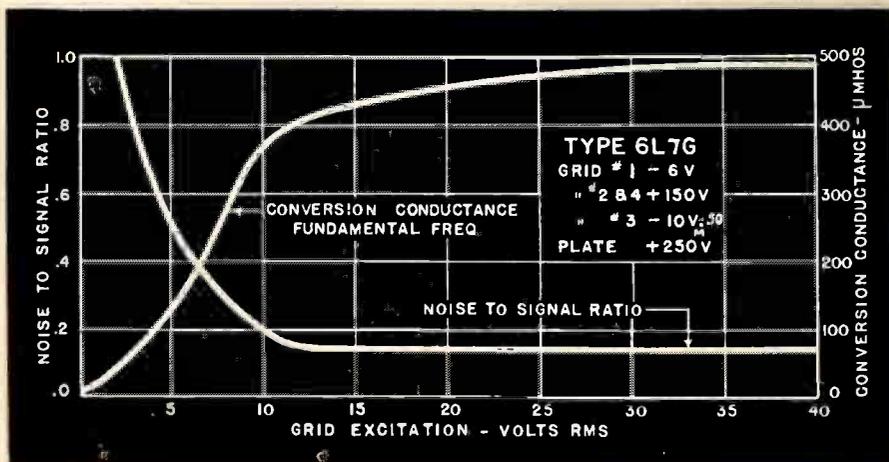


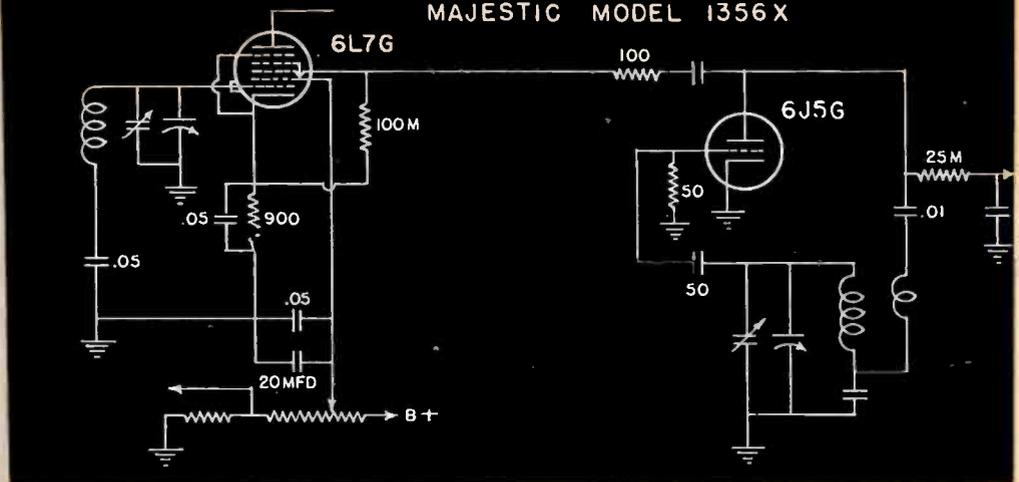
Fig. 2—The conversion conductance of a tube is a measure of its gain. Conversion for 6L7G with -6 volts on grid No. 1 is nearly uniform with oscillator voltage greater than 12 volts. Noise to signal ratio is much lower at high oscillator output voltages.

Fig. 3—Typical separate oscillator and mixer circuits. Fixed bias for 6L7G modulator grid is developed across 100M resistor.

common size. Intermittent oscillations may be traced to a grid condenser of too high capacity. The reason for a large capacity stopping oscillations, is that the dc grid bias is held at too constant a negative value. Sudden load variations which make the plate current drop, do not permit the grid-bias to reach zero fast enough to "pulse" the plate current and maintain the oscillation.

The plate or screen by-passes in an electron-coupled oscillator are the paths through which the rf currents must return to the cathode. Their reactance, or opposition to the flow of these currents must be small. A value of 0.01 mfd. is generally the smallest value used. At 1,000 KC, a 0.01 mfd. capacitor has a reactance of 16 ohms.

The oscillator grid bias is developed by the grid rectified rf current flowing through the leak. Triodes used in most supers employ a 30,000 to 50,000 ohm resistor as a grid-leak. This value is not extremely critical and may vary 5,000 ohms without a noticeable effect.



Two other requirements of the oscillator are proper magnitude of voltage delivered at the mixer stage and proper frequency of this voltage.

LOWER HISS WITH HIGH OSCILLATOR VOLTAGE

Since the strength of the IF signal is directly proportional to the oscillator voltage, it is desirable to have as high an oscillator output as possible. While converter stages have a higher "hiss" noise than pentode amplifiers, the "hiss" level is practically independent of the oscillator excitation. Since low conversion gain accompanies low oscillator excitation to the mixer, an abnormally high noise to signal ratio may exist. Therefore, the "hiss" noise-level may be reduced by increasing the signal voltage delivered by the oscillator.

The lower curve shown in Fig. 2 gives the relation between noise-to-signal ratio and the root-mean-square voltage delivered by the oscillator to the mixer grid of a 6L7. It is noticed that beyond 10 volts RMS, the noise-signal ratio is practically flat and at a minimum. (The root-mean-square value of an AC wave is the square root of the average of the squares of all the instantaneous current or voltage values over a cycle. If one RMS ampere were passed through a resistance, it would dissipate the same amount of power as one ampere of DC.)

The conversion conductance of a mixer is the ratio of the IF signal current developed to the rf signal voltage producing it as the value of the signal voltage approaches zero. (Conductance is the ease with which a current flows in a resistive circuit and is the reciprocal of resistance.) The value of conversion conductance for a well designed stage is between 300 and 600 micromhos, depending upon the type of tube used, and the electrode voltages used.

COMBINATION MIXERS USED

The coupling of oscillator voltage to the mixer tube is usually capacitive. In the Majestic model shown in Fig 3, the oscillator voltage appears between the modulator grid No. 3 and ground. The 100 M resistor for grid No. 3 con-

nected to the cathode prevents the bias developed by the rectified oscillator voltage from affecting the control grid No. 1 bias. The rectified current flowing on positive oscillator cycles would also flow through the cathode bias-resistor were the 100 M resistor connected to ground. Since it is practically impossible to obtain a uniform oscillator output over the entire range of frequencies, the mixer tube would operate under various efficiencies as the control grid-bias varied. The voltage may be taken from the oscillator grid or cathode in the electron-coupled type of oscillator, and from the plate, or grid, of the tickler-feedback circuit.

The majority of superhets today are employing the pentagrid mixer-oscillator tube.

This type of tube uses electron-stream modulation by both the grid and plate of the oscillator portion. The "plate" of the oscillator section is usually the screen or No. 2 grid of the tube. The oscillator circuit may be a Hartley as shown in Fig. 4 for the General Electric model H600. A more common type is the tickler-feedback circuit similar to the one used in the oscillator of Fig 3.

The combination oscillator-modulator stage may be checked for operation exactly the same as the separate stages.

CONTROL GRID-BIAS REGULATES GAIN

Control grid bias for both pentagrid combination stages, and separate first-detector oscillator circuits is in the neighborhood of -3 to -6 volts. Greater negative bias cuts the conversion gain.

To keep the oscillator frequency at a definite relation to the signal fre-

(Continued on page 49)

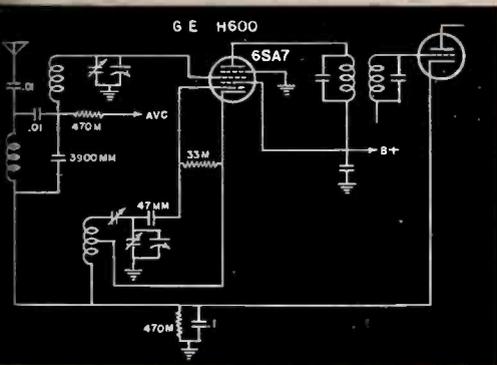
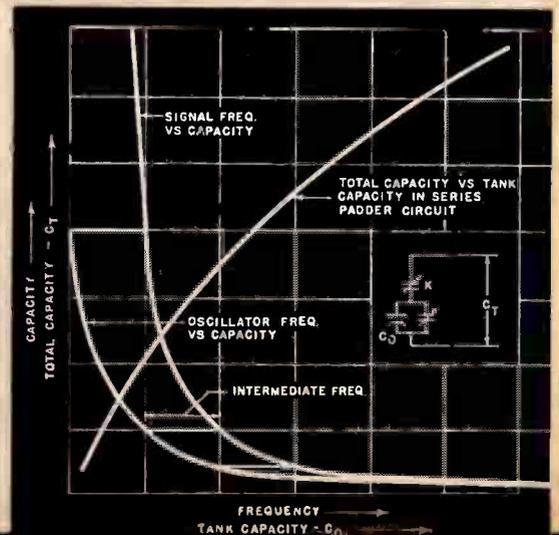


Fig. 4—Pentagrid mixer type circuit with Hartley oscillator connections.

GRID BIAS CHECKS OSCILLATIONS

The oscillator may be checked for operation by measuring the grid voltage. A vacuum tube vm that has a low reactance test-lead and does not "pull" the circuit out of oscillation, is necessary for direct observation. If such a meter is not at hand, low-range milliammeters may be placed in the cathode and plate circuits (for a triode) and the cathode current minus the plate current is equal to the grid current. The product of the leak resistance and grid current gives the grid-bias. A 500 microammeter may be placed directly in the grid lead to indicate the presence of oscillation and bias voltage. The stability of the oscillator over the band may be observed with the vtvm or the ammeters. The grid current and bias should remain quite constant or have a uniform rise toward the low frequency end of the band. The plate or screen current will be minimum when the oscillator is working and will vary in the opposite way from the grid current. Intermittent operation may be checked in oscillator circuits by watching grid current or bias.

Fig. 5—Signal frequency and oscillator frequency must bear a fixed difference to each other. Series padder connection is used to give proper relation between frequency and capacity.



Here's a brand new
feature that will UP
your profits!

Battery
Condition Test
"Good — Replace"



Available in
counter and
portable types

THE NEW WESTON

MODEL 777

TUBE and BATTERY TESTER

tests batteries as well as tubes under load
... gives dealers and servicemen extra
sales and profit from battery replacements!

Look at the figures . . . and the opportunity. Over 30% of radio sales in recent months were portable battery or combination receivers. And sales still mounting and expected to climb in 1940. Here's a real opportunity to sell tubes . . . and a *brand new market in the sale of battery replacements.* » » » To enable servicemen and dealers to "cash in" on this opportunity, WESTON provides the Model 777 Tester . . . which not only provides a thorough check on all tubes, but also tests *all* radio batteries under load. The "Good — Replace" scale instantly indicates whether the battery delivers sufficient potential to insure good reception. (Such a test cannot be made with ordinary battery testers, nor with high current drain meters.) » » » So with Model 777 you not only will be equipped with a tube checker that will remain serviceable for years, but you also will be able to check the batteries while you are checking the tubes. No tube checker today is up-to-date unless it supplies this battery test . . . enables you to give complete customer satisfaction, with *more profit for yourself.* Be sure you have complete information on Model 777. Return the coupon today.

Tests Radio Batteries Under Correct Load

"Good — Replace" indications based on battery manufacturers' standards and receiver requirements for good reception.

- ★ Tests high filament voltage tubes (up to 117 volt types)
- ★ Tests Loktal tubes
- ★ Tests OZ4
- ★ Tests ballast tubes
- ★ Tests for shorts
- ★ Tests for noise
- ★ Tests open elements
- ★ Individual element test
- ★ Spare socket for possible future requirement
- ★ Large WESTON Meter

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597 Frelinghuysen Avenue
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Send literature on the Model 777 Tube and Battery Tester.

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Address _____

City _____ State _____

SERVICING MIXER STAGES

(Continued from page 47)

quency, a method of tracking is necessary. The common system used is a padder in series with the oscillator tuning condenser.

The curves in Fig 5 show the relation between frequency and capacity and between the total capacity and tuning capacity for a series-padder arrangement. It is seen from the curves that a small difference in capacity at the high frequency end of the band will give the necessary IF interval. As the signal frequency decreases, greater changes in oscillator capacity are necessary to maintain the IF difference. The total oscillator capacity must therefore change at a slower rate at high frequencies than at low frequencies. The series padder and tank condenser has a curved characteristic that gives a fair degree of tracking.

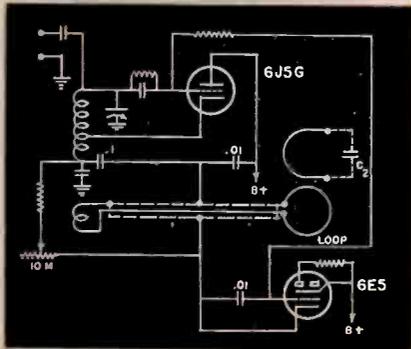
In adjusting for tracking, the series padder is used to give the correct frequency difference at the HF end of the band and the parallel trimmer on the tank-capacitor is used to balance up the frequencies at the LF end of the band.

Television converter oscillators are identical to those used in broadcast and SW receivers. Similar servicing methods apply. The audio and video signals for a television station are so related that a single oscillator gives the correct intermediate frequency for both signals, 8.25 mc for the audio and 12.75 mc for the video.

Frequency modulated-wave receivers also employ oscillator-mixer stages quite similar to standard broadcast design. The stages are designed for high frequency operation and have smaller components. A GE model uses a 6K8 pentagrid converter with the tickler-feedback oscillator circuit.

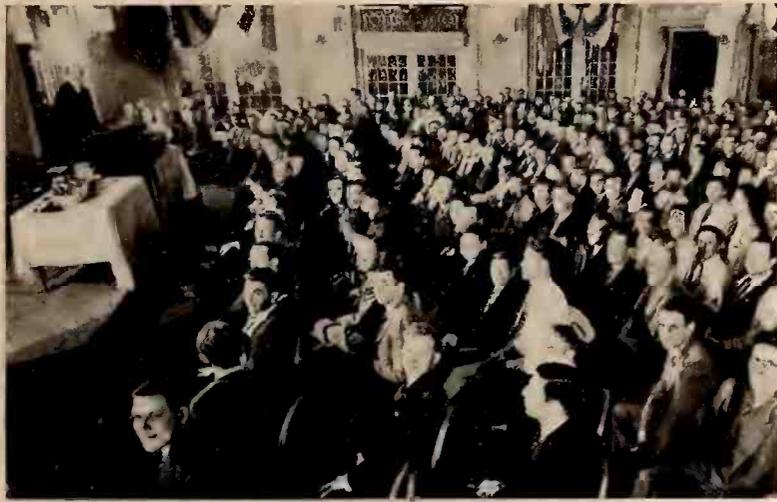
Several of the new receivers are using the same oscillator frequency range for two different signal frequency ranges. For the broadcast band, the oscillator works at IF above the signal and for the 100 to 200 meter band, the oscillator is at IF below the signal.

New Servicing Instrument Made by Aerovox



Partial circuit for L-C checker.

A skeleton diagram of the new L-C checker built by the Aerovox Corporation, New Bedford, Mass., shows the basic elements. Fundamentally, the instrument consists of a calibrated oscillator, link coupled



Nearly 700 Chicago radio dealers and servicemen attended the RCA sponsored meeting addressed by John Rider.

test loop, electron "eye" indicator and the necessary power supply.

Housed in a black crackle metal case, the unit is easily carried and is self contained. All test leads and the power cord fit into a small compartment in the side of the case. The instrument may be used to measure capacity from 0.0004 mfd. to 1 mfd. Inductance may be measured with the use of a standard condenser and the usual formula for resonant frequency from L and C. In measuring capacity, the condenser to be tested is clipped across a half turn metal loop that is inductively coupled to the oscillator coil through a shielded lead. A five position band-switch selects the capacity range and the vernier dial is rotated until the electron "eye" shadow opens. The capacity is read directly from the large dial. The "eye" opens when the oscillator is tuned to the frequency at which the unknown condenser and the test loop are in resonance.

Two other output terminals are capacity coupled to the oscillator to check the resonant frequency of coils. The IF and RF circuits of a receiver may be aligned by the usual methods. In many cases, capacitors may be checked while in the radio circuit, since the inductance and stray capacity of the connected wiring only slightly affects the capacity reading.

One of the advantages of this instrument is that capacitors are measured at radio frequencies where they normally function. The frequency range is 50 kc. to 26 mc.

Admiral Loop Checker

Two new units for checking the performance of loop antenna receivers. A shielded radiating loop for attachment to the signal generator gives more accurate results in aligning such receivers. Signal is radiated from Aerometer and the capacity loading effect of the oscillator is not present in the receiver. The second instrument is a tuning wand for checking the tracking of the loop over the band. If both ends of the wand de-tune the signal when they are brought near the loop, the antenna coil is tracking. The chrome plated loop radiator is complete with 5-feet of shielded cable and is designed to operate from oscillator

with impedance of 100 ohms or less. Loop and reactance wand are made by Continental Radio and Television Corp., 3800 Cortland St., Chicago, Ill.

Course Planned by Philco

Special arrangements have been made by the Philco Radio and Television service department with the National Radio Institute to continue through the fall months the training of servicemen. Included with the offer is a free model 026 circuit tester made by Philco. Still another arrangement has been made to give training in the air conditioning and refrigeration fields through the Utilities Engineering Institute.

Book Review

Servicing by Signal Tracing

By John F. Rider. Price, \$2.00

Published by J. F. Rider,

404 Fourth Ave, New York, N. Y.

This new three-hundred page book is the manual for the theory of servicing receivers by the method of tracing a signal through the amplifying, rectifying, and control circuits of any receiver, past, present, or future. Not only applicable to broadcast receivers, the system is carried to public-address equipment, and television.

The first chapter describes the basis of the signal tracing system, and the fundamental reasons for choosing the system as a universal servicing aid. The following three chapters treat the fundamental subjects of amplification, detection, and coupling devices. Here, the basic material that is needed by the serviceman to understand the goings-on in any electronic equipment, is presented.

Signal tracing in oscillator, mixer, and control stages as well as PA equipment, and television receivers is discussed at length in separate chapters. The exact methods of application and deduction are explained.

The remainder of the text is devoted to locating specific faults by the signal tracing system, the design of receivers, and a discussion of instruments necessary to do the job of tracing the signal voltage.



Centralab UNIVERSAL SPLIT-KNURL REPLACEMENT CONTROL

Sh! It's a dank dark secret . . . known only to several thousand service men . . . it takes a special shaft to fit the knobs on many of the new (1938-39-40) sets.

So, instead of tearing your heart out thinking up new cuss words, get in touch with your nearest Centralab jobber for a Universal Split-Knurl control with the shaft that cuts as easily as butter.

Shaft is brass— $3\frac{3}{8}$ " long from mounting surface. For switch type add Midget Radiohm switch covers K155, K156, K157, or K158.



CENTRALAB
Div. of Globe-Union Inc.
MILWAUKEE, WIS.

New Service Products



Philco station setter

★ New wireless station setter for aligning receivers having push-button tuned stations. Eight buttons on the aligning oscillator are pressed one at a time, and the corresponding station button on the receiver is padded until the signal from oscillator is heard. Philco Radio & Television Co., Tioga & C Sts., Philadelphia, Pa.—RADIO TODAY.



Weston check-master

★ Portable test instrument includes fundamental servicing facilities, and tube checker. Voltage is measured in five steps from 7.5 to 1,000 volts AC or DC. Current ranges from 1 to 100 ma. Resistance to 10 megs in 4 steps. Tube tester handles all receiver tubes including loktals, gas rectifiers. Noise, short, and leakage may be tested. Model 774. Weston Electrical Instrument Corp., Newark, N. J.—RADIO TODAY.

DuMont oscilloscope

★ Two new models 175 and 175A are available with wide range sweep amplifiers to cover television frequencies. Control circuits added to discharge sweep oscillator make study of transient conditions simpler. Only one sweep trace occurs when transient condition trips sweep oscillator. Uses intensifier type cathode ray tube. Allen B. Du Mont Labs., 2 Main Ave., Passaic, N. J.—RADIO TODAY.

Fleron circuit tester

★ "Safest" circuit tester and polarity indicator for electrical and radio circuits from 80 v. to 550 v., AC/DC. Fully enclosed neon indicator bulb, protected with bakelite polystyrene housing. Test lead tips fully insulated, and indicator bulb is protected against higher voltages with special resistor. M. M. Fleron & Son, Inc., Trenton, N. J.—RADIO TODAY.



Consolidated tube tester

★ Model 9,000 dynamic conductance tester with new improvements now tests 117-volt tubes and loktals. Counter or portable type. English reading scale. Consolidated Wire & Associated Corps., 516 S. Peoria St., Chicago, Ill.—RADIO TODAY.



Hickok ohmmeter

★ Ultra low-range ohmmeter has two scales 0-6 and 6-600 ohms with error of approximately 1 per cent. Special low resistance test leads of No. 6 stranded wire are used on model 4975S. Operates from three self-contained flash light cells and accuracy is not affected by changes in battery voltage. Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, Ohio.—RADIO TODAY.



Loktal adapter kit

★ Kit contains five wired adapters. Tests new Loktal tubes in octal sockets of any tube tester. Tops are color coded for different tube groups. \$5.00. American Phenolic Corp., 1250 Van Buren St., Chicago, Ill.—RADIO TODAY.



Radio City tube tester

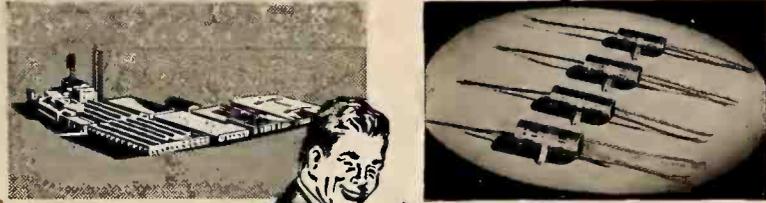
★ Model 311P tube tester checks all present tubes, as well as resistors, condensers, pilot lamps. Checks gas rectifiers. Hot inter-electrode leakage tests. Ohmmeter reads to 1 meg in two steps. Capacity ranges from 0.001 to 16 mfd. in two steps. Available as either counter or portable type. Radio City Products Co., 88 Park Pl., New York, N. Y.—RADIO TODAY.



Clough-Brengle capacity tester

★ Model 230 AC bridge measures capacity from 2 mmfd. to 200 mfd. in three ranges showing opens and shorts. Measures resistance from 2 ohms to 20 megs in two steps. Also measures power factor of condensers, transformer turn ratio, leakage, and insulation resistance to 2,500 megs. Clough-Brengle Co., 5501 Broadway, Chicago, Ill.—RADIO TODAY.

When company and product are reliable
PROFIT is GUARANTEED



Into the capacitors it builds today, Cornell-Dubilier is pouring 29 years of specialized experience. The Consistent Dependability of C-D's has won the confidence of capacitor users throughout the world. To meet this tremendous demand, turnover must be fast. Profits come biggest where volume sales come quickest.

You too can profit by standardizing on the complete line of Cornell-Dubilier Capacitors, Capacitor Test Equipment and Quietone Interference Filters.

Available at all leading distributors Catalog No. 175A free on request.

Product of the world's oldest and largest manufacturer of capacitors.



CORNELL-DUBILIER ELECTRIC CORPORATION

1019 Hamilton Boulevard, South Plainfield, New Jersey
 Cable Address: CORDU

"PINCOR" Rotary Converters

Provide the most dependable means for converting direct current to alternating current. Particularly well adapted for operating radio receivers, public address systems, power amplifiers, signs, A.C. motors, etc. Available in two standard classifications "DA" and "TR"—both with or without filter—engineered for converting 6, 12, 32, 110 or 220 volts D.C. to 110 or 220 volts A.C., 40 to 2,000 watts. There is a "Pincor" converter for every requirement. Write for complete descriptions and data.

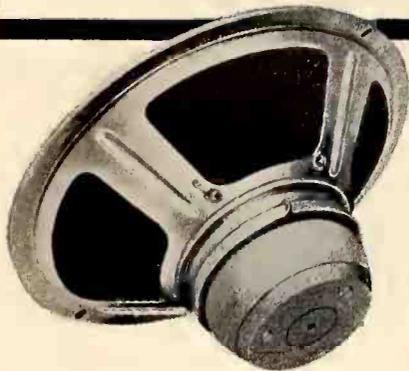


Pioneer Gen-E-Motor Corporation
 Dept. R-2K, 466 W. SUPERIOR ST., CHICAGO, ILL.
 Without obligation please send me "PINCOR" Rotary Converter Catalog and Data.

NAME
 ADDRESS
 CITY..... STATE.....

**SOUNDS
SWELL NOW!**

which means: more
profit to you thanks
to CINAUDAGRAPH



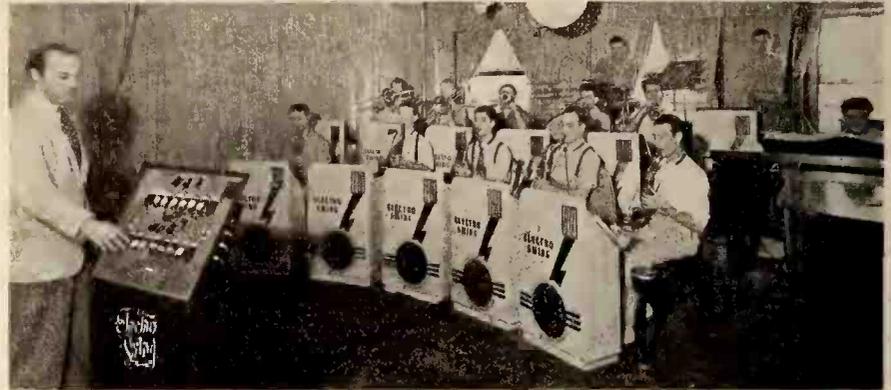
EVERYTIME you replace with a Cinaudagraph Speaker you've made a customer for life, and created for yourself an "ad" money couldn't buy.

The name of the speaker? They seldom ask. They aren't interested. But when you hear that, "Sounds swell now" from customers' lips, you know it's only the beginning and you can thank Cinaudagraph. For there'll be more business and new customers coming . . . increased profit and prestige for you.

Quality does it—quality that costs no more today. That's why Cinaudagraph—with its complete line of electro-dynamic and permanent magnet speakers for every "replacement" and "sound" purpose for both indoor and outdoor applications—is the name for you to remember. Say it, next time you see your jobber.

**CINAUDAGRAPH
CORPORATION
STAMFORD, CONNECTICUT**

Selling Sound



Individual pickup and amplification of each instrument in this orchestra gives unique musical effects.

Orchestra Employs Sound System to Develop New Effects

A unique use of multiple sound systems is being made by the Buddy Wagner Band. Seven thirty-watt amplifiers are built into the music stands and the two input circuits of each amplifier are operated from Kontak microphones made by the Amperite Co., New York. Nine Kontak mikes are used on the violins, saxophones, piano, and bass, and three Amperite ribbon mikes are used to pick-up trumpets and trombones.

A master gain control for each of the seven amplifiers is mounted on a control stand which is operated by the band leader. In addition to the seven amplifier gain controls, there is a master control which may be used to fade or accentuate all the amplifiers at once. This complete control board makes it possible to obtain unusual effects by mixing the various instruments of the orchestra. Solo parts may be brought up by the orchestra leader and the remaining instruments held in the sound background.

MANY ADVANTAGES

The advantage of using a number of amplifiers and microphones is that the sound being amplified is much more natural, and does not have the usual directional effect common to one and two speaker systems. The combinations and possibilities in mixing the various instruments are almost unlimited. The musicians using such a

system do not have to play as loud as they would without amplifiers, and the result is better and more pleasing music.

An accompanying photo shows the complete band and mixing panel. A separate speaker with directional baffle is mounted above the stage to handle vocal arrangements.

SOUND INSTALLATIONS

(Continued from page 41)

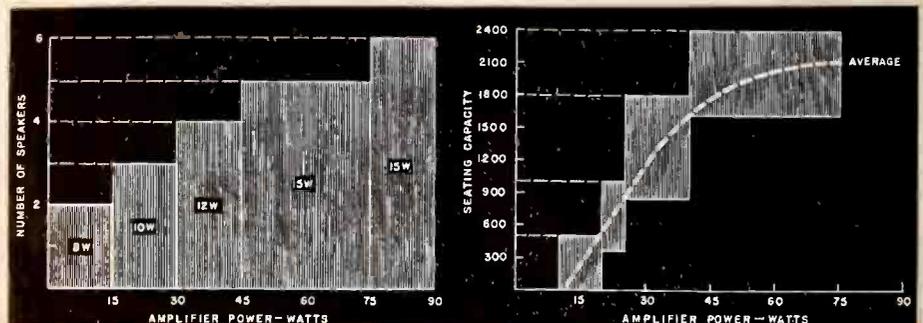
and pickup will destroy the good quality of the records.

Hearing-aid equipment is generally installed in a few pews located in various sections of the room. It is wiser to spread the outlets around over the church auditorium than to confine them to one section. This will avoid splitting family groups.

The equipment consists of the necessary wiring and outlet jacks. Customary procedure is to supply those requesting hearing aid with the necessary headphones. The power fed into this circuit is only 2 or 3 watts and may be taken from a driver stage for the final amplifier. The volume control should be installed in the amplifier or mixing panel. The operator should have monitoring facilities to set the desired level.

TWIN AMPLIFIERS USED

For the broadcasting of chimes from the church tower or steeple, trumpet speakers should be used. The power used may vary considerably; 50 watts



Approximate number of speakers and amplifier power for a church sound system determined from these bar graphs.

is low to medium power for this service.

The quality of reproduction for the speakers should be very good if the full effect of the chimes is to be realized.

The beautiful St. Andrew's Church in Calumet City, Ill., is well equipped with Thordarson amplifiers.

The equipment rack shown houses two 60-watt amplifiers, automatic record changer control panel, and monitor speaker. The amplifiers have a frequency response of 30 to 15,000 cps with a ± 1 db. variation. Three high gain channels are separately controlled. Two channels (following the input channels) incorporate compressor-expander circuits that make it possible to expand recordings and compress speech.

A directional horn type Jensen speaker is mounted above the cross-shaped grille in the dome of the ceiling. The horn is focused on the back and center of the church. The high speaker-mounting gives ample sound coverage over the entire room.

Four Shure uni-directional microphones are used. Two mikes in the pulpit give voice pickup from any position. The other two are used on the altar.

Four exponential-horn type speakers are mounted in one of the twin spires shown.

COMPLETE CHURCH SYSTEM

Pictured on the second page of this article is a complete church sound system including automatic record player, amplifier, monitor speaker and storage space. This unit installed in a New Jersey church was furnished by Rangertone, Inc., 201 Verona Ave., Newark, N. J.

The amplifier delivers 105 watts for the broadcasting of high quality chimes records also furnished by the same company. The automatic record changer plays both sides of ten records. Two channel input is available for either microphones or phono and mike. The chimes records used are individually recorded for highest quality of reproduction.

MANY RELATED USES FOR PA

Cemeteries and funeral parlors are using amplified chimes to give a pleasing effect.

Equipment for this type of service is similar to that needed for churches. It should be of good quality and have a wide frequency range.

The North Shore Garden of Memories, at North Chicago, Ill., is sound-equipped by Webster Electric Co., Racine, Wis.

A rack-and-panel equipment layout is used with a built-in turntable. Exponential horns are used on the roof to give ample sound coverage.

Arcturus Soft Ball Aces Are the Champs

The Soft Ball Team of the Arcturus Radio Tube Co., Newark, N. J., emerged as champs of the local Industrial Recreation Soft Ball League, after a match in which they defeated a team from Eastern Air Lines.

NEW... RECOTON

"AUTOMATIC" NEEDLE

Besides retaining the hi-fidelity properties for which RECOTON Needles are justly famous, this fine new number of hand-turned, specially selected steel minimizes snapping, the great weakness of ordinary needles when used on record-changers. Does not compete with our great 10-play "SUPERIOR" Needles. Samples sent.



Destined to be as sensationally popular as our famous "SUPERIOR" Needles.

RECORD RENEWER Going Over Big
A boon to public and trade! Cleanses, lubricates phonograph records, preserving their original hi-fidelity. Write for liberal sample.

RECOTON Corporation, 178 Prince Street, New York, N. Y.

3-in-1 MIKE

Western Electric
639A gives you:

(ALL IN ONE UNIT)

1. A Cardioid Mike
2. A Ribbon Mike
3. A Dynamic Mike



For every Public Address or Broadcasting need

Here's the answer to operating problems you labeled "impossible"—Western Electric's 639A Mike!

Now, you can overcome even the poorest acoustic conditions because the 639A Cardioid has a large dead zone which blankets audience noise and minimizes feedback. It offers you new flexibility of

control—with its 3-way switch, you can have in addition to its Cardioid characteristics, bi-directional or non-directional characteristics.

Get the full details on how the 639A Mike can solve your toughest problems. Send the coupon now.



Western Electric
**CARDIOID
DIRECTIONAL MIKE**

GRAYBAR ELECTRIC CO., Graybar Bldg., New York.
Please send booklet describing Western Electric's
New 639A Mike. RT-11-39

NAME.....
ADDRESS.....
CITY.....STATE.....

Art Moss Reports New NRPDA Members

Arthur Moss, executive secretary of the National Radio Parts Distributors Association, has just returned from a trip covering Richmond, Virginia; Baltimore, Maryland; and Washington, D. C., during which the following concerns in this territory became new members in the National Radio Parts Distributors Association:

Wholesale Radio Parts Co., Baltimore, Md.

Rucker Radio Wholesalers, Washington, D. C.

Columbia Radio Supply, Washington, D. C.

Johnston-Gasser Co., Richmond, Va.

"Jobbers everywhere were enthusiastic over the new set-up in the replacement tube market," reports Mr. Moss. "A local chapter of NRPDA Jobbers is being formed for the territory of Virginia, Maryland, and the District of Columbia. This chapter will meet at various times to discuss problems facing the Jobbers in their territory."

Littelfuse Expands Again

Another expansion move, which is the fifth in twelve years, has been made by Littelfuse, Inc., Chicago. The company has now occupied enlarged quarters and increased plant capacities at 4757 Ravenswood Ave.

A check-up reveals that since the



E. V. Sundt of Littelfuse, Inc., announces his company's fifth expansion in 12 years.

GIFT MERCHANDISE FOR *Personal* USE
in Addition to **EQUIPMENT FOR**
YOUR SHOP . . .



FAMOUS MARLIN GUNS



.22 Caliber 25-Shot Repeater
Retail Value \$12.30

● Model 81 .22 Caliber Tubular Magazine Rifle. Strong, reliable bolt action repeater. Positive thumb-controlled safety. Shoots .22 short, long and long rifle; regular or high speed without adjustment. Magazine holds 25 short, 20 long, 18 long rifle cartridges. Dealer Deposit \$6.00



Over-Under Shotgun in Variety of Bores. Retail Value . . \$39.90

● Marlin's great Over & Under Shotgun available in 12-16-20 gauges and .410 bore. A perfectly balanced, easy handling gun, strongly built. Positive automatic safety. Approximate weight, 12-gauge, 7½ lbs., 16 and 20-gauge, 6¼ lbs., .410 bore 5¾ lbs. Dealer Deposit \$22.50

FLEECY WARM 100% VIRGIN WOOL AMANA BLANKETS



Retail Value . . . \$7.95

● These warm, long wear blankets are first quality 100% virgin wool, beautifully bound with satin. Available in a variety of modern colors. Size 72" x 84". Dealer Deposit . . . \$4.00

STURDY STEEL BRIDGE TABLE AND CHAIRS

Retail Value \$22.50

● Steelhart Style "F" Sets offer folding bridge furniture that the most exacting hostess will be proud to use. A rigid steel table, and comfortable steel folding chairs with pinchproof hinges and no sharp corners to snag garments. Dealer Deposit \$8.00



MANY OTHER MERCHANDISE GIFTS YOU CAN HAVE INCLUDE:

Rogers Silverware, Colson Bicycles, Elgin Watches, Knowles Chinaware, Etc.

IT PAYS TO HANDLE NATIONAL UNION

Radio Tubes
and
Condensers



SERVICE DEALERS!

Do you want to increase your volume, give better satisfaction to your customers, protect yourself from cut price competition . . . THEN WHY NOT WORK WITH N.U. . . . All our policies and sales promotions are aimed to build up you and your business.

National Union offers a complete line of all (320) types of tubes. Quality is the finest that research skill and engineering can produce; backed by the most liberal replacement policy in the industry. The choice of leading service engineers everywhere . . . they've got to be good!

You Can Cash In, Too!

What National Union is doing for others, it can do for you. Equipment or premium obtained on small down deposit; you get your deposit back as merchandise credit. Try it and see why it pays to buy your tubes and condensers the National Union Way.

RT-1139

New Aerial System Stirs Trade Applause

Widespread acclaim from dealers, distributors, servicemen and even consumers is being noted at Philco headquarters, following the introduction of the company's new built-in super aerial system in all of its 1940 sets, it has been revealed by Robert F. Herr, the firm's manager of parts and service.

One dealer wrote, "My customers who have purchased 1940 Philcos are calling me on the telephone—not complaining or calling for a serviceman, but telling me how thrilled they are with their new radio."

Another dealer states, "My call-backs for service have been cut 75 per cent on the new Philcos which I have sold."

New Loudspeaker for Quam Group

Development work in the Quam-Nichols Laboratory came to a practical standstill Oct. 26 when Ted Trzyna, chief engineer, walked in and announced a "loud speaker" of entirely new design. He claimed better than 100 watts output, amazing sensitivity and fidelity of tone, and only seven pounds weight. What "Ted" really meant was that he had achieved the proud distinction of fatherhood, his wife having presented him with a seven pound boy, who will be known as Junior.

Jim Quam seems to think that Ted will learn a few things about "speakers" he had never known before.

Ask Your Jobber or Write **NATIONAL UNION RADIO CORP.**
57 State Street, Newark, N. J.

Service Business Has Stronger Tone

"The busiest and most profitable season in many years," is the phrase that describes the condition of radio servicing in the Mississippi Basin area, according to Walter Jones, head of the commercial engineering department of Hygrade Sylvania Corp., who has just returned to Sylvania headquarters in Emporium, Pa., after a service meeting tour in the southern territory.

Mr. Jones conducted meetings on "Tube Developments for the Radio of Tomorrow" in Indianapolis, Ind., St. Louis, Mo., Des Moines, Ia., Omaha, Neb., and Denver, Colo.

"The fine business conditions in radio servicing," Mr. Jones reported, "seems to be largely due to interest in the short wave broadcasts from the war zone. Many radio owners who have never before used the short wave band on their receivers are having their sets put into condition and calling on servicemen to help them get better reception on short wave."

Bennett Heads GE Tube Sales

The new manager of radio tube sales for General Electric is H. W. Bennett, who was previously a district radio sales manager in the company's offices at Minneapolis, Minn. News of Mr. Bennett's promotion comes from Perry Hadlock, radio and television department manager for GE.

Mr. Bennett operated one of the first radio transmitters in the country prior to the U. S. entrance in the World War, and had been highly successful during his nine years as district official for GE.

"Air Pal" Cops a Design Award

Selected by the judges of the Fourth Annual Modern Plastics Competition for Honorable Mention in the "decorative molded group" of entries was the "Air Pal" made by Stewart Warner Corp. This radio was the only one to receive recognition by the judges, at the recent New York event.

The "Air Pal" was designed by Barnes and Reinecke, industrial designers, Chicago, and it has been one of the most popular of the SW sets in the low-priced group, according to SW radio division sales manager L. I. Kelsey.

New Distributors for Farnsworth

New among the distributors for Farnsworth Television & Radio Corp. are M. H. Kirchbaum, Sioux City, Ia.; Bertram Motor Supply Co., Boise, Ida., and Smith & Hirschmann, Rochester, N. Y.

These additions announced by Pierre Boucheron, general sales manager, raised the total number of distributors to 49.

Important additions to the territories of two distributors recently

were also noted by Mr. Boucheron.

Chattanooga was added to the territory of the J. L. Perry Company, Nashville, Tenn., and Knoxville was assigned to Southern Bearings and Parts Co., Charlotte, N. C.

NY Reps for Detrola

Announced by the Detrola Corp. of Detroit is the appointment of Freed & Saphin as their New York metropolitan division representatives. This office will have Detrola exclusively, operating from big showrooms at 230 Fifth Ave., New York City, where a full line of radios and cameras will be on display.

Philco Design Gets Another Boost

Philco radio has again been cited as an outstanding example of radio furniture design, by a leading national magazine, according to news from Sayre Ramsdell, vice-president of Philco Radio & Television Corp. A feature article in the November issue of *Women's Home Companion*, by the famed editor and design consultant, Virginia Hamill, shows a Philco 216RX (spinet type) in the most modern living room.

In earlier issues of *House Beautiful* and *Good Housekeeping*, Philco models had also been chosen.

Before
you
Buy...



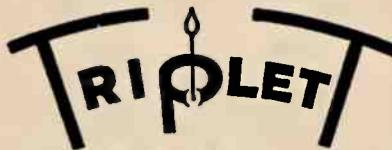
LOOK AT
MODEL
1612

LOOK AT
MODEL
1612

COUNTER TYPE
TUBE TESTER

\$29.84

Dealer Net Price



WITH RED-DOT LIFETIME
GUARANTEED INSTRUMENT

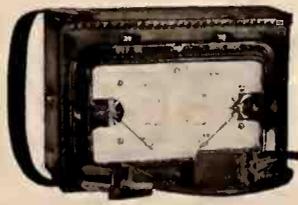
With the Triplet Model 1612 on your counter, your place of business immediately is brought up-to-date. For here is a "customer acceptance" tube tester that is impressive in the quick "readings" it gives with its fine, business-like appearing 7-inch meter which permits the customer to read along with the clerk. No matter what tube your customer has, a quick spin of the illuminated Roli-Dex Speed Chart will give you the settings in a flash. All tube references on entire chart can be scanned in less than 10 seconds. Has all tube sockets including Loctals and new Bantam Jr. Ample provision for future tubes is made by filament voltage switching in 20 steps from 1 to 110 volts. Tests High Voltage scres tubes including 117Z6G. Noise test Jack and separate line voltage control meter. Suede finish Silver Grey and Maroon case and panel. ... Dealer Net Price\$29.84

Model 1613 Portable Tester. Same as above but has detachable cover with handle. Slipping panel. Dealer Net Price.....\$34.84



MODEL 1213

Contains all the sockets to test present-day tubes, including Loctals, the new Bantam Jr., the High Voltage Series recently announced (including the 117Z6G) and Gaseous Rectifiers. Ballast tube continuity test. With Foldex Tube Chart . . . RED • DOT Lifetime Guaranteed Instrument . . . Dealer Net Price. \$22.00



MODEL 2000

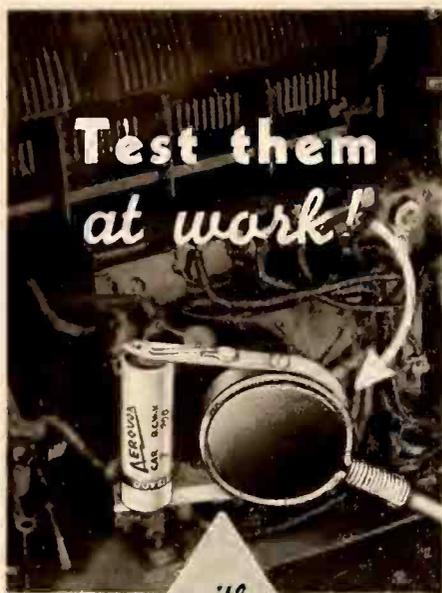
New Portable Appliance Tester combining a Triplet Wattmeter and Voltmeter in Leather case. 130 and 260 Volt Ranges—750 and 1,500 Watts. Reads Line Voltage and Wattage Simultaneously. Ideal for field use in servicing radios, refrigerators, fractional H.P. motors, etc. Dealer Net Price. \$19.34

Write for catalog!

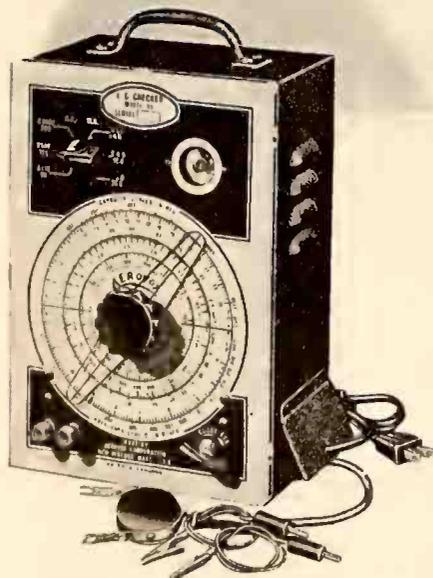
Section 1912, Harmon Avenue

THE TRIPLETT ELECTRICAL INSTRUMENT CO.

Bluffton, Ohio



with
the
**L-C
CHECKER**



• Just imagine testing condensers right in their own circuit—no disconnecting, no unsoldering. A truly radio test, which checks for capacity, opens, shorts, intermittents.

The L-C Checker does a score of things. Checks inductances and circuits; aids align r.f. and i.f. stages; tunes traps; checks chokes, natural period of antenna and transmission lines, etc., etc. Yet it costs only \$29.50 net.

Ask to See It...

• Your local AEROVOX jobber will gladly show you the L-C Checker. Ask for data—or write us direct.



Oak Mfg. Co. Gets New Company, Building, Equipment

Oak Mfg. Co., Chicago, makers of wave band and selector switches, vibrators, mechanical tuners, etc., for the radio industry, has just acquired the Reliance Die & Stamping Co., also of Chicago, according to word from the Oak president, Edw. F. Bessey.

The Oak company will take over the modern factory of the Reliance firm at 1260 Clybourn Ave., along with extensive office space, and will greatly expand its operations. The Reliance condensers, popular in the radio industry, will be continued, and the whole condenser department will be enlarged.

Only the Chicago offices and plant of Oak will be moved to the Clybourn Ave. address and the new operations will function as Oak Mfg. Co.

Novel Slogan Contest for Admiral Radio

An unusual contest for slogans on Admiral radios is a feature of a 3-month ad campaign being conducted by M. A. Hartley & Co., the Admiral jobbers in Staunton, Virginia. Entries will be given awards for the best slogans, the main words of which begin with the letters found in the word "Admiral." For instance, "Admiral Delivers Most In Radio satisfaction At Least cost."

The contest will be plugged via an extensive series of radio spot announcements giving the names of local dealers, and details of the campaign. Radio sets will be given as prizes.

Gale Notes Dealer Enthusiasm

Lee Baker, sales manager for Gale Products Co. has just completed a swing around the key cities in the East, including Baltimore, Washington, Philadelphia, New York, etc., and reports an exceptionally bright outlook for his company in 1940.

Dealers welcomed the news that in 1940 Gale will offer a hermetic unit as well as the conventional type. Hale Bros. of San Francisco have taken on the line exclusively and others to line up are Georges, of Washington, D. C.; Le Moynes, Denver, Colo.; Slack Furniture, St. Louis, Mo.; and Republic Light of Lima, Ohio.

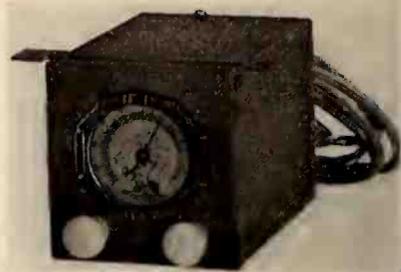
Brooklyn Dealers to New Headquarters

The Electrical Appliance Dealers Association of Brooklyn, Inc., of which Thomas W. Bolger is executive manager, has moved to new and enlarged permanent headquarters at 1271 Bedford Ave., Brooklyn, N. Y., where it will have a combined display room and office.

Ken-Rad for Tahitians

From Tahiti comes the news that the Tahitian Government has adopted Ken-Rad tubes as standard.

ULTRA HIGH FREQUENCY CONVERTER FOR CAR RADIO



Model 510

Can be attached to any car radio. Has on and off switch. Does not affect the reception on the standard broadcast bands.

MODEL 510—ULTRA HIGH FREQUENCY CONVERTER covers 5-10 meter bands. Variable tuning with illuminated aeroplane dial. Very sensitive. **LIST PRICE..... 24.95**

MODEL 600—Covers 49, 31, 25, 20, 19 and 16 meter bands. Designed for reception of American and foreign short wave broadcast. Especially adapted in tropical countries and the more remote parts of the world. Distance range 5,000 to 10,000 miles. **LIST PRICE..... 24.95**

For Use of Police and Other Law Enforcement Officers

MODEL 100-A—A police converter with single metal tube and triple variable tuning condensers. Covers 1,500 to 2,600 kc. **LIST PRICE... 12.50**

MODEL 200—Police converter with variable condenser and illuminated dial. Covers 1,500 to 5,500 kc. **LIST PRICE..... 17.95**

MODEL 500—Police converter with two metal tubes, variable condenser and illuminated dial. Very sensitive. Has exceptional distance range. **LIST PRICE..... 21.95**

WITH AEROPLANE DIAL... 23.95

MODEL 800—Police converter with two metal tubes and triple tuning condensers. Covers 1,500 to 2,600 kc. Has exceptional distance range. **LIST PRICE..... 15.95**

MODEL 900—Police converter with one metal tube and double tuning condenser. Covers 1,500 to 2,500 kc. Has fair distance range. **LIST PRICE. 7.95**

Jobbers and dealers wanted

A B C RADIO LABORATORIES
3334 N. New Jersey Street, Indianapolis, Indiana

MUSICAL TOWERS

More business . . . Handsome Profits

If you specialize in sound installations . . . can handle a new idea in a virgin and unworked field you'll click with the **SUNCO MUSICAL TOWERS**. Get the facts on how to sell and service this complete amplifying system for tower and bellry chime installations.



The Sunco "MASTER" is a custom-built, quality instrument!! Broadcasts chimes, organ recordings. Powered up to 12-mile diameter coverage. Also used as a P.A. unit. Automatic record changer. Plays 10" or 12" records mixed. We furnish everything—speakers, accessories, installation and service directions. Sales Help! New low-noise acetate discs for church services. Protected territory for those that qualify. This is a money-making OPPORTUNITY. Write or wire today.

SUNDT ENGINEERING COMPANY
4763 Ravenswood Ave., Chicago, Illinois

Sell & Use LITTELFUSES



Write for
Catalog

See your parts jobber or write today for new Littelfuse catalog. Complete line of Littelfuses for radio, instruments, meters, transmitters, etc. All kinds of FUSE MOUNTINGS. Littelfuses are your best bet. Write today.



LITTELFUSE INC.
4763 RAVENSWOOD AVE. CHICAGO, ILL.

Majestic Ready With New Push Button Portable



Proudly carried by W. B. E. Norins of Majestic is the company's new portable job, ready for the big market in stylish sets that can be taken along as "broadcast companions."

Just added to the 1940 line of the Majestic Radio & Television Corp., Chicago, is the model 5BD push button control portable receiver with 5 tubes, for AC, DC, or battery operation. The new superhet comes in a trim case similar to a small travelling bag, and has a sliding panel to protect the buttons, dial and manual knobs when not in use.

Features of the new set include an embossed dial panel, the Hi-Q Loop antenna inside the case, and a slide rule dial. The receiver comes with handsome coverings in rawhide or steerhide, and weighs 12 lbs. total.

Howard Finds Combos Going Strong

"During the past 60 days, combinations are moving off dealers' floors at a rate unequalled in my 20 years in the radio business," is the conclusion of Howard Briggs, vice-president of Howard Radio Co., Chicago, after a sales tour of eastern U. S.

Another Howard official, Charles B. Shapiro, sales manager, has just taken off for a trip to the West Coast, for a period to be spent in promotion of combination sales. Both executives are highly optimistic about the sale of these products.

Philly Jobbers Light Five Candles

The fifth anniversary of the Century Radio Co., Philadelphia jobbers for Sylvania radio tubes, was celebrated late last month as the attention of radio men in the area focussed on the lively growth of the company during the last five years. Norman M. Sewell is manager of the firm.

A group of eight dealers who have been with Century since the very first

were especially mentioned and honored by being caricatured on a separate page of the "Century News" anniversary edition. They are Carlton Holtby, Lansdowne, Pa.; Jack Goldberg, Philadelphia, Pa.; Ed Rader, Trenton, N. J.; R. C. Mahan, Philadelphia, Pa.; Mort Farr, Upper Darby, Pa.; Air Sho, Philadelphia, Pa.; Bert Goodman, and Stanley Craven, Jenkintown, Pa.

New Ad Drive for Radios

Currently running in large display space in newspapers throughout the country is a new advertising campaign on Philco's Wireless Remote Control of Radio. Ernest B. Loveman, advertis-

ing manager for the company, had announced the opening of the drive Oct. 19.

The campaign features a special trade-in allowance by the dealer, available for a limited time.

Roth Starts New Firm

A new company, Roth Appliance Distributors, has been organized by W. H. Roth to operate at 647 W. Virginia St., Milwaukee. Mr. Roth was formerly an official of the Radio Specialty Co., Philco distributors, but has sold his interest in this firm and will now concentrate on a complete line of Norge home appliances in Wisconsin and northern Michigan.

WITH SERVICE ON THE MOVE:

YOU and a SIMPSON TESTER can "go places!"

WHEN servicing jobs were scarce, you may have hesitated to "treat" yourself to some much-needed Simpson Testing Equipment. But now it's a different story. With service again on the march, Simpson speed, convenience and accuracy can put dollars right into your pocket.

A few of the "hit numbers" of today's Simpson line are illustrated here. Notice the wide range of requirements they cover—and the better way they cover them. Men who know testers have acclaimed Simpson equipment the first real advance in ten years of instrument building—and the proof of this is as close as your jobber!

See the Simpson line today and you will decide to put it to work tomorrow. You and Simpson Testing Equipment can form a mighty profitable partnership right now.

SIMPSON ELECTRIC CO., 5202 Kinsie Street, Chicago

SIMPSON

INSTRUMENTS THAT STAY ACCURATE



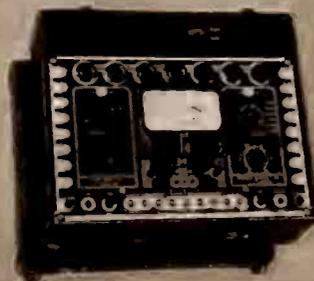
MODEL 260

• The new high sensitivity set tester for television and radio servicing. At 20,000 ohms per volt this instrument is far more sensitive than any other in its price range. Six voltage ranges, both A.C. and D.C. Resistance ranges from 1/2 ohm to 10 megohms. Current readings from 1 microamp to 500 milliamps. Your Price..... **\$27.50** (Similar model, No. 215, with 5,000 ohms per volt at \$22.85.)

MODEL 440 "TEST MASTER"

Tests All Tubes—Tests All Circuits

Filament Voltage 1.5-120 Volts Has screen fluorescence and angle test; hot cathode-leakage neon test; "high sensitivity" neon short check; "good" and "bad" scale, and "noise test." Has six A.C. and D.C. voltage ranges; three resistance ranges; four milliamperage ranges; six Decibel ranges. Your price..... **\$59.00**



MODEL 325 GIANT TUBE TESTER

Tests All Tubes—Filament Voltage 1.5 to 120 Volts

• Has handsome, illuminated red, green and black scale on a silver etched dial with full 9-inch meter. Checks each element separately; shorts on dual-sensitivity neon tube. Has jack for noise test. Convenient drawer contains neat tube charts. Meter is reversible for horizontal use. Wings available for rack mounting. Your price..... **\$34.50**



MODEL 320 GIANT SET TESTER

• First set tester with giant (9-inch scale) illuminated dial meter—first with 50 ranges which include nine voltage ranges both A.C. and D.C.; six milliamperage ranges; five resistance ranges; four capacity ranges; seven Decibel ranges. Test leads, insulated for 5,000 volts furnished with each tester. Entirely A.C. operated—no batteries needed. Wings are available for rack mounting. Your Price..... **\$37.50**

WHAT IS AN "EXPENSIVE" RESISTOR?

You can buy resistors at almost any price—but, remember, you generally get just about what you pay for. One lost service customer, one call-back as the result of trouble with a "cheap" resistor can cost far more than you can possibly save on dozens of resistor "bargains."

Insist on IRC Insulated Metallized Resistors—the finest most reliable resistors at any price. You can rely on them any time, any place, under the most severe conditions. They are a good investment in long, satisfactory performance. They are the least expensive resistors to use because they are the best resistors for protecting your reputation for highest quality workmanship on every job.

INTERNATIONAL RESISTANCE CO.

401 N. Broad St., Philadelphia, Pa.



1/2-WATT (BT-1/2)
17¢ List
1-WATT (BT-1)
20¢ List
2-WATTS (BT-2)
30¢ List



**INSULATED
Metallized
RESISTORS**

"They Stay Put"

Sales Helps

Bright Colored Holiday Display Outfit

A lively looking new 10-unit Christmas display, printed in bright colors, has just been made available to dealers by the Galvin Mfg. Corp., makers of Motorola. The wreath is fitted with tree lights, to provide extra attention value.

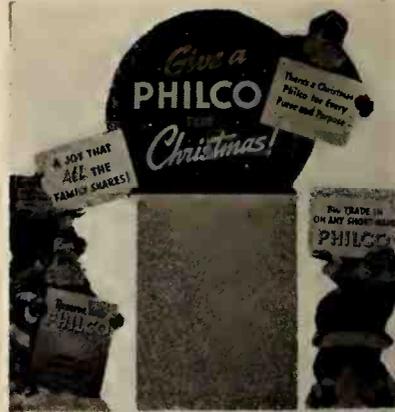


The outfit is designed for flexibility, so that it can be worked readily into dealers' window or interior displays.

Jobbers Trend Toward Local House Organs

Increasing favor among radio jobbers, for the idea of publishing house organs for their local trade, is reported by Hygrade Sylvania Corp. Many of the Sylvania distributors find it a profitable stunt to keep their servicemen and dealers up-to-the-minute on new merchandise and new merchandise being offered locally. Prominent among these is Morris Willis of Spokane, Washington with his *S.R.C. News*, Norman Sewall, Century Radio, Philadelphia, Pa., with his *Century News*, and Tom Brown, Tom Brown Radio Co., St. Louis, Mo., with the *Analyzer*.

Latest venture in this jobber journal field is the *Dale Reporter*, put out by Maurice Despres of Dale Radio, New York.



Santa tells the radio story in Philco's new series of 5 displays, all in full color.

The Lights and the Colors of Christmas

For those dealers who want to display a modest assortment of flashlights and batteries against a jolly Santa Claus background, the Burgess Battery Co. now offers a holiday display 33 x 48 inches.



Besides the figure of Santa, there's a Christmas tree and a fireplace illustrated. The latter may be illuminated for extra effect.

**IF IT'S
RADIO**
1940 Complete Edition, No. 26
Burstein-Applebee Co.

**ALL YOUR
RADIO NEEDS**

Here in this one big book you will find everything you need in radio including radio sets, parts and supplies... newest public address systems... latest amateur equipment... testers and kits... your nationally known favorites at lowest possible prices. Best of all, our service is better than ever. Most orders are shipped the same day they are received. Be sure to write today for your copy of this big FREE CATALOG and save money. Not only do you save money but you also save valuable time by sending in one order for your entire needs selected from this big valuable catalog of the radio industry. Join the thousands of others who now buy their entire needs from B. A.

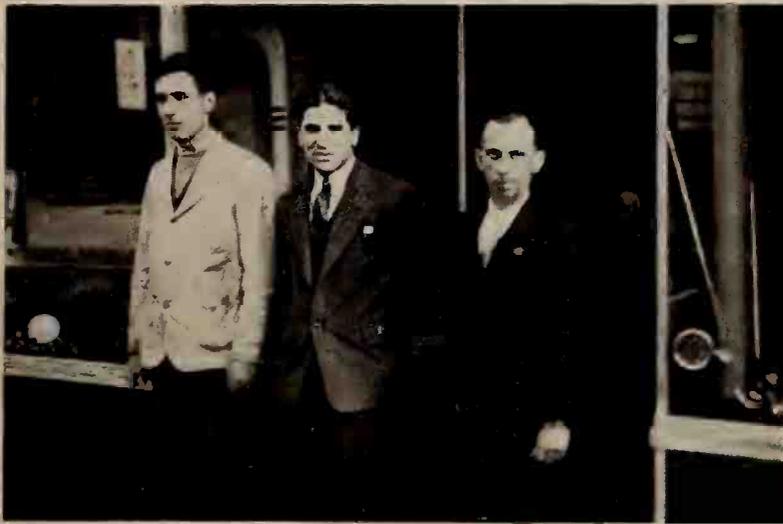
**TESTING
INSTRUMENTS
★
SERVICING
EQUIPMENT
★
RADIOS, PARTS
AND SUPPLIES
★
PUBLIC ADDRESS
SYSTEMS**

**Get This BIG
FREE CATALOG**

BURSTEIN-APPLEBEE CO.

**You'll Like Our
Prompt Service**

1012-14 MCGEE STREET
KANSAS CITY, MISSOURI



A trio of jobber executives doing a good job in New England, at the H. Jappe Co., Worcester, Mass. Left to right, Ken Claffin, John Manoog (Manager), and Steve Boyko.

Stewart Warner Plans National Convention

To meet on Nov. 27-28 at the Edgewater Beach Hotel in Chicago are all of the Stewart Warner jobbers, their salesmen and servicemen, district managers, etc., for the annual national refrigerator sales convention, according to word from Charles R. D'Olive, SW household appliance division manager.

According to D'Olive "the 1940 Stewart-Warner refrigerators will again bring out exclusive innovations in design, construction and value."

Another feature of the convention is "Quality Lane"—a dramatic exhibition of the product and the parts and processes that go into it.

A special section of the convention is being devoted to the distributor servicemen.

According to present plans, James S. Knowlson, chairman of the board and recently-elected president of Stewart-Warner will head the list of speakers. Frank A. Hiter, vice president and general sales manager, will discuss appliance sales and merchandising plans for 1940. Other speakers include Joseph C. Ekliff, S. W.

sales and merchandising executive; C. C. DeWees, appliance advertising manager; A. B. Dicus of Hays MacFarland & Co.; the advertising agency for Stewart-Warner; and Mr. D'Olive, who will conduct the convention.

Big Plans Revealed for RCA Managers

From RCA Victor's 10 district sales offices throughout the U. S. recently came the field managers for a meeting at Camden in order to conclude plans for a comprehensive pre-Christmas sales, advertising and sales promotion campaign.

The managers assembled under the direction of Fred D. Wilson, manager of field activities. Among the RCA Victor officials addressing the group are Henry C. Bonfig, commercial vice president; Vance C. Woodcox, vice president in charge of package goods sales; E. W. Butler, manager of the radio, victrola and television division; D. J. Finn, advertising manager; E. C. Cahill, manager of the photophone division; George Ewald, manager of commercial sound sales; L. W. Teegarden, manager of the radio tube and parts

division; and W. W. Early, manager of recording and record sales.

The district managers who attended are: Arthur Kemp, Boston; M. F. Blakeslee, New York; William Kelley, Baltimore; James Cocke, Pittsburgh; John West, Cleveland; Sidney Camper, Atlanta; Richard Graver, Chicago; Harold Winters, Kansas City; George Malsed, Dallas, and E. J. Rising, San Francisco.

Solar Names Shefler

The appointment of H. George Shefler has been announced by Solar Mfg. Co. of Bayonne, N. J., as district sales manager at Phoenix, Arizona.

Operadio Speakers
made **SO GOOD** we Sell
A MILLION A YEAR

Replacement Speakers that give that "Good As New" Reproduction

A small stock of Operadio's combination of Radio Replacement Speakers and Uni-Match transformers enables the dealer to meet any service requirement. **WHY?** Because the Uni-Match transformers with their wide range of impedances, may be used with as many as six different Operadio Speakers. Thus inventory is reduced, you give maximum service, and quick delivery.

Send for Speaker Catalog
Address Dept. R. T. 11
Export Division
145 West 45th St., New York

OPERADIO
MANUFACTURING COMPANY
ST. CHARLES ILLINOIS

The Outstanding Name in Speakers, Public Address Equipment and Intercommunicating Systems

All Operadio Sound Systems are Licensed by Electrical Research Products, Inc., under U. S. patents of American Telephone and Telegraph Company and Western Electric Company, Incorporated.

A GOOD NAME GOES A LONG WAY

Ken-Rad Radio Tubes are used by many radio manufacturers as original equipment because they are thoroughly dependable.

KEN-RAD TUBE & LAMP CORP.
OWENSBORO, KY.
Export Dept.
116 Broad St., New York, U.S.A.
Cable Address: Minthorn, New York.

KEN-RAD
DEPENDABLE RADIO TUBES

Radiobar Has New Franchise for New Models

Linked with the announcement of new 1940 models, the Radiobar Co. of America reveals that it will feature "a new, exclusive dealer franchise with direct factory-to-dealer distribution plans." The plan, according to C. T. Hillman, general manager of the company, is to allot the franchise to aggressive merchandisers on an exclusive territory basis.

Mr. Hillman says that the new 1940 models stress greater style and value appeal and that they will be available with factory-installed radio, or with plain panels for dealer installation of any chassis the customer desires.

One model is available for bar service only, with a liquor storage compartment in place of the usual radio panel. Because of its patented construction, Radiobar offers the advantages of a full-service bar in a space-saving cabinet hardly larger than the ordinary console radio.

Applications for exclusive dealer franchises are now being received by the New York office at 296 Broadway, New York City, and acted upon as quickly as possible. The new selective franchise plan of merchandising is designed to give Radiobar dealers greater protection on their promotional activities, and officials of the company expect it to increase Radiobar sales to a new record for the 1940 selling season.



Radiobar Co. of America presents the new model U-100.

Big Contest on Radio Cabinet Design

A cash prize competition, for original designs in radio cabinets, is being sponsored by General Electric and the magazine *Interior Design and Decoration*. Minimum amount of \$1,550 in

prizes will be awarded, in search for radio designs satisfactory both to expert decorators and manufacturers. Purpose is to inject some "fresh thinking" into cabinet design, by getting ideas from established stylists as well as students.

Entry blanks and full instructions come from Harry V. Anderson of the magazine at 30 Rockefeller Plaza, New York City. Closing date is Dec. 15.

Portables Develop Year Round Sales Demand

A definite trend toward a year round market for portable radios has been pointed out in a statement by James H. Carmine, assistant general sales manager of Philco.

Mr. Carmine declares that football and other sports keep the sales curve up in the fall, winter sports and Christmas buying serve as a cold-month spur, and then comes the usual heavy demand for portables during the spring and summer.

Radio on City of Flint

Probably the most discussed shipment of radio tubes in the industry at the moment is the batch that National Union consigned to an Irish distributor via the *S.S. City of Flint*. The seized vessel and her cargo have been the subject of extraordinary diplomatic exchanges between the leading European powers.

Mr. Serviceman:

"Do It Now!" ★

★ **Special Dues Concessions**
for Applicants Joining Now!



★ Let's Grow Together ★

MAIL THIS COUPON NOW!

RADIO SERVICEMEN OF AMERICA, Inc.
304 S. Dearborn St., Chicago, Ill.

Name

Address

City State

I am interested in RSA Membership. Tell me about it.....

I am enclosing \$4.00 for National dues and initiation. Covers dues up to Jan. 1, 1941, in accordance with special dues concession.....

(Does not include Local Chapter dues where Local Chapters are organized.)

RT-1139

HISTORY MAKING FIRSTS

FIRST and only national service organization to have sponsorship of RMA, Sales Managers Club, and all radio trade journals.

FIRST national service organization to have bonded employees and officers—with a democratic setup run entirely by servicemen elected by and from the membership.

FIRST service organization to have a cooperative agreement with broadcasters to sell RSA to the American public and to put into effect plans for making the service industry a profitable, year-round business.

FIRST and only service organization to provide a Guaranteed Service Plan for protection of its members and their customers.

**RADIO SERVICEMEN
OF AMERICA, Inc.**

JOE MARTY, JR., EXECUTIVE SECRETARY
304 S. DEARBORN STREET, CHICAGO, U.S.A.

Christmas Packs for Gift Radios

For those dealers and distributors who want to get in on the streamlined radio packaging being done for the Christmas trade by Stewart Warner, the announcement has been made that the service will be furnished free to those receiving shipments of the Air Pal and Campus sets prior to Nov. 15.

Radio sales manager L. L. Kelsey of Stewart Warner, who is to be credited with this merchandising idea, says also that a limited number of the gift cartons are available at cost for use with stocks on hand.

Conn Buys Controlling Interest in Federal Recorder

That the controlling interest in the Federal Recorder Co., New York, has just been bought by C. G. Conn, Ltd., of Elkhart, Ind., is the announcement of Alfred L. Smith, executive vice-president for Conn. Federal makes recording equipment for home, school and professional use, and will now have the extensive facilities of the Conn firm at its disposal.

Max M. Pochapin will continue as president of the Federal company, and Roy Bennett as manager of sales promotion. A big expansion program is being planned and national advertising in trade and consumer publications will be scheduled. It was pointed out that as a result of the merger, Federal has at its command



Max M. Pochapin, president of Federal Recorder Co., planning new sales promotions.

"a full time experimental laboratory plus skilled technicians, strong financial resources, modern factory, the latest precision machinery with over 900 skilled craftsmen, and the experience of 60 years in the manufacture of precision sound and musical instruments."

Federal headquarters remain at 50 W. 57th St., New York City.

India Jobbers Have New Headquarters

Rama Brothers, the prominent distributors of radio and transmitting equipment who were formerly located at Karachi, India, have moved to new headquarters at 4, Sir Bhandarkar Road, Camp Poona 1, India. Rama has written to RADIO TODAY to say that "we shall be glad if you will kindly request your advertisers to send us particulars and prices of their new products."

Soft Ball Team Challenges All Comers

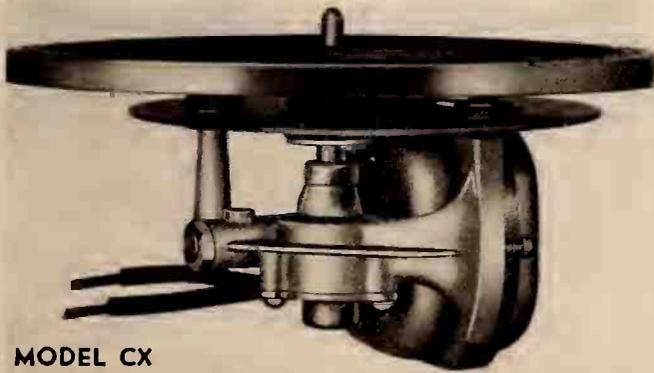
The Cinaudagraph Soft Ball team of Stamford, Conn., hereby issues a challenge to any team in the industry to a game or a series of games indoors this winter or outdoors in the spring.

"Cinaudagraph Sensations" were victors in the 1939 YMCA Industrial Minor League, and next year they hope to enter the American League.

Television Demos on Tour

Opening a series of television demonstrations to be held in the key cities of the U.S., a mobile unit of the Farnsworth Television & Radio Corp. staged a 6-day show at the Ft. Wayne, Ind., Chamber of Commerce Auditorium. E. A. Nicholas, Farnsworth president, was one of the speakers at the event which attracted some 25,000 local persons.

Get Bigger Sales Volume . . . Use Light, Low-Cost Units



MODEL CX

YOU will find the new "X" series of General Industries motors ideal for use in popular-priced portable phonographs, table models and light radio-phonograph combinations. Models CX (shown) and lighter still KX direct drive and Model RX rim drive. All three induction type. Constant speed. Cool. Quiet. Trouble-free. Shipped ready to install, with turntable and mounting accessories. Get our latest prices—order motors for testing in your new assemblies.

Send for
NEW
Catalog

The GENERAL INDUSTRIES CO.
3938 TAYLOR ST. ELYRIA, OHIO

LET WARD'S PARTS CATALOG GUIDE YOU TO BETTER PARTS AND EQUIPMENT

When you deal with WARD'S you get

Time Payments

• Lowest Prices

• Quick service—Order filled same day received.

• 15-Day Trial

• Money-Back Guarantee

This new catalog shows hundreds of items that make your work easier, better, more profitable. All so sensibly classified, all so plainly illustrated and described, that it is simple and easy to select exactly what you want. It shows new and improved parts, equipment and accessories that perhaps you did not even know existed—things you could use right now, today, to give your customers better service and make more money for yourself.

MAIL COUPON FOR FREE COPY

Every dealer, sound system expert, serviceman and amateur needs this catalog. It shows page after page of important advances in parts and equipment in the sound system and radio field. It's FREE! Just mail the coupon.

MONTGOMERY WARD

9 Great Mail Order Houses
More Than 600 Retail Stores

MONTGOMERY WARD & CO.,
Dept. RT-32, Chicago, Ill.

Please RUSH at once your FREE Radio Equipment Catalog.

Name

Address

City State



NEW FREE



over 240 Pages!
COMPLETE REPLACEMENT INFORMATION

Read how to get your free copy of the C-D Manual that reduces required capacitor types to a minimum . . . speeds service work —

The book that took months to prepare . . . the book that provides the serviceman with a reference source stripped of non-essentials, is ready now and free to you. All standard set data was checked in order that replacement information might be complete. You'll find the Manual, in its concise and orderly form, an invaluable guide to determining proper capacitor replacement for any type receiver.

Set manufacturers' names appear alphabetically. Model data covers capacitor values, working voltages and standard C-D capacitor types required for replacement (number of standard types has been reduced to an absolute minimum), references to illustrative circuits (over 165 are given in the back of the Manual), manufacturer's original part numbers, and the volume and page of Rider's in which complete schematic circuit is to be found for general checking purposes.

Find out from your Distributor how you can obtain this valuable 240 page "Capacitor Manual for Radio Servicing." There are no strings attached to the offer. Here is something for nothing — a book to save you time, quicken turnover, give you a single trustworthy source for all capacitor stock requirements. See your C-D Distributor today.



Typical page from Manual

CORNELL-DUBILIER ELECTRIC CORPORATION
 1022 Hamilton Blvd., So. Plainfield, N. J.
 Cable Address: "CORDU"

New Booklets

Service data on 1939 Philco home and auto radios. 120-page book gives circuit diagrams, parts lists, and data. Section on general operation of VTVM and setting of push button receivers. Philco R. & T. Co., Philadelphia, Pa.

Parts, supplies, and equipment illustrated in 1940 general catalog of Burstein-Applebee Co., 1012 McGee St., Kansas City, Mo.

New sound equipment catalog illustrating and describing complete line of Erwood Sound Equipment Co., 224 W. Huron St., Chicago.

Serviceman's capacitor replacement catalog contains 240 pages of Cornell-Dubilier replacements for all types of receivers. Data includes basic circuit and working voltage for each receiver. Cornell-Dubilier Electric Corp., S. Plainfield, N. J.

Fifth edition of Sylvania tube book available to trade for 35c. 264-page book lists 344 type tubes and characteristics. Hygrade Sylvania Corp., Emporium, Pa.



New serviceman's catalog describes and illustrates complete line of capacitors, noise filters, condenser checkers and the new Exameter. Solar line of capacitors includes mica, electrolytic, and oil filled transmitting condensers. Solar Mfg. Corp., Bayonne, N. J.

Complete description and illustration of forty-one models in Majestic radio line. Also included are dealer sales helps. Majestic R. & T. Co., 2600 W. 50th St., Chicago.

New descriptive booklet on sound systems for churches, amplified carillons, etc. Sundt Engineering Co., 4757 Ravenswood Ave., Chicago.

Service equipment encyclopedia lists tubes, condensers, and panel lamps with information on gift merchandise. National Union Radio Corp., Newark, N. J.

Sixty-four page booklet of gift items for camera enthusiast, children and radio fan. Radio Wire Television Corp., 100 6th Ave., New York, N. Y.



TWO ATTRACTIONS

★ **BENAY VENUTA**, popular stage and radio songstress, featured on Mutual Broadcasting System coast-to-coast programs.

★ **NEW "630" DYNAMIC**, modern and functional in design, tilttable for directional or non-directional pick-up . . . suitable for all modern amplifiers, readily adaptable to high fidelity music and speech pick-up. Frequency response, 40-9000 c.p.s. Output —56 db. (open line). Standard output impedances include Hi-Z, direct-to-grid.

See this new "630" at your local distributor. Write for complete details.

ELECTRO-VOICE MFG. CO., Inc.
 1239 SOUTH BEND AVE., SOUTH BEND, INDIANA
 Export Div: 100 VARICK ST., NEW YORK CITY, U.S.A.
 Cable Address "ARLAB"



GET IN THIS PICTURE!

Today, owners of stadiums, ballrooms, churches, department stores, offices, garages are sold on the importance of Sound. New outlets for P.A. sales develop every day! You can sell these—and profit more—with the Lafayette line for 1940.

WE'VE GOT THE SYSTEM

For every purse and purpose. Allied, too, Lafayette offers three lines—a DeLuxe, Standard and Economy to help you quickly turn prospects into customers, stock into cash profit. For there's eye appeal in Lafayette's packaged P.A.—and performance that can't be matched even at twice the low Lafayette price.

HERE'S ALL YOU DO

Tear out coupon and mail for FREE catalog. See the world's most complete line of sound systems. Compare Lafayette feature for feature, dollar for dollar with any other P.A. Then, go to town with Lafayette—the money-making line in the low price field.

LAFAYETTE P.A.
 NEW YORK, N.Y. • CHICAGO, ILL. • ATLANTA, GA.
 100 SIXTH AVENUE • 101 W. JACKSON BLVD. • 285 PEACHTREE ST.
 BOSTON, MASS. • BRONX, N.Y. • NEWARK, N.J. • JAMAICA, L.I.
 Rush FREE 1940 Radio Catalog No. 78.

Name.....
 Address.....
 City.....State.....
 Radio Wire Television Inc. Wholly WHOLESALE RADIO SERVICE
 Dept. 12L9 100 Sixth Ave., New York, N. Y.

• INDEX •
TO
ADVERTISERS

	Page
ABC RADIO LABORATORIES	56
AEROVOX CORP.	56
BITTER CONSTRUCTION CO., A.....	37
BURSTEIN-APPLEBEE CO.	58
CENTRALAB	50
CINAUDAGRAPH CORP.	52
CONTINENTAL RADIO & TELEV. CORP. Cover IV	
CORNELL-DUBILIER ELEC. CORP.....	51, 62
CROSLY CORP.	23
ELECTRO-VOICE MFG. CO., INC.....	62
FARNSWORTH TELEV. & RADIO CORP.....	4, 5
GENERAL ELECTRIC CO.....	8
GENERAL INDUSTRIES CO.	61
HYGRADE SYLVANIA CORP.	31
INTERNATIONAL RESISTANCE CO.....	58
KEN-RAD TUBE & LAMP CORP.....	59
MALLORY & CO., INC., P. R.....	Cover II
MONTGOMERY WARD & CO.....	61
NATIONAL CARBON CO., INC.....	6, 7
NATIONAL UNION RADIO CORP.....	54
NORGE DIV., BORG-WARNER CORP.....	25
OPERADIO MFG. CO.	59
PHILCO RADIO & TELEV. CORP 28, 29, 32, 33	
PIONEER GEN-E-MOTOR CORP.....	51
RADIOBAR CO. OF AMERICA	10
RADIO CORP. OF AMERICA	9
RADIO SERVICEMEN OF AMERICA	60
RADIO WIRE TELEVISION, INC.....	62
RANGERTONE, INC.	64
RAYTHEON PRODUCTION CORP.....	Cover III
RCA MFG. CO., INC.	21
RECOTON CORP.	53
RIDER, JOHN F.	43
SIMPSON ELEC. CO.	57
SOLAR MFG. CORP.	63
SONORA RADIO & TELEV. CORP.	1
SPRAGUE PRODUCTS CO.	45
SUNDT ENGINEERING CO.	56
TRIPLETT ELEC. INSTRUMENT CO.	55
TUNG-SOL LAMP WORKS, INC.	2, 3
UTAH RADIO PRODUCTS CO.	39
WESTERN ELECTRIC CO.	53
WESTON ELEC. INSTRUMENT CO.	48
ZOPHAR MILLS, INC.	64

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

It's your **DOLLAR**

ask your
Jobber



EX



CB



CC

He will give you a certificate like that below, if you stop in and EXAMINE the EXAMETER. You may find this new circuit and components analyzer the greatest time-saver you ever bought. Or you may prefer one of the standard Solar Capacitor Analyzers. The \$1.00 credit is good on any of these three outstanding instruments.

This offer is good for a limited time only, so ACT NOW!



Catalog Free Upon Request

SOLAR ANALYZER CC

Measures capacity to 800 mfd., resistance to 2 mega; indicates power factor; spots leaky condensers and intermitents; continuity meter; sloping panel cabinet.

DEALER COST \$24.90

SOLAR EXAMETER EX

Output indicator; peak voltmeter ranges 0-35, 0-350 and 0-3500 volts; r.f. alignment indicator; measures capacities to 2000 mfd., resistance to 7 1/2 mega; indicates power factor; spots leaky condensers and intermitents; continuity checker.

DEALER COST \$39.00

SOLAR ANALYZER CB

Measures capacity to 70 mfd., resistance to 2 mega; indicates power factor; spots leaky condensers and intermitents; continuity meter. Most popular condenser tester on the market.

DEALER COST \$19.20

SOLAR MFG. CORP. Bayonne, New Jersey

CHIME RECORDINGS



For New XMAS PROFITS!

Now, for the first time, at a popular price, Rangertone makes available high fidelity Chime Recordings of traditional Christmas songs.

No music so beautifully, so appropriately, expresses the spirit of Christmas. These high quality Rangertone recordings are designed for Amplification as well as for home use.

Churches, Institutions, Stores, Home and Community celebrations offer a large and profitable market. And experience has proven that this type of music greatly stimulates the holiday buying spirit. Disks are 10 inch, each with two selections.

Retail Price, 75c

A Better Product—A Better Profit

Check this List

- 540—O, Little Town of Bethlehem
Silent Night
- 541—It Came Upon the Midnight Clear
The First Noel
- 542—While Shepherds Watched Their Flocks
O, Holy Night
- 543—O, Come All Ye Faithful
We Three Kings of Orient Are
- 544—Hark, the Herald Angels Sing
Joy to the World

Send Your Order Today

RANGERTONE, INC.
201 VERONA AV. NEWARK, N. J.



WAXES AND COMPOUNDS

FOR INSULATION & WATERPROOFING of ELECTRICAL and RADIO COMPONENTS

● such as transformers, coils, power packs, pot heads, sockets, wiring devices, wet and dry batteries, etc. Also WAX SATURATORS for braided wire and tape and WAXES for radio parts. The facilities of our laboratories are at your disposal to help solve your problems.

Zephar MILLS, Inc.
FOUNDED 1846
129-26th ST., BROOKLYN, N. Y.



Herewith, a collection of go-getting radio men snapped at Burstein-Applebee Co., Kansas City, Mo. Left to right, E. J. Rehfeldt, advertising manager for Thordarson, and Frank J. Kysela, Thordarson rep.; Jos. A. Burstein and M. W. Applebee, owners of Burstein-Applebee Co.; Douglas Fortuen, Thordarson broadcast engineer; and E. L. Melton, purchasing agent for the Burstein-Applebee Co.

Radio Proves High Holiday Appeal

That radios are one of the U. S. favorites in Christmas buying is revealed in a survey on "What Folks Want for Christmas" conducted by *Sales Management* magazine. Radios and musical instruments ranked fourth on the list, while autos and tobacco tied for first, writing materials came in second, and personal accessories were third.

Among radio brand preferences, Philco was first, RCA-Victor second, Emerson third, and Zenith fourth.

"Lou" Chatton Back With Andrea

Louis C. Chatton has joined the sales forces of Andrea Radio & Television Corp., according to news from F. A. D. Andrea, president. Mr. Chatton had previously had 14 years of experience with the Andrea firm, and has a wide acquaintance among U. S. jobbers and dealers. His appointment is another step in the expanding domestic operation of the company, whose sales organization is headed by David Spector.

Stromberg "War-Map"

With war in Europe stimulating peak interest in newscasts and short-wave broadcasts direct from battle areas, Stromberg-Carlson has just published a war map and radio log for its dealers to hand out.

One whole side of the sheet contains a large, seven-color map of the European war zone for reference in keeping tabs on progress of the war. On the opposite side is given a log of "News In English" broadcasts direct from European capitals together with a log of foreign language news broadcasts beamed at North America. Also included are short-wave tuning tips, a time conversion table, and a chart

showing when to use the various short-wave bands.

A dozen Stromberg-Carlson radios offering unusually quiet short-wave reception are illustrated and described in the new piece, as well as the Stromberg-Carlson No. 5 Antenna Kit which is recommended for short-wave reception.

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

OF RADIO & TELEVISION TODAY, published monthly at New York, N. Y., for Oct. 1, 1933. State of New York, N. Y., County of New York, N. Y.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Orestes H. Caldwell, who, having been duly sworn according to law, deposes and says that he is the Editor of RADIO & TELEVISION TODAY 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, M. Clements, 277 Park Ave., New York, N. Y. Editor, Orestes H. Caldwell, Catrock Road and Bible St., Cos Cob, Conn. Managing Editor, None.

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 owner, must be given.) Caldwell-Clements, Inc., 480 Lexington Avenue, New York, N. Y. Orestes H. Caldwell, Catrock Road and Bible St., Cos Cob, Conn. M. Clements, 277 Park Ave., New York, N. Y. D. B. Chase, 11 Buckingham Parkway, Maplewood, N. J.

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.

(Signed) Orestes H. Caldwell
Sworn to and subscribed before me this 28th day of September, 1933.

R. M. Phillips
Notary Public Westchester County,
Notary Public N. Y. County Clerk's No. 504.
Notary Public N. Y. County Registers No. O-P-294
(My commission expires March 30, 1940.)
New York County Commission expires March 30, 1940.



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