

# RADIO *and Television* TODAY



Orson Welles

September  
15 Millions

October  
17 Millions

November  
18 Millions

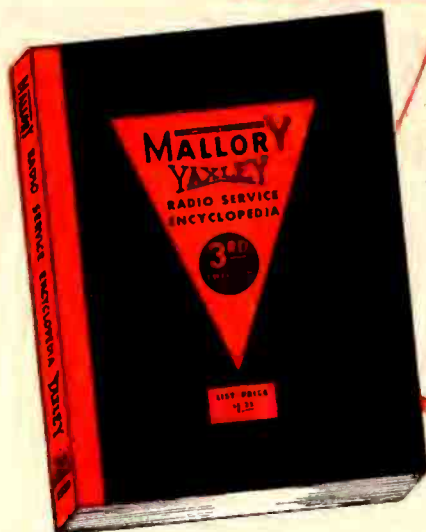
December  
20 Millions

Amounts U. S. Stations Will Spend  
on Programs, News, etc. Rest of 39

Broadcasters Plan New Thrills  
to Help You Sell More Radios

SEPTEMBER

# You Can't Afford to Do Without **MALLORY Supplemental MYE** **Monthly Technical Service**



Covering combined  
Receiving Tube  
characteristics  
with complete  
Tube charts.

Complete  
engineering  
data on  
dry electrolytic  
capacitors.

Useful  
servicing  
formulas.

New  
Receiver  
listings  
covering all  
sets announced from  
June to December,  
1939.

At a cost of less than 1/2 a cent a day . . . less than 15c a month—It's the Biggest Bargain You Ever Bought! Look at the monthly releases scheduled—starting with October and through to January of 1940.

←**SUPPLEMENT No. 1**  
**OCTOBER 1st**

Every new tube that's been released this year is included—and that's quite a bunch. It's information you'll need to use daily. The only compilation of its kind.

←**SUPPLEMENT No. 2**  
**NOVEMBER 1st**

Vital facts you should know to use the new types of condensers. Greater progress has been made in the condenser art in the past 18 months than ever before. A 44-page booklet—not only a valuable reference, but a volume you simply cannot do without.

←**SUPPLEMENT No. 3**  
**DECEMBER 1st**

Data you'll need and use frequently. We know because service engineers have told us what they wanted. This supplement is exactly that!

←**SUPPLEMENT No. 4**  
**JANUARY 1st**

A service no progressive radio service engineer can do without. Considerably over 1500 sets analyzed. Information on current sets when you need it . . . not a year later.

**Important Notice.** The 3rd Edition MYE is published wholly for the use of technicians engaged in radio servicing. Its contents are valuable to them alone.

Mallory Supplemental MYE Monthly Technical Service is designed for anyone interested in Radio.

If you are a radio service engineer and do not own a copy of the 3rd Edition MYE, see your Mallory-Yaxley distributor. He may still be able to supply you with a copy.

Use  
P. R. MALLORY & CO. INC.  
**MALLORY**  
REPLACEMENT  
CONDENSERS...VIBRATORS

Use  
**YAXLEY**  
REPLACEMENT  
VOLUME CONTROLS

P. R. MALLORY & CO., Inc., Indianapolis, Indiana

Enclosed is \$1.50 { Do not send cash or stamps—use personal check, cashier's check, Postal or Exp. M. O. }

which entitles me to receive 12 issues of the Mallory Supplemental MYE Monthly Technical Service.

PLEASE PRINT

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

**Plus 8** (eight) other equally valuable issues . . . one a month . . . right through to September of 1940. Twelve big reasons why you can't afford to miss the service . . . at a cost small in comparison with its real worth.

Mallory research work is carried on every single day of the year. Mallory Supplemental MYE Monthly Technical Service is your only means of keeping up to date.

Whether student, "ham," or radio amateur, you won't want to miss a single issue. Use the coupon and mail your order today.

# 1940 *Majestic* MAKES IT EASY TO PUT THE PROFIT BACK INTO THE RADIO BUSINESS!



WITH MAJESTIC'S "NO-QUOTA" POLICY WE CAN BUILD OUR LINE TO SUIT WHAT WE KNOW SELLS TO OUR TRADE!

BUT MORE IMPORTANT, MAJESTIC'S DISCOUNTS MAKE IT A DOUBLY PROFITABLE LEADING LINE

## MAJESTIC'S NATIONAL ADVERTISING AND 8 MILLION ENTHUSIASTIC OWNERS MAKE **HOT NUMBERS HOTTER**

★ Here's one line that has every one of the four profit-making fundamentals for dealers! Already, in this complete 1940 line, Majestic has proved its ability to turn out red-hot "scoops." These hot numbers are backed up by a solid national advertising campaign . . . Life . . . Liberty . . . Collier's . . . Saturday Evening Post—with more to come! Majestic's production methods allow larger margins than you've ex-

pected. And, finally, Majestic's policy is "No quotas." We know some numbers are hotter than others, in various territories—and we realize that you know how to sell your trade better than anyone else! Majestic gives you every feature, every talking point that sells radio today—and gives you a free hand to use these points to your most profitable advantage! You can't ask for more than that! Write today for details!



**MAJESTIC RADIO AND TELEVISION CORP.**  
2602 W. 50th St., Chicago, Illinois  
Cable Address, "Majestic, Chicago"



**Automatic Record-Changer Combination.** Plays 10", 12" intermixed. No aerial, no ground; wired for television audio. American-foreign reception; automatic tuning. 6 tubes. Model 2C60P



**Turns On Tuned In.** Touch of any button turns it on, tuned to station! 9 tubes. Gets everything. No aerial, no ground; television audio wiring. A hot leader! Model 3C90.



**No Aerial, No Ground.** Permeability-type automatic tuning. Majestic Hi-Q Loop Antenna, Majestic Static Bi-Pass. 6 tubes, 2 wavebands; Standard U. S., 538-1720 kc, and foreign, 6.8-18 mc Model 2c60. Ask your distributor the cost—it'll amaze you.



**Smart Beauty in Plastic.** Typical Majestic table model! No aerial; no ground; Majestic Hi-Q Loop and Static Bi-Pass. 6 tubes, including ballast. Standard U. S. Broadcast, 538-1720 kc. An eye-catcher with a profit in it! Model 250-W.



**Double-Value Eye-Catcher!** With radio off, a beautiful ivory or onyx plastic clock with gold-and-silver mirror face. Switch on; it's a 5-tube super-heterodyne; 4" e.d. speaker; 538-1720 kc range. Shown on with radio dial lighted. Model 5T and 5T0 Traffic builder when used with a flasher.



**Miniature Broadcasting Station.** Plays records through radio or its own speaker; 4-tube phono oscillator amplifier. Improved crystal pickup; Self-starting constant synchronous speed motor with automatic stop. Model 4PW.

**8 MILLION SATISFIED OWNERS OF OLD *Majestic* ARE RED-HOT PROSPECTS FOR NEW MAJESTICS**

# Farnsworth

## THE LINE IS HOT!

PRACTICALLY EVERY DEALER who has seen the Farnsworth Line for 1940 has over estimated list prices from 10 to 20 dollars per set. Model for model, feature for feature, Farnsworth is simply more radio for the money — every model in the line is "HOT".

**Everyone Was Amazed** For example, at the sensationally low price of the impressive console model illustrated. (AC-70), tall and stately, of richly figured rare woods, it brings a note of distinction to any home. 8-tube superheterodyne circuit; Flo-Lite dial; three wave bands, 540 to 1600 KC; 1.6 to 5.5 MC; and 5.5 to 18.1 MC; six station push-button tuning; statically Bilt-In-Tenna; automatic volume control; continuously-variable tone control; 12-inch electro-dynamic speaker; phonograph and television-sound connection (Television Bridge). Dimensions: Height 40"; Width 27"; Depth 12½". *It isn't matched in any line!*



## ORDERS ARE PILING IN

ENTHUSIASM shown by distributors when Farnsworth's 1940 Line was introduced in August has spread like wildfire among dealers from coast to coast . . . Orders are piling in . . . Production lines

are in high gear at Farnsworth factories in Marion and Fort Wayne . . . The outstanding VALUE of Farnsworth Radios is today's BIG NEWS in the Radio Industry.



Production lines hum in modern factories at Fort Wayne and Marion, Indiana, as 1940 Farnsworth models get ready to go on display in dealer stores . . . coast-to-coast.



Carload shipments attest sweeping acceptance of the 1940 Line by distributors and dealers. Illustrated is one of the first cars of Farnsworth Radios bound for the Pacific Coast.



Consoles, combinations, table models . . . all are flowing smoothly off the lines to fill the ever increasing need for replacements on dealers floors.

# FACTORIES

## *are going strong*



### PRODUCTION BOOKED SOLID THROUGH OCTOBER

The facilities of the Farnsworth factory at Marion are already going at top speed to keep up with orders that are pouring in as a result of universal enthusiasm on the part of dealers who have seen this startling new line.

### TERRITORIES BEING CLOSED RAPIDLY

The fast pace set by Farnsworth in closing distributor territories is being duplicated by distributors closing dealer franchises throughout the nation. This flood of orders continues to keep the Fort Wayne office open long after normal hours — YES, Farnsworth is going strong! and there is no lessening of the pace that has aroused the interest of the entire industry.



### LOW LISTS — WITH WIDE MARGIN FOR DEALER

Another big reason why dealers are so enthusiastic about the new Farnsworth Line is that their tremendous high values at low lists are matched by margins that enable a dealer to make a real profit on every sale — there are no "duds" in the line — every model stands out as a real profit maker. If you haven't investigated this new profit opportunity DO SO TODAY — see your distributor or write

### READ THIS From a TYPICAL DISTRIBUTOR REPORT

"30 Dealers bought  
(substantial orders  
— in many cases)  
purely on strength  
of PICTURES and  
DESCRIPTIONS"

Quotation  
above is  
from an  
actual letter  
(name on re-  
quest)... Con-  
clusive proof  
of the outstand-  
ing salability of  
Farnsworth.

**FARNSWORTH TELEVISION & RADIO CORPORATION**  
FORT WAYNE and MARION, INDIANA

# *Thanks to You* **MR. DEALER** **FOR YOUR VOTE OF** *Confidence*

**ANOTHER GROUP OF SALES-BUILDERS—Just off the Production line**

**WESTINGHOUSE RADIOS**

**20<sup>th</sup> Anniversary Series**

**1940**



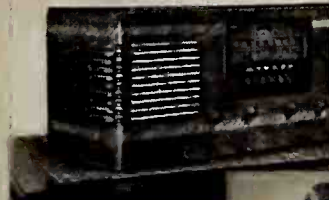
You can celebrate this year with unprecedented sales by stepping out with the celebration radio line . . . *the Westinghouse 20th Anniversary Series!*

Here is an entirely new line of radios specially designed, constructed and priced to celebrate the 20th Anniversary of the first radio broadcast from Westinghouse Station KDKA. Every model in this 1940 group was developed to be particularly worthy of this important radio event! In appearance, performance, and value they are truly distinguished radios . . . offering you a most attractive profit opportunity!

The style of each model was created by the foremost designers of radios in America today. Cabinets were constructed of exquisitely grained, carefully matched woods. Their distinctive beauty attracts instant attention and admiration.

Then too, these 20th Anniversary radios have been engineered and constructed for superior, dependable performance. Simplified chassis design, improved assembly, and high quality, precision-built parts give each model results well above its price class. Here is demonstrable performance that helps build sales, satisfied customers and repeat business.

It will pay you to investigate these Westinghouse 20th Anniversary Series radios. Celebration prices enable you to offer "more-for-your-dollar" values, yet make a substantial profit for yourself. Get complete details and de luxe Sales Book from your distributor today!



**MODEL WR-274**  
A seven tube table model with edge-lighted slide-rule dial and push-button tuning for six stations.

**MODEL WR-470**  
A five tube table model radio-phonograph combination with push-button tuning for six stations.



**MODEL WR-374**

Eight tube console with 12-inch dynamic speaker, edge-lighted slide-rule dial, and push-button tuning for six stations.

**MODEL WR-474**

A deluxe eight tube radio-phonograph console combination with automatic record changer, 12-inch dynamic speaker, edge lighted slide-rule dial, and push-button tuning for six stations.



**Westinghouse** *Precision* **RADIO**

# DYNAMITE AND RAYTHEONS HELP DISCOVER "BLACK GOLD"!

Blasting their way through the back hills of the Southwest, modern geologists hunt oil deposits with charges of dynamite and delicate amplifiers to measure the sound waves returned from underground rock formations.

Firms like the Geophysical Supply Company of Houston, Texas, supply RAYTHEONS to the major oil companies for this equipment. Because RAYTHEONS are the one tube they have found that can take the terrific jarring and pounding of trucks driven cross-country, yet function in the circuit with laboratory efficiency! RAYTHEONS are almost always used in the "tough spots."

Where it is difficult for a tube to stand the work, RAYTHEONS are expected to come through—and they do. Yet the trade prices of RAYTHEONS are no more than tubes that will merely "get by" in easy home set conditions.

That is why you will find RAYTHEON tubes on the shelves of the serious servicemen and dealers—those who are making a successful business of servicing and replacement. They know they must give their customers the best.



# RAYTHEON

NEWTON, MASS. • NEW YORK • CHICAGO • SAN FRANCISCO • ATLANTA

"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS"



**THRILLING ON THE GRIDIRON . . .**

**TRAGIC IN YOUR BUSINESS**

If you as a radio tube dealer are losing sales to cut-price competition —you need the Tung-Sol plan which provides interference FOR you—not AGAINST you! ☞ You qualify under this *protected profit* setup and secure an adequate supply of Tung-Sol tubes without buying them—

**IF**, you now operate a growing radio service business free from interference with already established Tung-Sol dealers . . . can turn over a profit-protected tube stock three or four times a year . . . will make use of attractive displays and other advertising material for increasing sales . . . and have a reputation for maintaining standard prices.

**TUNG-SOL**  
*Vibration-Tested*  
**RADIO TUBES**

**IF YOU HAVE "WHAT IT TAKES"—WRITE US TODAY**

TUNG-SOL LAMP WORKS INC.  
 Dept. C Radio Tube Division

SALES OFFICES: Atlanta • Chicago • Dallas • Denver  
 Detroit • Kansas City • Los Angeles • New York  
 General Offices: Newark, New Jersey





# PICK THE WINNER WITH THE LINE THAT CLICKS!

## STROMBERG-CARLSON SALES UP 20%

### BIG VALUE - - BIG PROFIT UNITS DID IT!

In 1938 when industry sales fell back, Stromberg-Carlson unit sales jumped above those for 1937—and they were big profit sales for distributors and dealers, averaging \$109. This year, 1939, the remarkable value built into Stromberg-Carlsons is forging Stromberg-Carlson unit sales even farther ahead; has sent them up 20%, compared with the first 7 months of 1938.

You gain, in profits, when you pick the Stromberg-Carlson team, a powerful line of values backed up by an unflinching quartet — *Exclusive essentials for natural tone* like the Labyrinth and Carpinchoe Speaker; *Authentic designs* in varied woods; *Bigger units* that carry worthwhile profit; and *Aggressive merchandising*.

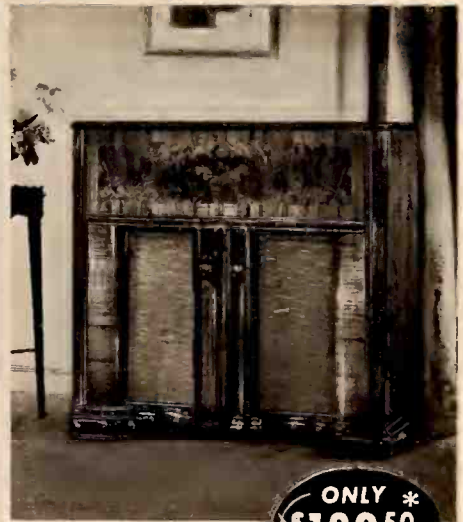
#### THE WAVE WIZARD

Provides Plug-in operation, without ground or aerial wires, of any radio. The Wave Wizard is non-directional and is not affected by metal objects. \$2.50\*



ONLY \*  
**\$99.95**

No. 430-M LABY-  
RINTH RADIO. Car-  
pinchoe Leather Speaker. Electric Flush  
Tuning. Bi-focal Tuning Indicator.



ONLY \*  
**\$139.50**

No. 420-PL AUTOMATIC  
RADIO-PHONOGRAPH.  
Electric-Flush Tuning. Bi-focal Tuning Indi-  
cator. Stromberg-Carlson 12 inch Speaker.  
Plays and shifts 10 inch or 12 inch records.

\*All prices f. o. b. Rochester, N. Y. Subject to change without notice.

*There Is Nothing Finer than a*  
**Stromberg-Carlson**

STROMBERG-CARLSON TELEPHONE MFG. CO.  
246 Carlson Road, Rochester, N. Y.  
Send full information on Radio's Finest Line.

Name.....  
Street.....  
City..... State.....

# 3 Important Questions

BY A RADIO TUBE RETAILER



**1. Can Sylvania give my business the big, dependable profits it needs?**

Absolutely. Sylvania prices assure you of maximum profit on every sale. One of the world's most popular tube lines, Sylvania's quality makes satisfied users . . . repeat customers.

**2. What about the product?**

Sylvania Tubes are kept up-to-the-minute by Sylvania's fine research and development laboratories. Only the finest materials and workmanship are used in their manufacture. And every tube carries a 6-month written factory guarantee—effective from date you sell it.

**3. I want company dependability back of the tube line I feature. Will Sylvania give it to me?**

Yes . . . for years Hygrade Sylvania has backed its retailers with full technical and sales assistance . . . plus sound business policies, designed for your welfare as well as Sylvania's.

WHY feature tube lines that can't give you what Sylvania does? Sell Sylvania and you get full measure on both company and product dependability.

What's even more important—Sylvania gives you *profit dependability*, too!

Let common sense be your guide—*Feature Sylvania Radio Tubes!*

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

## SELL SYLVANIA

SET-TESTED RADIO TUBES

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

IT'S THE YEAR'S...

# Sales Sensation

**NEW 1940 G-E MODEL H-87  
SETS THE PACE FOR ENTIRE INDUSTRY**

Equipped for TELEVISION Sound

**MODEL H-87** Compare these great features and specifications: 8 Tubes • 3 Bands • 9 Feather-touch Tuning Keys • 10 Watts Output • New 14-inch Dynapower Speaker • New Television Audio and Phonograph Key • New *Super* Beam-a-Scope • New Visualux Dial • New Drift-Proof Station Setting and many other new improvements.

Not in years has any radio model equalled the sensational success of this new 1940 G-E Model. It leads in features—in performance—in styling—in value. It absolutely dominates every radio showing in which it appears. It's priced for fast and furious sales action—and gets it.

This spectacular leader is typical of the entire line of new 1940 G-E Radio values. The 1940 G-E Radio line includes 34 brilliant plus-value models including a strong array of table models—radio-phonograph combinations—and record players.

See and hear these new G-E instruments. Get in touch with your G-E Radio distributor NOW.



**AN AUTOMATIC SALES-CLINCHER  
—THE G-E X-RAY SALES MAKER!**

This unique and exclusive silent salesman dramatizes the selling features of the new 1940 G-E Radio. The entire chassis is brilliantly illuminated. The entire sales story is told at a glance. Underslung turntable permits quick and easy demonstration of sales features—front and back of cabinet. Ask your G-E Radio Distributor to show you the G-E X-Ray Sales Maker.



New 1940 Model H-79

New 1940 Model H-600

New 1940 Model H-500

New 1940 Model H-632

New 1940 Model Electric Record Player HM-3

RADIO AND TELEVISION DEPARTMENT, BRIDGEPORT, CONNECTICUT

**GENERAL  ELECTRIC**



## IN 1939 *RADIO* WOULD FIND LIVINGSTONE

and save Stanley 8 months of hardships in Darkest Africa



**CALLING DR. LIVINGSTONE... CALLING DR. LIVINGSTONE**

UJJI in the interior of Africa, where Stanley met Dr. Livingstone in 1871 after eight months of desperate and difficult searching, is now but a fraction of a second via radio from the great cities of the world. Only about seven years elapsed between Stanley's famous "Dr. Livingstone, I presume?" and the beginning of the experiments of Heinrich Hertz which first unlocked the secret of wireless waves. Since then, within the life span of the average man, radio has become one of the most vital forces controlled by man.

And in that remarkable development the Radio Corporation of America has played a major role.

Motivating factor in all that RCA does is research in RCA Laboratories. From here come the developments which the various members of the family of RCA utilize in making radio serve the world.

R. C. A. Communications provides communication to and from 43 countries and among leading cities of the United States. The National Broadcasting Company offers entertainment, information, news, and enlightenment

to millions. The RCA Manufacturing Company makes RCA Victor Radios, RCA Victrolas, Victor and Bluebird Records, and every kind of radio equipment for broadcasters, laboratories, airplanes, police departments, and for virtually every other known application of radio.

RCA activities are portrayed in RCA exhibits at the New York World's Fair and the San Francisco Exposition. You are cordially invited to visit these exhibits for a more intimate understanding of the ways you can cash in upon the services of RCA.

Trademarks "RCA Victor," "Victor" Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc.



# RADIO CORPORATION OF AMERICA

RADIO CITY, NEW YORK

RCA MANUFACTURING COMPANY, INC. RADIOMARINE CORPORATION OF AMERICA RCA LABORATORIES  
NATIONAL BROADCASTING COMPANY R. C. A. COMMUNICATIONS, INC. RCA INSTITUTES, INC.

# RADIO *and Television* TODAY

## A Great New Season Starts!

We stand on the verge of the season of the greatest radio sales potentials we have ever known.

Sales, the like of which we have only hoped for, are this year possible and may provide a rising tide of golden profits if sold properly.

But, *if*, the more we sell the more we lose—because thousands of dealers across the land will let profits slip through their fingers, through rampant price cutting—this may be the beginning-of-the-end of retail radio distribution as we now know it!

If dealers will be honest with themselves, and their fellow dealers, this may well be the most profitable season we've known since the lush days of the "roaring twenties." But if dealers spend more time minding the other fellow's business than they do their own, and send up the alibi shout "It's that so-and-so down the street who starts the price cutting, but I'll show him!"—we may all lose our shirts.

\* \* \*

It's all so foolish, and elementary.

You are the "fellow down the street" to some other dealer. *He* is saying the same thing about *you*.

Most dealers outsmart *themselves* by trying to outsmart the other fellow. Most dealers *think* they must have a price advantage over their competition.

They want price maintenance to apply to the other fellow.

And all sink deeper in the morass of their own making.

In this web of screwy thinking we are caught—and are getting nowhere, fast.

We are all dependent upon others; whatever we do affects others, and must of necessity bounce back and affect us, too.

The whole problem would quickly be solved if dealers were loyal to those manufacturers and distributors who refused to sell unethical dealers and predatory price cutters, and refused to support those who put volume above all else.

And thereby furnished the basis whereby sincere manufacturers could forego this questionable volume and reputation with the assurance of loyal dealer support when they did so.

On the threshold of the season which may well be the "daddy of them all" dealers hold the answer to their own profits in their own hands.

Let's change the squealing and squawking of bygone days into positive, forward looking ACTION.

Let's really CASH IN on the golden profit opportunity that lies just ahead.

# Sales and Prices In Sharp Upswing

## War's Effects Felt in Increased Listening, Buying Power and Demand for Raw Materials

Radio dealers report to RADIO TODAY a sudden upturn in radio sales, already high, as people rushed to their stores to buy new radios—large, small, and portables—to follow the war's events as they happened.

Service men, too, were suddenly besieged by those who wanted repairs made in a hurry. Owners of all-wave sets demanded that these be tuned up to the peak of performance to get their news direct. Broadcast listeners needed new tubes and parts to restore disabled sets to operation.

One Chicago radio store reports more business in two weeks than in the previous two months. A fine suburban store in New Jersey reports a 50 per cent increase in radio sales. Service men find that demands for immediate repair service have come in so fast they have been kept on the job 16 and 18 hours a day.

### PRICES TAKE UPTURN

One manufacturer reports that orders on hand now, will keep his plant going full blast for the next 30 days, and the back orders continue to increase.

Another prominent set manufacturer states that at the present rate of orders coming in, production won't catch up for several months.

A leading parts manufacturer has been swamped with orders for replacement parts, and his normal production facilities cannot keep pace with the rising tide of demand.

Such has been the immediate ef-

fect of the war on the radio business.

But there are other important echoes of the booming guns, too.

Prices have begun to rise on raw materials, particularly non-ferrous metals, cotton, etc. Suppliers in many cases have withdrawn quotations on coils, wire, transformers, etc., working now on a day-to-day basis. Whether such price increases are speculative, and reflect the anticipation of future demand, or rise, it is probable that radio manufacturers' costs will go up, and may soon have to be reflected in higher retail prices for radio sets.

### EMPLOYMENT AND BUYING POWER

Some leading radio manufacturers have already announced price increases on certain models, though most express the intention of absorbing present increased costs as far as they can, in the expectation that added volume will reduce other costs and so pick up some of the advances in raw materials.

Increases in employment have taken place in radio and in other industries, beyond the normal seasonal increase, which in large part reflects the anticipation of broader demands resulting from the war.

### ADVICE TO RADIO MEN

Increased buying power thus set loose should sustain a more rapid increase in demand for consumers' goods, including radio, than has already been experienced during the first months of fateful 1939.

"Stocks should be kept well in hand, increased turnover should be encouraged, and established retail prices should be more nearly maintained," is the counsel offered to radio dealers and service men at this critical period.

The reboom of the radio business which RADIO TODAY saw, and predicted, three months ago, has now arrived.

The greatest radio season of them all is now reported from all sections of the country to be under way. It is significant, however, that the greatest increases in business are reported by dealers who had never relaxed their sales promotional efforts, and have now even increased them.



Stromberg-Carlson's Lee McCanne, who directs 3rd Annual Labyrinth Radio Tone Week, Sept. 23-30.

## War Crisis Brings Sudden Upturn in Listening

In the crisis immediately preceding the outbreak of World War II, with nerves taut, and tension high, the public turned to radio as never before. And radio measured up!

With trained reporters in all the foreign capitals, and calm, calculating analysts in home studios, listeners were kept advised of developments hour by hour. Actions and reactions were analyzed and interpreted in a manner which gave the public a clearer understanding of what was going on, with a celerity never before possible.

News was granted the right-of-way over all programs. Operating people stuck to their posts, and some stations went on a 24-hour schedule.

And the public responded, too. Countless thousands hugged their radios, in homes, offices, and automobiles en-route, for the latest news flashes.

Radio has measured up so well, thus far, that the war offers new and greater business opportunities than ever for radio sales, and service work. Alert radio men are cashing in.



At Farnsworth's Marion, Ind., plant, E. A. Nicholas, president, holds an image-dissector tube. At left is Ernest H. Vogel, vp. & gm.; at right, J. P. Rogers, vp & treas. and supervisor at Marion.



Philco's Harry Boyd Brown at Thompson & Holmes sales meeting, San Francisco, with Robert E. Crane, Cliff S. Bettinger, and James M. Skinner, Jr. Brown is to address the National Distribution Conference at Boston Oct. 2-3.

### Honors for Dr. deForest

Sept. 22 will be Lee deForest Day at the New York World's Fair. Dr. deForest will come East from his present home in Los Angeles, to be present at the events of the day which include a luncheon in his honor, and an evening dinner in the Merrie England restaurant. Later, on Sept. 27, at 8 p.m., a reception will be tendered Dr. and Mrs. deForest in the Jansen suite at the Waldorf-Astoria, New York City.

### Broadcasters Plan Thrills for New Season

Aside from the intense public interest in the news broadcasts in connection with the war abroad, the broadcast stations of the U. S. have also arranged unparalleled schedules of programs and talent for the coming season.

The broadcasters' "Curtain Raiser" programs start Sept. 24 (date of time changes in many communities) and will provide means for dealers and service men to tie in with their nearest radio stations, as outlined on a following page.

Radio men should contact nearest broadcast-station manager for full information.

### Our Orson Welles Cover

As the second in RADIO TODAY's series of "Programs that Help You Sell Radios," Orson Welles is particularly well qualified. Although only twenty-four years old, Welles has been in radio since 1934. Some of his programs in the last five years include: "The March of Time"; "The Shadow," which he played for two years; "First Person Singular"; and

"The Campbell Playhouse." The size of his audience was dramatically demonstrated last season when he frightened the daylights out of many an American home with his "invasion from Mars." Campbell's and Columbia have seen fit to renew his program for another year and with the usual Welles confidence he moves into the Sunday evening spot opposite Charlie McCarthy. While his competition will be keen there's no doubt about his ability to "help dealers sell radios." The selections he will record for Columbia disks should prove another product which his personality will help dealers to sell.

Since the ability to enjoy the \$100,000,000 worth of programs that are free for the dialing is the underlying motive in radio sales, emphasis on

radio features and personalities is the best sales inducement the dealer has. By keeping in touch with programs that are on the air, learning about new ones and those scheduled to return to the air, the dealer can insure his customer continuous satisfaction from both the beauty and performance of the radio and the hours of enjoyment it can offer.

### N. Y. Edison Offers Combinations at "60 Off"

With the slogan "The Greatest Show for Your Money," a sales campaign featuring a specially priced table model radio-phonograph combination, was announced this month to cooperating New York dealers and department stores by E. F. Jaffe, vice-president of Consolidated Edison Company.

The sets are entered under the Feld-Crawford Act at \$23 cash price for the AC model, with a total of \$24.50 for deferred payments of \$2.45 a month for ten months; \$26.50 cash price for the DC model, with a total of \$28 for deferred payments of \$2.80 a month for ten months. At the end of the sale—September 1 to December 15—this model will be placed in the maker's regular line at \$59.95 cash for the AC model and \$64.95 for the DC model.

Consolidated Edison System has underwritten the manufacture of 50,000 sets to start off the campaign, which will be participated in by approximately 800 cooperating dealers and department stores in Manhattan, the Bronx, Brooklyn, Queens and Westchester County. The radio-phonograph combination to be promoted is housed in a streamlined case of rosewood and imported Sapeli, approximately 16 in. wide, 9 in. high and 11 in. deep.



L. L. Kelsey, radio sales mgr. for Stewart-Warner, used a recorder to address 75 jobber-dealer meetings all over the country. His message was transcribed and a record mailed to each group.



Terminal Radio Corp.,  
68 W. 45th St., N. Y. C.,  
starts selling "on the street" with  
displays of wanted merchandise  
plainly price-tagged.



An attractive, clean, well-lighted store with merchandise ready for demonstration pays large dividends.

Sit 'em down to sell 'em. Comfortable customers  
will listen longer.



## Starting the New

### A Check List

*With business good, the little things n*

#### REMEMBER YOUR CUSTOMER LIKES

- A good assortment of wanted merchandise
- Truthfulness about the merchandise
- The same price to everyone
- Quick, courteous, accurate attention
- Attractive, clean, well-lighted store
- Chairs when witnessing a demonstration
- Courtesy and friendliness
- Honesty and promises always kept
- Neat, orderly displays
- Prices plainly marked in windows
- Interested salespeople
- Comfortable store
- Broad aisles—space to move
- Merchandise ready for demonstration
- Same service regardless of clothes or appearance
- To be remembered AFTER the sale too

*Remember that your treatment of your employees*





Same service regardless of appearance of customers is important in keeping good will. Remember too that youngsters make a sizeable market.



Neat, orderly timely displays create "buying urge" by first attracting the eye.

# Peak-Profit Season

Quick, courteous, accurate attention makes friends, influences people. Flash that smile!

## Things to Remember

More, because more people are affected

### BUT YOUR CUSTOMER DOES NOT LIKE

- Limited selection—little choice
- Evasiveness or "selling talk"
- Price haggling
- Inattentive—haughty salespeople
- Disorderly, dirty, dark store
- Too much pressure to buy now
- Curt or uninterested salespeople
- Mistakes or misrepresentation
- Disordered or dirty displays
- Long waits for attention
- Being told they are hard to please
- Overheated, poorly ventilated store
- Cramped, crowded store
- Long waiting, or fussing by salespeople
- Discrimination among customers
- To be SOLD and FORGOTTEN

It will be reflected by them to your customers.





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### A Check List of

*With business good, the little things mean*

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 Truthfulness about the merchandise  
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 To be **SOLD** and **FORGOTTEN**

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# Department Store Menace

**An analysis of some facts and figures which show how department-stores' policies keep their radio departments in the red, and menace independent dealers' profits.**

The merchandising policies of price-conscious department stores in the operation of their radio departments have long been a thorn in the sides of independent radio dealers. Confident that these great retail distributors of merchandise, long looked upon as the acme of merchandising skill, would not operate their radio departments at a loss, dealers were certain they bought at better prices, and sold more economically, than the independents could, and so could undersell the dealer and still make a profit.

## AUTHENTIC FIGURES

RADIO TODAY has carefully studied the "1938 Departmental Merchandising and Operating Results," as published by the Controller's Congress of the National Retail Dry Goods Association, in conjunction with a survey of several department stores' methods and policies.

The figures are typical, rather than from any one store. They portray a representative cross-section of depart-

ment store radio department operation.

They shatter many misconceptions of the *smartness* of department store merchandising, the *skill* of their operation, and the *soundness* of their policies.

They expose glaring faults to view.

## VAUNTED SKILL DEFLATED

Buying skill appears to have taken wing and flown away. Profits have been sacrificed on the altar of store-wide policies.

Selling has been mechanized to a high degree and dissatisfies customers with a startling high frequency.

Management has lost its old-time flexibility, and fails to correct conditions which are obvious, and basically unsound.

Good will, prestige, customer satisfaction, profits, all have been sacrificed in the radio department at the shrine of *volume*.

Truly department stores should ask themselves the single question "What price volume," and put their house in order. Long sustained operating losses add nothing to the department stores' reputation, may in fact build up a small-dealer antagonism which may one day become an important, if not vital, factor in their future.

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## Four Headaches of the Dep't-Store Man —

1. High Stock and Low Turnover.
  2. Low Mark-on and Margin.
  3. High Customer Returns.
  4. High Cost of "Buying Volume."
- 
- 

## FACTS AND FIGURES

Let's look at the figures, and study them.

The tabulation on page 17 shows the vital statistics of radio department operation in stores of five big groups, according to their annual sales volume.

While the figures vary a little from group to group, and in general, margin increases and expense decreases as total store sales go up, we will analyze the figures of the typical store, the composite of all the stores, large and small.

## PLENTY OF VOLUME

In this typical department store, total sales are \$2,632,000 per year, and .7 per cent of this, or \$184,240 is the radio sales volume.

A mark-on of 40.2 per cent is good, compares favorably with that of independent dealers, and is better than the store average of 39 per cent.

Gross Margin of 30.5 per cent shows an unusually high shrinkage of mark-on—due of course to the mark-down and service costs being high. These factors, however, being present; must either be removed by more skillful buying and merchandising, or compensated for by a correspondingly higher mark-on, even if it does conflict with the store policy of "price consciousness."

Markdowns of 9.2 per cent are an index of buying judgment, and point plainly enough to a stock badly depreciated by obsolescence, bought above the market, or to too many special sales events based upon price.

## STOCK TOO HIGH

A stock turn of 4.3 times per year is less than half of what it should be, and is an indictment of the store-wide policy of having everything the customer asks for.

This turnover indicates an average stock of \$25,700 at cost, of which 6 per cent is more than one year old. Plainly enough this indicates a lack of buying skill, and the result of the price-conscious store-wide policy of special sales. From every special sale there is a residue of unsold and returned merchandise, which slowly ac-



cumulates and freezes working capital in an overvalued, slow-moving, and too high stock. Either markdowns are taken to move this stock at once, which eats into margin, or interest, insurance, warehouse rent, and reconditioning expense are increased, open-to-buy vanishes, and losses have to be taken in a desperate attempt to thaw out the stock.

### BAD BUYING AND SELLING

Merchandise Returns of 19.8 per cent, which means that 1 in every 5 customers was dissatisfied, is a sad commentary on buying judgment and selling methods.

Not only does it strike at store good will, but it simultaneously increases the cost of doing business. It creates a condition which is economically unsound, reflects poor merchandising and poor merchandising. This condition should be corrected by better selection of better quality radio, training salespeople to sell honestly, and by putting emphasis on what the set will honestly do, rather than on price alone.

### WRONG POLICIES

Store-wide policies not appropriate for radio, beyond any question, are responsible for this pathetic merchandising showing.

That these conditions are getting worse is indicated by the increasing net loss, 3.9 per cent in 1936, 5.9 per cent in 1937 and 7.5 per cent in 1938.

The fallacy of the "volume" policy is shown in the simple fact that with a decline of only 3 per cent in sales, the loss increased 1.6 per cent but in 1937 with a substantial gain in sales volume, the loss increased 2 per cent.

Profits of course, cannot result until the merchandise is sold, but when policies and methods are such that the bulk of sales are obtained at short margins, then volume is not the controlling factor in producing profits.

### WHAT PRICE "POLICY"

More skillful buying could easily save 3 to 5 per cent of margin, operate on a stock half the size, and save at least 2.5 per cent in interest, insurance and occupancy expense.

Better training of sales personnel, less sub-quality off-brand radio, and less overemphasis of price, should cut returns to not more than 5 per cent, and thus save at least 2 per cent in Bureau of Adjustment, Delivery, Bookkeeping, and Selling expense.

A reduction of 4.5 per cent in expense, and an increase of 4 per cent in margin, would change a 7.5 per cent loss into a 1 per cent net profit. Such then, is the answer to the question "What price policy?"

Broadly speaking, misguided or uneconomic policies pay their own re-

## Department Stores' Radio Dept's, 1938 Operating Figures

Typical Store	\$792,000		\$1,590,000		\$3,467,000		\$7,135,000		\$16,072,000		All Groups \$2,632,000
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	
Total Sales	\$71,280		\$111,300		\$243,190		\$499,450		\$1,285,760		\$184,240
Radio Sales	39.2	38.7	41.9	39.2	42.5	40.4	43.0	40.9	43.9	42.0	40.2
Mark-downs	7.5	12.6	7.1	7.4	7.2	10.6	7.0	9.2	7.9	8.1	9.2
Stock Short	0.6	1.9	0.4	0.9	0.7	0.9	0.7	2.0	0.8	1.3	1.4
Service Cost	1.6	5.2	0.4	3.5	2.8	4.6	1.3	3.4	3.1	4.8	4.3
Cash Discount	1.2	0.9	1.2	0.9	1.0	1.0	1.2	1.1	1.2	1.2	1.1
Gross Margin	33.9	26.1	38.3	31.2	36.2	30.4	38.5	31.9	37.1	32.4	30.5
No. of Stock Turns	4.8	2.0	6.2	3.7	6.9	4.6	6.5	4.2	7.5	4.7	4.3
% of 1937 Sales	87.0	75.0	120.0	98.0	129.0	100.0	129.0	111.0	118.0	96.0	97.0
% Store Sales	1	0.9	0.7	0.7	0.7	0.7	0.7	0.7	1	0.8	0.7
Misc. Returns	13.3	20.1	12.5	20.5	12.6	22.3	11.5	17.2	13.6	19.2	19.8
Aver. Sale, Spring '38	24.69	17.93	28.42	23.46	33.92	21.90	26.49	13.45	21.60	10.53	19.46
Fall '38	22.73	15.75	31.87	24.14	33.42	21.76	27.16	14.19	23.69	11.55	18.99
Sales per Sq. ft.	64.00	44.00	48.00	29.00	61.00	39.00	69.00	29.00	65.00	35.00	35.00
Stock—											
Under 6 months old	94.0	77.0	98.0	89.0	99.0	88.0	96.0	86.0	95.0	92.0	88.0
6-12 months	2.0	9.0	2.0	7.0	1.0	6.0	2.0	8.0	3.0	5.0	6.0
12-18 months	4.0	8.0	0.0	2.0	0.0	3.0	2.0	3.0	2.0	2.0	6.0
Administrative	9.0	9.2	6.6	7.2	6.9	7.9	6.0	7.0	6.6	6.8	7.5
Occupancy	3.1	4.1	5.0	5.6	4.6	5.4	3.7	5.3	4.2	6.2	5.9
Publicity	4.8	5.6	4.8	5.6	4.5	7.1	4.8	7.0	5.4	7.3	6.8
Buying	3.4	6.7	3.7	4.1	3.0	4.1	3.8	4.4	3.0	3.6	4.4
Selling Salaries	13.9	12.9	9.4	10.8	8.4	9.2	6.9	7.8	5.1	6.1	8.6
Selling Expense	1.6	1.9	1.4	1.8	2.3	2.3	2.6	2.6	2.8	2.7	2.3
Delivery	0.6	1.6	0.9	1.4	1.9	1.7	0.8	0.9	1.6	1.6	1.6
Total Expense	36.4	42.4	31.8	37.9	31.6	38.3	28.6	36.4	28.7	35.2	38.0
Profit or Loss, 1938	-2.5	-16.3	+6.5	-6.7	+4.6	-7.9	+9.9	-4.5	+8.4	-2.8	-7.5
1936		-5.1		-4.9		-4.9		-2.8		-0.5	-3.9
1937		-12.0		-9.2		-7.6		-7.2		-0.4	-5.9

wards. But in this case not only are department stores affected, but the entire radio trade is made to suffer, is in fact menaced, by these conditions which are obvious, unsound, and uneconomic.

### POLICIES MENACE THE INDUSTRY

Their correction is indicated, and that right quickly, for there are other methods of low cost distribution raising their heads to challenge the price, and volume policies of department stores.

Department stores and independent dealers have the same ultimate interests, the same basic problems, and may soon have the same competitive foe.

From the foregoing, dealers may

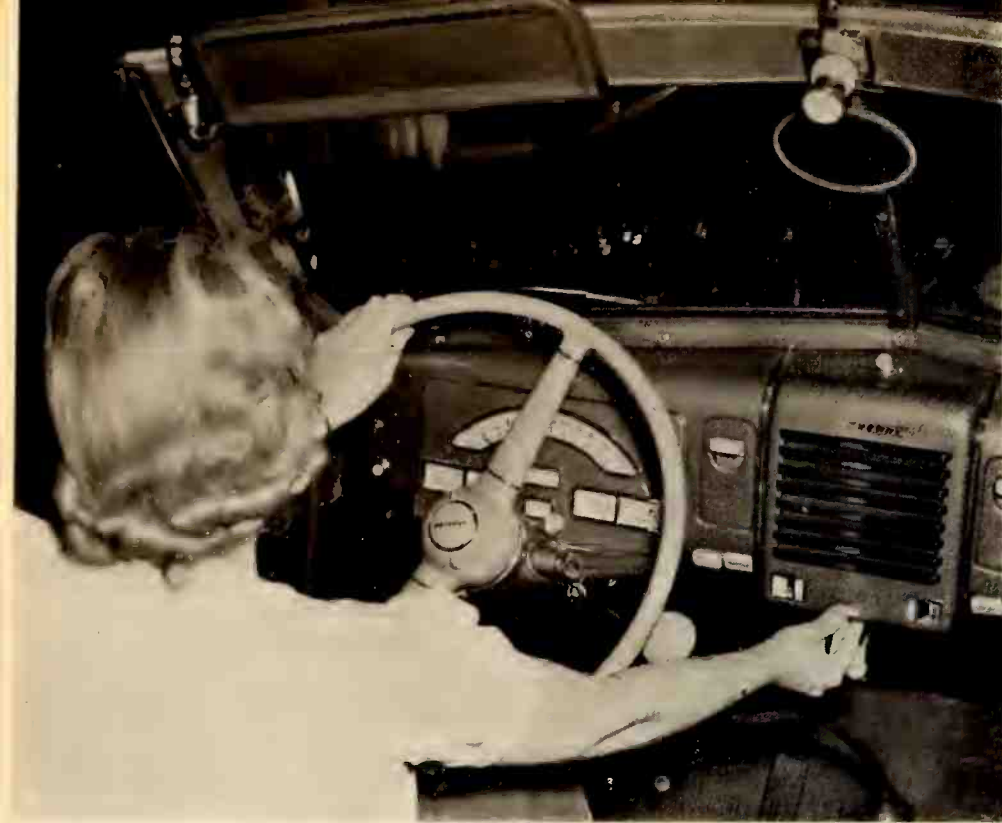
learn the results of some common practices, may take to themselves and profit by the misguided efforts of others.

By permitting such conditions to continue to demoralize the radio trade, department stores will forfeit the respect with which most in the retail craft look upon them, may in fact augment a growing antagonism and disrespect which will one day be a real factor to reckon with.

In the conduct of a department store, as in any other business, there is no substitute for clear thinking, sound policies, and a fast acting management, in keeping a step in advance of the current tempo, and making the solution of each problem yield a profit.



**"It's the man who installed the radio. No one can find how to get him out!"**



The trend in controls is toward safety and simplicity. Push-button-tuning models are featuring simplified adjustment by the owner. The single tuning button Philco model shown, offers convenience and safety.

**Visible antenna systems, simple dial-faces, dashboard speaker-grilles now standard equipment**

## Automobile Radio for 1940

The radio engineers have left Detroit for home. Some are even on vacation. The automobile purchasing agents wiped the blood off their chisels and wrapped them in oiled rags until next year. But there is activity—lots of it—in radio plants whose salesmen came home with the auto radio contracts. For the 1940 auto radio season is in full swing productionwise. Sets are beginning to arrive in Detroit, and preproduction samples are already in new automobiles on their way to dealer show-rooms.

Let us have a preview of these sets and see what the engineers have been doing.

There is a striking keynote to the 1940 theme—struck for the first time and proclaiming that the automobile engineers and stylists have at last welcomed radio and made a place for it in their cars. Every 1940 automobile but one will appear in the show-rooms this fall with a neatly styled speaker grille and push button escutcheon in the center of its instrument panel. And should a new car buyer insist that radio be omitted, a dummy section of instrument panel will be supplied to cover the omission.

### LARGER SPEAKERS, BETTER TONE

This universal feature is interesting. It makes one suppose that perhaps there is a best way, and all are doing the job that best way. If it falls short of being best, it is at least very good, for tone quality has never been so satisfactory. The exaggerated

Woomp of some of the 1938 and 1939 bass notes may be missing from the instrument panel sets, but their place is taken by a melodic and natural bass response. Larger speakers are partly responsible, eight inches being the rule and six inches the exception.

Tuning controls have received a lot of attention and they, too, reveal a similarity that indicates the finding of the Best Way. Five or six buttons in a horizontal or vertical row beside the speaker grille accomplish the tuning, and in several sets the end button operates a three or four position tone control.

### EASIER TUNING AND SET-UP

It seems just a little bit surprising that the "single-button" tuning system failed to take a stronger hold. The number of users has not increased for 1940. However, the single-button tone control was borrowed from this system and placed at the end of the row of tuning buttons as above mentioned.

The trend in controls is toward safety and simplicity, particularly that phase of simplicity that permits even the most inexperienced car owner to set up a selection of stations on his push buttons without having to use a screwdriver or its substitute in the shape of a dime.

Some of the higher priced sets tune by a solenoid, relieving the user of all but a feather-touch of pushing effort on the buttons. The others have improved mechanical systems, so that rarely is as much as a pound

and a half needed to depress the stiffest button.

Dial faces are becoming rudimentary but still legible and illuminated to harmonize with the rest of the panel instruments. The most accepted form is a narrow straight calibration strip parallel with the row of buttons.

Antenna systems display a pretty definite trend. Insulated running boards have departed and taken tire static with them. Antennas have demonstrated their right to be seen and not heard, with the result that a neat chromium whip will be seen on the well-dressed 1940 car. Many will be worn primly over the windshield dividing strip, others more jauntily from the left door hinge. The real Beau Brummels will conceal their rod antenna in a cylinder inside the cowl, and send it skyward at the touch of a valve on the manifold vacuum line. Some very clever spring devices have been put to work at foiling the driver who insists upon entering his low garage door at the cost of his antenna.

### SETS EASIER TO INSTALL

If the automobile engineers have made it easier for their own dealers to install their own sets, they surely have not made it any harder to install the set made by the earnest independent manufacturer. Generally speaking, all sets will be a lot easier to install in the 1940 cars than they have been in previous cars. This fol-

(Continued on page 53)



This modern and attractive store of the Royal Home Equipment Co. in Glen Cove, N. Y., is a fast growing, well diversified business.



Owner Ed Hauschild is a friendly fellow, with some mighty sound ideas. Here he discusses credit terms with a customer, informally, in the privacy of his office. Customers like his friendly, natural, sincere manner, and send their friends in to "get acquainted" and to buy.

## Dealer in Action



Whether it's portable radio, compact, console or combination, Royal has a good assortment, and suggests that prospects feel, handle, and operate them, because all people want to, and many may not ask to.



Washers and lighting are sold all the year round, to those who have bought radio, records, or refrigerators, and furnish their full share of prospects for the other products too.



The Service Department is on the job to see that radio and appliances "do their stuff" as the customer expects. It brings in a lot of new customers, too, who eventually buy radio.



Records, too, are featured and prove to be real traffic builders, as well as a constant "bread and butter" profit maker. Used in window display they attract new customers. Everyone should know you carry traffic items like records.



People that buy radio in the Fall are fine prospects for refrigerators in the Spring and Summer, and Royal's customers are invited to see the new models regularly. Note that the price is plainly marked on the "box," too.

# Building Sales Through Window Display

**What your windows mean, and how to use them to their full advantage. Some timely display ideas**

Your windows are seen by customers and your hoped-to-be-customers alike. They are your ambassadors. To many they give the first impression of your store. And their cumulative effect on the minds of passersby is an important factor in bringing new people into your store.

The first function of any window display is to attract attention, of course. But to bring new customers into your store it must do much more than merely attract the eye with line, mass, color, motion, light or novelty.

The broad function of a window display is to create the urge to "see closer," to touch, to own the article, all so irresistibly that the observer comes into the store—and buys.

## MAKE DISPLAY BASIS CLEAR

To accomplish this broader function, a window must have a basic idea, so obvious and so perfectly clear, that it leaves a lasting impression on all who see it. Everything in the window, merchandise, price signs, decorative trim, must all play their part,

and *add* to the clarity of the basic idea—never confuse, or distract. The story of the window must be entirely obvious, must never leave observers to "figure it out." They won't try.

Window display themes are varied, and may carry any of the following ideas.

1. Introduction of new merchandise.
2. The assortment of merchandise you carry.
3. The price range of any product or line of products.
4. Association of your merchandise or store to local events.
5. Seasonal appropriate merchandise suggestion.
6. Suggest variety of use of articles displayed.
7. Tie in with national magazine advertising.
8. Time to replace old merchandise.
9. Quality of the article displayed.
10. Pride of possession, human interest, educational.

With the introduction of new merchandise, the use of a large "blow-up" of a very young baby, in its mother's arms, as the background, in color, for a simple display of the new product, and a streamer sign, "It's our new baby," will never fail to attract attention, and leave a lasting impression.

## DRAMATIZE LOCAL EVENTS, NEW MERCHANDISE

The size of your assortment can well be related to "every color in the rainbow" with the rainbow in colors, as the background, and the particular article you are pushing as the "pot of gold at the rainbow's end."

The association of your store with local events, holidays, etc., is more institutional than direct sales promotional. An American Legion convention, for example, might well be the occasion for a display of the flags of the allies, around the medals of valor of local recipients, and a blowup of marching troops as the background.

Corn in the shock and pumpkins, against a background of a full moon suggest the harvest season. A turkey suggests Thanksgiving, as does the Mayflower, Plymouth Rock and the Pilgrim Fathers.

Vacation accessories will create much more interest when shown in windows which depict their use, than when a sign simply states "vacation needs."

## MUST SHOW 'EM—TO SELL 'EM

In all window displays, light is an important factor. Colors must not clash, lines must lead the eye to the focal point of the idea, and masses must be in balance. Motion will attract the eye, and give more life to a display.

Prices should always be plainly marked, for their absence conveys the impression they are too high, and frequently will deflate a growing urge to possess the article displayed.

Thought, time, and planning, are essential to the building of good window displays, the best of, which are seldom the most elaborate.



Uncrowded simplicity with broad assortment makes this an attention-compelling window. Natural "eye-lines" lead attention to best units. Dealer is Wurlitzer, 120 W. 42nd St., N. Y. City.

## WINDOWS HELP REPUTATION

Displays should be changed frequently, probably every week, because the same people pass your store almost daily, and they will talk about the new things they see, when they are interesting enough.

Windows of course, should be kept spotlessly clean, and the display clean and in order.

The eye makes an appeal more than ten times as important and lasting, as does the ear which is the next most effective sense.

Windows are really entrances to your store, for, while the body may go through the door, the eye enters through your window display and leaves an impression on the observer.

## Broadcasters Promote New Radio Season

Under the leadership of the National Association of Broadcasters with headquarters at Washington, D. C., the broadcasting stations of the United States will launch a "Curtain-Raiser" promotion campaign Sept. 24, with the return of standard-time schedules.

Special broadcasts, speeches, civic-club meetings and local radio-industry drives are planned, the purpose of which is to (1) increase the hours of listening, (2) increase the number of listeners, and (3) restore to operating condition the hundreds of thousands of radios now out of commission.

Accordingly it is planned to have the broadcasters co-operate locally with radio dealers, radio service men, and electric-light officials, who will be interested in selling more radios and putting existing sets into operation.

## WINDOW DISPLAYS FOR RADIO STORES

Broadcasters are being supplied with window-display layouts to be installed in the show-windows of radio and electrical dealers, department stores, utility companies, and banks, and are urged to make their own staffs of employees and artists available to local radio merchants for store and window demonstrations.

NBC, CBS and Mutual will have special "Curtain-Raiser" programs during the week of Sept. 24, to launch the new Fall radio season, and to get public interest in radio off to a flying

start. Local programs, newspaper ads, lobby displays, and show-window demonstrations will all concentrate on the message: "Get a new radio, or get your old one repaired."

## Census to Include Radio Statistics

Reflecting the relation which radio bears to American standards of living and the influence which it carries as a major U. S. industry, the 1940 census will include statistics on radio ownership. The RMA and NAB and other industry organizations will cooperate in acquiring the information. While the decennial and general population census of 1940 will be limited, the RMA has been advised that radio data may be secured under a new national census of housing, authorized by the last Congress with an appropriation of \$8,000,000. The federal housing census will include "utilities and equipment" and will be a national, not a sampling, census. Complete coverage will be effected on all items included. Arrangements are being made by RMA and NAB to secure as complete radio-ownership statistics as possible in the new census.

Copies of this display have been sent to all broadcasting stations by NAB, with the suggestion that local radio dealers be enlisted to use their windows for similar exhibits promoting the opening of the Fall listening season, Sept. 24, when the change from summer time takes place. Radio dealers should consult their local broadcasters.



## Record-Players Mean Record Profits

With a public more music conscious than ever before, records are re-booming at an accelerating pace, and so set the stage for a profitable opportunity in record player and combination sales.

With music preferences so sharply divided between the modern swing addicts, the sweet music lovers, and those who prefer the reproduction of the "music of the masters," it is obvious that radio alone cannot satisfy the divergent musical desires of a family at all times.

Here, then, is the very basic reason why records are so fast increasing in popular demand, and your strongest "urge to buy" combinations and record players.

Alert dealers are proving that a very large percentage of their radio customers can be sold some form of record player from the automatic combination to the simple pick-up and turntable. Every such sale is a step-up—plus business and plus profits, besides bringing the customer back to your store frequently for record purchases.

Some dealers make the mistake of trying to sell only the big combinations and so miss a large part of their potential sales.

If record players are displayed with the compacts, portable and table model combinations with the larger table models, straight-combinations with the smaller consoles, and the automatic combinations with the large

consoles, every radio buyer will have to see a record player in the general size and price class in which she is interested. Then if no customer is sold a radio without being told about the record player and its advantages, the combination to plain radio sales ratio jumps up so fast as to startle you. Such is the experience of many dealers who find substantial improvement in their average unit sale, and a higher profit ratio results from their efforts to sell the combinations.

### ENTHUSIASM SELLS 'EM

When the results begin to surprise you, and your enthusiasm grows, you'll be surprised again to find that the increased results more than keep pace with your rising enthusiasm and your selling efforts.

Records and record players are a natural for the radio dealer who will sell them right, though they mean little to those who don't like to work very hard for their business.

You've got to sell combinations, but they can be sold. In fact, they are easier to sell than ever before, now that they are available in every price range.

### Radios for the Blind

"See that every blind person has a radio" is a motto which local welfare workers are following out. While many blind and invalid persons are financially able to buy adequate sets, there are many more who would not get radios unless such sets are do-

## "CAP" SAYS—

### A Blow to Legitimate Profits

When a great utility and hundreds of small dealers, and many large ones, combine to sell a radio-phono combination at "60 off" in the country's largest market, it's going to make the going pretty hard for those who think the industry and the dealer should make legitimate profits.

Nothing could offer more convincing evidence to the buying public that "Only saps pay retail prices." No stronger blow could be struck at the whole principle of our Fair Trade Laws.

Or am I wrong?

\* \* \*

If so, then the industry may look forward to a rapid increase in "discount buying," and accelerated penetration into the radio market of the great chains and mail order houses, and dealers will take a much shorter discount to compete, and like it, or else.

You can't fool the public all the time, and it looks at this time as though some smart interests had out-smarted themselves.

I'll stand on that statement, and let TIME prove it.

\*H. L. M. Capron was for many years assistant controller of R. H. Macy, New York, manager of radio departments of Macy's and Bamberger's, and previously executive with John Wanamaker. "Cap" has been in contact with radio since 1909 and has pioneered many merchandise innovations. Before joining RADIO TODAY he was engaged as business consultant to dealer groups.



Miss Helen Keller at her GE radio. Miss Keller—herself blind, deaf and dumb—has been an indefatigable worker for the cause of radios for the blind.

nated. Junior League and other workers are, therefore, approaching their well-to-do friends with this proposition:

"That old radio of yours is out-of-date and should be replaced with a modern set. The radio man who sells you the new set has agreed with us that he will overhaul the old radio and put it in the best possible condition. Then we will send it to poor, old blind Mrs. Jones—as a gift from you! In this way you will have the double satisfaction of having a fine new 1940 radio for yourself, and giving a helpless blind person uncounted hours of pleasure." The offer usually works, and a fine new radio is sold.

# The Sensational RCA Victor

## K-80 K-60 K-50

### Are Bringing the Console Business Back with a Terrific Bang!

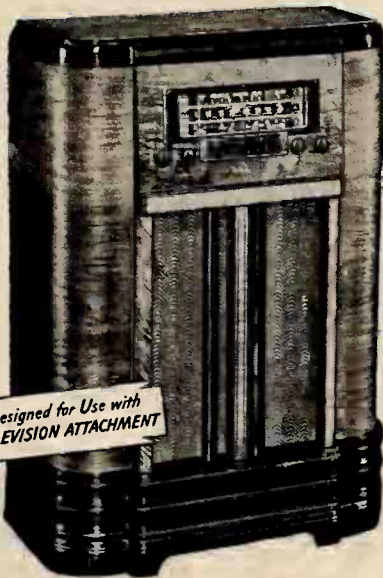
Get your share of this **Big Set, Big Volume, Big Profit** Business by pushing these sales naturals!

JUST when a good many folks were reading the console out of the radio picture, RCA Victor comes up with three consoles that are selling like hot cakes. No longer need you mourn the loss of the big set business... just get behind K-80, K-60 and K-50 and you'll think you're back in the heyday of the console.

Yes... America still buys value whether it's in big packages or little. Just rub your eyes... look at the features... look at the values from cabinet to speaker! Then go out after the profits!

For finer radio performance  
—RCA Victor Radio Tubes.

Trademarks "RCA Victor" and "Magic Eye"  
Reg. U. S. Pat. Off. by RCA Mfg. Co., Inc.



Designed for Use with TELEVISION ATTACHMENT



IT'S A GOLD MINE!

K-80

Everything big, everything modern! No outside aerial needed... has built-in antenna... 7 tubes plus Famous RCA Victor Magic Eye... 3-Band Radio... Plug-in for Television Attachment or Record Player... 8 Push-Buttons... 12" Electrodynamic Speaker. Cabinet 42-1/2" high, 28" wide, 14-11/16" deep.

A ONCE IN A LIFE-TIME SENSATION!

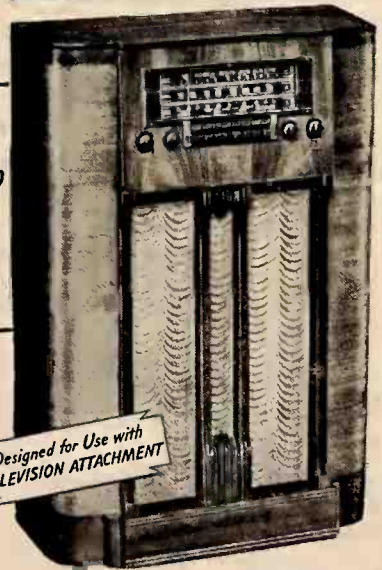


K-60 No outside aerial needed... designed for use with Television Attachment! New 3-Band, Super-sight Streamlined Dial! 6 RCA Victor Tubes! Push-Button Tuning for 8 Stations! Plug-in Connection for Television Attachment or Record Player! Many other features!

A BONANZA! K-50



Built-In Loop Antenna... no outside aerial needed... Push-Button Tuning for 6 Stations... Large Full-Vision Dial... Powerful 12" Dynamic Speaker... 4 Watts Output... Plug-in for Television Attachment or Record Player.



Designed for Use with TELEVISION ATTACHMENT



Designed for Use with TELEVISION ATTACHMENT



# RCA Victor

RCA Manufacturing Co., Inc., Camden, N. J. • A Service of the Radio Corp. of America

# Know Your Dry Batteries

## Tips on stocking, displaying, and selling replacements for the popular new portable radios

It's been a long time since the radio dealer has handled dry batteries in quantities now demanded by portables, so alert dealers, these days, are brushing up on their dry-cell knowledge and checking their stocks in preparation for a profitable replacement business.

### KEEP 'EM COOL

The time-tried and tested advice of keeping the batteries in a cool, dry place still goes. As everyone knows, the dry battery is not dry at all; instead, its very life depends upon the moisture contained in the electrolyte. Excessive temperature has several bad effects upon the life of the battery. It hastens the drying-out of the electrolyte; it speeds up the chemical action between the zinc case and the electrolyte (thus perforating the case and drying out the active elements); and it expands the paste solution of ammonium chloride and zinc chloride. In the latter case the salts deposited on the side walls and top seal finally bridge across, from zinc cup to carbon pole, and short-circuit the cell. Such are the detrimental actions of excessive heat. A basement storage place is good if it is not damp, for moisture will speed up corrosion of the zinc shell.

A supplement to the cool-and-dry rule is "keep them clean." With the portable batteries all using plug-in connections, dust and foreign matter such as metal particles, are factors that lead to shortened battery life and consequent consumer dissatisfaction.

### ROTATE YOUR STOCK

Batteries, like many foods, are perishable. Because of the drying of the active materials of the cells and the slow but certain chemical action, a

battery may destroy itself without ever being put into service. As a mutual protection, some manufacturers have dated their dry batteries to indicate the limiting date when the units can be put into service and still deliver their rated ampere-hours. This date usually follows the time of manufacture by an interval of six to thirty months depending upon the particular type of service for which the cell has been designed. The usual time period for radio batteries is eight months, during which time the cell loses a small percentage of its original life but will still deliver its rated capacity if put to use on or before the date specified. By some, this date stamped on the cell has been associated with the end of the life of the battery, which is certainly not the case. To prevent getting caught with batteries after their date mark, keep a record of your stock and see that the older units are moved first. It isn't practical to stock all types and sizes of batteries because of their definite shelf life, unless the demand is sufficient to give the necessary turn-over.

### USE DUMMIES FOR DISPLAYS

People who use portables seem to have the peculiar faculty of deferring replacement of batteries until the last spark of life has flickered out at some crucial moment. The average user must therefore be reminded by attractive displays, posters and advertisements that now is the time to replace those jaded batteries. The accompanying graph of voltage vs. hours' life quickly shows the sudden "death" of the cell after a gradual depreciation of power and also demonstrates why replacement before the "dropping-off point" insures continuous service.

Attractive window displays should be made up using dummy batteries, and lithographed display cards, ob-

### Dry Battery Pointers

1. Keep batteries cool, clean and dry.
2. Replace dead batteries; prevent corrosion.
3. Sell units before the end of their shelf life.
4. Sell batteries in complete sets.
5. Stock only fast moving types.

tainable from manufacturers, in lieu of actual batteries. If real cells were used, a considerable investment would be necessary, and the sun and heat in the usual display window would fade the labels, crack the sealing compound, and ruin the merchandise. Batteries are also heavy and therefore complicate display racks, etc.

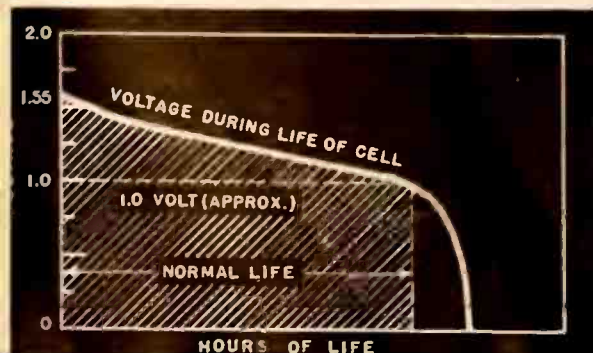
### REPLACE BEFORE CELLS GO DEAD

The compact compartments in some of the new portables do not offer much choice in the make of battery to be used, but standardization on sizes and plug connections will come out of the present chaos, as soon as the futility of "cinching" the replacement market with queer batteries becomes more apparent.

The tight squeezes found in some models make it absolutely necessary to replace batteries at the end of their useful life in order to avoid leaking, swelling, and the corrosion that will certainly play havoc with the metal parts of the receiver. Point out this fact to every owner of a portable radio, using as analogy experiences with flashlights that every one, at one time or another, has left lying around until the dead cells ruined the case.

The life of radio batteries is based on intermittent service and is considerably longer than the life that would be obtained on a continuous drain. The usual hour-life statements are made on the basis of three to four hour use per day and of course are dependent upon the current drain of the set. The average five-tube portable

(Continued on page 37)



Voltage of the typical dry battery drops very rapidly when the zinc case is eaten through, because the electrolyte dries out. While the cell-voltage is still quite high, few ampere-hours of life remain in the cell.

# CROSLLEY RADIO

"has

what it takes for 1940"

NEW INNOVATIONS, TELEVISION  
OUTLETS, BUILT-IN AERIALS, IM-  
PROVED PUSH-BUTTON TUNING.

ENTIRELY NEW AND AMAZING  
**CURVEFLECTOR**  
TONE  
DISTRIBUTOR



**YOU'RE THERE WITH A CROSLLEY**

Measured by tube performance you'll give a customer more radio for his money with the Crosley line.

Measured by prestige you're presenting one of the oldest names in radio.

Measured by quality there's no finer radio construction. Check the highest price sets for specifications like these . . . cadmium plated all metal spot welded chassis compensated for all temperature changes . . . switches with silver plated contact points . . . ball-bearings in tuning mechanisms . . . etched dials . . . individually balanced speakers.

## The startling effect of the **CURVEFLECTOR**

tone distributor is that radio has no directional sound. Tone floods the room. One is conscious of greatly increased fidelity. It recalls the finest radio you ever heard,—which was probably the most expensive you ever saw. We feel safe in saying that Crosley CURVEFLECTOR Radios sound the equal of those twice their price. This definite contribution to radio art is at **NO PREMIUM**—The Crosley Radios that incorporate it are as **ALWAYS** the *most* radio for everybody's dollar.

### PRICES PLUS PROFITS

The Crosley line begins at \$7.99, a low priced standard quality set to meet ANY competition—20 low priced, high profit table models for easy step-up from price leaders. 3 consoles from \$39.95 to \$69.95. 3 radio-phonograph combinations from \$49.95 to \$114.50. 2 portables beginning at \$18.50 including batteries. 3 auto radios beginning at \$14.99—8 long-life battery sets.

*Prices slightly higher in South and West*

## THE CROSLLEY CORPORATION

POWEL CROSLLEY Jr., President CINCINNATI

WLW—Home of "the Nation's Station"—  
70 on your dial.

See the Crosley Building at New York World's Fair



ABOVE—Combination radio-phonograph with Caphart Automatic Record-changer—superheterodyne circuit, push buttons for tuning favorite stations—incorporates new CURVEFLECTOR (tone distributor) an amazing sound haffle that provides greatly improved tone. Constant speed motor—highly sensitive pickup—\$114.50.

BELOW—SEXTETTE bakelite table model—no ground connection required. Push buttons tune favorite stations. Knob tuning with edge lighted etched glass dial. Design of cabinet and assembly of speaker provides unusual tone for such a small set—\$14.99.



ABOVE—Exclusive Portable radio operating on batteries or AC-DC current that contains automatic changeover switch. (Plug in when near any socket). Saves batteries. Cord concealed. As in all Crosley radios—more performance per dollar—\$23.95 including batteries.

BELOW—Large 3 band CURVEFLECTOR Console. Radio's greatest value today—improved push buttons tune favorite stations. Big cabinet provides unusual sound haffle for extraordinary tone—\$69.95.



Hotels are using recorders to make souvenir discs for guests. Shown here is Presto portable unit.

# There's Money in Recorders

Opportunities and profits for radio men



The approach to prospects such as advertising managers, sales managers, actors, school executives, public speakers, etc., is necessarily one of social contact. To reach men in the market for recorders get their friendship. Golf outings, local clubs, and organizations are all places where prospects may be contacted. Recorders themselves are easily sold once the prospect is convinced your store is the place to purchase it. So make friends and contact people such as those listed on this page.

No small-price item, a recorder usually retails for well above \$150 assuring an adequate profit-return for time spent in contacting special prospects.

## RECORDER PROSPECTS ARE CREAM OF CROP

When the recorder market is opened up the customers must be continually reminded that they need more records, that you are able to service the machine, and also that you carry radios and other merchandise. Customers for recorders are excellent prospects for your other lines since they are almost all in the higher-income brackets.

Another method of contacting possible customers is to set up a part of the store as a recording studio. Many department stores and other large advertisers use recordings to give sales messages to their prospects. Get them to make the recordings at your store and a profit can be realized on the records and the service rendered. All the people on the list of prospects are first in the market for recordings. Then if they come in often sell them the recorder itself.

Since advertising must be directed at a selected group, direct mail is the obvious answer. One letter, or even one group of letters, is never enough to base any estimate of the market reached by direct mail. Continued  
(Continued on page 57)

## PROSPECTS FOR RECORDERS AND USES TO SUGGEST

- Broadcasting Stations ... Recording special programs and all broadcasts.
- Advertising Agencies ... Recording auditions. Sending advertising messages to prospects, etc.
- Ministers ..... Send sermons to small population areas in far removed districts. Self-instruction.
- Teachers and students of voice, music, drama.... Teachers may point out strong points or defects in students' work.
- Musicians, vocalists, instrumentalists ..... Applications for auditions. For self-criticism.
- Music Lovers ..... To make recordings from radio or other source of favorite selections.
- Sales Managers ..... Meetings all over the country may be addressed simultaneously.
- Conference Committees.. Recording important business conferences.
- Theatres ..... Sound effects, etc.
- Actors ..... Recordings to send friends; to apply for parts in distant plays.
- Vaudeville, cabaret and concert artists ..... Auditions, souvenirs, practice.
- Detectives ..... Recording descriptions of lost persons, witnesses, etc.
- Doctors ..... Experimental work (as recording heart phenomena), etc.
- Lawyers ..... Recording depositions. Preparing and practicing for cases.
- Night Club Managers ... Fill in records when orchestra absent. Souvenirs for guests.
- Police Departments ..... Recording witnesses' stories, etc.
- Schools ..... Correcting defects in speech, etc. Making records of important speakers.
- Large Stores ..... Advertising sales with "personal" recordings.
- Hotels ..... Recordings to guests as souvenirs.
- Homes ..... Children's voices, parties, amateur theatricals, musical programs.

**IN TEST  
EQUIPMENT  
Successful Service Men**

*Stick to fundamentals*

Successful servicemen stick to test equipment which measures in fundamental quantities. The reasons are obvious:

Fundamental test equipment *never* grows obsolete . . . eliminates those frequent, costly equipment replacements due to circuit changes. The pointer on a good instrument tells, *exactly*, the true condition in the circuit under test . . . leaving nothing to chance or guesswork. In addition, *it's simple* for any serviceman to check a fundamental instrument for accuracy.

Remember, when buying your next equipment, that all WESTON test units measure in radio fundamentals. That's why WESTON radio instruments remain serviceable for years . . . *never discarded, never idle*, because of changes in receiver circuits. Remember, too, that WESTON instruments are used by practically all leading manufacturers because of their greater dependability . . . greater economy. This name also is *your* best assurance of dependability and satisfaction in radio test instruments. The coupon will bring you complete data.

**WESTON**  
*Radio Instruments*

WESTON ELECTRICAL INSTRUMENT CORPORATION  
581 Frelinghuysen Avenue, Newark, N. J.

Send full information on WESTON fundamental test instruments and WESTON tube checkers.

Name.....

Address.....

City..... State.....



WESTON Model 772 Super-Sensitive Analyzer (sensitivity 20,000 ohms-per-volt). Big, dependable 50 microampere WESTON meter. Broad ranges meet every test requirement for receivers, transmitters, auto testing, television, sensitive relay circuits, etc.

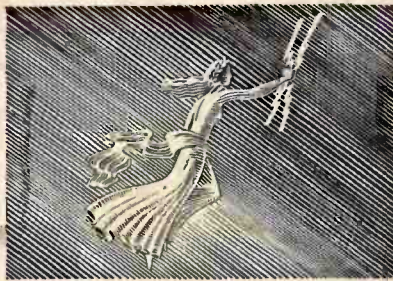


WESTON Model 669 Vacuum Tube Voltmeter. Direct reading, measures gain per stage—r.f. amplitude in oscillator circuit of superhets—all test on AVC circuits, PA systems, and all measurements where high frequency is a factor.



**WESTON 773 "quick-test"  
Tube Seller**

Like WESTON fundamental instruments, this attractive counter tube checker has been designed for speed, simplicity and dependability. Minimum number of proved switches assures long, trouble-free operation. Rotator tube chart simplifies test procedure. Makes all tests on all tubes. Impressive looking, in polished wood case. Also available in portable carrying case.



## WE HAVE CROSSED THE THRESHOLD OF TOMORROW

For twenty years we here at Wholesale Radio Service Company have blazed new trails in Public Service. Scarcely a phase of the communications field has been left untouched during the years of our growth. Today thousands of discriminating buyers in every land are listed among our satisfied customers. For into every shipment we have always put more than just top-flight merchandise.

It has been this spirit of extra service that has enabled us to grow from a modest shop into a world-wide organization. We operate seven retail branches

today, with three giant central distributing points from which flow thousands of shipments daily.

As we have grown however, so too have grown the demands of the people we serve. Industry, for new and better materials; individuals, for finer instruments and forms of reception. We have lived to see many new developments replace the old, many of our former services, once essential, no longer required.

In fact, our very name for so many years perfectly adapted to our business now belongs to yesterday. It does not fit with our plans for tomorrow.

*Naturally, we were attached to our old name, but sentiment has no place in progress. And so from now on we shall be known as*

## **Radio Wire Television Inc.**

*A name selected because it accurately pictures the very business we are engaged in.*

*What do we mean? Let's look at that name more closely.*

**RADIO:** Up through the years we have grown and expanded with Radio—very backbone of our business. Yet even in the face of today's magic, life-like reception, much remains to be done. So naturally Radio Broadcasting will continue to engage our interest.

**WIRE:** A new service gaining momentum with each day is WIRE BROADCASTING. Already many of today's entertainment forms are available by means of wire with great fidelity, reliability, and economy. We believe that soon the art of broadcasting by wire will encompass the transmission of both sight and sound. Every current technological development points to this end.

**TELEVISION:** Third and newest term in our name. Breath-taking is television's power to reproduce for man's entertainment and knowledge, the life and happenings of storied lands afar, the news events that will make tomorrow's headlines. With television a vast new field of human relationship is magically thrown open. Whichever way you choose to receive your television programs, by wire or radio, we will offer the finest services available anywhere.

The new name, thus embodies all of those features which from now on are to comprise the principal part of our business. Radio Wire Television Inc., proposes to extend its activities into every phase of the electronic art. Several associate enterprises which control important patents relating to the entire communications field have already been merged with our com-

pany. With these patents, we hope to throw open a vast number of new services to the general public. Of special interest are plans to expand the number of retail outlets for Radio Wire Television Inc. in order that local branches may be placed at the disposal of all who are interested in finer entertainment services, better products and lower costs.

*Radio Wire Television Inc., is licensed by arrangement with Electrical Research Products Inc. under patents of Western Electric Company, Bell Telephone Laboratories, Inc., and American Telephone & Telegraph Company.*

## **Radio Wire Television Inc.**

**formerly WHOLESALE RADIO SERVICE CO., Inc.**

NEW YORK • CHICAGO • ATLANTA • BOSTON • NEWARK • BRONX, N. Y. • JAMAICA, L. I.

# The Record

**Current record boom sets the stage for large sales of combinations and record players. Experience chart of sales, turnover and profit.**

When so many things seemed to be "going to the dogs" back in 1932, the sale of records declined to a mere 10,000,000 from their prosperity peak of something like over 100,000,000 discs sold in a single year.

Many who knew the record business well, thought the signs indicated the departing of the ghost of a once glorious business, and the obituary was written.

Radio had done its work.

But the very things which so many thought had killed the record business, were actually the things which have brought it back with a bang, full of life and raring to go.

Improved quality of recording, vastly improved electronic reproduction, and a fast growing nationwide appreciation of music, all directly traceable to radio, have combined to start records down the "comeback" road at an ever accelerating pace.

Radio men are passing up the butter for their bread if they longer overlook the growing merchandising and profit possibilities of records.

Records will substantially increase your store traffic, and a large percentage of profit on invested capital. A record department need add only the

salary of one person to your "out of pocket" expense now carried entirely by your radio or other merchandise.

Only a very small amount of space is necessary. Standard modern fixtures are available at low cost, which makes it possible to expand, as your business grows, with these uniform stock fixtures. Record bins, counters, display case counters, listening booths, can be added one at a time, at very little cost, with the knowledge that construction, finish and style will be identical.

## MODEL RECORD ASSORTMENTS

The smallest practical record assortment consisting of 100 popular, 40 standard, and 30 classical records, 31 album sets, and an appropriate assortment of needles, bags, catalogs, etc., costs the dealer \$260.91. This stock, which retails for \$376.25 should be ample to take care of a business of \$400 per month or \$5,000 per year. With an annual turnover of 13.3 times, and a gross profit of \$115.34 per turn, this little \$250 stock could pay you a gross profit of \$1,534 per year, and bring several hundred people to your store to see your new radio and combinations as well.

As your record business grows, your stock can be expanded as sales indicate, and your fixture units added as needed.

If you keep your stock carefully in line with sales, you can maintain a broad assortment of classical records and album sets. Experience indicates that you can produce the following results, indicated by careful merchandising:

Stock Cost of Stock	Sales Annual Sales	Profits		
		Turn over	Gross per turn	Gross per year
\$ 261.00	\$ 5,000	13.3	\$115.00	\$1,534.
517.00	11,000	15.1	215.00	3,240.
776.00	17,000	16.3	254.00	4,140.
1,025.00	25,000	18.8	341.00	6,416.

## Columbia—An old name and a new factor in records

Long before radio began, Columbia was an important factor in the record business, and long challenged the old Victor company for supremacy.

Buffeted by corporate difficulties in the late 20's, bought by Grigsby-Grunow in 1932, salvaged from the wreckage by the American Record Corp. and combined with Brunswick, the whole combine all but died from sheer inertia.

Bought by dynamic, fast-moving Columbia Broadcasting Corp. less than a year ago, thought and action has fanned the spark of life into a real flame.

### WALLERSTEIN PRESIDENT

Headed by Ed Wallerstein, of long and successful record experience, Columbia Recording Corp. is now ready to make its bid for its rightful place in this rebooming industry.

With CBS talent to draw from, and with an extensive catalog of serious music, the basis exists for a rapid and sound expansion of catalog, through modern methods of big names and fine orchestras.

Columbia will cover the whole field of recorded music in the modern tempo.

The Vocalion 35-cent record will be released weekly, merchandised keenly. With a reputation for timeliness of release, Vocalion will cover the popular dance, vocal and race record market.

(Continued on page 63)



Record department of Goldsmith Bros., New York City, shows A. Bitter equipment, designed to be purchased in units as record business grows.

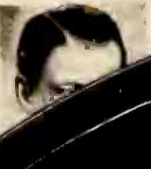




**NELSON EDDY**  
Columbia Blue Label



**ELLA LOGAN**  
Columbia  
Popular



**GENE KRUPA**  
Columbia  
Popular



**WALTER GIESEKING**  
Columbia Blue Label



**JACK TEAGARDEN**  
Columbia Pop

# COLUMBIA



**KAY KYSER**  
King of Sweet



**BENNY GOODMAN**  
King of Swing

## New Columbia BLUE LABEL Records

TODAY the new Columbia Blue Label Records are the talk of lovers of fine music. Produced in the world's largest, most modern home-record factory, these new records have a perfection of tone fidelity and of playing quality that is swiftly winning the endorsement of master musicians and music-lovers alike.

This new, finer quality, coupled with Columbia's roster of world-renowned artists, is bringing to Columbia Blue Label Record dealers more and more thousands of those who love—and buy—fine music, as each new month's releases are announced.



**ORSON WELLES**  
Columbia Blue Label



**TEDDY WILSON**  
Columbia Popular



**AL DONAHUE**  
Vocalion

## COLUMBIA RECORDING CORPORATION

Manufacturers of Columbia, Brunswick and Vocalion Records  
Bridgeport, Connecticut—Hollywood, California



**OSSY RENARDY**  
Columbia Blue Label



**MATTY MALNECK**  
Columbia Popular



**JIMMIE LUNCEFORD**  
Vocalion



**MARTHA RAYE**  
Columbia Popular



**EGON PETRI**  
Columbia Blue Label



**RAYMOND SCOTT**  
Columbia Popular



**HORACE HEIDT**  
Columbia Popular



**DICK JURGENS**  
Vocalion



ERIN TUCKER  
Vocalion



FELIX WEINGARTNER  
Columbia Blue Label



RAY NOBLE  
Columbia Popular



MARY HEALY  
Columbia Popular



JOSEPH SZIGETI  
Columbia Blue Label



DUKE ELLINGTON  
Columbia Popular



SIR THOMAS BEECHAM  
Columbia Blue Label



EDDY DUCHIN  
Columbia Popular



MILDRED BAILEY  
Vocalion



HOWARD BARLOW  
Columbia Blue Label



JAN GARBER  
Vocalion



NATHAN MILSTEIN  
Columbia Blue Label



EDWARD KILENYI  
Columbia Blue Label



HARRY JAMES  
Columbia Popular



COUNT BASIE  
Vocalion



MAURICE EVANS  
Columbia Blue Label

# CHALLENGES

*the Popular Record Field . . .*

*with a QUALITY RECORD at only 50¢*

## COLUMBIA SOLVES PROBLEM OF VOLUME AT A PROFIT!

NOW AT LAST comes a popular record so good that its amazing value price wins customers at once. Yet this price builds volume faster, and profit, too—a profit that will pile up at the end of the month, at the end of the year, into really important money for you.

### The Quality Record People Have Wanted!

Here is a new *quality* popular record—true, realistic recordings of the newest music by favorite artists—recordings that will *stay* true and realistic through countless playings. That means satisfied customers—customers who will return to the dealer's regularly for more Columbia Popular Records.

### Complete Record Service for Your Customers!

Thus the Columbia Recording Corporation, a subsidiary of the Columbia Broadcasting System, rounds out the most complete record line a dealer can offer his customers: Vocalion—the best 35c record available today—Monthly

releases of Brunswick Records of standard favorites—Columbia Blue Label Records of the world's greatest music at 75c and up—and now Columbia Popular Records at 50c.

### A Tremendous Record-Advertising Drive!

Big newspaper advertising is already breaking this sensational record news in a list of the country's leading newspapers. Powerful radio promotion of the new records will build sales, too. Posters, display material and listing-folders are directing fans to the Columbia dealers' stores. Strong advertising induces people to hear the new Columbia Popular Records, and hearing induces them to buy!

### Biggest Record News in Ten Years!

The music people want, recorded as they'd like to have it recorded, priced at a real value—Columbia Popular Records are the biggest record news in ten years. They mean bigger and better record business for every dealer alert enough to *cash in with Columbia!*

# COLUMBIA RECORDS

AT ITS BEST THROUGH COUNTLESS PLAYINGS!



NELSON EDDY  
Columbia Blue Label



ELLA LOGAN  
Columbia Popular



GENE KRUPA  
Columbia Popular



KAY KYSER  
King of Sweet



OSBORN WELLES  
Columbia Blue Label



FRED WILSON  
Columbia Popular



AL O'DAY  
Vocalion



OSSY RENHART  
Columbia Blue Label



MATTY MALNECK  
Columbia Popular



JIMMIE LUNCEFORD  
Vocalion



MARTHA RAYE  
Columbia Popular



EGON PETER  
Columbia Blue Label



RAYMOND SCOTT  
Columbia Popular



HOACE HEIOT  
Columbia Popular



DICK JURGENS  
Vocalion



WALTER GIESLING  
Columbia Blue Label



JACK TEAGARDEN  
Columbia Popular



JOHN TUCKER  
Vocalion



FELIX WEINGARTNER  
Columbia Blue Label



RAY NOBLE  
Columbia Popular



MALT HEALY  
Columbia Popular



JOSEPH SZIGETI  
Columbia Blue Label



DUKE ELLINGTON  
Columbia Popular



SIR THOMAS BEECHAM  
Columbia Blue Label



EDDY DUCHIN  
Columbia Popular



MILDRED BAILEY  
Vocalion



HOWARD DASILVA  
Columbia Blue Label



JAN DEENER  
Vocalion



NATHAN MILSTEIN  
Columbia Blue Label



EMORY PARNESS  
Columbia Blue Label



HARRY JAMES  
Columbia Popular



COUNT BASIE  
Vocalion



MAURICE EVANS  
Columbia Blue Label

# COLUMBIA

TRADE-MARK  
**COLUMBIA**  
RECORDS  
FINEST RECORDINGS OF POPULAR HITS  
BEST ARTISTS  
**50c**

BENNY GOODMAN  
King of Swing

## New Columbia BLUE LABEL Records

TODAY the new Columbia Blue Label Records are the talk of lovers of the music. Produced in the world's largest, most modern, noise-record factory, these new records have a perfection of tone, fidelity and of playing quality that is swiftly winning the endorsement of master musicians and music-lovers alike.

This new, finer quality, coupled with Columbia's roster of world-renowned artists, is bringing to Columbia Blue Label Record dealers more and more thousands of those who love—and buy—the music, as each new month's releases are announced.

### COLUMBIA RECORDING CORPORATION

Manufacturers of Columbia, Brunswick and Vocalion Records  
Bridgeport, Connecticut—Hollywood, California

# CHALLENGES

*the Popular Record Field...*  
*with a QUALITY RECORD at only 50c*

## COLUMBIA SOLVES PROBLEM OF VOLUME AT A PROFIT!

NOW AT LAST comes a popular record so good that its amazing value price wins customers at once. Yet this price builds volume faster, and profit, too—a profit that will pile up at the end of the month, at the end of the year, into really important money for you.

### The Quality Record People Have Wanted!

Here is a new *quality* popular record—true, realistic recordings of the newest music by favorite artists—recordings that will *stay* true and realistic through countless playings. That means satisfied customers—customers who will return to the dealer's regularly for more Columbia Popular Records.

### Complete Record Service for Your Customers!

Thus the Columbia Recording Corporation, a subsidiary of the Columbia Broadcasting System, rounds out the most complete record line a dealer can offer his customers: Vocalion—the best 35c record available today—Monthly

releases of Brunswick Records of standard favorites—Columbia Blue Label Records of the world's greatest music at 75c and up—and now Columbia Popular Records at 50c.

### A Tremendous Record-Advertising Drive!

Big newspaper advertising is already breaking this sensational record news in a list of the country's leading newspapers. Powerful radio promotion of the new records will build sales, too. Posters, display material and listing-folders are directing fans to the Columbia dealers' stores. Strong advertising induces people to hear the new Columbia Popular Records, and hearing induces them to buy!

### Biggest Record News in Ten Years!

The music people want, recorded as they'd like to have it recorded, priced at a real value—Columbia Popular Records are the biggest record news in ten years. They mean bigger and better record business for every dealer alert enough to *cash in with Columbia!*

# COLUMBIA RECORDS

THE LATEST... AT ITS BEST THROUGH COUNTLESS PLAYINGS!

# New Radio Models

## Latest Additions to the 1940 Lines



**Stewart-Warner Console**

★ Wired for television sound, this 6 tube AC super has built-in antenna, automatic bass compensation, 6-station push-button tuning, 10-inch speaker, police band and European short-wave coverage. Six new models including consoles, portables, and compacts have just been announced. O1-6E7 illustrated. Stewart-Warner Corporation, 1826 Diversey Parkway, Chicago, Ill.—RADIO TODAY.

**Belmont Table Model**

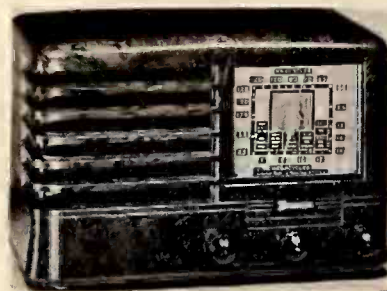
★ Six tube, two band AC/DC superhet features built-in antenna, 6-station automatic tuning, and RF stage. Stump walnut veneer finish. Band coverage, 1.5 to 4.0 mc. and 540 to 1,550 kc. Electro-dynamic speaker. Belmont Radio Corp., 1257 Fullerton Ave., Chicago, Ill.—RADIO TODAY.



**RCA Table Combination**

★ Featuring a viscaloid damped pickup, mercury off-on switch for automatic starting of the turntable, this 7 tube two band superhet is one of three new models. U-12 plays 10 and 12-inch records with the lid closed. Model T-62 is horizontal

table receiver with built in antenna, and connections for television sound. The third model is 40X30, a "little nipper" available in walnut or ivory finished plastic; 5-tube AC-DC chassis, and built in antenna. RCA Mfg. Co., Camden, N. J.—RADIO TODAY.

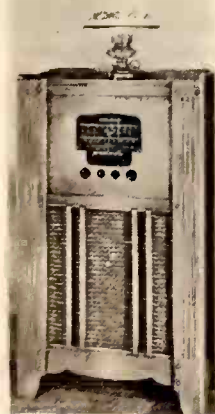


**Emerson Table Model**

★ A six tube, two-band superhet covers 5.6 to 18 mc and 540 to 1,730 kc. Other features include an acoustically designed cabinet, line filter, and wave trap. Underwriter approved model CS-268. List, \$22.95. Emerson Radio & Phono. Corp., 111 8th Ave., New York, N. Y.—RADIO TODAY.

**GE Universal Portable**

★ An AC-DC, or battery powered portable receiver, model HB-504, is a 5-tube superhet tuning 540 to 1,600 kc. Tuning condenser operates through reduction drive. Powercord compartment door operates the change-over switch. General Electric Co., Bridgeport, Conn.—RADIO TODAY.



**Stromberg-Carlson Period Console**

★ Three new additions to the current line are two table models and the early American Hutch console, model 420-F illustrated. The 7-tube superhet chassis features elec-

tric tuning for six stations, automatic drift compensation, and 12-inch speaker. Cabinet is of solid maple. Stromberg-Carlson Tel. Mfg. Co., 100 Carlson Rd., Rochester, N. Y.—RADIO TODAY.



**Philco Combination**

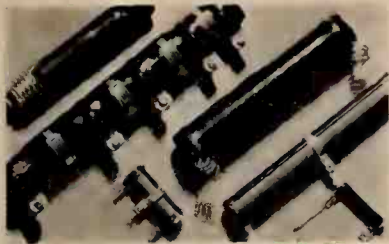
★ One of twenty-six new models is this 6-tube superhet with record changer for twelve 10-inch or ten 12-inch records. Other features are built-in aerial, 5 station push-button tuning, and RF pre-selection. Model 525. Philco Radio & Television Corp., Tioga & C Streets, Philadelphia, Pa.—RADIO TODAY.



**Admiral Phono Combination**

★ Automatic record changer, 7-tube AC superhet chassis, crystal pickup, and provision for television audio are a few of the features of model 392-7C. The record player handles 10 or 12-inch records. Tuning range includes broadcast band and 5,650 to 18,100 kc. List price, \$89.95. Continental Radio & Television Corp., 3800 Cortland St., Chicago, Ill.—RADIO TODAY.

# More New Things



## Ward Leonard Resistors

★ A new enamel structure that is crazeless withstands humidity, immersion and other tests, is being used on wire wound resistors. Ward Leonard Electric Co., Mount Vernon, N. Y.—RADIO TODAY.



## Solar Replacement Capacitors

★ Line of dry electrolytic capacitors, type DY, feature a new method of mounting in which base prongs on the unit fit into slots in the chassis and are cleated over. Solar Mfg. Co., Bayonne, N. J.—RADIO TODAY.



## Mallory Metal Tubulars

★ Complete line of single-section tubular capacitors with fabricated plate construction are sealed in aluminum cans covered with insulating cardboard cover. P. R. Mallory & Co., 3029 E. Washington St., Indianapolis, Ind.—RADIO TODAY.

## Stromberg Antenna

★ Built-in antenna unit that may be installed on any make radio uses the RF picked up on the power line wiring. Receiver power-cord plugs into unit and leads are at-

tached to set antenna and ground posts. Cord from unit plugs into power outlet receptacle. Stromberg-Carlson, 100 Carlson Rd., Rochester, N. Y.—RADIO TODAY.



## Consol. Wire Booster-coil

★ Booster-coil for auto antennas is contained in shielded tube for connection in series with antenna lead. Increases efficiency of auto radio aerials. Consolidated Wire & Assoc. Corps., 516 S. Peoria St., Chicago, Ill.—RADIO TODAY.

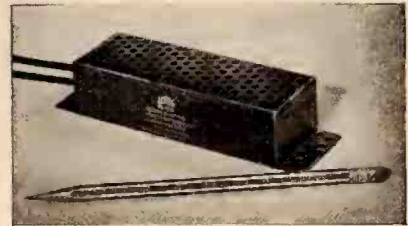


## Monarch Flash Light

★ A battery-less flash light employs a small lever operated generator to supply power for standard miniature flash lamp. Finger tip driving arm. Monarch Mfg. Co., 711 W. Lake St., Chicago, Ill.—RADIO TODAY.

## Na-ald Safety Interlock

★ Power line cord with safety disconnect feature for mounting on protection plate of chassis. Removal of plate disconnects the cord from male plug mounted on chassis. Alden Products Co., 715 Centre St., Brockton, Mass.—RADIO TODAY.



## IRC Control Resistor

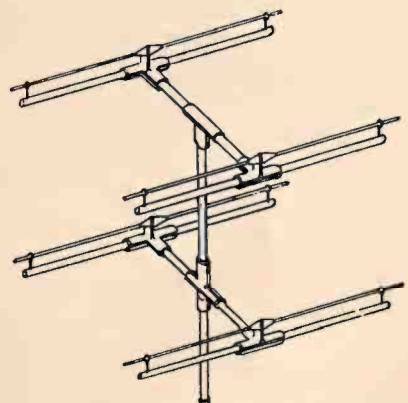
★ Type FL resistor designed for operation of fluorescent lamps. Insulated wire wound and tested at 1,250 volts. Sufficiently small to mount in any fixture channel. International Resistance Co., 401 N. Broad St., Philadelphia, Penn.—RADIO TODAY.

## Brush Headphones

★ Lightweight crystal headphones with yokeless cord design features hermetically sealed aluminum cartridge construction mounted in soft rubber jacket for comfort and shock protection. Model BJ. Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio.—RADIO TODAY.

## Allied Relays

★ Six and 12-volt DC and 6 and 110-volt AC relays are available in SPST, SPDT, DPST and DPDT, rated at 10 amps, 125 volts AC. Equal contact pressure distribution. Allied Control Co., 227 Fulton St., New York, N. Y.—RADIO TODAY.



## J. F. D. Tele Antenna

★ A line of single dipole antennas with and without reflectors and double dipole antennas with reflectors feature ball and socket universal joint for tilting array to any angle. Lacquered hard wood support arms, cast aluminum hardware, nickel plated brass rods. J. F. D. Mfg. Co., 4111 Ft. Hamilton Pkway., Brooklyn, N. Y.—RADIO TODAY.

# GREATEST PUBLIC ACC

## the No. 1 Pro

### DEALERS PREFER TO SELL PHILCO!

*Reasons given by dealers in a national survey*

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

The reason we go heavy on Philco is this: Philco has always been a set that the public wants and we believe the public will be more responsive than ever to Philco for 1940. It's a great line.

DAVEGA CITY RADIO, Inc., New York, N. Y.  
*Julius M. Smith*

Customers ask for Philco Radios by name, and when they are demonstrated, the performance is convincing.

SCHWEIG-ENGEL CORPORATION, St. Louis, Mo.  
*SB Singer*

Have sold Philco for ten years. Philco has the greatest public acceptance, and to prove it ... over twelve million Philco owners "CAN'T BE WRONG".

COLLMAN RADIO ELECTRIC, Johnico, Neb.  
*Arthur Callison*

With more sets in use than any other make, Philco has the greatest public acceptance and we naturally prefer to push this line.

STATE RADIO & ELECTRIC CO., Philadelphia, Pa.  
*Dave Sherman*

When you have spent 15 years in the radio game, handled most good lines, been in charge of wholesale and retail houses, you will naturally go to Philco. It is the one set that people will see for, even if you sell others.

LYNDEE RADIO SHOP, Springfield, Ohio  
*E W Lyndee*

Is it profitable to push Philco sets because they are acceptable to, or preferred by, more of our prospects.

C. W. PATE, Gadsden, Ala.  
*C. W. Pate*

Is it profitable to promote Philco because of the present public acceptance and the splendid performance of Philco merchandise.

COLLETTA PHOTOGRAPHY, Chicago, Ill.  
*Doc Schantz*

*For bigger volume and profit, decide now to push the line that most people ask for—and the one that most people prefer.*

**Dealers everywhere have been stirred to action by Philco's 1940 improvements, beauty and new low prices**

Philco leads with the trade as it leads with the public. An impartial survey recently made in all parts of the country shows again that radio dealers look to Philco as their No. 1 opportunity for profit.

With big dealers, medium size dealers and small dealers in every type of market, it's the same story. Philco leads in every factor you need to give you the most salable, most profitable radio proposition . . . over the long pull and over the short pull!

Check over the list of dealer comments made in the national survey. Read the excerpts from letters written by men who say what they mean. Match those statements against your own knowledge of what it takes to *make money* in radio.

Every one of those 14 points has made Philco the overwhelming radio leader for 10 straight years. And now, for 1940, Philco offers the greatest line in its history . . . exclusive features, unmatched performance, sensational cabinet designs, bigger values at lower prices. And from every corner of the country comes the emphatic conclusion:—

*It's Philco again for 1940 . . . the one line to concentrate on for volume and for profit*

# Philco All Year

## ... the Most Profitable

# ACCEPTANCE\* makes PHILCO an Opportunity in Radio!

Only PHILCO  
 gives you  
**ALL 3**

1. **"PLUG IN and PLAY" CONVENIENCE** No aerial or ground wires to install. Plug in anywhere . . . and play.
  2. **NEW PURITY OF TONE** Greater freedom from power line noises and man-made static. More enjoyable reception even in noisy locations.
  3. **SUPER-POWER** Even gets foreign reception without an outside aerial. *Amazing performance!*
- You Get ALL 3 with the Philco  
 Built-in Super Aerial SYSTEM**

## Philco Anniversary Specials

Brand new models, just announced . . . price leaders—traffic builders—sales makers! And they're the *feature* of the biggest nation-wide fall radio promotion ever staged. If you're not sharing the profits of this great Philco Anniversary Celebration Sale, get in touch with your Philco distributor—*quick!*

*Celebrating*  
**10 STRAIGHT  
 YEARS OF  
 LEADERSHIP**



**PHILCO 158F** A new value leader! Has costly F. Stage, never before offered in a console priced so low. 6 Loktal Tubes—all working! Unleashed power and purity of tone. For use with Philco Utility or attached wire aerial. Handsome cabinet.

**PHILCO 165K** Just out! Has built-in Super Aerial System that eliminates messy aerial and ground wires. Twin-Loop Aerial and triple-power Television Tube give clear, powerful American and foreign reception, even in noisy locations. Electric Push-Button Tuning. Walnut cabinet.

**PHILCO 525 Radio-Phonograph.** A triumph of tone, operation and performance at a moderate price. Automatic Record Changer for 12 records. Special phonograph circuit with doubled sound output. Built-in Super Aerial System. Electric Push-Button Tuning. Lovely cabinet.

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

**Sound for Profits All Year 'Round  
 Franchise in the Radio and Appliance Field!**

# GREATEST PUBLIC ACCEPTANCE\* makes PHILCO the No. 1 Profit Opportunity in Radio!

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11. Better Parts Service
12. Greater Sales Appeal
13. Sound Factory Policies
14. Most for the Money

The reason we do better on Philco is that Philco has always done a job that the public will not do unless the public will be sure to buy it. Philco is the only radio for 1940. It's a great idea.

Customer name: *John M. Smith*

Customers can see Philco radios by name, and when they are disappointed, the person is disappointed.

Customer name: *John M. Smith*

We have sold Philco for 10 years. Philco has the greatest public acceptance, and to prove it... over twelve million Philco owners. "It's No. 1!"

Customer name: *Arthur G. Williams*

We have sold this in one store for other makes. Philco has the greatest public acceptance and we are naturally prefer to sell this line.

Customer name: *John M. Smith*

Philco has about 15 years in the public mind, but they don't know it. Some in the name of Philco and some in the name of Philco. It is the name that people will see for, even if you will choose.

Customer name: *John M. Smith*

It is profitable to sell Philco only because they are acceptable to, or can be, more of our products.

Customer name: *C. W. Smith*

It is profitable to promote Philco because of the present public acceptance and excellent performance of Philco merchandise.

Customer name: *John M. Smith*

For bigger volume and profit, decide now to push the line that most people ask for—and the one that most people prefer.

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1. "PLUG IN and PLAY" CONVENIENCE No aerial or ground wires to install. Plug in anywhere... and play.
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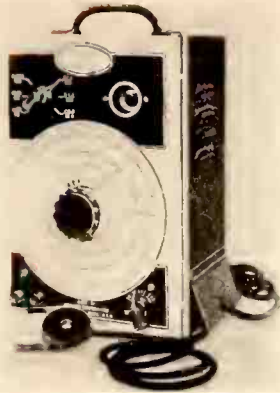
Every 1940 Philco Is Built to Receive TELEVISION SOUND... the Wireless Way

# Philco All Year 'Round for Profits All Year 'Round... the Most Profitable Franchise in the Radio and Appliance Field!



# New Service Products

Manufacturers' Equipment to Make the Serviceman's Job Easier



## Aerovox L-C Checker

★ A new instrument for checking the performance of condensers and coils at their designed frequency. A built-in oscillator covers the range from 60 kc. to 26mc. Capacitor range covers .0004 to 1 mfd. Resonant frequency of coil-condenser combinations may be determined and "Q" of circuit measured with use of vtm. Aerovox Corp., New Bedford, Mass.—RADIO TODAY.



## Browning Oscillator Coil

★ A 100-1,000 kc. oscillator coil designed for use in standard heterodyne frequency meter. Fixed silver cap condensers and permeability tuning hold close frequency tolerances. Type BL-2FS. Browning Labs., Inc., 750 Main St., Winchester, Mass.—RADIO TODAY.

## Simpson Tube Tester

★ Nine-inch scale indicating meter provides the attraction for new tube customers in the new model 325. Checks all types of tubes with filament voltages from 1.5 to 120 volts. Headphone jack provides for noise test. Simpson Electric Co., 5216 Kinzie St., Chicago, Ill.—RADIO TODAY.

## Rimco "Dynalyzer"

★ Radio servicing instrument checks all circuits in the set with the aid of single dial tuned RF circuits and vacuum tube voltmeter. Built-in dynamic speaker gives audible check on signals. Measures resistance to 10 megs; AC and DC voltages from 0.2 to 500 volts. Radio Instruments Mfg. Co., 625 W. Monument St., Jackson, Miss.—RADIO TODAY.

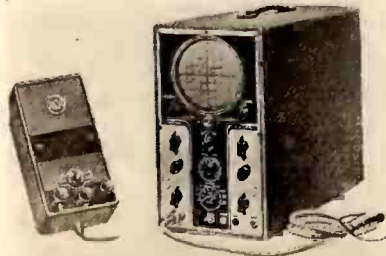
## GE Oscilloscope

★ A nine inch cathode ray tube is used in this new oscilloscope designed for television servicing. Wide band deflection amplifiers will handle any frequency from 5 cps. to 6 megacycles. Sweep oscillator operates over range of 10 cps. to 100 kc. General Electric Co., Bridgeport, Conn.—RADIO TODAY.



## Triumph Tube Tester

★ Testing all types of tubes now in use and making provision for future types, Model 440 is obtainable as either a counter-type or a portable instrument. Large roll chart and 3-inch meter make testing easy. Gas rectifiers, magic tuning eyes, and ballast tubes also tested. Price, \$32.95. Triumph Mfg. Co., Chicago, Ill.—RADIO TODAY.



## Hickok Tester

★ New appliance tester measures volts, amps, watts. Four ranges of power up to 2 kw. and current to 26 amps. Voltage scales 0-130 and 0-260. Low 20 watt range checks clock motors, etc. Hickok Electric Instrument Co., 10514 Dupont Ave., Cleveland, Ohio—RADIO TODAY.



## Drake Soldering Iron

★ A light weight soldering iron 8-inches long is rated at 60 watts and is fitted with 1/4-inch tip. Handy in close quarters. Drake Electric Works, Inc., 3654 Lincoln Ave., Chicago, Ill.—RADIO TODAY.

## Walsco Touch-up Kit

★ Complete kit of necessary materials for touching up wood, plastic or metal cabinets. Comes with instruction booklet and case for materials. Walter L. Schott Co., 5264 1/2 W. Pico Blvd., Los Angeles, Calif.—RADIO TODAY.

## Dayco Auto Tube Tester

★ Automatic tube tester checks 580 receiving tubes now in use by means of 185 perforated index cards which permit the correct circuit set-ups for short, emission, and leakage tests when side lever is moved. Model 401. Dayco Radio Corp., 915 Valley St., Dayton, Ohio.—RADIO TODAY.



## RCA Test Equipment

★ Three pieces of test equipment for television servicing consist of a crystal calibrator, 5-inch oscilloscope with wide-range deflection amplifiers, and an alignment oscillator furnishing television test signal. Coaxial cables connect RF and IF circuits to oscillator. RCA Mfg. Co., Camden, N. J.—RADIO TODAY.

## Aerovox Capacitor Selector

★ Two types of capacitor blocks for selection of capacitor-motor starting condensers by substitution method. 17 1/2 to 152 1/2 mfd. by switching in one unit and by plug-in leads in the other. Sections are paralleled until motor starts in proper time interval. Aerovox Corp., New Bedford, Mass.—RADIO TODAY.

(Continued from page 24)

draws about 0.30 amperes filament power and 10 or 12 milliamperes plate current.

#### BEWARE "RE-CHARGING"

Dry batteries should not be "float-ed" across any other source of power as an excuse of "recharging" or "filtering." Such a system does not recharge the batteries and actually shortens their life.

All the cells in an assembly of batteries in a portable will usually "give up the ghost" at the same time, and should be replaced at the same time. A fresh "A" battery alongside a near-defunct "B" set will bring the plate current drain up and thus finish off the "B"s in a very short time, usually when the set owner is far from replacements.

A new source of dealer profit is the sale of these small batteries for "radio where and when you want it." The new portables, definitely here to stay, are climbing to a new high in popularity, and are building up the replacement-battery market with them.

#### NEW DEVELOPMENTS

A new portable radio battery that is 47 per cent smaller and 1 pound lighter than the conventional 250 to 300-hour units of similar voltage rating has been accepted by twenty-eight manufacturers as a basis of design for their new models.

The same life rating is possible with this 45 volt "B" battery, because of more efficient use of space with a "wafer type" cell construction in which the zinc electrode is not used as a housing for the elements. This battery, the Eveready Mini-Max, is built up of carbon and zinc plate electrodes and "mix cakes" of electrolyte and depolarizer in a "sandwich" fashion. The individual 1½ volt cells of the battery make their own series connection when stacked and the only soldered connections are at the tap points. Reduction in weight without loss in service capacity is possible through the elimination of pitch sealing compound. With the majority of the new portables being designed for this battery, a definite step toward standardization has been made.

\* \* \*

#### Motorola Names Cox Sales Rep.

Tom Cox, has been appointed the Motorola sales representative for western New York, western Pennsylvania, Ohio, and West Virginia. He will be responsible for both Motorola car and home radio sales in this territory. Mr. Cox has a fine record of accomplishment in radio sales as he gained broad experience in the field with three well-known manufacturers before joining the Galvin Mfg. Corporation.

# Federal's NEW Recorder Triumph



## THIS NEW "PROFESSIONAL MODEL" 4-WAY FEDERAL RECORDER HAS EVERYTHING

This is the new Professional model, 16-inch Federal Recorder, incorporating many new and exclusive features found only in this instrument; other features up until now, included only with very high priced commercial recorders, and retaining all of the superlative characteristics of the original Federal machine. Demonstration under all conditions of work plus the many advantageous features of this new Federal triumph unquestionably distinguish it the finest, all-purpose recorder ever produced. But the best news of all is that its retail selling price remains at a low level, within easy access to every professional band, school, amateur recording laboratory, etc.

#### OVERHEAD, FULLY ADJUSTABLE, CUTTING HEAD

Note the overhead cutting mechanism. This assembly has an overhead feed screw of the type used invariably on the most expensive recording instruments. This entire feed assembly is readily removable from the recorder for easy and safe handling when the unit is in transport. This applies also to the turntable. A double-height cutting-head adjustment permits changing the depth of cut while recording. Two buttons on either side of the assembly release it from the feed screw, allowing it to slide back and forth to any point desired.

#### SPEED-GOVERNOR TURNTABLE

A 35-pound steel turntable on this 16-inch Federal Recorder acts as a governor or balance wheel, which maintains an even, solid motion and assures a smoothly cut record without vibration or speed waves.

#### SOUND MIXING FEATURE

Two inputs for microphone reception having individual volume controls, permit sound mixing under complete control of the operator. Thus, for example, music and the voice of the announcer may be recorded simultaneously, or sound effects from different locations may be recorded simultaneously. Has a 20 watt amplifier. A high-grade dynamic microphone is included with the 16-inch Professional Model Federal Recorder.

#### FOR BIG VOLUME RECORDER BUSINESS 4-WAY FEDERAL IS TOPS

The unmatched advantages of this 4-Way Professional Model Federal Recorder,—a wonderfully faithful recorder, a fine radio, a public address system, an electric phonograph,—combine with an attractive selling price of \$450 to make this unit the greatest recorder buy ever offered. Its new airplane-luggage styling gives it a final sales appeal to place the Federal dealer in an extreme preferred position for full business. Write today for complete details of this new Recorder achievement, as well as other 16-inch and 12-inch Federal Recorders, selling at popular prices. The Federal dealership is an enviable one. Write at once for complete details.

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## FEDERAL RECORDER CO., INC.

Dept. 9754  
630 So. Wabash Ave.  
Chicago, Illinois

# Typical Sound Installations

## I—Public Auditoriums

**Equipment needed. Practical layouts in large interiors that have produced real results**

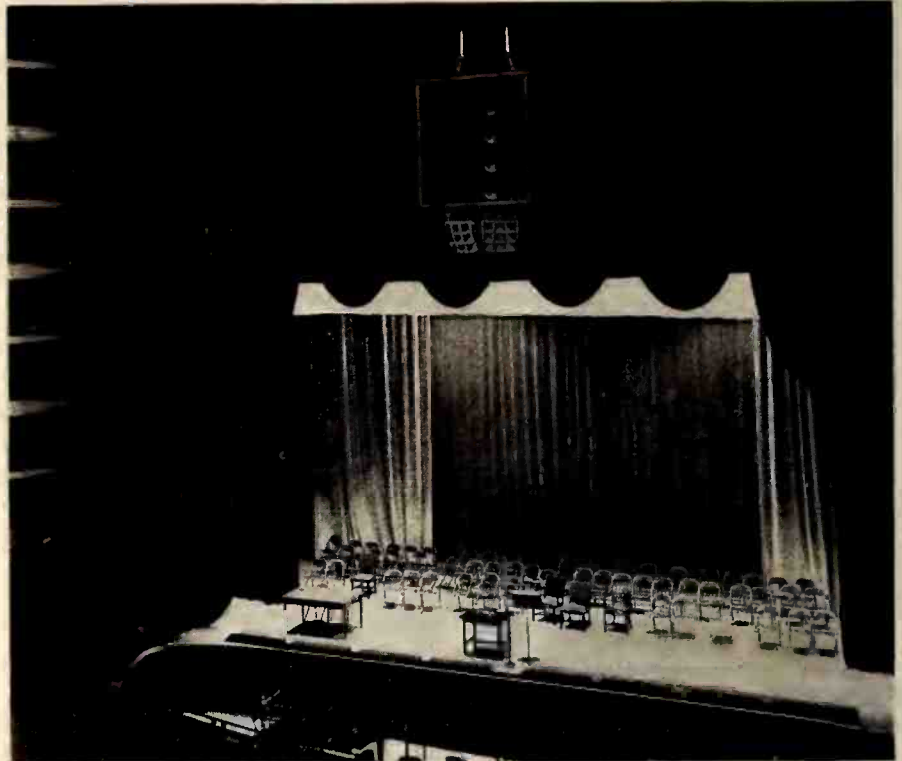
While every sound reinforcement installation has certain distinctive features that call for special consideration, there are types of layouts that have similar problems and therefore may be grouped together. For this reason, a series of typical sound installations will be presented to show how the problems inherent in the type of job have been solved.

A most common type of installation is the general public auditorium found in town halls, civic centers, schools, clubs, recreation halls, etc. Ranging in seating capacity from a few hundred to several thousand persons, the common problems of the auditorium are non-uniform sound distribution, poor quality in rooms of certain types of construction, hum pickup in mike and speaker cables, and difficult layout of equipment on stages.

### MANY USES FOR PA EQUIPMENT

The wide variety of uses to which auditorium sound equipment may be put, makes this type of installation an ideal prospect for the sound man. If the auditorium has stage facilities, as most of them do, the amplifying equipment should include the following features if it is to be a complete system:

1. The amplifier should have a minimum of three input channels. There should be two high-gain channels for microphones, and a low-gain channel for a phonograph or radio tuner. The power rating of the amplifier necessary for good results was discussed in the August issue of *RADIO TODAY*.



One unit of the Kansas City Auditorium is the 3,000-seat Music Hall where four low, and two high frequency speakers deliver high quality sound.

2. The mixing panel should provide separate control of each of the four channels. A remote volume control

that can be operated from a position in the audience lends flexibility to the system and provides smoother operation.

3. If remote amplification control is not desired, a visual level indicator is a necessity. Monitor speakers give a check on the quality but do not accurately indicate the audio level in the auditorium.

4. Call-speakers should be placed in dressing rooms, and scenery storage rooms.

5. Phonograph equipment is a necessity. Sound-effect records are being used a great deal for stage plays, etc.

6. Small pre-amplifiers with their individual power supplies make the special long-run microphone set-ups easy, and more efficient.

### BALCONIES OFFER PROBLEMS

The auditorium usually has a balcony which offers quite a problem to the PA man, for the area under the balcony becomes "dead" so far as sound is concerned. Attempts at using "brute-force" power in one or two speakers will make that part of the audience not under the balcony, so uncomfortable that the system will probably be condemned.

The answer to the problem is uni-



The medium sized auditorium on Welfare Island, N. Y., has amplifier, tuner, and phonograph equipment installed on the stage.

form sound distribution. The output of the amplifier should be divided among a number of speakers which have been placed in acoustically "dead" areas, or directional baffles should be used to deliver the sound where it is needed.

Examples of sound distribution in auditoriums are shown in the block diagrams and photographs of the Music Hall, one of the units of the Kansas City Auditorium group, and the entertainment center in a city institution on Welfare Island, New York.

The Music Hall auditorium seats 3,000 persons and has a volume of approximately 700,000 cubic feet. It is served by a centralized sound system that supplies power to a large main arena, with a seating capacity of 13,000 and an exhibition area all located under the same roof.

The sound reinforcement in this auditorium is delivered through a "projectolier" or group of high and low frequency speakers driven by the central amplifying system. The equipment used is that of the Western Electric Company and is shown in the accompanying photograph. The PA equipment consists of a four channel input control unit, a 31 DB gain pre-amplifier, a 47 DB gain driver amplifier, and a 50-300 watt output amplifier. A tap at the output of the driver amplifier feeds into the control mixer, 1.9-watt amplifier, and output network to the headsets of the hearing-aid equipment. The monitor speaker for a continuous check on the quality is operated from the driver amplifier as are the call-speakers mounted in dressing rooms, and back-stage. These call-speakers are especially useful where any stage production is put on, since actors and pages can be kept off the stage during their idle time, and yet be in constant touch with the director.

**LARGE SPEAKERS RUN AT LOW POWER**

The power rating of the combined speakers is in excess of the normal amplifier power rating, in order to give



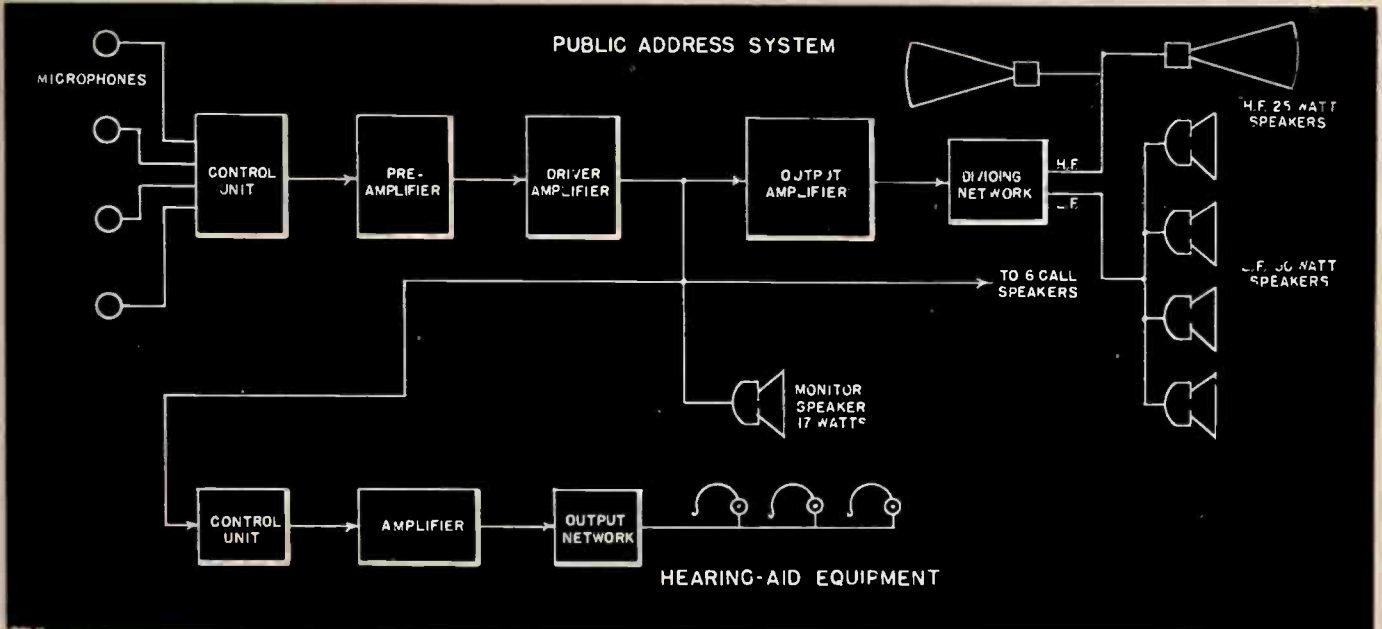
Control position of the centralized sound system supplying the Music Hall in Kansas City. Switching and mixing panels shown on the right and transcription tables on the left. Radio tuner also mounted in rack to the right.

the maximum quality of reproduction. The characteristic of reproduction for a speaker has certain critical points, one at the low power limit, and the other at the high power limit. By operating a speaker at some level just above the lower "knee" of its characteristic, the best reproduction will result since the unit cannot cause distortion on high-level signals as would occur with a speaker operated near its peak rating. The speakers shown in the "projectolier" operate at a level of approximately 6 watts each, which is far below their rating of 30 watts for the low frequency units.

**USE HIGH FREQUENCY SPEAKERS**

The use of high-frequency speakers is necessary where the installation calls for high power units. High power cone-type dynamic speakers are quite large and have moving elements (cone and voice coil) of high mechanical resistance. The low frequency notes are reproduced more easily on these speakers than are the high frequency notes. To give a true sound picture of the input signal, high frequency speakers should be used to build up the response. The dividing network shown in the block diagram is an electrical

(Continued on page 46)



Block diagram of the equipment line up for the Music Hall auditorium in Kansas City. Four input channels are mixed on control racks pictured above. Speakers are capable of handling several times the power normally supplied in order to give the maximum quality in reproduction.

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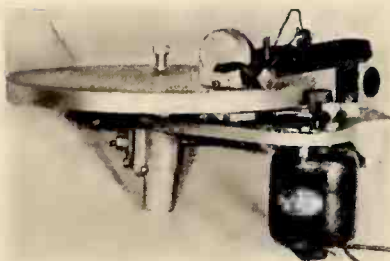
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# New Sound Lines



### Speak-O-Phone Recorder

★ A basic unit for sound recording is the model 9M designed for public address men building their own equipment. Rim driven turntable is machined from aluminum. Cutting arm permits use of acetate, aluminum, or pre-grooved discs. Four to five watts audio in 15-ohm output recommended. Speak-O-Phone Recording and Equipment Co., 23 W. 60th St., New York, N. Y.—RADIO TODAY.

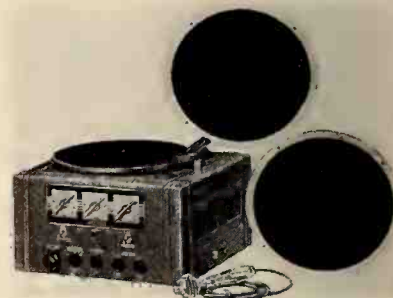


### Bell Mobile PA System

★ Portable public address system using 15-watt amplifier that may be operated on either 6 volts DC or 110 volts AC, two 10-inch PM speakers, and hand type mike. Separate power switches for turntable and plate power economize on battery drain. Bell Sound Systems, Inc., 1183 Essex Ave., Columbus, Ohio.—RADIO TODAY.

### Brush High-level Mike

★ Ultra sensitive mike with good quality is model US designed for mobile communication work. Output level is —44 db or approximately 1/4 volt. Moulded plastic case. Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio.—RADIO TODAY.



### Operadio Mobile PA System

★ For operation on either AC or 6 volt DC, this 25-watt amplifier is equipped with a 12-inch turntable and crystal pickup. Change over from battery to AC operation is accomplished with adapter plug. Economizer control cuts-off the phonograph motor and genemotor during idle periods. Operadio Mfg. Co., St. Charles, Ill.—RADIO TODAY.



### University PM Driver Unit

★ A permanent magnetic driver for exponential horns is housed in aluminum waterproof case. Power rating, 25 watts continuous. List, \$30. University Labs., 195 Chrystie St., New York, N. Y.—RADIO TODAY.

### Turner Styled-Mike

★ Finished in satin-chrome plate, model 22X is a new styled-mike with tilting head, output level of —52 DB and frequency range of 30 to 7,000 cycles. Adjustable over 90 degree range for semi and non-directional pick-up. Complete with 7-foot connecting cable. Turner Co., Cedar Rapids, Iowa.—RADIO TODAY.

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AUTOMATIC RECORD  
PLAYING EQUIPMENT

FOR FREE CATALOG AND NEW PROFIT PLAN WRITE TO  
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GARRARD SALES CORP.  
296 BROADWAY, N. Y.



### Clarion Sound System

★ A portable amplifying system for orchestras, etc., employs a five channel 31-40 watt amplifier, two 12-inch speakers, velocity microphone, and aero-luggage carrying cases. List price, complete, \$226.45. Transformer Corp. of America, 69 Wooster St., New York, N. Y.—RADIO TODAY.

### American Crystal Mike

★ High output of -46 db is possible from Model C6 through new crystal driving lever. Improved bass response and higher voltage output make unit ideal for PA work. American Microphone Co., 1915 S. Western Ave., Los Angeles, Calif.—RADIO TODAY.



### Electro-Voice Velocity Mike

★ High fidelity velocity mike with flat response from 40 to 10,000 c.p.s. and output of -65 db. Includes 20-foot cable, connectors, shock absorber, locking cradle and switch. Model V-1. Electro-Voice Mfg. Co., 324 E. Colfax Ave., South Bend, Ind.—RADIO TODAY.

### RCA Recording Blanks

★ Six sizes of aluminum-cored recording blanks ranging from 6 to 16 inches in diameter are sold in packages of 25 each. List prices: 6-inch, 40c; 8-inch, 55c; 10-inch, 80c; 12-inch, \$1; 16-inch, \$1.80. RCA Mfg. Co., Camden, N. J.—RADIO TODAY.

### Lafayette Portable Amplifier

★ Ten tube 30 watt portable PA has six volt motor driven turntable, pushpull output, and 130 db gain in high gain channel, 90 db gain in phono channel. Power requirements are 125 watts at 115 V. AC or 15-25 amps at 6 V. DC. Lafayette Radio Corp., 100 Sixth Ave., New York, N. Y.—RADIO TODAY.

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# Image Interference in Superhets

How to recognize, and remove the signals that ruin reception of desired stations. Methods, and applications of wave traps and band pass filters.

The chief draw back of the superheterodyne circuit is its susceptibility to receiving unwanted signals, commonly called "images." Image signals are those who lie as far on one side of the frequency of the local oscillator in the super as does the desired station, the frequency difference being of course, that of the intermediate stages. Another common type of interference is caused by stations on or near to the frequency of the intermediate stages. These stations of IF frequency "ride through" the first detector and enter directly into the IF stages.

## IMAGE INTERFERENCE

Consider a desired signal of 700 kc. and an intermediate frequency of 450 kc. The oscillator will be operated on a frequency above that of the signal in most receivers in order to avoid tuning difficulties. The circuit would necessarily have to cover the range from approximately 100 kc. to 1,100 kc. (in the case of the broadcast band) if the oscillator were operated at IF frequency below the carrier. In the case of our assumed conditions, the oscillator will be operating on 700 kc. + 450 kc. or 1,150 kc. Now if another station on 1,600 kc. is supplying a signal to the receiver antenna, it will combine with the oscillator signal and produce a beat note of 1,600 kc. - 1,150 kc. or 450 kc. which is just as acceptable to the IF stage as the beat note produced by the 700 kc. station. The frequency of "image" stations is always twice the IF frequency higher than the desired station. Image interference may be reduced by using high frequency IF stages and selective input circuits.

## CHOICE OF IF FREQUENCY

Early supers were built with 175 kc. IF's to give good selectivity from adjacent channels and the image interference problem was overcome by adding one or more stages of tuned RF. With the advent of lower priced receivers, RF stages were eliminated and the image interference problem was reduced by increasing the IF frequency to the neighborhood of 480 kc. This higher IF frequency prevented interference from stations in the broadcast band because a station at 550 kc. would be interfered with by a signal on 550 kc. + 2 x 480 kc. or 1,510 kc. which is above the bc. band. The sensitivity of the super however, still allows the images from police, airplane, and amateur services to cause serious interference.

## REDUCING INTERFERENCE

Several systems are available for the attenuation if not elimination of image interference on the broadcast band.

Where only one or two specific signals are causing disturbance, wave traps, or absorption circuits may be used to remove the unwanted signals. The wave trap is most frequently used to cut out interference from a station near the IF frequency of the receiver. Examples of receivers using a parallel and a series resonant circuit for this purpose are shown in Fig. 1 A and B. Combinations of parallel traps in series may be used but are rather complicated physically for more than two or three frequencies.

More complete rejection of all interfering frequencies is accomplished

by band pass circuits tuned in conjunction with the regular receiver circuits. They offer improved selectivity and image rejection at all frequencies.

Wave traps are the more common correction applied by the serviceman because of their simplicity and low cost. Band pass circuits require a separate section of the gang condenser thus complicating installation.

## WAVE TRAPS

Interference from a particular station in the locality of the receiver may be eliminated or at least greatly attenuated with a tuned wave trap in the antenna circuit.

A typical circuit for a wave trap is shown in Fig. 2A. The voltage induced in the antenna is inductively coupled to the series resonant circuit which is tuned to the frequency of the signal causing interference. This circuit has a coil and condenser in parallel, but it is a short-circuited series connection with respect to the current flowing in it. The voltage induced in the coil  $L_2$  by transformer action sends a current through the series coil and condenser, the limiting resistance being that of the coil and condenser in a resonant circuit. The effect of the tuned circuit is to reflect a very high impedance, or opposition to the flow of current at the unwanted frequency, in the antenna circuit. A typical curve of frequency vs. current and impedance is shown with the wave trap circuit in Fig. 2B. It will be noticed that at frequencies other than the resonant frequency, the impedance introduced in the antenna circuit is small and therefore does not affect reception of desired

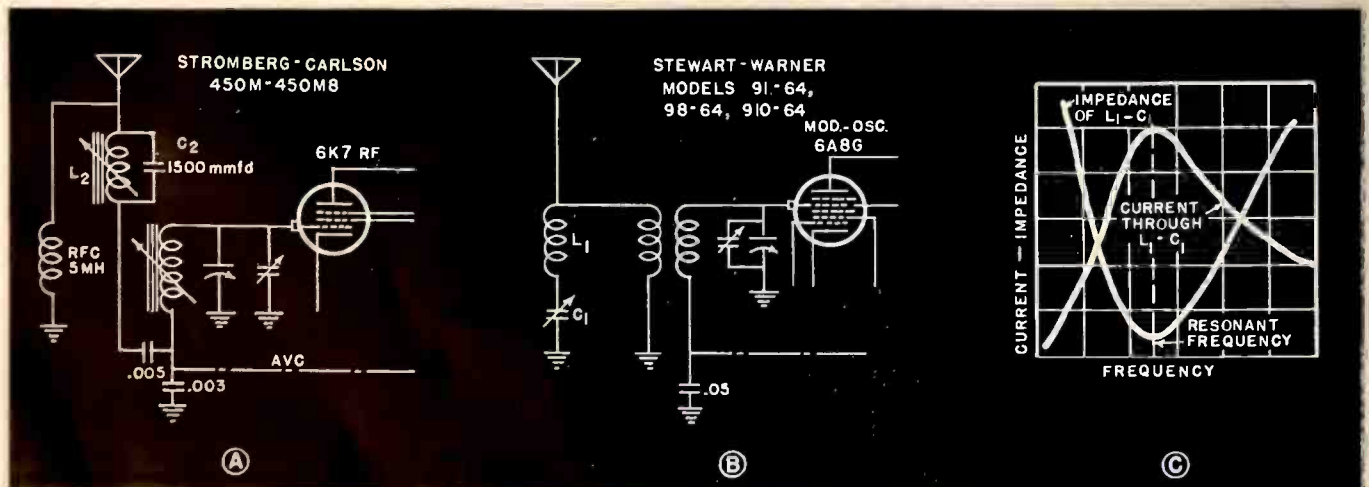


Fig. 1—Examples of parallel and series wave traps with the current and impedance characteristics are shown in A, B, and C respectively. The parallel trap offers a high impedance to the undesired frequency, thereby keeping it out of the input circuit of the receiver. The series trap acts as a low-impedance short to the unwanted signals.

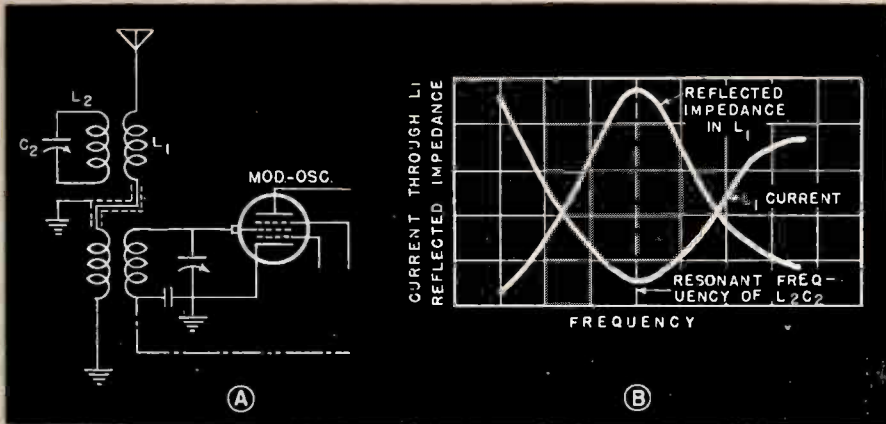


Fig. 2—Section A is an inductively coupled resonant circuit which is tuned to the frequency of the interfering station. Curves of B show the characteristic current and impedance relations with frequency.

signals. The greater the coefficient of coupling between  $L_1$  and  $L_2$ , the greater will be the impedance reflected into the antenna circuit at the frequency to which  $L_2-C_2$  is resonant. In usual practice, the coefficient of coupling is kept rather low by making  $L_1$  only 2 or 3 turns, thus keeping the trap as "sharp" as possible. To prevent pickup of unwanted signals, the lead from  $L_1$  to the primary coil should be shielded. Wire with a heavy insulation is best for this purpose since it reduces the shunt capacity to ground when a braid shield is put on.

#### PARALLEL CONNECTIONS

A different connection of the parallel wave trap is shown in Fig. 1A. Although the connection of the component parts have not changed, the trap is now a parallel resonant circuit because the voltage is applied across both the coil and condenser where in the previous coupled circuit, the induced voltage might have been replaced by an AC generator in series with the coil and condenser.

Here, the wave trap is used even though the receiver has a tuned RF stage but in this case, it is for the purpose of eliminating signals at the IF frequency, namely 455 kc. The effect of the trap is identical with that of the inductively coupled circuit just discussed. The impedance introduced in the antenna circuit at the resonant frequency of the trap is very high and has a characteristic curve similar to Fig. 2B. A low resistance coil gives a "sharp" tuned circuit. While the circuit shown employs permeability tuning, capacity tuning is somewhat more common.

Still another wave trap circuit is shown in Fig. 1B. This is an example of the series resonant type which is series physically as well as electrically. The series resonant type, instead of offering a high impedance to the unwanted signal, offers a very low opposition in a shunt path around the antenna primary coil. In other words, the undesired signal is short circuited to ground while at other than resonant frequencies,  $L_1-C_1$  offers a high impedance to the incoming signal thus making all available signal voltage appear across the primary of the antenna coil.

Fig. 1C presents a pair of curves for the series wave trap. The opposite characteristics of the series and parallel traps are noted in comparing the two graphs. The limiting value of the impedance at resonance in the series trap is the ohmic resistance of the coil and condenser which is quite low in all common circuits.

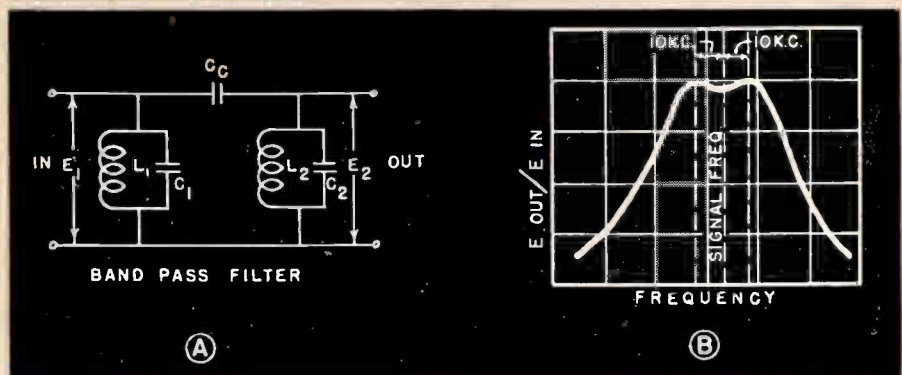


Fig. 3—Typical band-pass filter circuit and characteristic voltage-frequency curve.

Good results may be obtained in eliminating interfering signals by any of the three wave traps. Images may be attenuated by tuning the traps to the frequency of the interfering station, while if the difficulty lies with signals near the IF frequency, the traps are, of course, tuned to give maximum rejection at this point. If the frequency of the interfering signal is definitely known, the traps may be adjusted with a signal generator tuned to the unwanted frequency. Use a dummy antenna of 200 mmfd and adjust the trap for minimum receiver output while using a strong generator signal. In the majority of cases, it will be necessary to make adjustments of the wave trap when the interfering station is on the air and it is usually best to do the job in the customer's home under the exact conditions interference is experienced.

It is best to use a shielded wave trap to prevent pick-up of AC hum. If the un-shielded variety is used, keep it away from other parts in the chassis. Shielding the lead from the trap to the tube circuit will prevent the old trouble being picked up

again. Inconspicuous installations help thwart the mania of some people to "tighten down the loose screws" on the trimmers.

#### BAND PASS SYSTEMS

A more versatile system for rejecting unwanted signals is the band pass filter circuit, a theoretical example of which is given in Fig. 3A. Here the principle of image rejection is greater selectivity.  $L_1-C_1$  and  $L_2-C_2$  are tuned to resonance at frequencies just on either side of the desired signal in order to give the necessary band width, usually 15 to 20 kc. Signals further than 20 kc. away from the desired carrier will face a relatively low impedance path in the non-resonant parallel circuit  $L_1-C_1$  as may be seen from the curve in Fig. 2B. The low impedance path acts as a short circuit to the unwanted signals. The output circuit  $L_2-C_2$  is also non-resonant at the undesired signal frequency, thus permitting current to flow through  $C_2$  and further drop the input voltage due to the reactance or impedance of  $C_2$ . The ratio of the output voltage  $e_2$  to the input voltage  $e_1$  approaches unity at the frequency to which the filter is tuned. The response curve

for such a band pass filter is shown in Fig. 3B. The similarity between the IF transformer response curve and that of the band pass circuit will be noted since the IF transformer is a band pass filter system.

A band pass circuit as commonly seen in the midget supers is shown in Fig. 4. The floating coil  $L$  is a few turns of wire on the same form with  $L_1$  and  $L_2$  and furnishes the necessary capacity coupling to give good sensitivity at high frequencies.

(Continued on page 49)

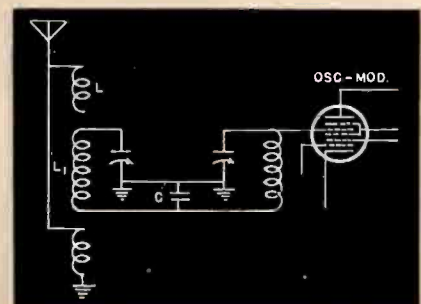


Fig. 4—Band-pass filter circuit commonly used in small AC-DC supers.



# Selling Service

**Both your knowledge and labor are worth compensation. What it costs to make the average service call and what it pays. New types of service to sell.**

With 44,000,000 radios in this country in—or out of—operation, radio servicing is bordering on “big business.” Considering that there are, on the average, six tubes, fifteen condensers, ten resistors, a speaker, and numerous other parts, in each of the forty-four million sets, the potential field of repair work is practically unlimited. However, in analyzing the returns from thousands of questionnaires sent by **RADIO TODAY** to servicemen all over the country, it becomes more apparent that many of the brotherhood are failing to take full advantage of the possibilities.

## SERVICING IS A PROFESSION

In so many of the questionnaires examined, the fact was brought out that the serviceman who owns his business is paying himself a salary for the actual labor done, but is not considering the professional aspect of his knowledge and ability. The doctor, the lawyer, and the engineer get paid for *knowing* what to do, as well as how, where and when to do it, in addition to compensation for physical labor. The skilled radio serviceman falls into the

same category and should consider that his knowledge is a salable commodity just as is his physical labor. Of course the cry of “what about the cut-rate service guys,” and “the customer won’t pay for it,” will be heard. But remember, a customer will pay an additional fee when he is *assured* of competent, efficient, and courteous treatment from a *reliable* serviceman. It is worth the difference to be assured that an expensive radio, and even the cheaper ones, will not be damaged by some “screwdriver mechanic.” Consider yourself as a technician and *prove* to the general public that you have more to offer than the mere ability to handle a soldering iron.

Such little things as, always appearing on the job in neat clothes, adopting a friendly and courteous manner, cleaning the inside of the set, polishing the cabinet in the customer’s home, and calling back two or three weeks after the job is done to see that everything is OK, are mighty powerful factors in proving to the customer that your work is worth its cost.

Radio servicing, as every other business, has certain fixed expenses or overhead, and certain variable expenses

such as cost of labor and cost of material. The fixed expenses of the business include rent, heat, light, depreciation of equipment, and the other expenses necessary to operate the business, but not directly dependent upon the volume of business. The variable expenses cover the cost of the tubes, parts, and material used, the labor and professional service cost, and the cost of transporting the set to and from the repair shop. Some servicemen forget the expense of going out to get a set and then taking it back after the job is done. If the serviceman does this work himself, the time consumed could have been sold to some other customer and therefore is entitled to consideration in the bill. If the shop helper takes care of the pick-up jobs, his pay for the time consumed is certainly a charge against the job.

## MORE PROFIT NEEDED

The exact amounts spent for each item of expense vary widely as might be expected. Even in the same general income classification, rent varies from \$60 to \$360 per year for the serviceman whose figures were analyzed in the survey. From these figures, an average was made to represent the typical Serviceman. These average figures will not offer direct comparison to every service business, but the ratios between the various items of expense and income will offer a check to those “high” and “low” men.

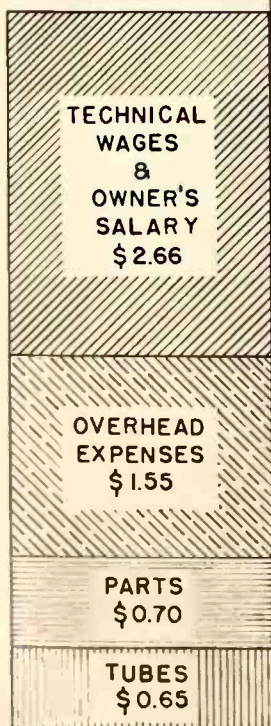
The average serviceman, as developed from the survey, has the following breakdown of cost for each service job: 65 cents for tubes; 70 cents for parts; 35 cents for rent; 7 cents for taxes; 21 cents for heat, light, and telephone; 33 cents for depreciation of servicing equipment, and car or truck; 10 cents for advertising; 26 cents for delivery charges, bad debts, etc.; 23 cents for operation of the service car or truck; and \$2.66 for professional service, which, in the case of the average serviceman, constitutes his salary. The total overhead or cost of doing business totals \$1.55 per service job, or 28 per cent of the total cost of each job.

## REDUCE OPERATING COSTS

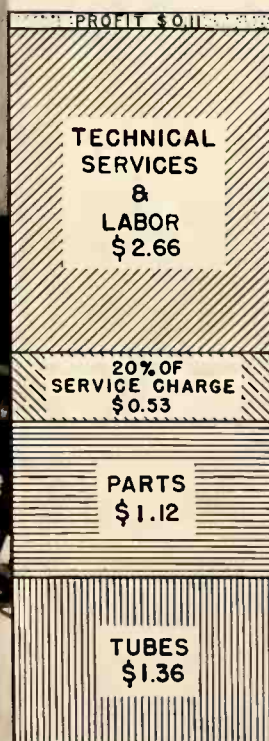
More profit from each call can be realized if the indirect overhead expense can be reduced. The first step toward reducing the cost of doing business is a detailed record of the items of expense. Lump figures that include several important items are next to worthless when it becomes necessary to “pin down” the excessive cost.

Good service equipment is an absolute necessity to the up-to-date service-

## COST PER JOB



## INCOME PER JOB



Average “service job” cost and income figures for the typical business.

man, but the high depreciation figures brought out in the survey, indicate that obsolescence and duplication may be demanding too great a share in the expenses. When selecting service equipment, carefully weigh its future use with its present novelty. A piece of new equipment with one new feature may duplicate so many operations of instruments already owned that its purchase would be an unwise burden. Of course, equipment wears out and must be replaced, but a careful selection of instruments designed for future needs will allow the depreciation to be spread over a longer period.

"Bad debt" losses are always a candidate for reduction. The best answer here is a continuous check on the account, either by mail or by phone. The ounce of protection being worth a pound of cure, ask the customer if he wishes to have an estimate on the job before you go ahead. To mean anything, your estimate must be fairly accurate. Know your overhead expense; judge your time and material. For the time-payment jobs, collect your material and overhead bills in the down payment.

#### TWO MAIN SOURCES OF INCOME

The income from a service job is made up of the sale of tubes and parts, and the sale of professional services. In order to pay for the cost of doing business, a fixed percentage of the labor charge for the job should be added to the bill. The accompanying chart shows the figures for the average service job of the average serviceman. The amount added to the income per job is 20 per cent of the charge for labor. This covers the expense and shows a profit for the business. Tubes and parts are being sold at list prices by the average serviceman which is as it should be.

In making your bill to the customer, you should charge for:

- a. Tubes at list price.
- b. Parts at list price.
- c. Labor at \$1.00 per hour for time spent on the job including traveling time.
- d. Service, which is to be 20 per cent of the labor charge.

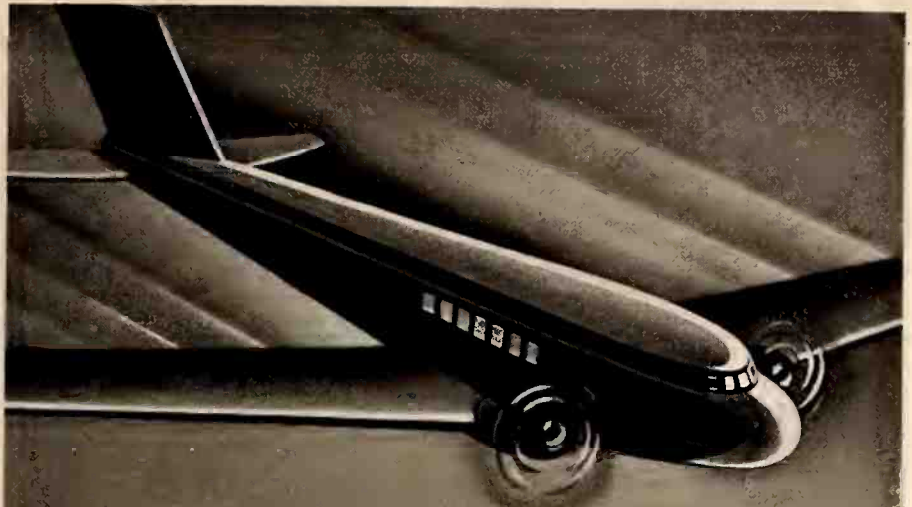
On the percentage basis, tubes constitute 24 per cent of the income, parts make up 20 per cent and professional charges, 47 per cent. Of this income, 11.5 per cent pays for tubes, 12.4 per cent for parts, 27.4 per cent for cost of doing business, and 47 per cent goes to the owner's salary. The profit in this case is only 1.95 per cent. Don't misinterpret the low profit percentage. Servicing is a profitable business when it is guided as a business and the owner-serviceman demands more than his salary from it. The business should stand on its own feet and pay the owner a dividend for risking his money in the enterprise.

#### INCREASE SERVICE INCOME

There are two recognized ways of making more money in the service business. First, by selling your present customers new kinds of valuable service for which they will gladly pay a fair price. Second, by obtaining new customers for all of the various services which you offer.

New services are almost unlimited.

(Continued on page 50)



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Check the radio and electronics equipment used in the world's most exacting applications and you will find IRC Resistors specified as standard in by far the greater majority. There is, we feel, no better evidence of dependable performance under all conditions of use — performance that is available for your daily radio service work at no extra cost over that of ordinary resistors and controls.



Not only are IRC Type BT Insulated Metallized Resistors unexcelled in such essential characteristics as stability, low noise level, low voltage coefficient, but equally important, they are strong mechanically for protection against vibration and rough handling. The exclusive Metallized type resistance element is fully sealed against moisture by a molded phenolic which also insulates the resistor from end to end. The result is an integral, solidly constructed unit of the utmost reliability.

BT— $\frac{1}{2}$  (½ Watt) . Net 10c each  
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(Continued from page 39)

filter circuit which separates the amplifier output into high and low frequency sections and feeds the proper components to the related speakers.

The adequate coverage of this large auditorium is possible with speakers grouped as shown, since the sound being emitted comes from a large combined area of reproducers. A further advantage of the grouped speakers is the "unity of sound" effect. Located above the stage, sound and sight attention are focused on the same general area.

### PROGRAM DISTRIBUTION SYSTEM

A smaller example of the general auditorium is the one located on Welfare Island, New York. This auditorium seats approximately 750 persons.

The equipment complement consists of a 30-watt four channel base amplifier, 100-watt booster amplifier, radio tuner, phonograph turntable, and power supply, all mounted in the rack shown as an insert in the accompanying photograph. This equipment was supplied by Lafayette Radio Corporation. The sound is distributed through four 12-inch dynamic speakers rated at 12 watts each and two magnetic speakers with trumpet type baffles. The microphones are of the velocity type.

Here again, good sound coverage is realized with power distribution among several speakers. Mounting the units high on the walls and directing the sound down with baffles make it possible to put the sound into the back corners.

The output of the 100-watt booster amplifier is used to drive approximately 80 small PM speakers connected in a program distribution system throughout the buildings on the grounds.

In buildings of steel construction, such as this one, the speakers should be mounted toward the rear of the room to minimize acoustical feedback. More sound reflection and reverberation is experienced in hard-surfaced rooms and careful speaker layout is necessary to avoid feedback.

Mounting the speakers on the side-walls and directing the sound out into the audience with baffles is good practice, since the sound is sent across

the listeners from two directions. To prevent too much distraction from the scene of action by the sound issuing from speakers on the side walls, keep the audio level as low as possible. Public address equipment should reinforce and not replace the source of the sound.

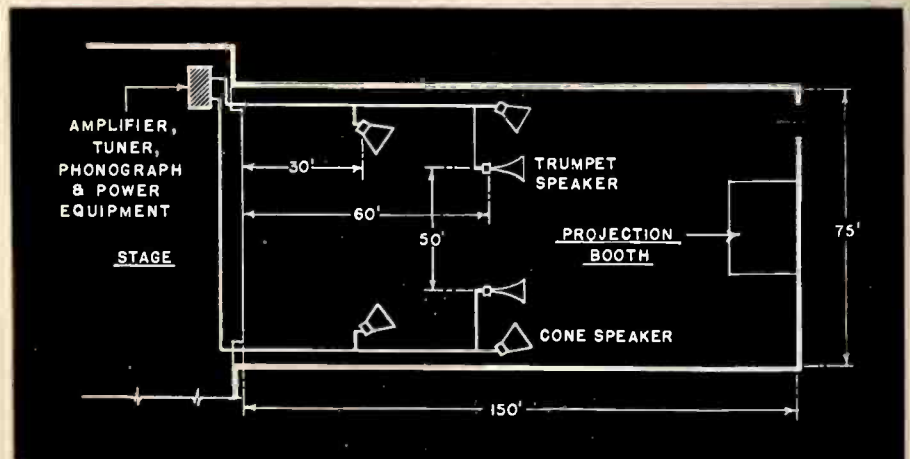
### PROTECT EQUIPMENT AND WIRING

There are several points to keep in mind when installing PA systems in auditoriums. If the equipment, amplifiers, etc., are to be mounted on the stage, do not locate the units against the back wall or against the side walls near the back of the stage, as stage scenery is invariably stacked there. The best position is along the side wall near the front of the stage. Do not place the unit too close to the fly-loft ropes and main curtain ropes or controls. A guard rail around the equipment is advisable in order to prevent damage from stage scenery, etc.

Speaker, microphone, and power wiring have their problems, too. For best results, the speaker wiring should be in conduit. While 60-cycle hum pickup is not prominent on low-impedance speaker lines, it can happen and the additional mechanical protection offered by conduit is worth the expense involved. If microphone wiring is to be permanent, conduit should be used to shield the input leads. Present-day mikes are generally high-impedance units, and therefore the cables are quite susceptible to hum pickup. While practically all AC wiring is run in conduit, the additional shielding of the mike lead will insure a "quiet" system. Mike receptacles in the floor should have a dust-tight cap to be kept in place during idle periods. Noise-free connectors are important in high-gain amplifiers. Where rubber-covered cables connect mikes and speakers to the system, the cable connectors should be of the locking type to prevent disconnection during the rough handling they are bound to receive on a stage.

### RUN SEPARATE POWER LINE

The power line for the amplifier should be taken off the supply side of the auditorium and stage switchboard. Regular plug-receptacle outlets on stages are usually connected in groups



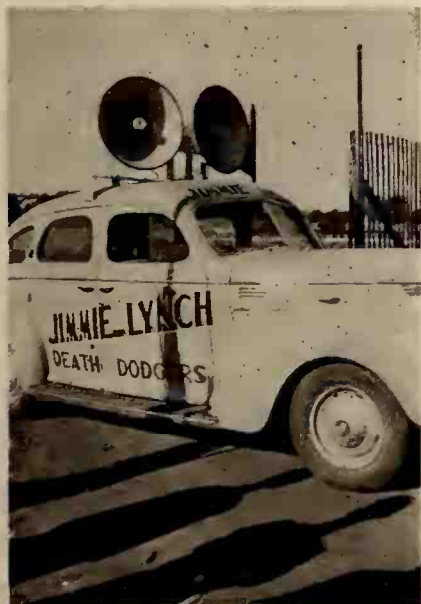
Equipment layout in the Welfare Island auditorium. Good speaker placement insures uniform sound coverage and minimum of feedback.

to dimmers on the control board, and indiscriminate use of the outlets may result in low voltage operation of the PA system when the electrician "dims" a circuit. The varying load on the board through switching and dimming is another reason for connecting the amplifier directly to the supply side. Board fuse failure through short-circuits will not put the PA system out of operation if it is connected ahead of the main switch. In this way one can offer announcement facilities during a failure of the lights.

**TIPS ON INSTALLING EQUIPMENT**

For quick reference, the important points of consideration for PA installations in auditoriums are listed here.

1. Divide the amplifier output among several speakers to get the desired sound coverage.
2. Use speakers with a power rating of several times the normal power to be dissipated by the unit in order to insure highest quality of reproduction.
3. Use high-frequency speakers to build up the HF response lacking in the large size cone speakers.
4. For the completely built-in job, run speaker wiring and microphone wiring in separate conduits.
5. For exposed wiring, keep microphone and speaker cables separated and away from power wiring.
6. Protect equipment with a guard-rail when the installation is in an exposed position.
7. Run separate power line from the supply side of the stage switchboard to the amplifying equipment.



Three University speakers supply sound to crowds at "Death Dodgers" show in N.Y. World's Fair.

**Bassett Radio Corp. Formed**

Formation of the Bassett Radio Mfg. Corp., which has recently taken over all of the activities in the radio field of the Chamberlin Bassett Research Corporation, was recently announced.

Byron E. Hargrove, formerly sales and advertising manager of the E. F. Johnson Company, becomes general manager. Hargrove is an active radio amateur.

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# Service Notes

## Emerson Model DF-302 Portable

The Emerson DF-302 and DF-306 models are six-tube superhets with separate audio output tubes, one for use on AC/DC, and the other for use on battery power. The 70L7GT is the combination rectifier-output amplifier for AC/DC use and its filament is operated across the line with a series dropping resistor. The six tubes for battery operation of the set have their filaments connected in series for operation on a 9-volt battery. Change-over from AC/DC operation to battery power is done quickly with the power cord plug. The terminal of the plug marked X in the schematic makes the series connection between the 9-volt A battery and the 90-volt B batteries and also connects the negative side of the A battery to ground through the line control switch. Another interesting feature of the circuit is the resistance coupled IF stage. The IF frequency is 455 kc. To align the IF stages, set variable condenser to minimum capacity position, and feed a 455 kc. signal to the grid of the 1A7GT through a 0.01 mfd. capacitor, and adjust the four trimmers for maximum response.

To align the RF end, set the dial pointer to 140 and feed a 1,400 kc. signal through a 0.0001 mfd. capacitor connected to the antenna conec-

tion and adjust the oscillator trimmer on the rear section first, then the antenna trimmer on the loop frame. Adjust for maximum response. If the loop antenna has been replaced it may be necessary to adjust the loop inductance. Align at 1,400 kc. and move a portion of the outside turn of the loop for maximum response at 600 kc.

## New Tubes

Here are a few more new ones to add to your list. These tubes will be in the new circuits, ranging from battery portables to television receivers.

### 1T5-GT—Beam Power Amplifier\*

Filament voltage ..... 1.4 v.  
Filament current ..... 0.050 amp.

#### SINGLE TUBE—CLASS A AMPLIFIER

Plate voltage ..... 90.0 v. max.  
Screen voltage ..... 90.0 v. max.  
Grid voltage ..... -6.0 v.  
Peak a.f. grid voltage ..... 6.0 v.  
Plate current ..... 6.5 ma.  
Screen current ..... 1.4 ma.  
Load resistance ..... 14,000 ohms  
Transconductance ..... 1,150 micromhos  
Max. power output ..... 170 milliwatts  
Intermediate shell octal ..... 7-pin base

### 6P5-G—Detector-amplifier triode\*

Heater voltage ..... 6.3 v.  
Heater current ..... 0.3 amp.

#### AMPLIFIER—CLASS A

Plate voltage ..... 250 v. max.  
Plate current ..... 5 ma.  
Grid voltage ..... -13.5 v.  
Amplification factor ..... 13.8  
Plate resistance ..... 9,500 ohms  
Transconductance ..... 1,450 micromhos  
Small shell octal ..... 6-pin base

### 7AP4—Kinescope\*

This 7-inch television picture tube has No. 4 phosphor white luminous

screen. Picture size is 6 inches by 4½ inches.

Heater voltage ..... 2.5 v.  
Heater current ..... 2.1 amp.  
Anode No. 2 voltage ..... 3,500 v.  
Anode No. 1 voltage ..... 675 v.  
Focus electrode voltage ..... 1,000 v. max.  
Grid swing voltage ..... 15 v.  
Medium ..... 5-pin base

### 1898—Monoscope\*

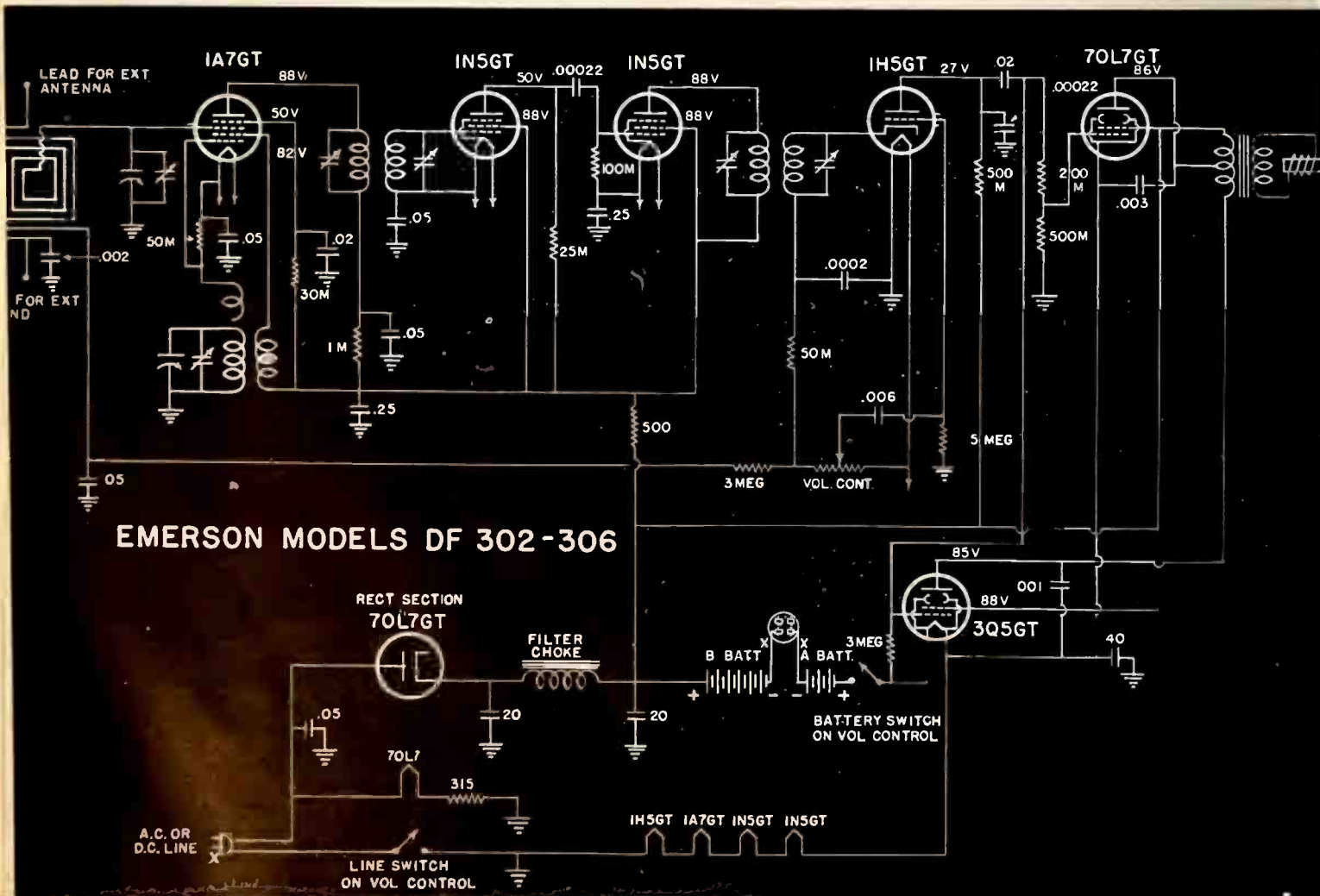
A cathode ray device for generating a video signal to demonstrate television. The picture of a girl's head is on the pattern electrode which is scanned by the electron beam to produce a signal voltage.

Heater voltage ..... 2.5 v.  
Heater current ..... 2.1 amp.  
Pattern electrode voltage ..... 1,500 v. max.  
Anode No. 2 voltage ..... 1,200 v. max.  
Anode No. 1 voltage ..... 500 v. max.  
Grid voltage ..... Never positive  
Medium ..... 7-pin base

\*R.C.A. Mfg. Co.

## Rider Manual X Issued

Volume X of the "Perpetual Trouble Shooter's Manual" just published, by John F. Rider, 404 Fourth Ave., New York, N. Y., appears with a record listing of 2,600 models. The new manual is easier to use in spite of its greater servicing capacity because the data has been condensed by elimination of duplication in alignment notes, etc. Included with the new Rider manual is a complete index of all ten volumes and a sixty-page section of "How It Works," the popular department devoted to explanation of the new developments in the radio field. Television, and frequency modulation are but two of the subjects covered in the separate index volume.



(Continued from page 43)

The capacitor C is the common coupling unit just as Cc in the theoretical band pass circuit in Fig. 3A. The signal energy is coupled inductively to L<sub>1</sub> by the primary L<sub>2</sub> at low and medium frequencies while the capacity effect of L supplements at the high frequencies. The output voltage e<sub>2</sub> of the theoretical circuit appears across C in this arrangement and is therefore introduced into the grid circuit exactly the same as it would be in an inductively coupled circuit. The capacitor C is approximately 0.01 mfd. Poor sensitivity in this type of circuit at the high frequencies may be improved by increasing the number of turns in L.

The great improvement of results in the midget supers by adding a simple wave trap gives customer satisfaction that is vital to the serviceman and dealer. Complaints that a "set is no good" arising from poor selectivity are easily quashed with a minimum of labor and material by using one of the types of resonant circuits.

### Philco Starts Huge Campaign

Philco's full nationwide promotional campaign was launched by Larry F. Gubb, president, at meetings in Philadelphia August 23 and Chicago, August 25.

Among the Philco executives addressing both meetings were: President Gubb; S. M. Ramsdell, vice-president; T. A. Kennally, general sales manager; E. B. Loveman, advertising manager; J. H. Carmine, assistant general sales manager; Harry Boyd Brown, national merchandising manager; Larry E. Hardy, manager of compact radio sales, and C. E. Carpenter, manager of tubes, auto radio and battery sales.

Large-scale national promotions and specialized local merchandising activities will open the September campaign linked to the anniversary celebration of "Philco's Tenth Year of Leadership." Special new radio models will be introduced in conjunction with the promotion, and a heavy, pointed advertising campaign will be carried on in the big national weekly magazines. Large newspaper advertising throughout the country will be used to focus the local activities of Philco distributors and dealers in their communities.

### Stromberg Ups Maple Model Price

An increase from the former price of \$39.95 to \$42.50 of Stromberg-Carlson's model 410-J was announced by Lee McCanne, radio sales manager, as effective September 9th. The 410-J is an authentic Early American design in solid maple with two wave band, 5 1/2 inch speaker, phono and television jack and five tubes, including rectifier. Higher costs of lumber and other materials were reasons for the price change, said McCanne.

# VOL. X RIDER MANUAL

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**XTRA DATA**—Because servicemen need the greatest possible amount of essential data, Volume X has been carefully edited to eliminate all the commonly known data and the space used to present more of the wanted material.

**XTRA SECTION**—New revised 64 page "How It Works" section gives easy to understand explanations on the theory of Television—Facsimile—Wireless Record Players, etc. Many servicemen regard this section to be as valuable as the manual itself. Volume X index covers all 10 Rider Manuals.

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## John F. Rider Publisher

404 Fourth Ave., New York City

Export Div.: Rocke-International Electric Corp., 100 Varick St., N. Y. C.

Cable: ARLAB

**The Service Job Cost and Income Figures**

Yearly Income	ELEMENTS OF INCOME PER JOB			ELEMENTS OF COST PER JOB			Profit, including owner's salary
	Tubes	Parts	Services	Tubes	Parts	Over-head	
Under \$1,000 .....	\$1.01	\$0.80	\$1.30	\$0.63	\$0.51	\$1.64	\$0.33
\$1,001 to \$1,500 .....	1.00	.80	1.65	.65	.70	1.46	.64
\$1,501 to \$2,000 .....	1.13	.98	2.22	.61	.54	1.57	1.61
\$2,001 to \$3,000 .....	1.01	.82	2.58	.48	.66	1.49	1.78
\$3,001 to \$3,500 .....	1.70	1.64	3.28	.68	.98	1.18	3.78
\$3,501 to \$5,000 .....	1.31	1.00	3.34	.62	.75	1.23	3.05
\$5,001 and over .....	1.98	1.48	3.55	.89	.78	1.68	3.66



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Everybody is talking about the new UTAH Service-Pak because it's the practical answer to *profitable* radio servicing. Active service men in all parts of the country are using them. If you don't have one, phone or write your jobber—ask him to show you the new Utah kit for maintaining a normal stock of essential parts economically.

The Utah Service-Pak will help you make radio servicing pay bigger dividends—it reduces costs—it saves time and space—it safeguards parts—it permits a perpetual inventory to be kept easily.

The attractive Utah Service-Pak is 17" x 39" x 10". It contains a parts stock of recognized essentials and accommodations for additional parts which are basic necessities for normal radio servicing. The following high-grade Utah products are included: 35 Assorted 10-Watt Vitreous Resistors, 6 Assorted 25-Watt Adjustable Vitreous Resistors, 16 Assorted Volume Controls, 6 Volume Control Switches, 3

Assorted Chokes, 5 Assorted Audio Transformers, 3 Assorted Universal Output Transformers, 4 Assorted Power Transformers, 1 5" Electrodynamic Speaker. You can add UTAH vibrators, condensers, etc., to complete the stock.

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DEALERS  
NET PRICE **\$29<sup>95</sup>**

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Try any or all of the following for more profit: custom antenna installations for short-wave reception, new chassis installations in old consoles or period furniture, extra speaker connections and remote operation of a master receiver, headphone connections to small table receivers for "after hours" listening and for the hard of hearing; phonograph connections and phono-oscillators, installing "tuning eye" and AVC in early supers; installing and renting sound amplifying equipment, etc. A few things like these made a radio more enjoyable and consequently increase its use. Advertising a few of these services by direct mail will make your old customers more profitable to you and at the same time attract new ones.

Get your new customers with direct mail advertising, local newspaper ads, telephone, and direct contact. A good newspaper ad could tie up a big special feature broadcast a week or two in advance with "Have your set in A-1 condition for the big fight," etc.

The important points to keep in mind are these: Servicing is a profession and both your knowledge and ability are worth compensation. Keep your costs at a minimum with accurate and complete records. Run your business as a business, not just a job. Demand a business profit in addition to your salary as a skilled technician. Sell new kinds of service to both old and new customers with good advertising.

**Kansas City Group  
Promotes Radio Service**

An entirely new promotional plan has been worked out for 16 member firms of the Electric Association of Kansas City, who do radio service work. One-half of the plan comprises a salmon-colored card, half the size of a letterhead, carrying on one side a brief message to the public on the importance of keeping radios in good operating condition; the other side lists the 16 firms. These cards are being placed in many homes by K. C. Power & Light Co. crews, as part of their customer-contact work. Cards are also being placed in all member radio dealers' stores, who do not service radios, for (1) answering service inquiries, and (2) delivering a card with each new radio sold.

The second half of the plan comprises a radio repair tag that is hung on every set repaired. This carries a little friendly customer message from the radio service firm. It is expected that this plan will result in many inoperative sets being restored to good condition; and other sets being placed in better condition; increased radio listening; in better radio public relations; and in better service to the public through an enhanced interest in their work by the radio service firms.

Increasing demand for American radio products abroad is reported by Russell C. Hall, manager of Leland Radio Import Co., Paris, France, distributors of G.E. radios, Tungsol tubes and Clough-Brengle test instruments.

# SERVICE NOTES

## Third Edition of Mallory Encyclopedia

The third edition of the popular "Radio Service Encyclopaedia" has just been published by P. R. Mallory & Co., 3029 E. Washington St., Indianapolis, Ind. The enlarged section devoted to data on all makes of radios includes tube complement, IF frequency, vibrator type, condenser replacements, control replacements, and the typical circuits for control resistors and filter condensers. The Rider manual volume and page reference is also given in the tabulated data. Section A of the encyclopaedia covers the application of various types of variable control resistors. Typical circuits are explained, and the question of proper taper is carefully discussed. Section B is devoted to condensers and power supply problems. Filtering action, voltage doublers, and by-pass condenser uses are well covered. The third section of the book explains the action of the types of vibrators used in power supplies for auto radios, etc. Causes and cures for the troubles encountered with vibrators are listed for easy reference. Some very good information on auto-radio installation and interference elimination is included that will prove valuable to the service man. An additional feature of the MYE is the monthly technical supplement service available to all for \$1.50 per year and to owners of the third edition for \$1. Important information on new tubes, new receivers, and engineering data for condensers and resistors will be published each month. The third edition and the supplements are punched for binding in a standard folder.



Double di-pole antenna of the RCA Mfg. Co., reduces "ghost" images.

## RSA Members Hear Frequency Modulation Talk

Major Edwin H. Armstrong spoke before 100 members of the RSA at their August meeting. Major Armstrong outlined the history of development of the frequency modulation system and predicted its widespread use in the future. A demonstration of the receiving equipment employing the Armstrong system, impressed the

assembled members with the realistic reproduction of sound effects and phonograph records played from the Alpine, N. J., station. The complete absence of noise further demonstrated the advantages of frequency modulation.

## John Rider to Lecture on Test Equipment

Lectures and demonstrations of various types of radio service equipment will be made in thirty-five cities on a nation-wide tour by John F. Rider, authority on service problems. The meetings are being jointly sponsored by the RCA Manufacturing Co. and the RCA parts distributors in the various cities.

## California Group Promotes Service

Nearly forty of the Long Beach, California radio dealers are members of the Radio Technicians' Association, a group formed to better the radio service industry. Bi-weekly meetings with a dinner and discussion period keep the organization alive. As a further benefit to the service man, tube exchanges are held at every meeting where overstocks may be reduced. By cooperating with the local broadcast station, spot announcements are traded for the boosting of the station by the RTA. The service shops set one button of touch tuning receivers for the local station.

# HERE IT IS! YOUR COMPLETE VISUAL AND SOUND SIGNAL TRACING

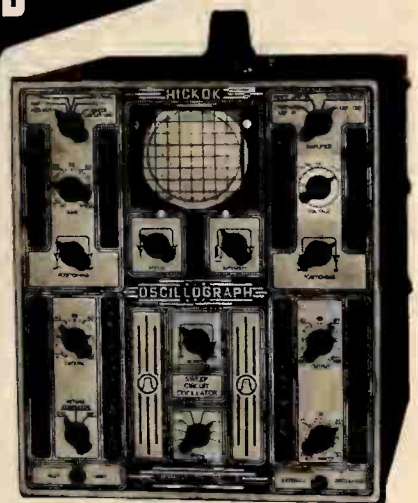
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Video Amplifiers	Vacuum Tube Voltmeter
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Self-contained power level meter with three ranges from -10 to +38 db.

Eight continuously variable R.F. ranges to 120 megacycles with accuracy better than 1/2%.

Two negative resistance audio frequency outputs—10 to 10,000 cycle variable—400 cycle fixed.

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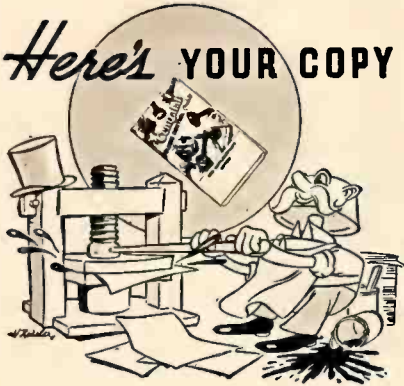
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Old Man (Call me Gutenberg) Centralab is busy in Ye Old Print Shoppe pulling impressions of the new 1939-40 CENTRALAB SUPPLEMENT . . . an 80 page opus that brings the new replacements out into the light and reveals the "goings on" in the world of new Volume Control assemblies. No well-regulated service shop can afford to be without one. . . Yours for the asking at your jobber. Don't, for goodness sakes, let 'em stump you when they bring in a new 1940 model.

## Centralab

- RADIOHMS
- FIXED RESISTORS
- WAVE BAND SWITCHES
- LOW CAPACITY LEVER ACTION SWITCHES



## Centralab

VOLUME CONTROL  
GUIDE  
1939 SUPPLEMENT

DIV. OF GLOBE-UNION, INC.  
MILWAUKEE, WIS.

# Cash in-on Cameras

## Display Boosts Camera Profits

Only eighteen months ago Sam Goldberg, owner of the Tioga Electric & Radio Co., Philadelphia, sensed a possibility of a profitable department to specialize in all equipment for the taking of pictures. True, there were small stores in the neighborhood that handled a limited stock of cameras. Drug stores handled film, and novelty stores had their motley array of cheaper supplies. But there was no one store or department where the photo-fan could find a complete assortment of those things which he might need. Starting with a few better grade cameras and film to match, this store gradually added better quality, better variety, and even branched into movie and night photography fields.

Describing the situation, Goldberg said, "Our popularity and prestige were built through sales of Frigidaire lines, Bendix washers, Philco, RCA and Stromberg radio, Sunbeam appliances, lamps and lighting fixtures. Through the entire area for miles around people knew this house and the quality of merchandise for which it stood." Grasping this favorable reputation Goldberg launched his campaign for camera sales.

## LARGE ADVERTISING CAMPAIGN

Direct mail—tens of thousands of pieces were used; tabloid papers were distributed from door to door—75 to 100 thousand per month. Neighborhood papers carried his advertising, and on top of it all salesmen carried camera literature, talked cameras, and sold cameras. Today the camera and supplies department has a whole section counter, in a place of prominence, just inside the door, and the neighborhood turns to Tioga for its needs.

From the small initial stock this department has grown until now it carries such leading lines as Eastman (Regular, Candid, and Kodak), Agfa, Foliflex, Bell and Howell movie and projection equipment, Eastman movie and projection equipment, Hargis, Detrola and Falcon candid cameras and all makes, sizes and types of film. At regular intervals an entire window is devoted to display of picture-making materials. Timely subjects are suggested to arouse interest in taking pictures, and contests for best and most unusual results are used to stimulate activity. A mid-summer window suggested out-doors, children,

and travel photography. Prominently displayed is equipment for interior and night photography, with complete textbooks to tell how to secure best results.

## PHOTO SUPPLIES NEED VANTAGE SPOT

Regarding the profitable operations of this department Goldberg calls attention to the fact that his camera department occupies the most valuable space in his front store, and his camera window-display has the space of greatest vantage on a busy thoroughfare.

Camera business is paying him well, but this success is due not to the fact that Tioga Electric carries a better stock, not that it carries quality merchandise, not that it advertises in those ways that experience have proven most effective, not that this department is being talked up by salesmen in the homes, not that the merchandise is attractively displayed and carefully demonstrated, but to a perfect combination of all five. These same results are within the grasp of any dealer who will make an equally intelligent effort to establish himself as the logical place to go for cameras and all photographic supplies.



Henry O'Neil, Warner Bros. star, makes Univex enlargements in movie "Everybody's Hobby," which offers dealers grand promotion tie-in.

## Dumont Issues Television Programs

Allen B. Dumont Labs are issuing illustrated television programs, called "Televents," each week to Dumont dealers as part of a plan to increase public interest in tele-receivers by popularizing programs now available. Printed in green and black on heavy card stock, the programs may be used in the dealer's window or on the walls.

## 1940 Auto Radios

(Continued from page 18)

lows quite naturally as a result of the better cooperation between radio and automobile designers.

Battery drain is not such a serious concern as it has been. Generator outputs have reached a new high, and there are plenty of amperes to use on radios as well as the new and powerful headlamps, heater and defroster motors, and all the other electrical accessories in which the car owner is invited to indulge. Radio current consumption has therefore changed little since last year, remaining in the neighborhood of seven amperes, or roughly, as many amperes as the set has tubes. Permanent-magnet speakers are used in some of the sets to reduce current drain, but their use has not increased greatly over last season. They are virtually identical in performance with the energized field speakers, but they cost a little more and their use is consequently restricted.

### COMPACT TUBES AND CONDENSERS

Placing the receivers in the instrument panels has restricted the space available for components, so that bantam-type tubes have become very popular. Another component which is helping reduce space requirements is the fabric plate electrolytic condenser. By its use, all necessary filter and audio by-pass condensers can be put into a round case smaller than a bantam tube. These fabric plate condensers will be used in the majority of 1940 sets. Circuit changes have been few. Sensitivity and signal-to-noise ratio reached some very high levels in the past year or two, and some of the sets have made no circuit changes at all. Sets of 1938 and 1939 tended toward circuit tricks to obtain novelty. Those were "feature" years, and the public was being experimented on just a little to find out what they liked best. Now the circuits have been simplified and "features" have yielded to just plain good performance.

Summing up the broad view of automobile radio for 1940, one is strongly impressed by all the evidence pointing to success for the industry. Automobile radio has found its stride and is going places.

### Erwood Sound Equipment Co. Organized

John Erwood and Joe Erwood are president and vice president respectively of Erwood Sound Equipment Co., 224 W. Huron St., Chicago, Ill., newly formed company specializing in sound equipment manufacturing. The new line will cover the field of portable and fixed installations, institutional and school systems, industrial systems, inter-office communicating and mobile systems. Joe Erwood who holds several outstanding patents and designs on the field will be in charge of engineering.



## TRIUMPH'S Master TUBE Merchandiser!

Thyratron controlled relay operates the GOOD, SHORTED, and REPLACE lights on this first truly automatic tube tester. Here is the convincing way to test and sell tubes. Checks every radio, television, and rectifier tube on the market; and hundreds of pilot lights and ballast tubes.

Triumph test equipment includes signal generators, oscillographs, multirange meters, battery testers, and audio oscillators.

## TRIUMPH MFG. CO.

4017 W. Lake Street

Chicago, Illinois

## THIS FALL'S PROFIT OPPORTUNITY!

### GTC <sup>A</sup>+<sup>B</sup> PORTA-POWER

converts the portable radio into modern home "plug-in" set for Fall and Winter months. Fits all battery compartments. Universal sockets to fit all battery plugs.

LIST \$7.50 EACH

Write for Complete Information



GENERAL TRANSFORMER CORP. 1252 W. VAN BUREN ST. CHICAGO, ILLINOIS

*What a line  
it is!*



• The instruments illustrated range from the Giant Tube and Set Testers with their full 9-inch scales down to the Model 235 "baby of size and type for every need in the big Simpson line—but just ONE quality—the SIMPSON quality.

**"A harem of dusky beauties"**

THE description is Rudyard Kipling's—but somehow it seems to just fit this great line of Simpson Testing Equipment. Simpson equipment is not only the most beautiful to behold; it is also the most beautiful in design, workmanship, and on-the-job utility.

Ask for the new catalog which details the tube and set testers illustrated here. See them at your Jobber's.

SIMPSON ELECTRIC CO., 5202 Kinzie St., Chicago

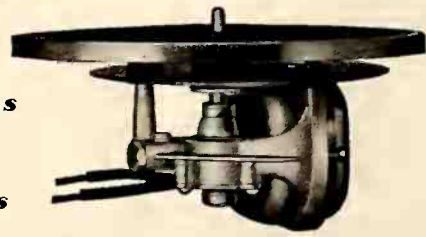
**SIMPSON**

INSTRUMENTS THAT STAY ACCURATE

**PUT THIS LIGHT CX MOTOR  
In Low Cost COMBINATIONS**

Right for

- **Combinations**
- **Portables**
- **Table Models**



8", 9", 10" or 12", turntable included

NEWLY developed to meet the demand for a light-weight, sturdy, constant-speed motor at low cost. Keeps your investment down. Keeps retail prices at quick-turnover level.

Order a CX motor to test. Self-starting, attains speed quickly, runs silently and at constant speed. Will not overheat in small, enclosed cases. Helical cut gears with large bearings run in oil in sealed chamber. Turntable has patented drive that provides double insulation. Furnished with mounting plate, ready to install when you get it. State voltage and frequency of current you use. Also size turntable wanted.

Send for New Catalog

 **The GENERAL INDUSTRIES CO.**  
3938 Taylor St., Elyria, Ohio

**It's Absolutely  
Free!**



★ If you want the very latest and most complete dope on volume control replacements for all standard sets, ask your local jobber for the new CLAROSTAT SERVICE MANUAL. Simplified listings. Explicit data. And backed by largest line of exact-duplicate and standard controls. ★ Or write us direct for your copy.

**CLAROSTAT**  
MANUFACTURING CO.  
Incorporated  
285 North Sixth St.  
Brooklyn, N. Y.



Latest television program posters now being issued to dealers by Allen B. DuMont Labs., are checked by new sales manager Mark Lajoie.

### Emerson Shows Sales Increase

Reporting an indicated increase of from twenty to sixty per cent in advance dealer commitments over a year ago, Charles Robbins, Emerson sales promotion director, stated that the 40 per cent minimum dealer discount, the 1939-40 advertising and sales promotion program and a more highly styled line, were reasons for the boost. The 40 per cent discount which dealers are entitled to on even the lowest price models was cited as the prime factor.

The current and future national advertising campaigns embrace a big schedule of insertions in many national magazines and an extension of the Elliot Roosevelt radio program to a larger number of stations. In addition a cooperative program has been worked out with distributors whereby big-space newspaper copy will be used with dealer imprints to tie in with the national campaign. In this connection the company is offering a number of large window and store display units and consumer mailings.

Sixty-three models ranging from \$7.95 to \$99.95 comprise the 1940 line. Included are table models with "Inner-Ceptor" loop antennas, AC and AC-DC radio-phonograph combinations (consoles, portables and table models) with automatic record-changers, universal (AC-DC-battery) portables, farm radio and a wide grouping of self-powered portables. Among the new features are "Key-Touch" automatic tuning, "Eye-Ease" dials and "Stay-bent" cabinet construction. The much publicized "Miracle Tone Chamber" is featured on all 1940 models.

### New Sealed-Tube Carton for Zenith

The colorful new Zenith tube carton protects the factory tested and guaranteed product. The carton is constructed of heavy cardboard and the end-caps are of metal. The tube type number is stamped into the metal end piece. The tube is easily removed by pressing in the side of the carton, thus destroying any possibility of refilling the box.

### John Meck Industries Formed

New company in the sound field is John Meck Industries, 430 W. Erie St., Chicago, headed by John Meck, formerly president of Electronic Design Corp., and former salesmanager of Clough-Brengle. The new Meck organization is manufacturing quality sound equipment for specialized applications such as automatic record-changer portable sound systems for funeral directors, single-unit speech re-enforcing equipment for hotels, etc. Each model has definitely planned markets and is specifically designed and merchandised with these markets in view.

Stated Meck, "Sale of the equip-

ment is to be made through the regular jobber-dealer channels at an entirely new discount set-up, which makes possible selling in highly competitive markets."

### Stromberg Plans Third "Labyrinth Week"

Stromberg-Carlson has chosen September 23-30 this year to hold its annual "Labyrinth Radio Tone Week," so successful in the last two years, it was made known by radio sales manager Lee McCanne, who is directing the event. Special advertising and merchandising promotions to tie in with the event are planned by dealers. The Stromberg-Carlson carpinchoe leather speaker will also be demonstrated, said McCanne.

*Free* **GIFT MERCHANDISE**  
or **SHOP EQUIPMENT**  
from *National Union*

#### RICH WARM 100% WOOL BLANKETS



• 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 \$3.00 Retail Value \$8.00

#### FAMOUS MARLIN SHOTGUNS



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

#### ELGIN WATCHES



Retail Value, \$37.50

• Ladies ELGIN DE LUXE wristwatch, semi-haguette, 17 jewels, 10K gold filled case. Or man's CRUSADER 8/0 size, 17 jewels, 10K natural gold filled case. Dealer Deposit . . . . . \$11.00

#### ROGERS SILVERWARE

Retail Value, \$60.00



• 87-piece service for 8 persons in Good Housekeeping approved tarnish proof, fine wood chest. Encore design. Made and guaranteed by Simeon L. & Geo. H. Rogers Co., famous Oneida silversmiths. Dealer Deposit . . . . . \$12.00

#### 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!

#### CERAMITE CONDENSERS

The only midget electrolytic encased in ceramic insulation. Can't short when jammed in tight places. Competitively priced. Available in all popular capacities and voltages.



#### NOTICE!

There is no truth to the rumor that National Union is going to discontinue premiums. A movement is on foot to try to persuade your jobber to discontinue giving you equipment with your tube purchases. National Union's plan is benefiting thousands of service dealers. Tell your distributor—"We want National Union offers continued!"

RT-939

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



## AEROVOX CAPACITY and RESISTANCE Bridge

• Designed to provide servicemen with more critical means of appraising condenser quality and performance, this instrument has been bought by many engineers, laboratories, manufacturers. Widely accepted as standard test equipment, it is simply irresistible at the net cost of only \$35.75. Note versatility as partially listed here. Check with all other popular-priced capacity and resistance bridges. Examine the Manual included with each instrument (50c per copy, bought separately). Then . . .

### What It Does . . .

#### CAPACITY BRIDGE . . .

Measures capacity 100 mmfd. (or .0001 mfd.) to 100 mfd., in 6 ranges; leakage; power factor to 50%, etc., of condensers under actual working conditions.

#### RESISTANCE BRIDGE . . .

Measures resistance values of resistors and electrical equipment and circuits. 10 ohms to 1 megohm in 5 ranges.

#### INSULATION RESISTANCE . . .

Measures this important factor in condensers and other devices. Meter is calibrated directly in megohms. Reads up to 10,000 megohms.

#### VACUUM-TUBE VOLTMETER . . .

Consists of amplifier stage and grid-leak. May be used externally.

#### MILLIVOLTMETER . . .

Meter terminals brought out directly. Range, 60 mv. at 60 ohms. Can be used with external shunts.

#### MILLIAMMETER . . .

Meter can be read in milliamperes. 0-6 ma., 0-60 ma. May be used externally.

#### VARIABLE POWER SUPPLY . . .

Available directly at terminals. 15 to 600 volts continuously variable over entire range.

#### Ask to See It . . .

Your local AEROVOX jobber can show you this instrument. Examine it critically. Check its many features at first hand. Ask for latest descriptive bulletin. Or write us direct.

**AEROVOX**  
CORPORATION  
NEW BEDFORD, MASS.  
IN CANADA: AEROVOX CANADA, Limited, Hamilton, Ont.

## G.E. to Construct Freq. Modulation Station

Equipment is now being built for the construction of a new broadcast station in Schenectady that will operate on the recently announced frequency modulation system developed by Major Edwin H. Armstrong, according to an announcement by C. H. Lang, manager of broadcasting of the General Electric Company.

The transmitter for the new station will be located in the building now housing General Electric's television transmitter atop the Helderberg Mountain, 12 miles from Schenectady. It is expected that the new station will go on the air this fall.

General Electric has been conducting frequency modulation tests for some time on its 150-watt ultra short-wave station W2XOY, located atop the State Office building in Albany. Federal Communications Commission officials spent two days in Schenectady and Albany this spring to witness a demonstration of the new system of radio broadcasting.

## University Uses Ghirardi Book as Text

A new course in its Supervised Correspondence Study Series has just been published by the University of Nebraska, covering the field of radio servicing. The course has been designed to be used in conjunction with the text book *Modern Radio Servicing*, by Alfred A. Ghirardi which has been made the official text for the course.

## Herb Young to U. S. Record Post

The United States Record Corp. has announced the appointment of Herbert E. Young as its national sales manager. Young who is well known in the record and radio fields will personally contact the company's distributors. Through the Scranton, Pa., plant, the company is manufacturing two new labels: the "Varsity," a 35 cent record, and the Royale, to retail at 75 cents,

\$1.00 and \$1.25. A catalogue of over 700 selections has been made available and regular releases are promised at an early date.

Soon after his appointment Young announced that Bill Cone, formerly New England record sales manager for Columbia Phonograph Co., has been named regional sales manager for U. S. Record Corp. in New York State and New England. Ed Denham, formerly with RCA Victor, has taken over the southern territory as regional sales manager.

## Records Proxy for Kelsey in Jobber-Dealer Meetings

Repeating his previous accomplishment of addressing simultaneously 75 distributor-dealer meetings held throughout the country, L. L. Kelsey, radio sales manager for Stewart-Warner, explained the details of the forthcoming school-college merchandising campaign featuring the Senior Varsity and College Campus radios.

At previous meetings distributors and dealers were under the impression that Kelsey would speak to them in person. This time, however, the men knew he would address the meetings by means of a recorded transcription. Kelsey outlined the complete program which will be directed at the scholastic radio market, including plans whereby the Stewart-Warner Senior Varsity and College Campus radios will be on display in every community that contains a high-school or college.

## Scheel Now S.M. for Televiso

Harry J. Scheel has been appointed export sales manager for Televiso Co., 341 N. Pulaski Rd., Chicago, to manage and direct the export activities of the firm's line of laboratory radio instruments. Scheel has been in the export business for 20 years and has traveled around the world making contacts with leading importers. He spent five years with the former Grigsby-Grunow Co., where as export manager he formed the sole export division for that organization.



Chicago office of Utah Radio Products Co., holds an informal sales conference. Seated left to right: H. S. Neyman, G. Hamilton Beasley, O. F. Jester. Standing: E. L. Harrett, J. M. Hume, F. H. Wilke, W. Dumbe, W. A. Eilmore.

## Money in Recorders

(Continued from page 26)

mailings over a long period of time will give excellent results and more than justify the expense and effort.

Unique plan used by some dealers is to take carefully selected returns from mailings and send a recording of an advertising message to each prospect personally. Even a very nominal number of sales more than pays for a promotion of this sort.

### USE SPECIFIC APPLICATIONS IN SALES STORY

An outstanding recording and recorder business has been built by the Center Music Shop, 1242 6th Ave. New York City. Prospects are approached with a special use for recorders in mind. For instance detectives are reminded of the advantage of recording confessions, the statements of witnesses, etc. Lawyers are shown how recorders can help them in preparing their briefs, in recording depositions. Actors and vaudeville artists are contacted and urged to make recordings as an aid in acquiring auditions from busy agencies.

"Center" displays the recorders prominently and makes a concerted effort to sell them. The policy has made the item a well paying extra line and such sales have often been the first contact with valued customers for combinations, classical albums, large consoles and other merchandise.

Radio-men have long known the necessity of energetic merchandising and the same enthusiasm and ingenuity are needed to sell recorders.

\* \* \*

## Cramer to Wire Broadcasting

Harold West, president of Wire Broadcasting Corp. of America, has announced the appointment of L. F. Cramer as general sales manager.

Cramer, who will immediately embark upon an active campaign to open up additional outlets for Wire Broadcasting, said: "I see an unusually close tie-up between the alert radio dealer and the distribution problems of Wire Broadcasting."

Cramer was formerly with the Allen B. DuMont Laboratories, Inc., as general sales manager.

## Lajoie Heads Dumont Sales

Appointment of Mark B. Lajoie as general sales manager has been announced by Allen B. DuMont Labs. He succeeds Leonard F. Cramer, resigned. For some time Lajoie has headed Dumont television sales in New Jersey. His experience includes several years with Philco and ten years occupied with National Carbon Company's radio activities.

## NEW ... SMALLER 15c SIZE IN FLASHY BOX

**I**N every family where records are enjoyed, you'll find a demand for the sensational RECOTON Liquid Record Renewer that cleanses, lubricates and protects—2-oz. bottle 50c or this handy 15c bottle powerfully displayed as illustrated at left.

Ask for samples of  
**SUPERIOR and ACOUSTIC**  
hi-fidelity needles

# RECOTON

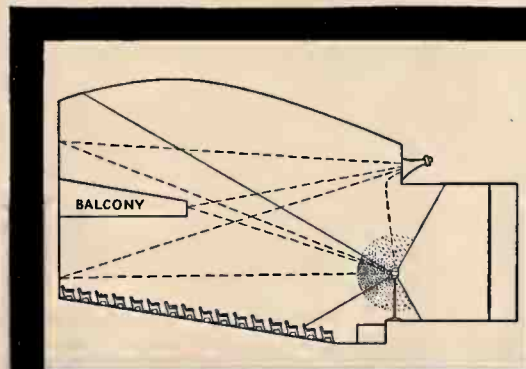
CORPORATION

178 PRINCE STREET NEW YORK CITY



# NEW MIKE is a KILLER

... it puts feedback  
on the spot!



A 639A installation showing minimum feedback. Dotted area indicates dead zone.



With the Western Electric Cardioid, you can handle  
Public Address installations you never thought possible

Western Electric's 639A microphone gives you clarity, fidelity and control you never dreamed of before. It's tops for P.A. work as well as broadcasting.

The Cardioid combines a ribbon mike and a dynamic mike. A 3-way

switch gives you a choice of either or of *both*—matched to produce the best qualities of each through a 120° pick-up zone. Its large dead area cuts feedback, makes it ideal for use under the toughest acoustic conditions.

Distributed by Graybar

# Western Electric

## CARDIOID

## DIRECTIONAL MIKE

GRAYBAR ELECTRIC CO., RT-9-39  
Graybar Building, New York, N. Y.

Please send booklet describing Western Electric's New 639A Mike.

NAME .....

ADDRESS .....

CITY ..... STATE .....



**Model 1213  
A  
TRIPLE VALUE  
TUBE TESTER  
\$22.00**

Dealer Net Price

- New Foldex Tube Chart Exclusive Handy Hinged Post Card Index Type (Easy to keep up-to-date)
- Filament Voltages from 1 to 110
- With RED • DOT Lifetime Guaranteed Instrument

Model 1213 contains all the sockets to test present-day tubes, including Loctals, the new Bantam, Jr., and the High Voltage series recently announced (including the 117Z6G). Has Ballast Tube Continuity Test... Neon Shorts Test... Separate Line Voltage Control Meter. Will not deactivate 1.4 volt or other type tubes—a positive assurance with any current Triplett Tube Tester. Case is black baked enamel suede finish. Revised tube chart sections are mailed to all registered users as new tubes appear.



**MODEL 2000**

New Portable Appliance Tester... Wattmeter and Voltmeter in Twin Case... Voltmeter ranges 130 and 260. 750 and 1500

Watts... Reads Line Voltage and Wattage Simultaneously. Dealer Net Price **\$19.34**

WRITE FOR CATALOG

The Triplett Electrical Instrument Co  
Section 199, Harmon Ave.  
Bluffton, Ohio



# Trade Flashes

William Norins, general sales manager, Majestic Radio & Television Co., reports that fifteen units of the Graybar Electric Co., Inc., are now handling the Majestic line. Included in the list of units were those in Syracuse, Rochester, Albany, Cleveland, Toledo, Akron, Pittsburgh, Youngstown, Detroit, Flint, Milwaukee, Kansas City, Omaha, Oklahoma City, Wichita.

New distributors to handle the Stromberg-Carlson line recently announced by Fred N. Anibal, distributor manager. Jobber for parts of South Dakota and Wyoming is Black Hills Radio Dealer, 602 W. Main St., Lead, S. D.; in Washington, Inland Radio, 922 West First St., Spokane; and in Iowa, McGregor Co., Marshalltown, with branch in Oskaloosa. Northwest Mississippi and nearby counties in other states will be covered by Arthur Folmer Co., 216 Monroe Ave., Memphis, Tenn.

Packard Radio Co., Fort Smith, Ark., has discontinued all retail service and will maintain a wholesale radio supply house handling radios, replacement parts, tubes, accessories, P.A. and allied merchandise. The company has increased its stock in line with the new policy.

Twenty-one radio and television technicians were graduated in the first class of the Television Training School, located in the Grand Central Palace Building, New York City, according to an announcement made today by L. F. Nolde, vice-president of the school.

The class now forming will begin its studies in September.

Now representing The Magnavox Company is Joseph Sprung, 254 W. 31st St., New York City. He will cover speakers and capacitors in the Metropolitan New York territory. Sprung has been known to the radio trade for many years and has acted as the representative for such companies as the General Instrument Corp., and the Stackpole Carbon Co. Magnavox has recently completed tools for a new series of speakers intended to fill most requirements.

New jobbers for Continental are: Lappin Electric Company, Milwaukee; U. S. Jewelry Company, Baltimore; Peden Iron & Steel Co., Houston; N. C. S. Distributing Company, Charlotte, N. C.; May Hardware Company, Washington, D. C.; F. C. Dahnken Co., Salt Lake City; Brown Camp Hardware Company, Des Moines, Iowa.

Carl J. Hollatz, vice president and general manager of Ken-Rad Tube and Lamp Corp., announces that Russell W. Metzner will now supervise sales of the renewal tube division in addition to his duties as sales manager of the lamp division of the company.

Sid Shure and Gene Berman of Shure Bros. have spent several weeks in California traveling the territory with their representative, Bert Knight of W. Bert Knight, Inc., calling on all distributors in the area.

Canfield Supply Co., 16-18 Strand St., Kingston, N. Y., is new distributor for Stewart-Warner refrigerators and electric ranges.



Among those present at golf tournament and dinner held by Sales Managers' Club at Harrison, N. Y.; left to right, Arthur Moss, secretary of NRPDA, Paul Ellison of Sylvania, Arthur Beard of Ward-Leonard, and George Silber of Reco-Kut.

## Philco Displays Make Hit

The enthusiastic reception of the 1940 Philco line by radio dealers is clearly indicated by the widest use of Philco display advertising material in the company's history, according to a report from Ernest B. Loveman, Philco advertising manager.

"More Philco displays have gone to dealers since the introduction of the 1940 line than have ever been ordered before," declared Loveman. "Philco displays this year have been tailored more to suit the dealer's actual needs more than ever before. Each display is the result of reports from every section of the country on what the dealer feels he needs most as an effective selling aid.

"Probably the most successful display ever produced by Philco is the new line's permanent floor display. Very simple and graceful in line it is the first display in the radio industry to use a natural wood grain finish. Though very attractive in appearance, its tremendously wide usage proves that its design served a very important purpose—to effectively show off merchandise and not outshine it," concluded Loveman.



Eddie Dillon, recently appointed general manager, E. I. Guthman Co., amateur division.

## Sees Television Uprush Coming for U. S.

Surprise that television is not more enthusiastically welcomed, was expressed by a British caller, W. J. Brown, formerly Gramophone Co. chief design engineer and British Philco director of engineering, who has been visiting America the last two months.

Though British television receiver sales are only around 15,000, Mr. Brown feels that once the immense advertising possibilities are realized in the U. S., television will move with characteristic American rapidity. Receivers here, he thinks, are still complicated and expensive, compared with the British product, which has two years' more commercial development behind it, resulting in many cost-saving cuts in engineering design, reducing numbers of tubes and components.

W. J. Brown is now consulting engineer with offices at 45 London Wall,

London E. C. 2, and welcomes correspondence from this side of the Atlantic.

## U. S. Record Elects Officers

At a meeting held August 15th the following men were elected to office of the United States Record Corporation, 1775 Broadway, New York City: Charles M. Hemenway, president; Eli E. Oberstein, vice-president; Lowell A. Mayberry, treasurer; Mortimer S. Gordon, secretary. Production and deliveries from the factory at Scranton are being made at once on "Varsity," a 35 cent record and "Royale," a classical record at 75 cents to \$1.25. The initial catalog includes over 700 standards and classical selections.

## Amperite "Self-selling Package"

Customer appeal is boosted with the bold design and color scheme of the new carton for the "kontak" microphone of the Amperite Co., 561 Broadway, New York, N. Y. Descriptions of the various uses of the mike are printed on the box to attract buyers through the versatility of the product.

Allen B. DuMont Labs have recently announced the manufacture of a master generator of synchronizing blanking and scanning pulses for use in television transmitting stations. The unit uses a frequency divider circuit permitting synchronization with the 60-cycle supply line at any phase relation.



**T**HIS is, we believe, the largest selling replacement transformer in America! It is the famous THORDARSON T13S38 Universal Output. It is one of 6 THORDARSON tube-to-voice-coil universals that will do the job in 4,000 receiver models! And it has the dependable THORDARSON quality construction. Three-quarters of a pound of iron and copper, carefully engineered, painstakingly built, and solid as a battleship. No wonder "service engineers" depend on THORDARSON to build their reputations.

# THORDARSON

Thordarson Elec. Mfg. Co. Chicago

"TRANSFORMER SPECIALISTS SINCE 1895"



MADE BETTER TO  
WORK BETTER



• The combination of high tensile strength that assures a lasting bond, and faster, cleaner work made possible by quick acting flux of pure water white rosin, has given Gardiner Rosin-Core Solders an outstanding reputation for efficiency and economy on radio work by expert or amateur. Yet, due to modern production methods and big sales, Gardiner Solders cost less than even ordinary kinds. Made in various alloys and core sizes . . . and in gauges as small as 1/32 of an inch . . . in 1, 5 and 20-lb. spools.

Eastern Sales Office and Warehouse:  
**DAVID M. KASSON & CO.,**  
401 Broadway New York, N. Y.



4815 S. Campbell Ave., Chicago, Ill.



Model  
260

**A new HIGH in sensitivity with  
a new LOW in price—**

• That is the story of the new Model 260 Simpson Set Tester for television and general servicing. It has ranges to 5,000 volts—both A.C. and D.C. at 20,000 ohms per volt D.C. 5,000 ohms per volt A.C.

The negligible current consumption assures far more sensitive readings than any instrument in its price class. The resistance readings, from 10 megohms down to 1/2 ohm and five Decibel ranges, from -10 to +52DB, are equally dependable. See the Model 260 and you will thank Simpson experience and methods for this great value. **\$27.50** Dealers Net Price.....

Model 215 offers similar ranges at 5,000 ohms per volt D.C.—1000 ohms per volt A.C., at a dealers net price of \$22.85.

SIMPSON ELECTRIC CO.  
5202 Kinzie St., Chicago, Ill.

**SIMPSON**  
INSTRUMENTS THAT STAY ACCURATE



Frank Troiano and sales director Howard Jones of Emerson, talk it over with general manager Leo Levy of Rochester-Norge Corp.

**Banks Help  
Jobbers**

"The Wealthometer, a small bank obtained from Automatic Recording Safe Co., 35 E. Wacker Drive, Chicago, has been used to great effect by Radio Supply Co., Norfolk, Va. and by other jobbers. We believe Radio Supply initiated the idea in the jobbing field," reports Morris F. Taylor, Silver Spring, Md.

Object of the plan is the convenient handling of time sales on larger equipment, such as test instruments, recorders, and amplifiers. The dealers are much enthused about the idea.

Working the plan is very simple. The equipment is sold on a regular conditional time payment basis, the note is discounted at the bank. Then the jobber lends the Wealthometer to the dealer, retaining the key. The dealer adds a quarter to at least one service job per day and puts this extra 25c in the Wealthometer. At the end of the month the jobber's salesman opens the Wealthometer and removes the money to make the payment at the bank.

"There are many possible variations," says Taylor. "Suppose you sell the dealer the idea of adding 25c to each job and depositing it. Then, when

emptied, the bank should contain enough money beyond the payment to enable you to give the dealer a National Union condenser cabinet, transformers, volume controls, resistors, or a manual. As a result, the dealer not only gradually gets a complete instrument setup, but also can become a better businessman with a higher, more profitable service charge and a stock of popular tubes and parts."

Or, the dealer might each day deposit the cost of parts and tubes sold so that he can pay his bill when due. Remember—Keep the key!

**General Equipment Takes  
Farnsworth Line**

After an absence of 10 years from the radio distributing business, the General Equipment Corp., Boston, Mass., is now back in the field announced J. G. Waddell, president, at the first showing in Boston of the new Farnsworth radio line. Speakers at the event were J. G. Waddell, John S. Garceau, advertising manager of Farnsworth and Edward H. McCarthy, Farnsworth eastern sales manager. The meeting took place in advance of the open-house held August 22 when dealers from all sections of New England inspected the new line.

Presenting UNIVERSITY'S  
MOST IMPORTANT SOUND  
DEVELOPMENT

*Non Resonant*



EVERY  
LOUD SPEAKER  
GUARANTEED  
NON-RESONANT

Other features:

- HIGHEST EFFICIENCY
- HIGHER POWER
- HIGH FIDELITY
- HIGH COVERAGE
- WATERPROOF

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FOR EVERY TYPE OF  
SOUND SYSTEM

## New Personnel for Columbia Recording

James H. Hunter has been named vice president in charge of production of the Columbia Recording Corp., it has been announced by Edward Wallerstein, president. Mr. Hunter will supervise all manufacturing operations entering into the production of Columbia, Brunswick, and Vocalion records. He is well known in the field of plastics and electro-chemistry.

Mr. Wallerstein also announced the appointment of Moses Smith as director of the classical division of the artists and repertoire department of the Columbia Recording Corp. Mr. Smith's headquarters are located at the recording division offices of the company, 799 Seventh Ave., New York City. New duties will comprise the acquisition of new artists, selection of repertory and complete supervision of recordings in the classical department.

## Stewart-Warner Shows Six New Models

Stewart-Warner radio distributors and key dealers throughout the United States met at four sectional gatherings in September to view the six new radio models added to the 1940 Stewart-Warner radio line. The new sets were introduced at Chicago, September 7; New York City, September 9; Dallas, September 11; and San Francisco, September 13.

The new sets, augmenting the 1940 Stewart-Warner radio line of 25 models introduced last June, include two new consoles of six and eight tubes; a six tube laydown type radio similar in performance and construction to the consoles; a streamlined battery console; and two new battery portables, one of which also operates on AC-DC current. The addition of these six new models brings the 1940 Stewart-Warner radio line to a total of 31 different models.

L. L. Kelsey, radio manager for the Stewart-Warner Corporation, who presented the new Stewart-Warner radios, outlined in detail at each sectional meeting the plans for the intensive school-college merchandising campaign which gets under way early in September, featuring the Stewart-Warner "Varsity" and "College Campus" radios.

## G.E. Holds Annual Camp

G.E. radio and television engineers and research men were guests at Bridgeport, Conn., August 17, 18, 19, at the first annual radio and television engineering "camp." Business sessions during the three days were devoted to the technical aspects of radio and television transmitters, receivers and tubes. Current manufacturing problems and present research were also covered. Guests at the camp included Dr. E. F. W. Alexanderson, inventor of the alternator. Heading the various committees which planned the camp were I. J. Kaar, head of receiver design, and C. A. Priest, in charge of transmitter design.

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- 1 It takes a reliable company—established, foresighted, experienced.
- 2 It takes a reliable product—tried, tested, proved.
- 3 And it takes rapid turnover—consistent, guaranteed.

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## G.E. Holds Annual Camp

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A GOOD NAME  
GOES A LONG WAY



Look for the Ken-Rad trade-mark on your radio tubes. It is your best assurance of dependability and performance.

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Export Dept.  
116 Broad St., New York, U. S. A.  
Cable Address: Minthorne, New York

★ **KEN-RAD** ★  
DEPENDABLE RADIO TUBES



Jobber, dealer, manufacturer meet. Left to right are Ken Featherman, Morris Willis, owner of Spokane Radio Co., W. S. Hartford, Thordarson S. M., and Don Burcham, distributor.

### Brown to Address Boston Conference

Joining a group of more than thirty-five authorities on science, sales, advertising, business and finance, who will address the Eleventh Annual Boston Conference on Distribution to be held October 2, 3,

at the Hotel Statler in Boston, is Harry Boyd Brown, national merchandising manager, Philco Radio & Television Corporation.

Recognized as one of the outstanding men in the country in the merchandising field, Brown has chosen television as his subject. He will address executives from more than 21 states and 12 foreign countries on "Television Makes It Possible."

### RSA Television Course

Through the efforts of RSA President George Duvall, RSA has been able to secure for the use of the various chapters, a complete course in the servicing and installation of television receivers.

The plan is to send separate lessons in the course to each chapter approximately once a month. The chapter will hold a round table discussion and study of the material of the lesson, and each member of the chapter will answer a prepared questionnaire to test the understanding of the subject studies.

Through this plan, a trained group of television servicemen will be ready

when television arrives in each community.

Gene Turney, sales manager of Kenyon Transformer Co., New York, N. Y., is making an extended business trip during which he will see leading jobbers of the country. The entire trip will take six weeks and over 11,000 miles will be covered. His early reports indicate a decided upswing in business.

William Carduner, 296 Broadway, New York City, New York, now represents Stancor in the territory formerly covered by Royce Sales Agency, that of Metropolitan New York, Long Island, New Jersey, Delaware, Washington, D. C., Maryland, and Eastern Pennsylvania.

Ward Leonard Electric Co. has appointed H. W. Groetzinger, 1508 Cooper Avenue, Pittsburgh, Pa., as their representative for the sale of Ward Leonard radio products in the state of Pennsylvania west of a line drawn north and south through Harrisburg, Pa., including the city of Harrisburg and all the state of West Virginia.

Jerome D. Kennedy, general sales manager of Western Electric Co., retired from the company recently after more than forty years of service. The last twelve years he spent as head of the nation-wide distributing organization for the Bell Telephone System. Mr. Kennedy is succeeded by Fred W. Bierwirth.

The Television Training School of New York City has just acquired 1,200 additional square feet of laboratory space in preparation for its fall classes, according to an announcement made by L. F. Nolde, vice president.

Tryggave Sundin, representative in Sweden for the Hygrade Sylvania Corp. and director of Moon Radio A.B., Stockholm, Sweden, arrived in New York recently to discuss tube problems and visit Hygrade factory. He was welcomed by W. A. Coogan, Sylvania foreign sales manager.

### MEMO TO ALERT SERVICEMEN

*Lafayette's the P.A. Bet!*

**HERE'S CUSTOMER APPEAL** — For 1940, Lafayette engineers again offer three complete lines—a DeLuxe, Standard and an Economy. All 3 bear the stamp of Lafayette advanced engineering. All are star performers—streamlined for buy appeal.

**BIG SURPRISE** of the new triple line is Lafayette's consistently lower prices. You make more on every system you sell. And you sell more because Lafayette P.A. can't be matched—at any price! In profit, as in performance, Lafayette's the best bet!

**SEND TODAY** for new **FREE** 1940 catalog. See the "triple threat" line. You, too, can earn big money selling Lafayette P.A.

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SERVICE CO., Inc.

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CHICAGO, ILL.  
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ATLANTA, GA.  
225 PEACHTREE STREET  
BOSTON, MASS. \* BRONX, N. Y.  
NEWARK, N. J. \* JAMAICA, L. I.



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Dept. 121P3—100 Sixth Ave., New York.

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Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

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PROFIT  
STORY

PASTE COUPON ON PENNY POSTCARD

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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 CORP.**

Dept. R-21

466 W. Superior Street

Chicago, Ill.

## Let's Look at the Record

(Continued from page 29)

The Brunswick 75-cent record will concentrate on the broad market, which lies between the popular and the classical. This market of standard music appeals to young and old, is the most consistent and, perhaps, the largest classification. It certainly is a market that has been the most neglected in the modern record revival, and will respond to the improved recording now possible.

### BLUE AND RED LABELS

The Columbia "Blue Label" record at 75 cents to \$2 will feature the serious music of the ages played by the current great artists to supplement an already fine catalog of Columbia Masterworks.

Columbia has just dropped a miniature bomb in the trade by announcing a new "Red Label" record at 50 cents, with top-flight exponents of "Swing" and "Sweet" music to record exclusively for Columbia.

Backed with ample CBS working capital, with a superior product, produced in a thoroughly modernized plant at Bridgeport, guided by skilled men, Columbia has set sail and is gaining momentum. In any event, Columbia has taken its place in the industry as a new, dynamic factor, with an old and respected name. The industry will hear a lot about Columbia in the future.

### Wacky!

Latest of the wacky tunes to follow the trend of "Hold Tight," "Three Little Fishies" and "Jumpin' Jive," is "The Little Man Who Wasn't There," disced for Victor by Larry Clinton. Double-talk nursery rhyme experts will never forget the nutty lyrics which go:

Yesterday upon the stair  
I saw a man who wasn't there  
He wasn't there again today  
Good gosh, I wish he'd go away.

## Wax Worth Watching

**TOMMY DORSEY** and his orchestra playing *Are You Having Any Fun* from "George White's Scandals," with vocal refrain by Edythe Wright—Victor 26335.

**KAY KYSER** and his orchestra playing *Oh! You Crazy Moon* with vocal chorus by Ginny Simms—Brunswick 8446.

**DOROTHY LAMOUR** singing *Comes Love* from "Tokel Boy"—Bluebird B10382.

**CONNIE BOSWELL** with Harry Sosnik and his orchestra, singing *Oh! You Crazy Moon*—Decca 2613.

**EDDIE DELANGE** and his orchestra playing *WPA Polka*—Bluebird B10336.

**BOB CROSBY'S BOB CATS** playing *Oh, Mistress Mine* with vocal chorus by Marion Mann—Decca 2662.

**FRANKIE MASTERS** and his orchestra playing *If I Only Had a Brain*, from "The Wizard of Oz" with vocal trio—Vocalion 5034.

**MILDRED BAILEY** and her orchestra playing *Moon Love* with vocal by Miss Bailey—Vocalion 4939.

**BLUE BARRON** and his orchestra playing *Out of Port*, with vocal refrain by Allan Holmes—Bluebird B10390.

**TOMMY DORSEY** and his orchestra playing *Blue Orchids*, with vocal refrain by Jack Leonard—Victor 26339.

**CHARLIE BARNET** and his orchestra playing *Love Grows on the White Oak Tree*, with vocal refrain by Judy Ellington—Bluebird B10389.

### "CLASSICAL"

**WAGNER**—*Die Walkure* (Act II)—Lotte Lehman, Lauritz Melchior, Bruno Walter and Vienna Philharmonic Orchestra.

**BEETHOVEN**—*Consecration of the House*—Felix Weigartner and London Philharmonic Orchestra—Columbia Set X-140.

**MACDOWELL**—*Suite No. 2 (Indian)*—Howard Barlow and Columbia Broadcasting Symphony. Set M (AM) 373.

**BEETHOVEN**—*Symphony No. 2 in D Major*—Felix Weigartner and London Symphony Orchestra.

**BRAHMS**—*Concerto in D Major*—Jascha Heifetz and Koussevitzky with Boston Symphony Orchestra—Victor M (AM) 581.

**FROM THE OPERA**—Richard Crooks—Orchestra conducted by Wilfred Pelletier—Victor M 585.

### STANDARD INSTRUMENTAL

**FAMOUS WALTZES**, Vol. I—Anton and Paramount Theatre Orchestra, London—Al Bollington at the organ—Victor P-7.

Alec Templeton, brilliant young pianist and master of the musical sketch type of composition, has been signed by Victor to record some of his successful musical lampoons. First on the list is a coupling of two of his own compositions, "Man With New Radio" and "Hazy and Blue," Victor Black Label 26348.



**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.

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## B I T T E R

Brings You a Bigger NET from Record Sales

**MERCHANDISER No. 28** →  
For display or storage. Sets on counter or hangs from wall. Sheet steel, sprayed Duco finish walnut color. Holds 140 10" records. 21" long, 37" high, 9" deep. Price \$6.25 Boxed F.O.B. Factory.  
← **CABINET No. 100**  
May be used independently or as a unit of a large record department. Outside facings of birch finished in walnut. Recessed ebonized maple base. Dustproof construction. Holds 500 10" and 500 12" records and 75 album sets. 2' 10 1/4" long, 7' 2" high, 14 1/2" deep. Price \$44. Un-crated F.O.B. Factory.



Standardized, economical equipment for greater efficiency in selling records, albums, etc. Write for free folder showing full line.

**RECORD BOOTH B-1** →  
Standard Construction.

Built of completely standardized sectional units which can be readily rearranged or added to as the need arises. Made of kiln dried birch. Finished in walnut, mahogany or a painted finish. Can be readily converted into dark room for use in demonstrating television sets. Price on request.

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# Selling Sound

## Semi-annual Section of **RADIO TODAY**

FEATURING THE LATEST  
PRODUCTS AND METHODS  
IN THE SALE OF SOUND

will be published in the

## **OCTOBER** ISSUE

Twice each year, the best opportunities and methods in selling sound equipment are brought forcibly to the attention of the trade by **SELLING SOUND**.

**SELLING SOUND** supplements and amplifies the sound promotion that you see in every issue of **Radio Today**. It equips the sound specialist for a better job of selling. It helps the manufacturer to establish new outlets.

This special feature comes at a time when the big indoor season is getting under way—when political campaigns are fought with sound systems as well as radio—when the field is expanding to new uses and new types of equipment.

Besides the thousands of sound specialists, there are servicemen, radio-sound dealers and distributors—all alert to the selling advantages of new products and improvements. Hence the advertising pages of **SELLING SOUND** put the manufacturer in touch with every channel of sound distribution.

Special positions available to advertisers who make reservations early.

**CALDWELL - CLEMENTS, INC.**  
480 LEXINGTON AVE. NEW YORK

## **DuMont Television Sets Use New Tube**

All of the current models of DuMont television receivers are equipped with the intensifier type picture tube. This new cathode ray tube uses an annular anode mounted on the glass near the fluorescent screen. A high positive potential on this ring speeds the electrons after deflection so that no deflection sensitivity is lost. The higher velocity electrons produce a more brightly illuminated screen, and the sets may be operated in well-lighted rooms. Three models are being sold at present, 180X, a table model; 183X, console model; and 181X, the large console model with broadcast and short-wave receiver in conjunction with television.

## **Radio Wire Tele Plans Expansion**

Plans for expanding the facilities of the Radio Wire Television Corp. of America were announced recently when the company leased the two floors in 250 W. 57th St., New York City, which were formerly occupied by Electrical Research Products, Inc. The new company will have 15,000 square feet for executive headquarters for the parent concern and its subsidiaries. The two floors include a theatre for sound motion picture reproduction, engineering laboratories and studios. John E. Otterson, president, said the company plans to open branches in major cities and expects to increase the number of employees from 600 to 2,000 by the end of the year.

## **Sylvania Plant Manager Retires**

Hygrade Sylvania Corporation has announced the retirement of R. W. Roloff, general manufacturing manager of the company's tube plants in Emporium, Pa., and Salem, Mass., after more than twenty-one years of service. Mr. Roloff plans to keep in touch with factory production problems, and his release from active duty is contingent upon his being subject to call if his services are required.

## **New S. M. Club Officers**

H. W. Clough, sales manager of Belden Mfg. Co., was recently elected chairman of the Sales Managers Club, Western Group, to serve for a term of one year. Clough succeeds Edgar S. Riedel of Raytheon Production Corp., who has served since August, 1938. At the same time John L. Robinson of Crowe Name Plate & Mfg. Company was elected vice-chairman to serve for a similar period. Miss H. Staniland of Quam-Nichols Company remains in office as treasurer of the organization and Kenneth C. Prince continues as executive secretary.

## **RCA Victor Perfects New Recording Discs**

Six aluminum-cored recording blanks ranging from six to sixteen inches in diameter have been announced by RCA Victor. The new discs are in addition to a series of regular recording blanks announced several months ago, and which have recently been further improved.

Discs sizes and suggested list prices are as follows: 6-inch, 40c; 8-inch, 55c; 10-inch, 80c; 12-inch, \$1; 16-inch (overall thickness .051 inch), \$1.80; 16-inch (overall thickness .065 inch), \$2.

The blanks are sold in packages of 25, the two smaller sizes in corrugated cardboard cartons and the larger sizes in sealed tin containers. Each record has label with space for information to be supplied at the time recordings are made.

## **Recoton Appoints Canadian Jobber**

Recoton Corp., 178 Prince St., New York City, has appointed the Canadian Music Sales Co., Toronto, as their sole distributor in Canada. Recoton makes both cutting and playback needles for high quality phonograph operation. New literature and displays are issued frequently to advertise the high fidelity and long life of its products.

## **Concert Amuses Patient While Surgeon Cuts**

Musical operating rooms are being built into the new surgical clinic of the University Hospital at Heidelberg, Germany, as an experiment in anesthesia, reports Dr. E. E. Free, New York City.

With what the doctors call general anesthetics such as ether or chloroform, the patient is unconscious and would not know whether there was music in the room or not, but nowadays these powerful drugs are becoming more and more unpopular. Instead, surgeons are using so-called local anesthetics which merely deaden pain from the tissues being cut or handled, like the novocaine used by dentists. So far as actual pain is concerned this is quite all right, but nervous patients sometimes are almost as much distressed by watching or hearing the operation as they would be by the pain. One way to prevent this is to use some sleep-producing drug, but this is just another partial poison for the already damaged body. Surgeons would prefer to use nothing but the local anesthetic. Preliminary experiments having been promising, music in the operating room now is to be tried. Electric phonographs and loudspeakers will keep up throughout the operation a program of selections chosen by the surgeon to suit the patient's tastes or needs. Thus it is hoped that the sufferer's mind may be kept from thinking about what is going on. It also is claimed that the nervous tension of surgeons or nurses during long operations will be lessened. What will happen if jitterbug patients suddenly try to dance is not disclosed, comments Dr. Free.

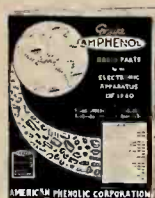
# New Booklets

Folder of the sound on film instantaneous recorder-reproducers lists types of equipment and accessories. Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.

The 1940 Shure catalog lists complete line of crystal mikes and pick-ups, dynamic mikes, and stand equipment. Shure Bros., 225 W. Huron St., Chicago, Ill.

A complete listing of cable connectors, wall mounting plugs, junction shells, and receptacles is in bulletin K of the Cannon Electric Development Co., 420 West Avenue, 33, Los Angeles, Calif.

Descriptive literature on new type of oil-filled capacitors for transmitting use is available from Solar Mfg. Co., Bayonne, N. J.



Catalog 57J illustrates complete line of tube sockets, cable connectors, low-loss coil forms and insulators, and coaxial transmission cable. American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill.—RADIO TODAY.

Circular No. 507 on radio resistors, rheostats, and line voltage reducers ready for distribution by Ward Leonard Electric Co., Mt. Vernon, N. Y.

Catalog of complete line of coils and receiver kits listed as No. 40 is available from J. W. Miller Co., 5917 S. Main St., Los Angeles, Calif.

Modern streamlined store equipment is displayed in catalog No. 40 of W. C. Heller & Co., 1939 Jefferson St., Montpelier, Ohio.

"Essential Characteristics of Metal and Glass Radio Tubes" is the title of the new bulletin issued by Ken-Rad Tube & Lamp Corp., Owensboro, Ky.

Capacitors, resistors, vibrators, etc., are illustrated and described in the new 1940 catalog of P. R. Mallory & Co., Indianapolis, Indiana.

The complete 1940 line of the Majestic Radio & Television Corporation, 2600 W. 50th St., Chicago, is illustrated in their fifty-six page catalog.

Characteristics chart and socket connections—RCA receiving tubes. Condensed. RCA Manufacturing Co., Inc., Camden, N. J.

Descriptive material on multi-unit crystal microphones. Astatic Microphone Lab., Inc., Youngstown, Ohio.

"How to Build Radio Receivers"; including data for service men, amateurs, and experimenters. Meissner Mfg. Co., Mt. Carmel, Ill.

Catalog lists transformers for all amateur and replacement purposes, plus special units. Charts for determining correct transformer to use. Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.

Folders on farm and auto radios with pictures and complete descriptions. Sonora Radio & Television Corp., 2626 W. Washington Blvd., Chicago.

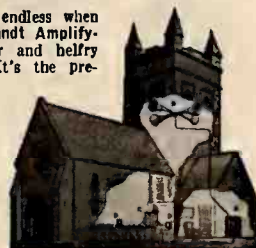
Catalog 17 listing complete stock of wire-wound resistors and rheostats. Ohmite Mfg. Co., 4876 Flournoy St., Chicago.

Stromberg-Carlson's folder illustrating the 38 models of the 1940 line includes a specifications chart showing features of each type chassis. One page is devoted to television and the Labyrinth and Carpinchoe leather speaker are described.

Six-page folder giving characteristics of transmitting, diathermy, and high frequency bantams with price list is available from Hytronic Labs., 76 Lafayette St., Salem, Mass.

# MUSICAL TOWERS BELFRY CHIMES • CARILLON

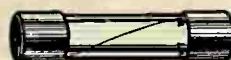
Sales possibilities are endless when you sell and service Sundt Amplifying Systems for tower and belfry chime installations. It's the preferred custom built profit line to sell because high quality and performance is backed by real technical assistance and sales help.



Broadcasts chimes, organ recordings. Powered for 2, 6 and 12 mile diameter coverage. Used as P.A. unit indoors. Automatic record changer. Plays 10" and 12" records mixed, either 78 or 33 R.P.M. Special low-noise records for church service on acetate discs. We furnish everything—speakers, accessories, installation directions. Sales help. PROTECTED TERRITORY. Be first in this big profit field. Write today.

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**SPEAKERS THAT VITALIZE SOUND**



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RADIO CORPORATION  
915 W. VAN BUREN ST. • CHICAGO, U. S. A.



## DYNAMIC MICROPHONE

### D8

AMERICAN built quality into the D8. List Price..... **\$22.50**

Also, adjustable yoke permits nondirectional or semidirectional pick-up.

Plug at microphone for quick cable attachment.

D8T, 200 Ohm, 500 Ohm, or High Impedance, \$25.00.

Licensed by ERPI. Request Spec. Bulletin No. 33.





## AMERICAN MICROPHONE CO., Inc.

Los Angeles, Calif.

# NRPDA

## Swings into Action . . .

### FOR DEALERS AND SERVICEMEN

Despite the wide publicity given the aims and aspirations of the NRPDA, many Dealers and Servicemen have asked "How is this going to affect me?"

Primarily the aim of the Association is to return to the Distributor, the Dealer and the Serviceman the profits which are legitimately HIS! This only can be accomplished by raising the standards of ethics of merchandising within the Industry.

It is the pledge of your Association Jobber to interest himself in Industry problems as they affect your pocketbook. He desires to eliminate conditions which take away profits which are legitimately yours. He desires to sell you only recognized, advertised brands of radio parts at a price which will give him a normal profit and you the opportunity to make a decent livelihood. He intends to fight shoulder to shoulder with you in removing destructive price competition.

The only way to accomplish these aims is to deal with Jobbers who display the NRPDA Emblem—"the mark of an Ethical merchandiser of advertised brands." Do it for your own protection! Names of Member Jobbers in your territory will be supplied if you will address the Executive Secretary of the Association.



*the mark of an ethical merchandiser of advertised radio brands*

TEMPORARY OFFICE OF THE EXECUTIVE SECRETARY  
5 WEST 86th STREET  
NEW YORK, N. Y.

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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.

Catalog No. 139 lists and illustrates the complete line of amplifier systems, mikes, speaker baffles, and inter-communicating systems. Available from Webster Co., 5622 Bloomingdale Ave., Chicago, Ill.

Price schedule, schematics and specifications of television tubes. National Union Radio Corp., 57 State St., Newark, N. J.

No. 140-A lists complete line of power, audio, driver, modulation, vibrator and mike transformers, chokes, and dc power packs. Copies from Standard Transformer Corp., 1500 N. Halsted St., Chicago.

Catalog in magazine form giving descriptions, uses and illustrations of electronic measuring apparatus and test instruments. Clough-Brengle Co., 2815 W. 19th St., Chicago.

Two-color broadside for display purposes, advertising Philco's 1940 Little Pal portable. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.

Price list of insulated radio wire with discount notice on extra sheet. Acorn Insulated Wire Co., 225 King St., Brooklyn, N. Y.

## Philco Issues Sales Engineering Bulletins

Advantages, conveniences and features of all Philco products will be described in a series of sales engineering bulletins issued as an aid to distributors in obtaining a background of useful information. Announcing the new service, Robert S. Herr, manager of Philco's parts and service division, said: "There is no question that one can do a better job if he knows his product well, and this new engineering service provides a wealth of background material on the outstanding and also some of the lesser-known features built into all Philco products." The sales engineering bulletin, made suitable for loose-leaf filing, will be issued at regular intervals and will be extended to dealers and their salesmen.

\* \* \*

In the August issue of RADIO TODAY the new address of Precision Apparatus Company was given at 547 Kent Ave., Brooklyn, N. Y. Correct address is 647 Kent Ave.

The picture on page 23 of the August issue illustrating the Burlington Labs. loop antenna shows the antenna of Consolidated Wire and Assoc. Corps. For illustration and description of the Consolidated loop see page 26 of the July RADIO TODAY.

Ken-Rad Tube and Lamp Corp. was recently described as making the only American tubes to be purchased by the French Ministry of Post and Telegraph for the coming year. Other tubes purchased by this French ministry include those of Hygrade-Sylvania Corp.



## Model DN-50 DYNAMIC MICROPHONE

*High in Efficiency  
Low in Price*

Model DN-50 Microphone incorporates Astatic's new Unitary Moving Coil System . . . a correctly designed magnetic structure with Alnico Magnet and carefully proportioned acoustic circuit. Equipped with tilting head, swivel base, plug connector and 25 ft. cable. List Price **\$20.**

Transformer Models **\$22.50**

See Jobber or Write for Literature



ASTATIC MICROPHONE  
LABORATORY, INC.  
YOUNGSTOWN, OHIO

*Licensed Under Brush Development Co. Patents*



# 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.

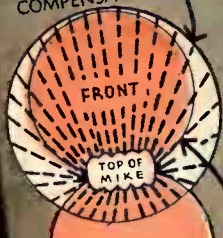
FOUNDED 1846  
*Zophar* MILLS, Inc.  
128-26th ST., BROOKLYN, N. Y.



Now...

# 5 VITAL FEATURES COMBINED AND UNIFIED IN THE AMPERITE VELOCITY WITH ACOUSTIC COMPENSATOR

UNI-DIRECTIONAL  
PICK-UP FIELD  
COMPENSATOR UP



PICK-UP FIELD  
COMPENSATOR DOWN

PUSH UP TO  
INCREASE  
HIGHS.  
PUSH DOWN  
TO INCREASE  
LOWS.



it's a VELOCITY  
it's a DYNAMIC  
it's UNI-DIRECTIONAL  
it's NON-DIRECTIONAL  
gives HIGH OR LOW PITCH

By moving up the Acoustic Compensator, you change the Amperite Velocity Microphone to dynamic operation—without peaks. At the same time you reduce the back pickup, making the microphone practically uni-directional.

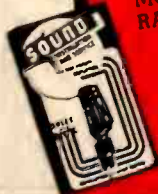
With the Acoustic Compensator down, the microphone is bi-directional...120 degrees front and back without frequency discrimination. Rotating the microphone until it parallels the ceiling makes the microphone non-directional.

THE ACOUSTIC COMPENSATOR is a regular feature of these models: RBHk (hi-imp); RBMk (200 ohms) LIST \$42.00. RSHk (hi-imp); RBSk (200 ohms), \$32.00 LIST



FOR TOP-NOTCH QUALITY,  
AND AMAZING RUGGEDNESS,  
AT LOW COST  
specify Model RAH (or RAL).

Here's why this popular Amperite Velocity Microphone leads the low-price field: (1) it is excellent for both speech and music; (2) has flat response without undesirable peaks; (3) reduces feedback; (4) stands up under rain, wind, heat, and rough handling. Frequency range 60 to 7500 CPS. Output, -68 db. MODEL RAH (hi-imp), with 12' of cable; MODEL RAL (200 ohms), with 8' of cable... \$22.00 LIST.

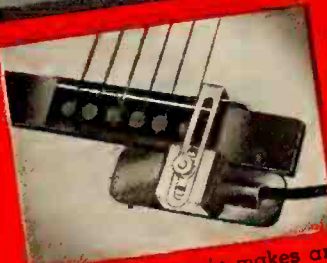


Dept  
P A

AMPERITE Co. 561 BROADWAY, N. Y., U. S. A. CABLE ADDRESS  
ALEM, NEW YORK

Sales Aids for the P. A. Man

- (1) FREE Window Decal advertising your Sound Service. Size 5 1/4 x 9 1/4, finished in 4 colors.
- (2) FREE Window Display, 11 x 17
- (3) Special Sound Equipment Letterheads, Samples and prices on request.
- (4) FREE use of cut for printing business cards, etc.



SELL "CONTACT MIKES"  
to Professional and  
Amateur Musicians.  
New high output model can  
be used in the home.

Professional musicians are buying Amperite "Contact Mikes" because "it makes an ordinary violin sound like a Strad." Now amateurs, too, can benefit by the "Contact Mike." The new HIGH OUTPUT MODEL SKH can be used in the home. It operates on most radio sets made since 1935. It is connected to the phono-input, or to grid ground of detector tube, or across the volume control. Note new clamp, making the mike easy to attach to guitars, ukes, etc. MODEL SKH (hi-imp); SKL (200 ohms) \$12.00 LIST. Any number up to 5 SKH's can be put in parallel and fed into one input. NEW FOOT PEDAL, \$12.00 LIST. CLAMP for Contact Mike, \$1.00 LIST.

"Better Systems  
Specify Amperite"



VELOCITY **AMPERITE** MICROPHONES

# You'll be "SITTIN' on TOP of the WORLD" with the ARCTURUS EQUIPMENT DEAL!



## MODERNIZE NOW FOR YOUR BUSY SEASON... The EASY ARCTURUS WAY!

One sure way to make a good season even better is to equip your store and shop with all the modern facilities to handle business speedily and efficiently. The Arcturus Equipment Deal enables you to obtain this equipment practically Free—it's an easy common-sense Plan to help you do more business at a greater profit!

### ARCTURUS MEANS BUSINESS . . . for YOU!

Never has any tube manufacturer put such a fair, profitable Deal within easy reach of every serviceman and dealer! No other Equipment Deal has enabled you to get Immediate Delivery of the units you select, with such Low Down Payments! Seldom has there been available such a wide variety of high-quality equipment—including all the newest models of famous makes! Tube requirements, too, are lower.

### NO "EQUIPMENT TAX" ON TUBES!

With the ARCTURUS DEAL, you still pay only Standard Prices—less standard discounts—for Arcturus Tubes. Arcturus dealers are not forced to pay a premium to participate in Radio's fairest Equipment Deal.

### SELL QUALITY—Earn Extra Profits

The Arcturus line is complete—you can supply any needed replacement. High-standard Arcturus engineering is your guarantee that every Arcturus Tube you sell will deliver long, dependable, trouble-free performance. Thus, Arcturus quality helps you build a firm foundation of customer confidence—at the same time the Arcturus Equipment Deal earns your regular profit, Plus a substantial *EXTRA PROFIT* in the form of valuable store and shop equipment! Get the complete facts about this liberal Deal—then "Go Arcturus" for Extra Profits! Mail the coupon today!



Arcturus  
Radio Tube  
Co., Newark,  
New Jersey.

### Gentlemen:

Send complete details of the Arcturus Equipment Deal and my copy of the Arcturus Dealer Helps Folder.

- I am a Dealer.  
 I am a Serviceman.

# ARCTURUS

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City \_\_\_\_\_

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**THIS BEAUTIFUL  
EYE-CATCHING**

**"SALES-MAKER" DISPLAY**

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FOR 10 MOTOROLA  
ROOM RADIOS

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War News Is Creating  
A Big Demand for Radio  
**DON'T LOSE ANY SALES**



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RADIO BUYERS**

**BRINGS EASY  
DEMONSTRATIONS**



**DON'T MISS OUT ON THIS  
BIG VALUE!**

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AMERICA'S FINEST RADIO

**GALVIN MANUFACTURING CORPORATION • CHICAGO**