

# RADIO TODAY

FARMERS ARE GETTING  
BIGGER CHECKS —  
RURAL PURCHASING POWER IS UP!

APRIL    MAY    JUNE    JULY



The New Radios—Complete Specifications  
Dynamic Testing. Circuits Interpreted for Servicemen

JULY

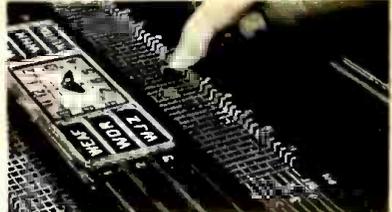
Goldwell-Cleveland, Inc. N.Y.

**THE G-E BEAM-A-SCOPE IS THE  
BIGGEST RADIO SALES FEATURE OF 1938**



*Scoop!*  
**THE G-E BEAM-A-SCOPE**  
No aerials — No ground connections needed. Reduces local static interference. Gives quieter, finer reception especially in noisy areas. Makes the new G-E the first truly portable radio. Just plug it in like a floor lamp—anywhere in any room.

*Scoop!*  
**G-E KEYBOARD TOUCH TUNING**  
  
Utterly new. A tremendous advance over all previous types of automatic tuning. Lightning Fast! Your program at the touch of a key! Easier tuning. More accurate tuning. A great demonstration feature—that will help close more sales for you.

*Scoop!*  
**G-E AUTOMATIC PROGRAM PRE-SELECTOR**  
  
At last a radio that tunes itself for 24-hours ahead. This great feature is miles ahead of remote controls of every type. Pick out the programs you want to hear on five different stations—and the G-E Automatic Program Pre-selector brings them in—without your doing another blessed thing. No re-tuning—No re-dialing. From now on its Time Tuning!

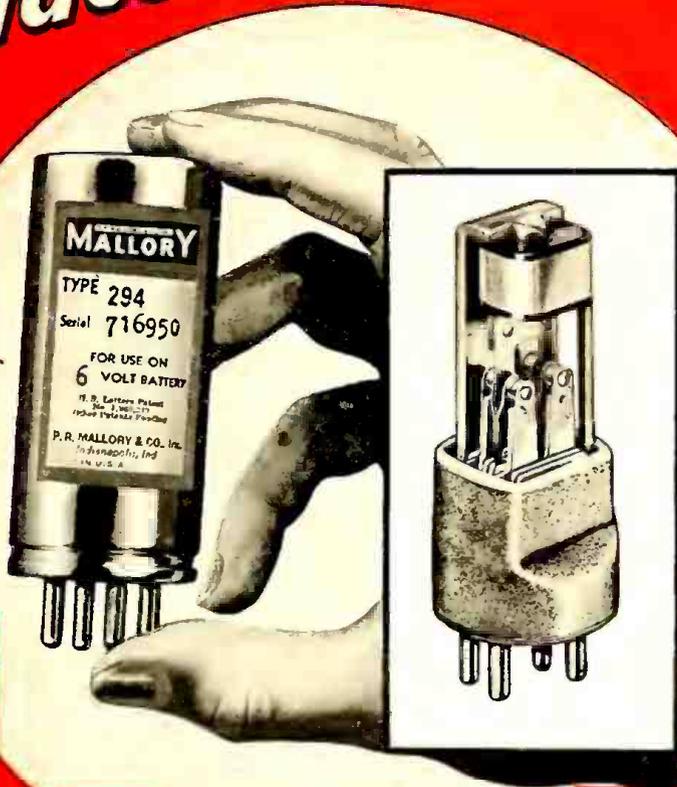
WATCH these new General Electric Radio Features set the pace and become the year's best sellers. From every standpoint the new G-E line is sensational. 15 great new models covering every price bracket. And every model carries a discount that spells big-profit opportunity. Backed by a great national advertising and promotion campaign. It pays to line up with General Electric Radio.

**General Electric  
Radio  
Presents THREE  
Sensational  
SALES MAKING  
Scoops**

**GENERAL  ELECTRIC**

**For Longer Life and Better Performance**

# *Insist on Mallory Replacement Vibrators!*



**Positive Starting**

**Leading Choice of Equipment Manufacturers**

**No Lead Breakage or Corrosion**

**Priced as low as ordinary products**

**Absolute Freedom from Broken Reeds**

**Lowest Cost per hour**

**Trouble-Free Long Life**

**Millions in Use**

From every angle there is no greater assurance of complete satisfaction on any radio replacement part than the Mallory insignia. Yet they cost no more than ordinary products.

Mallory Replacement Vibrators are built by the most highly specialized group of technicians in the industry. Mallory not only pioneered vibrators for automobile radios but

has always led in all new developments in the vibrator industry.

For recommendations by receiver's make and model number, ask your distributor for folder E-551, or consult the Mallory-Yaxley Radio Service Encyclopedia (Second Edition). Ask your distributor for free copies of RADIO IN 1938 CARS. You'll find it well worth reading.

Use

**P. R. MALLORY & CO., Inc.**  
**MALLORY**  
REPLACEMENT  
CONDENSERS...VIBRATORS

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

Use

**YAXLEY**  
REPLACEMENT  
VOLUME CONTROLS

# RCA Research is the Basis of Radio in the Home!



Today's magnificent reception has been developed by years of patient work in RCA Laboratories

Most of us can recall the early crystal sets, when the marvel of hearing music by wireless first startled the world. Poor quality of reception was offset by the wonder of the achievement.

A year before these crude receivers came into public use RCA had already established a laboratory for developing radio reception for the home. From this humble beginning great things have come. Today, hundreds of trained RCA engineers devote their time to this work. Research in RCA laboratories has produced, or inspired, virtually all important advances in the quality of home receiving instruments.

### *An all-inclusive business*

Similarly, swift, direct radio communication with 43 foreign nations, and with ships at sea, is a result of RCA research. Other results include revolutionary improvements in the recording and reproduction of sound on records and motion picture films; indispensable new aids to police and aviation, to science and industry. And, thanks to years of unremitting study by RCA engineers, the new arts of television and facsimile now give promise of rendering important public services.

The Radio Corporation of America has invested millions of dollars in research to make radio—and the by-products of radio—more efficient and more economical, and to give to the United States, in every phase of radio development, undisputed world leadership.

Scene in RCA laboratory as engineer operates control board of device for recording tone quality of radio receiving instruments. This is but one of the many intricate pieces of equipment used in developing the fine quality of RCA Victor radios.



*Listen to the Magic Key of RCA, presented every Sunday, 2 to 3 p. m., E. D. S. T., over NBC Blue Network*



## Radio Corporation of America

RADIO CITY, N. Y.

RCA MANUFACTURING CO., INC. RCA INSTITUTES, INC. RCA COMMUNICATIONS, INC.  
RADIOMARINE CORPORATION OF AMERICA NATIONAL BROADCASTING COMPANY

# SPAIN

**INSURGENTS and LOYALISTS**  
BOTH USE COMMUNICATIONS RECEIVERS  
EQUIPPED WITH **RAYTHEON Tubes!**

TORN by civil strife, Spain is a proving ground for the finest of modern armament and equipment. In this bitter, desperate struggle both factions rely on RAYTHEON tubes to maintain communications between front lines and headquarters.

When you replace a tube in a radio set, the fate of thousands of lives does not hang in the balance. The set doesn't have to operate perfectly, instantly, and over a long period of time! But if your time is worth money, and your customer's satisfaction is important, your Jobber can supply you with the identical tubes that both armies in Spain have found to be the most dependable! And they cost no more!

## RAYTHEON

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

"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS"

# Where Skill is Vital



ONE of the most delicate processes in Sylvania tube manufacture is "mount assembly"—a job that demands exceptional precision and skill. For each tube part must be accurately spaced in relation to other elements . . . and carefully welded in place.

The slightest variation in spacing might affect the finished tube's performance. So Sylvania entrusts this

difficult work only to skilled experts—workers like the girl above, whose dexterity and skill are the



result of years of tube-building experience.

Due to the extreme care taken at every step of manufacture . . . and the destruction of any tube found to be even slightly imperfect—you can't buy a second-quality Sylvania tube. That's why every Sylvania sale means a satisfied customer . . . and repeat business. Hygrade Sylvania Corp., Emporium, Pa. Cable HYSYLVANIA, N. Y.

## SYLVANIA

Set-Tested Radio Tubes

ALSO MAKERS OF HYGRADE LAMP BULBS

Announcing .. with PRIDE the New 1939 Line

# of Emerson

"WORLD'S BIGGEST SELLING LITTLE RADIO"



Model AX-211 (Ivory and Walnut) with "MIRACLE TONE CHAMBER." 5-Tube, AC-DC Superheterodyne. (7-tube performance.) American Broadcasts and Police Calls . . . Electro Dynamic Speaker . . . Automatic Volume Control . . . Beam Power Tube . . . Built-in Antenna . . . (In Ivory, \$12.95). In Walnut. . . . . **\$9.95**

Starting Off **\$9.95!**  
at a Price of

For "Little Miracle" Superheterodyne  
(5 Tubes—7-Tube Performance)



Model BM-216, RADIO AND PHONOGRAPH with "MIRACLE TONE CHAMBER." 5 Tubes (incl. ballast tube) . . . AC . . . American Broadcasts, Police Calls . . . Electro Dynamic Speaker . . . Automatic Overload Control . . . Beam Power Tube . . . Built-in Antenna . . . PHONOGRAPH: Synchronous AC Electric Motor . . . Crystal Pick-up . . . Tangential Tone Arm. Plays 10-in. and 12-in. records. Hand-rubbed walnut finish cabinet. . . . . **\$19.95**



ALL NEW FEATURES!

- Miracle Tone Chamber
- Miracle Dial
- Miracle Instamatic Tuning
- New STYLING



Model BB-208. With "MIRACLE TONE CHAMBER" and "MIRACLE INSTAMATIC TUNING." 5 Tubes (incl. ballast tube). AC-DC American Broadcasts, Police Calls . . . Electro Dynamic Speaker . . . Automatic Overload Control . . . Gemloid Dial . . . Beam Power Tube . . . Built-in Antenna. Walnut Bakelite Cabinet. . . . . **\$14.95**



Model AX-222, PORTABLE COMBINATION RADIO PHONOGRAPH. 5 Tubes, AC-DC Superheterodyne. (7-tube performance.) American Broadcasts, Police Calls . . . 6-Inch Permanent Magnet Dynamic Speaker . . . Automatic Volume Control . . . Gemloid Dial . . . Built-in Antenna. PHONOGRAPH: Self-Starting Motor . . . Crystal Pick-up . . . Plays 10-in. and 12-in. records. . . . . **\$59.95**

**69 Models, \$9.95 to \$219.95**

(Same Price Everywhere in U. S.)

Get the COMPLETE 1939 Emerson story now—ALL of the facts—all details of discounts, advertising and dramatic promotion.

Write or wire your Emerson distributor



Model BR-226—Symphony Grand—with "MIRACLE TONE CHAMBER," "MIRACLE DIAL," "MIRACLE INSTAMATIC TUNING." 13-Tube High Fidelity AC Superheterodyne . . . American and Foreign, 16 to 555 Meters . . . 10-in. Dynamic Speaker . . . 15 Watts Output . . . Automatic Volume Control . . . Continuous Tone Control . . . Dynamic-Coupled Power Output. Band Indicator . . . Phonograph Pick-up Terminals. Hand-rubbed figured butt walnut console of Staybent Construction.

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

"World's Largest Maker of Small Radios"

# CHECKS *worth waiting for*

1939 will really be a "going-to-town" year with Westinghouse Radios! A completely new line of *RADIO VALUES* to stimulate buying . . . over 30 *FEATURES* that build sales! A smartly planned merchandising campaign designed expressly for your *local* use. It's a unique, effective, business-getting program! So if you want volume sales and profits in 1939—



**CHECK** — the specially priced radios Westinghouse offers . . . feature *VALUES* to induce prospects to *YOUR* store. Check the tone, cabinet construction and the eye-appeal of this new line of Westinghouse radios, styled by America's foremost radio designers.

**DOUBLE CHECK** — the many outstanding features that make Westinghouse radios more easily demonstrated, more easily sold.

**UNDER-SCORE** — the sales helps Westinghouse has made available—a *proved* sales getting program . . . powerful cooperative newspaper advertising . . . consumer literature . . . floor displays . . . window displays . . . and all the other items . . . **AND THE ANSWER IS**



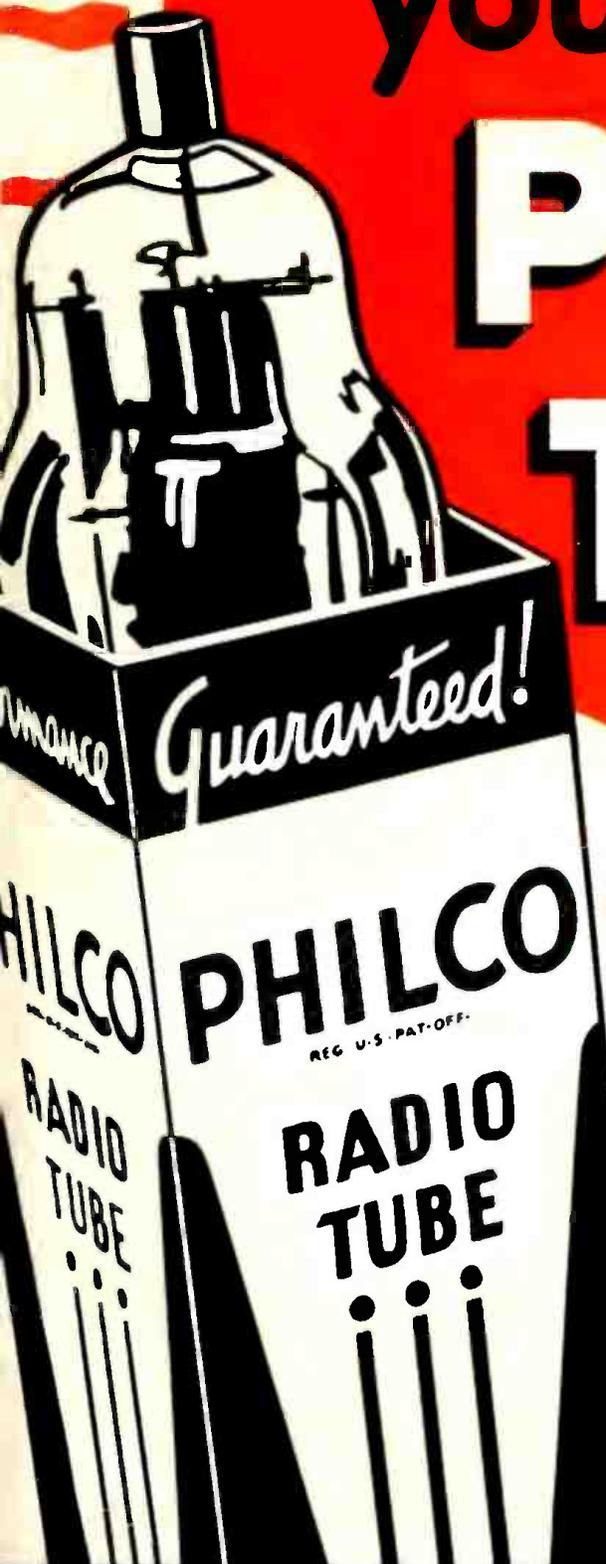
**THE INSIGNIA OF  
RADIO PROFITS  
FOR YOU IN  
1939!**

MERCHANDISE HEADQUARTERS  
WESTINGHOUSE RADIO  
150 Varick Street New York City

# Westinghouse *Precision* RADIO

*Summer*  
can really help  
your sales of

# PHILCO TUBES



**S**UMMER shows up the tubes that managed to "get by" during the Winter and Spring. When warm weather sets in . . . and the crackle of Summer static begins to make reception difficult . . . radio owners get suspicious of the tubes in their sets.

And in a large proportion of those cases, their suspicions are justified. The tubes which labored so hard and so faithfully over so many hours a day and night through the Winter do need replacing . . . and naturally, Philco owners want genuine Philco Tubes. That natural preference gives the dealer who stocks and sells Philco Tubes the inside track to the largest share of the replacement market. But remember . . . because of Philco's predominant position in the radio field . . . because more people know and respect Philco as the greatest name in radio . . . Philco Tubes have 100% sales appeal to those who own other makes of radios.

Summer weather makes tube sales blossom . . . and the biggest share of the harvest falls to the dealer who sells Philco Tubes and lets the world know that he sells them!

*The Easiest Tubes in the World to Sell*



HARRY BOYD BROWN  
National Merchandising  
Manager of Philco

## MYSTERY CONTROL WILL DELIVER THE RADIO PROSPECTS OF AMERICA TO THE PHILCO DEALERS

**M**ORE than 6 million people will buy home radios during the next 12 months—and more than 4 million people will buy home radios before January. This is the inevitable home radio market for this coming season.

And the vast majority of these millions of radio buyers—in fact, everybody who is even thinking of buying a radio—will certainly want a demonstration of Mystery Control. Wouldn't you?

This means that the fascination, the magic, the wonderful convenience of *Mystery Control will deliver the radio prospects of America to the Philco dealers.* And you and all the other radio merchants will be surprised at the vast number of people who will gladly pay the higher price for those great Philco models.

But in any event—after a demonstration of Mystery Control—no matter what price radio the prospect may decide to buy—no matter what size—what type or what model—*it then certainly should be a Philco.* The public will naturally demand a product—a radio model made by Philco—the recognized leader in the radio industry—the creators of Mystery Control.

And what a marvelous line of Philco radios in every price bracket! Perfected instant Push-Button Tuning models—Furniture models—Table models—Compacts—superb Radio Phonograph models. And Farm radios almost as revolutionary and amazing as Mystery Control itself. Unparalleled radio values for every market—priced to meet conditions—bound to sell in volume.

Yes, and due to Mystery Control—Radio has again become a Major Appliance business. Higher priced—more profitable units will now be sold—thanks to the genius and resourcefulness of Philco engineers.

Thousands of radio dealers—year after year—have sold Philco exclusively. They have done so because the tremendous public demand for Philco made it possible—practical—profitable. *And every retail merchant knows that the secret of radio profits lies in fast turn-over on the least possible inventory and investment.*

And now—above all times—the wise radio dealer can concentrate his investment and his selling effort on ONE single line—on Philco. The overwhelming public demand for Philco plus Mystery Control—plus amazing price values throughout the entire Philco line for 1939—has created for the radio dealer the perfect business situation—small investment and fast turn-over. *And it is exactly that combination—small investment and fast turn-over—that brings real net profit in the retail radio business.*

*Harry Boyd Brown*

# PHILCO

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# RADIO TODAY

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Copyright 1938  
 Caldwell-Clements, Inc.  
 480 Lexington Ave.  
 New York, N. Y.

Tel. PLAZA 3-1340

VOL. IV, No. 7

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MEMBER AUDIT BUREAU OF CIRCULATIONS

## BUSINESS BEGINS TO BE BRISK

Several branches of trade have taken a nice twist upward, as if the recession forces had lost out.

RCA reports an employment increase of 1,200.

For CBS, the first six months added up to the best half-year for any network in the history of radio, 5.3 per cent ahead of the Columbia figure for that period last year.

Last month at NBC, billings were 6.6 per cent over the figures for June last year, and the six-month total was up 5.4 per cent.

Crosley Radio Corp. reports an excellent demand for new products in over 14 key cities.

Philco declares that "signs of a decided economic upward movement are evident even in communities which had been hit hardest by the business slump."

Mutual Broadcasting System points to a 72.4 per cent increase for June 1938, over last year; the six-month total increase for this year was 15.1 per cent.

## FACSIMILE AND BROADCASTING ON SAME CHANNEL

To test the efficacy of duplex transmission and reception of regular broadcast and facsimile programs on a single channel, W. G. H. Finch, facsimile inventor and president of Finch Telecommunications Laboratories, Inc., New York City, announces completion of its 1 kw. duplex transmitter, first to be licensed by FCC for dual transmission of two such services.

Such dual transmission, says Finch, will mean economy in the use of one channel instead of two for the separate services; use of a single receiver for both types of reception, and economies for the broadcaster in the use of a single transmitter in providing the two services.

The experiment also suggests pos-

sibilities of putting facsimile picture transmissions on broadcast channels simultaneously with the regular programs, thus opening up these channels and millions of receivers for daytime reception of facsimile, without waiting for the early A.M. hours now authorized for facsimile.

## RURAL REGIONS LEAD IN RADIO OPPORTUNITIES

It is the small towns and rural areas which offer the best opportunities for radio-set sales, according to further analysis of the findings of the Joint Committee on Radio Research, taken by size of community. This latest study, made by the *Household Magazine*, reveals that those counties whose largest city has a population of 500,000 or over, average 7½ per cent of homes without radios (see chart), while counties containing no community over 2,500 averaged 36 per cent without radios.

The chart on this page shows the

number of total homes and of radio homes in each bracket, and also reveals how counties having chief population centers as below, rank in radio sales opportunities:

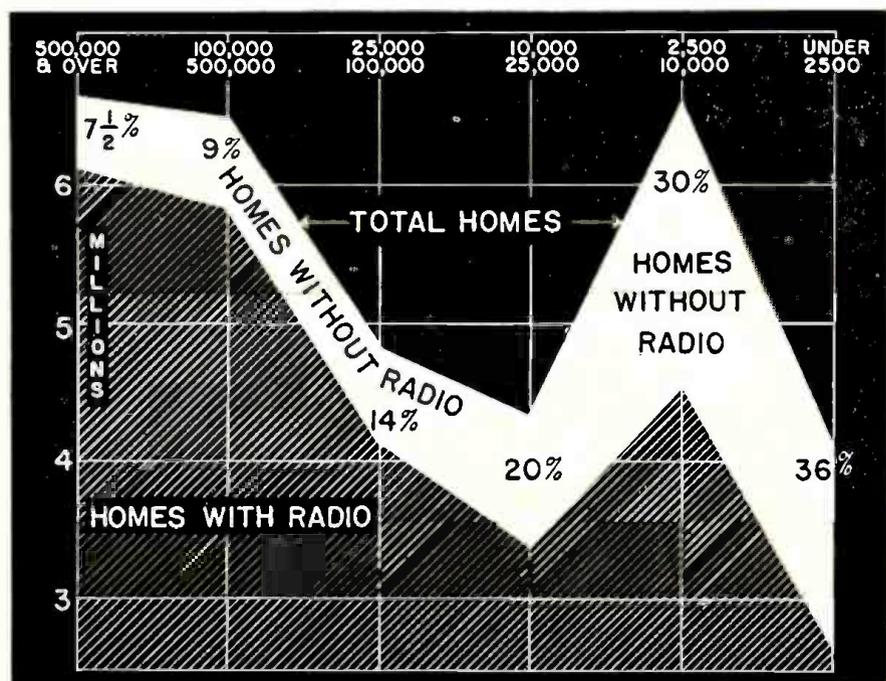
Population	Homes without radio
500,000 and over.....	7½%
100,000 to 500,000....	9 %
25,000 to 100,000....	14 %
10,000 to 25,000....	20 %
2,500 to 10,000....	30 %
under 2,500.....	36 %

Grouped by geographical divisions, the saturation percentages of the different sections were shown to be:

New England.....	92.5%
Middle Atlantic.....	91.3%
South Atlantic.....	67.7%
East North Central...	87.3%
East South Central...	61.9%
West North Central...	78.9%
West South Central...	65.1%
Mountain.....	77.9%
Pacific.....	97.6%

U. S. Total.....81.7%

## BIGGEST OPENING TO SELL RADIOS IS IN RURAL AREAS



## "MAKE-TEN-CALLS PER-DAY" CAMPAIGN

The last few weeks have witnessed the rapid spread of the "Sales Mean Jobs" movement, initiated by Kelvinator's George W. Mason, first tried out at Lincoln, Neb., and now being taken up by sales groups all over the nation.

Boiled down, this movement is based upon a conviction and a partially-proved conclusion that most present sales resistance is due to fear and to lack of confidence, and that the pushing of sales of all kinds will mean the creation of additional jobs all along the line—sales mean jobs. In other words, it is figured that a real selling effort will start the ball rolling toward better times and that there still are enough people able and willing to buy, if reached in their homes, and that "ten calls per day by each salesman" will do the trick.

Known also as the National Salesmen's Crusade, the movement is being carried on at Rochester, N. Y., by the Chamber of Commerce, with Frank Beaucaire, radio distributor, as prime mover. This drive will culminate in August with a municipal sales parade. A mass meeting in the Rochester Stadium will enlist everyone engaged in all types of selling.

The purpose of the campaign, according to Beaucaire, is to stimulate and invigorate those who do the selling in every line of business and to demonstrate to the public, as well, the importance of sales for economic well-being.

At Milwaukee, the Wisconsin Radio, Refrigeration and Appliance Association has pledged its local co-



D. N. Dulweber, president Supreme Instruments Corporation, looks ahead to bigger things for servicemen.

operation, under the leadership of Frank Greusel, president. Many radio men felt that the radio and electrical group should take leadership without waiting for the city-wide campaign. Radio men recommended that their own members immediately begin setting a quota of "ten calls per day" for each of their own salesmen.

## NEW RMA DIRECTORS

Albert S. Wells, president of Wells Gardner & Company, Chicago, was elected president of the Radio Manufacturers Association at its fourteenth annual convention in Chicago, June 7 and 8.

The new president has been identi-

fied with radio since 1924. He succeeds Leslie F. Muter of Chicago, who served four terms as president and has now been elected its treasurer. Bond Geddes of Washington was reelected executive vice-president, and John W. Van Allen of Buffalo reappointed general counsel. Newly elected directors are: Harry G. Sparks of Jackson, Mich.; Glenn W. Thompson of Columbus, Ind.; Octave Blake of New York City; James C. Daley of Bellwood, Ill., and J. McWilliams Stone of St. Charles, Ill.

## MILWAUKEE SALESMEN'S UNION POLICES RADIO SELLING

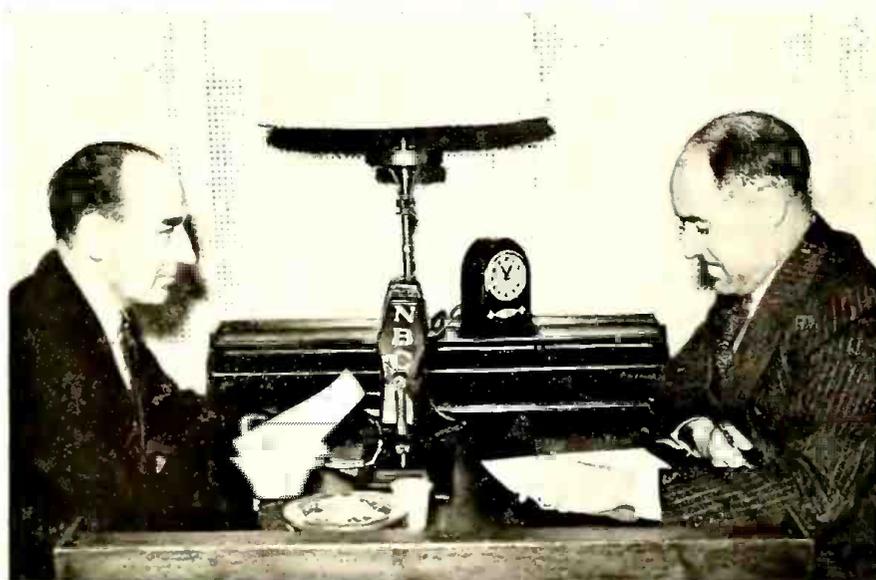
Wide attention was attracted recently by the news that a radio and appliance salesmen's union in Milwaukee has acquired union recognition by undertaking the policing of retail radio prices and policies of local dealers.

Latest developments were disclosed at a conference between representatives of the retail salesmen's union and Milwaukee distributors of electrical appliances, June 24. Among other things, representatives of the union, Messrs. Koerner and Burbach, announced that they were going forward immediately with their plan of eliminating unsound retail outlets. Their announcement to this effect was followed two days later by a letter from the union to various distributors listing as unfair three retail outlets upon which the union ban has fallen.

### Trade-in violations

It was also disclosed that the union is making a thorough survey of the retail situation, covered not only by shopping of retail stores in search of violations of the trade-in allowance schedule, but that they are also making a check of credit standings, and compilations of the number of salesmen employed and purchases made by various retail outlets this season.

While the aim and purpose back of this effort is to try to bring about the distribution of radio and electrical appliances through retail outlets where salesmen are employed, the union representatives indicated that there would be no attempt to ban retail outlets merely because salesmen are not employed, but that the placing of a retail store on the union's "unfair list" would be governed by the store's conduct regarding the trade rules sponsored by the union, and by its credit standing. The union representatives admitted realization of the fact that the good, sound, one-man retail store of today may be the big store of next week which will employ salesmen who are union members.



National Farm and Home Hour celebrates 3,000th broadcast. L. R. Lohr, president NBC, felicitates Frank E. Mullen, now RCA executive, who founded the Farm Hour ten years ago.

## HUGE SURVEY HINTS AT PROFUSION OF OLD SETS

Housewives totalling 53,124 have been asked by Scripps-Howard newspapers to list their immediate possessions. This nation-wide home inventory reached into 16 cities served by Scripps-Howard papers, and is the largest market analysis ever to be made by anybody short of the government.

Here's how radio-ownership came out, in the composite 16-city picture. By brands, the figures here are per cent of the mentions.

Philco .....	22.4
RCA .....	10.8
Majestic .....	8.1
Atwater Kent .....	4.8
Zenith .....	4.5
Crosley .....	4.3
Silvertone .....	3.8
G-E .....	3.7
Sparton .....	2.0
Bosch .....	1.7
Grunow .....	1.6
Stewart Warner.....	1.5
Emerson .....	1.5
True-Tone .....	1.2
All others .....	27.9

Striking evidence of the huge opportunity for replacements is offered by fact that prominent positions are still held by lines long out of production.

Of the 53,124 homes inventoried, 48,535 (91.4 per cent) had household radios. The individual city percentages ranged from a low of 86.1 per cent of the homes in Columbus, to a high of 95.9 per cent of the homes in Pittsburgh.



J. McWilliams Stone, Operadio president, is new director RMA.



Ben Abrams, Emerson president, awards five distributors' prizes for outstanding sales records, during Emerson convention, New York, June 20-21. From left: Henry Lapkin, San Francisco; Manny Beckwith, Boston; W. T. Walker, Philadelphia; S. Schulman, Chicago; M. J. Linehan, Dallas, Tex., and Mr. Abrams.

In the individual 16 city charts, Philco shows up uniformly in first place, but with an acceptance varying from 28.5 per cent in Houston to 17.6 per cent in Toledo. However, the acceptance of the other charted brands is not uniform. R.C.A.-Victor yields second place to Majestic in three cities (Akron, Evansville and Fort Worth) and in the city of Fort Worth, R.C.A.-Victor runs a poor fourth after Crosley. Crosley also shows up well in Columbus, Cincinnati, Indianapolis and Birmingham.

Atwater Kent is strong in Knoxville, Birmingham and Houston, where it receives 11.0 per cent, 7.0 per cent and 7.5 per cent of the mentions respectively.

Silvertone is strong in Evansville, where it appears in second place, with 8.1 per cent of the mentions. In the 16-city picture, Silvertone appears in seventh place, with 3.8 per cent of the mentions.

## 17,000 FACTS ABOUT THE NEW 1938-39 SETS

★ Featured exclusively in this issue of RADIO TODAY are the specifications for approximately 700 of the leading 1938-39 receiver models. These listings give a grand total of 17,000 facts about the new sets—both battery and regular power-line operated sets.

Included this year for the first time is information on the new push-button tuning systems. Ever alert to changes in the new lines, RADIO TODAY's specifications are annually revised in a form to accommodate the new features. Besides telling what

type of push-button tuning is employed, number of stations, and number of adjustments to set up each button, the specifications list twenty other important sales and technical features of the new lines.

Also to afford a more complete description of the battery sets, special headings have been included that tell about battery consumption and other features of importance to dealers selling battery-type sets. In other words, a special set of specifications is used for the battery sets.

Only RADIO TODAY's specifications contain some two dozen facts for each radio model; 17,000 facts crammed into eight pages for convenient reference.



T. A. Kennally, Philco vice-president and sales head, sees marked upturn ahead for radio industry.



# RFD OF RADIO SALES

Mr. Farmer is now our best prospect for modern radio

## Sample flashes

Washington, D. C.—A more-than-seasonal increase was noted in daily average sales of general merchandise in small towns and rural areas, in the latest figures compiled—Dept. of Commerce.

Omaha, Neb.—We have the best outlook on crop conditions of any time during the past 10 years. If we get any kind of a break during the summer months, this section certainly ought to go a long way toward helping the country out of the present recession—Don W. Clark, radio distributor.

In other words, a bumper crop of sales for the farm radio dealer! According to typical reports on rural prospects.

The 34,000,000 persons living on farms today have become special to the radio business. For instance, a hard-boiled dealer in Kansas reports: "For one thing they are not sold to the gills, like other classes. And this year they have good crops. There's some sweet stuff in the way of merchandise on the market this time. Looks like a swell proposition."

What are dealers saying to farmers? After having noticed that over half of the rural folk do not have radios at all, that many farm sets need to be replaced, and that this is a top season in model appeal, what then?

The development of low-drain tubes is an example of extra appeal for this year. This trend means economical operation for the farmer, and it should be remembered that the fellow is much more interested in price than he used to be. Even with fat checks coming in this month, the farmer and his wife are more the shopper type than formerly, and are very careful about costs and upkeep. The new tubes will interest them, genuinely.

Utility cabinets, improvements in battery design and convenience, bet-

ter motors, and more attractive tuning have been added to the farm radio set-up.

A good many of the farm prospects who were stalling around waiting for rural electrification may now be sold on the fact that manufacturers offer a wide variety of receivers which will work either way, at the touch of a switch. This is not a 1939 development, but by this time many farmers can take their neighbors' word for the value of the device.

## RFD situation

Last winter, dealers found that it was necessary to go out and sell radios, rather than parking hopefully in the store. Many merchants have carried this habit promptly into the farm market and have made plans to call at farm homes. Evening demonstrations are favored.

This season there is a definite movement back to the land, according to a 1938 survey made by the Agriculture Division, Bureau of the Census, Dept. of Commerce. Radio salesmen are watching local papers for addresses of newcomers.

Farm youngsters have become an important element in radio promotion. This is due mainly to the increasing use of radio in rural schools, and to the now-popular practice of featuring the affairs of farm youth organizations on the air.

## FARM FACTS

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Total U.S. farms.....	6,800,000
Farm population.....	34,000,000
Non-radio farms.....	3,800,000
Wired farms.....	1,250,000
REA projects in operation.....	250
REA proj. under construction....	130
REA-served families.....	250,000
Peak income months	
North Atlantic.....	June
South Atlantic.....	October
East North Central.....	July
West North Central.....	July
Western.....	October
South Central.....	October
Total farm income, 1937	
	\$8,500,000,000.

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The use of receivers on tractors and in dairy barns has developed to important proportions, and the idea of extra sets in farm houses has gathered strength.

Farmer J. W. Gorman of Grant Park, Ill., recently went on an NBC network from his seat on his radio-equipped tractor, a stunt which is certain to have its national effect on the future of radio listening in the fields.

### Broadcast interest

Encouraged by rural interest and prosperity, the networks have advanced their program efforts and have enriched the air menu for farms. CBS launches this month three new nationwide programs, carefully suited to the "dirt" appetites. "The Farmer Takes the Mike" is a practical discussion period of farm problems. "RFD No. 1" will be concerned with homemaking and will attract farm women by the million. The third feature is titled "Four-Corners Theater," a weekly sequence of rural dramas. Farm homes will require more and better sets to get in on this important series.

Last month NBC created an agricultural stir with a special 3,000th anniversary broadcast of the Farm and Home Hour. The show is 10 years old and is currently carried on 90 stations, each week day, coast-to-coast. These facts are a snappy part of a radio dealer's sales presentation.

Other data for receiver promoters to use comes from the Cooperative Analysis of Broadcasting, a research organization which recently made 21,154 interviews among set owners on farms and in small towns. The report indicates "that during the course on an average week day, listening in rural areas is generally higher than in large cities until the early evening. After 8 p.m. urban listening is greater for the balance of the evening, reaching a peak at 9:30, whereas rural listening reached its peak between 7 and 7:30 p.m."

Rural interest in news broadcasts has picked up sharply because in the wide open spaces, people are now intensely interested in recession-time fluctuations in farm product prices. Local lists of these airings, usually combined with radio weather report schedules, are freshly popular in dealer promotions.

Other devices being used by dealers this summer indicate that the field is a good one for resourceful salesmen.

Serenaded with radio music, cows consider giving more milk. Seriously, the dairy barn receiver is another good bet for modern farm radio dealers. Photo shows Philco, courtesy REA. Photo opposite by Don Finlayson, KOIL, Omaha, Neb.

Some radio men take it on themselves to see that their radio prospects take part in farm broadcasts, where audience participation is invited. Due to a trend to this type of program, these chances are increasing. Where a dealer is involved, he establishes a permanent friendship for himself and his store.

Action displays are being used in windows in country towns where traffic was formerly considered too light to justify them. These include battery operation demonstrations, whirling wind chargers, etc.

Actual farm products, such as seasonal grains, sheaves of wheat, ears of corn, etc., are being used in windows, neatly distributed among radio models.

Important in many farm sections is the matter of time payments. Following the harvest of the prospect's main crop, alert radio shops see to it that some sort of an account is opened, whether on radio merchandise or on related items.

### RADIO STORE HEADQUARTERS FOR FARMERS

★ It pays to be friendly with farmers, says O. H. Shepherd, radio and electrical dealer at Jefferson, Wis.

Mr. Shepherd has been in business for twenty-one years in Jefferson, and he always invites farmers to drop in and see him when in town. He says they are welcome to leave their packages at his store while they continue shopping, or to leave messages for friends who may drop in.

This kind of service is appreciated. For example, many farmers drop in at Shepherd's place Friday and Saturday nights, sit in a chair, smoke

and talk with him. Some will say, "The wife and kids are shopping for dry goods. I'll wait here till they get through. I'm no hand at looking at yard goods anyway."

This same farmer may see the many radios in stock. In fact, he can't help hearing one of the new models playing softly, sweetly, with a fine tone. In many cases, by the time the wife and children get through shopping and come for Daddy, he has bought a new radio from Mr. Shepherd, so entranced has he become with the new models.

### Can't high pressure

"You can't high-pressure a farmer into buying," says Mr. Shepherd. "But you can show a sincere desire to help him, to service him, to be nice to him, and then they'll go out of their way to buy from you."

Mr. Shepherd makes periodic trips through rural territory chatting with farmers, offering to repair their radios, and consequently invites them to use his store for "waiting headquarters" when in town. As a result, he knows what each farmer is interested in, the size of his farm, how many cows, chickens, pigs, etc., he has, and what his pet interests are. This helps a great deal in selling, he states, as farmers like to know that business people take enough interest in them to find out how farmers earn a living and what problems they experience.

Mr. Shepherd has his store so arranged that radios on display make a very striking impression. Receivers are placed in specially built alcove platforms. He spotlights attention on them at night, too, which makes them attract everyone who enters the store.



# DEALERS PLAN PROMOTIONS PLUS

Mid-summer sales devices in radio shops

## RURAL DAY NETS PROSPECTS

Landaal Bros., Waupun, Wis., stage a Rural Day free for farmers once a year which attracts more than 1,000 farmers.

This big crowd of farmers is taken to the local Municipal Building where they are shown various movies, and given talks during the morning. Then back to the big Landaal store at noon where a lunch is served. After lunch the farmers browse about the big Landaal store witnessing demonstrations on radios, washing machines, and other electrical appliances, asking many questions. The Landaal firm secured many radio prospects from its last Rural Day as well as selling a number of radios right off the floor.

At such an affair, states George Landaal, a farmer feels more like buying than if a salesman accosts him out in the field when he is working. The farmer sees his neighbors buying; free from farm work for the time being, the farmer has time to ask questions concerning radios and appliances, have them demonstrated for him, and this usually helps make sales.

Also, the prospect list secured through Rural Day is one that can be worked for many months afterward, the Landaal firm finds.

In radios this firm always manages to have a high class, modern console radio playing during the hour when the 1,000 farmers eat at the store. Thus they can't help hearing the quality tone of the radio and they silently compare this new machine with their old machines at home. Such a comparison inclines many a farmer to listen more eagerly when a Landaal salesman later calls on him at his home to try to sell him a new radio.

This company has two men who cover the rural territory regularly selling radios, appliances, hardware and implements. These salesmen find that Rural Day each year builds good will for the Landaal firm and helps make the sales approach much easier.

## PROFITS FROM EXTRA SETS

Sales possibilities among prospects for "second" sets are unlimited, according to H. T. Byrnes, of Majestic Radio & Television Corp. Describing the market for this company's "Petit" sets, Mr. Byrnes makes eight peppy suggestions:

**Kitchen**—Here the radio lightens the burden of the housewife with music, stories, recipes. Suggest it to friend husband.

**Bedroom**—Color combinations will harmonize with any bedroom decorative scheme—brings harmony to breakfasters, and readers-in-bed. Ideal for students.

**Playroom**—No more family squabbles. A radio here thrills the kids with Dick Tracy and the Lone Ranger while Dad enjoys the newscasts on the console.

**Summer Cottage**—It's impractical to lug the big console around, but this radio goes to the country for the weekend or the summer . . . brings the world to the vacationer.

**Office**—Market reports? Ball games? A bit of relaxing music? This radio gets it all but doesn't upset the dignity of the finest office.

**Shop**—Music put workers in a better frame of mind . . . pep up production, facts proved by scientific investigation. Sell your neighbors on the street this idea.

**Sickroom**—A cheerful little earful for the convalescent or the shut-in. Here's a gift market ripe for radio's peppy appearance and performance.

## PROMOTING PORTABLES

One important part of the sales style used by H. C. Bertine, of Kellogg & Bertine, New York City, is to offer his prospects for portable radios complete information on power facilities and characteristics at all the near-by summer vacation spots. This indicates to prospects that Bertine service is complete, authentic, earnest.

This radio man also points out that in the matter of portable sets, people buy because they want pleasant reception at distant pleasure spots; unless you sell them quality merchandise, you're licked. Mr. Bertine sells 75 per cent of his portable receivers to old customers, who have learned to expect non-failure.

All types and ages of customers are interested in the summer instruments, and this dealer finds it profitable to mail thousands of flyers each summer. Some buyers want to use them on porches or on terraces so that they can listen where it is cool; many want to keep in touch with news broadcasts while they're on vacation; others don't want to interrupt radio serials while they have a holiday.

Kellogg & Bertine are featuring portable sets made by Espey Mfg. Co., 67 Irving Place, New York City.

## RADIOS MAKE DEBUT IN AUTHENTIC PERIOD CABINETS



Authentic period designs in radio—now offered to dealers by the new Brunswick radio division of Mersman Bros. Furniture. Sample at left, a Queen Anne combination, mostly mahogany, 8-tube radio, \$149.50. Right, a French style in walnut and India rosewood, with 6-tube radio, \$89.50.



## WHY YOU NEED A NEW RADIO!

Ten Down-to-Earth Reasons for Buying an Up-to-Date Set

1—GREATER ECONOMY . . . New tubes . . . new circuits . . . slash operating costs.

2—EASIER TO TUNE . . . No more hit and miss tuning thanks to carefully calibrated dials. Stations now come in where expected.

3—BETTER TONE . . . Speech and music reproduced with greater purity than ever before.

4—MORE DISTANCE . . . Thrilling distance reception at your finger tips, day or night.

5—INCREASED SELECTIVITY . . . You hear just what you tune to . . . no more station mixups.

6—TITANIC POWER . . . All the volume you want when you want it.

7—LASTS LONGER . . . Scientifically built parts with rugged materials add pep and life.

8—FINEST CABINETRY . . . Breathless beauty in cabinet designs of wood and plastics.

9—WIDEST CHOICE IN HISTORY . . . Models for everywhere and every type of room and home.

10—IMPROVED QUALITY RADIO TRANSMISSION . . . Yours . . . only if you own the superior radios of today . . . see and hear one today!

# SALES FEATURES AND COMPLETE SPECIFICATIONS

17,000 facts about the new 1938-39 sets compiled by *Radio Today*

## Automatic Tuning

Model No.	List price	Cabinet		Wave-bands	Number tubes (RMA defn.)	Plug-in resistor	Cond. %	Spkr. size & type	Watts audio power (Max.)	Power Supply and watts	Selectivity	Tone control	Visual tuning	Stations		Re-mote control AVC	I.F. Peak			
		Style	Material											Drift Comp.	Adjust-ments					
<b>Andrea Radio Corp., 4823-48th Ave., Woodside, L. I., N. Y.—"Andrea"</b>																				
2-D-5	NS	FT	Wood	B.S.	5-G	None	2	5-EE	NS	AC	Fixed	Var	None	None	.....	.....	No	Yes	470	
6-D-5	NS	FT	Wood	B.S.	5-G	None	2	5-EE	NS	AC	Fixed	Var	None	Ct	None	6	2-R	No	Yes	470
14-E-6	NS	FT	Wood	B.S.	6-MO	None	2	6½-EE	NS	AC	Fixed	Var	None	None	None	6	2-R	No	Yes	470
2-E-6	NS	FT	Wood	B.P.S.	6-MO	None	2	6½-EE	NS	AC	Fixed	Var	None	C&It	Yes	6	2-R	No	Yes	470
2-E-8	NS	FT	Wood	B.P.S.	8-MO	None	3	8-EE	NS	AC	Var	None	CR	C&It	None	6	2-R	No	Yes	470
4-E-8	NS	FT	Wood	B.P.S.	8-MO	None	3	10-EE	NS	AC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
4-E-11	NS	VT	Wood	B.P.S.	11-MO	None	3	10-EE	NS	AC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
4-E-6	NS	CON	Wood	B.P.S.	6-MO	None	2	12-EE	NS	AC	Fixed	Var	None	C&It	Yes	6	2-R	No	Yes	470
6-E-8	NS	CON	Wood	B.P.S.	8-MO	None	3	12-EE	NS	AC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
6-E-11	NS	CON	Wood	B.P.S.	11-MO	None	3	12-EE	NS	AC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
6-E-6	NS	PCM-C	Wood	B.S.S.	7-MO	None	2	12-EE	NS	AC	Fixed	Var	None	C&It	Yes	6	2-R	No	Yes	470
8-E-8	NS	PCM-C	Wood	B.P.S.	8-MO	None	3	12-EE	NS	AC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
8-E-11	NS	PCM-C	Wood	B.P.S.	11-MO	None	3	12-EE	NS	AC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
10-E-8	NS	PCA-C	Wood	B.P.S.	8-MO	None	3	12-EE	NS	AC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
10-E-11	NS	PCA-C	Wood	B.P.S.	11-MO	None	3	12-EE	NS	AC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
62PX	NS	FT	Wood	B.S.	5-G	1	2	5-EE	NS	AC-DC	Fixed	Var	None	Ct	No	6	2-R	No	Yes	470
630	NS	FT	Wood	B.S.S.	5-MO	1	2	6½-EE	NS	AC-DC	Fixed	Var	None	C&It	Yes	6	2-R	No	Yes	470
632	NS	CON	Wood	B.S.S.	5-MO	1	2	12-EE	NS	AC-DC	Fixed	Var	None	C&It	Yes	6	2-R	No	Yes	470
634	NS	PC-C	Wood	B.S.S.	5-MO	1	2	12-EE	NS	AC-DC	Fixed	Var	None	C&It	Yes	6	2-R	No	Yes	470
1530	NS	VT	Wood	B.P.S.	12-MO	3	3	12-EE	NS	AC-DC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
1532	NS	CON	Wood	B.P.S.	12-MO	3	3	12-EE	NS	AC-DC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
1534	NS	PC	Wood	B.P.S.	12-MO	3	3	12-EE	NS	AC-DC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
1536	NS	PCA-C	Wood	B.P.S.	12-MO	3	3	12-EE	NS	AC-DC	Var	Var	CR	C&It	Yes	6	2-R	No	Yes	470
<b>Ansley Radio Corp., 240 W. 23rd St., New York, N. Y.—"Ansley Dynaphone"</b>																				
D-9	\$79.50	PC-PO	Cloth	B.S.	6-OM	1	2	6-EE	2.1	67 AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
D-10	84.50	PC-T	Wood	B.S.	6-OM	1	2	6-EE	2.1	68 AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
D-17	140.00	PC-C	Wood	B.S.	6-OM	1	2	12-EE	2.1	68 AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
D-18	190.00	PCA-C	Wood	B.S.	6-OM	1	2	12-EE	2.1	80 AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
D-21	170.00	PC-C	Wood	B.S.	12-MO	1	2	12-EE	9	138 AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
D-22	220.00	PCA-C	Wood	B.S.	12-MO	1	2	12-EE	9	150 AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
D-23	115.00	PC-CS	Wood	B.S.	6-OM	1	2	12-EE	2.1	68 AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
D-24	255.00	PCA-C	Wood	B.P.S.	15-MO	None	3	12-EE	9	150 AC	Fixed	Var	CR	None	.....	.....	.....	Yes	456	
D-25	205.00	PCA-C	Wood	B.P.S.	15-MO	None	3	12-EE	9	150 AC	Fixed	Var	CR	None	.....	.....	.....	Yes	456	
D-27	480.00	PCA-C	Wood	B.P.S.	15-MO	None	3	12-EE	9	150 AC	Fixed	Var	CR	None	.....	.....	.....	Yes	456	
U-10	44.50	FT	Wood	B.S.	6-OM	1	2	6-EE	2.1	55 AC-DC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
U-11	49.50	PORT	Wood	B.S.	6-OM	1	2	6-EE	2.1	55 AC-DC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
AC-DC Models available for \$5 additional.																				
<b>Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.—"Automatic", "Tom Thumb"</b>																				
40	\$6.95	MT	Wood	B	3-G	1	2	5-PM	¾	39 AC-DC	Fixed	None	None	None	.....	.....	.....	No	TRF	
50	7.95	MT	Wood	B	4-G	1	2	5-EE	1.2	41 AC-DC	Fixed	None	None	None	.....	.....	.....	No	TRF	
325	12.95	MT	Wood	B	4-G	1	2	5-EE	1.2	41 AC-DC	Fixed	None	None	None	.....	.....	.....	No	TRF	
326	12.95	MT	Wood	B	4-G	1	2	5-EE	1.2	41 AC-DC	Fixed	None	None	None	.....	.....	.....	No	TRF	
845	16.95	MT	Wood	B	5-GO	1	2	5-EE	2.2	40 AC-DC	Fixed	Step	None	None	.....	.....	.....	Yes	456	
850	22.95	FT	Wood	B.S.	5-GO	1	2	5-EE	2.2	40 AC-DC	Fixed	None	None	None	.....	.....	.....	Yes	456	
855	24.95	FT	Wood	B.S.	6-GO	1	2	5-EE	2.2	40 AC-DC	Fixed	None	None	C&It	CC	6	2-R	No	Yes	456
878	29.95	FT	Wood	B.S.S.	8-G	1	2	6-EE	1½	44 AC-DC	Fixed	Var	CR	None	.....	.....	.....	Yes	456	
892	59.95	CON	Wood	B.S.S.	10-GO	2	2	12-EE	5	88 AC-DC	Fixed	Var	CR	C&It	CC	6	2-R	No	Yes	456
915	19.95	MT	Wood	B.S.	5-GO	1	2	5-EE	2.2	40 AC-DC	Fixed	None	None	None	.....	.....	.....	Yes	456	
920	14.95	MT	Wood	B	5-G	1	2	5-EE	1.2	41 AC-DC	Fixed	None	CR	None	.....	.....	.....	Yes	TRF	
933	9.95	MT	Metal	B	4-o	None	2	3-EE	1.2	41 AC-DC	Fixed	None	None	None	.....	.....	.....	No	TRF	
935	14.95	MT	Plastic	B	4-o	None	2	3-EE	1.2	41 AC-DC	Fixed	None	None	None	.....	.....	.....	No	TRF	
950	19.95	MT	Wood	B	5-o	None	2	3-EE	2.2	40 AC-DC	Fixed	None	None	None	.....	.....	.....	Yes	456	
<b>Bretting Radio Mfg. Co., 1815 Venice Blvd., Los Angeles, Calif.—"Bretting"</b>																				
9	\$90.00	T	Metal	B.P.S.U	9-MG	None	3	8-EE	4	90 AC	Fixed	Var	M	None	.....	.....	.....	Yes	432	
14AX	165.00	T	Metal	B.P.S.U	14-MG	None	4	12-EE	18	125 AC	Fixed	Var	M	None	.....	.....	.....	Yes	432	
14AX	275.00	CON	Wood	B.P.S.U	14-MG	None	4	12-EE	18	125 AC	Fixed	Var	M	None	.....	.....	.....	Yes	432	
<b>Continental Radio &amp; Television Corp., 3800 Cortland St., Chicago, Ill.—"Admiral"</b>																				
925-16R	\$159.50	CON	Wood	B.P.S.	16-O	None	3	12-EE	25	AC	Fixed	Var	None	NS	AFC	13	1-R	No	Yes	456
930-16R	169.50	CON	Wood	B.P.S.	16-O	None	3	12-EE	25	AC	Fixed	Var	None	NS	AFC	13	1-R	No	Yes	456
940-11S	99.95	CON	Wood	B.P.S.	11-O	None	3	12-EE	10	AC	Fixed	Var	None	NS	AFC	13	1-R	No	Yes	456
935-11S	109.95	CON	Wood	B.P.S.	11-O	None	3	12-EE	10	AC	Fixed	Var	None	NS	AFC	13	1-R	No	Yes	456
915-9B	89.95	CON	Wood	B.P.S.	9-G	None	3	12-EE	9	AC	Fixed	Var	None	NS	CC	13	1-R	No	Yes	456
102-6B	29.95	T	Plastic	B.S.	6-G	None	2	6-EE	1½	AC	Fixed	Var	None	Motor	None	6	1-R	No	Yes	456
103-6B	39.95	T	Plastic	B.S.	6-G	None	2	6-EE	1½	AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
516-5F	13.95	T	Plastic	B	5-G	None	2	5-EE	1½	AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
517-5F	16.95	T	Plastic	B	5-G	None	2	5-EE	1½	AC	Fixed	Var	None	None	.....	.....	.....	Yes	456	
535-5J	12.95	T	Plastic	B	5-o	None	2	4-EE	2	AC	Fixed	NS	None	None	.....	.....	.....	Yes	456	
129-5F	16.95	T	Wood	B	5-G	None	2	5-EE	1½	AC	Fixed	Step	None	None	.....	.....	.....	Yes	456	
527-5X	19.95	T	Wood	B.S.	5-G	None	2	6-EE	2	AC	Fixed	Step	None	None	.....	.....	.....	Yes	456	
113-5A	16.95	T	Plastic	B	5-G	None	2	5-EE	2	AC	Fixed	Step	None	NS	None	4	1-R	No	Yes	456
114-5A	17.95	T	Plastic	B	5-G	None	2	5-EE	2	AC	Fixed	Step	None	NS	None	4	1-R	No	Yes	456
115-5A	19.95	T	Plastic	B	5-G	None	2	5-EE	2	AC	Fixed	Step	None	NS	None	4	1-R	No	Yes	456

(Continued on page 18)

% Line voltage dropping resistors of plug-in type, commonly referred to as ballast resistors or tubes.

## NOTES

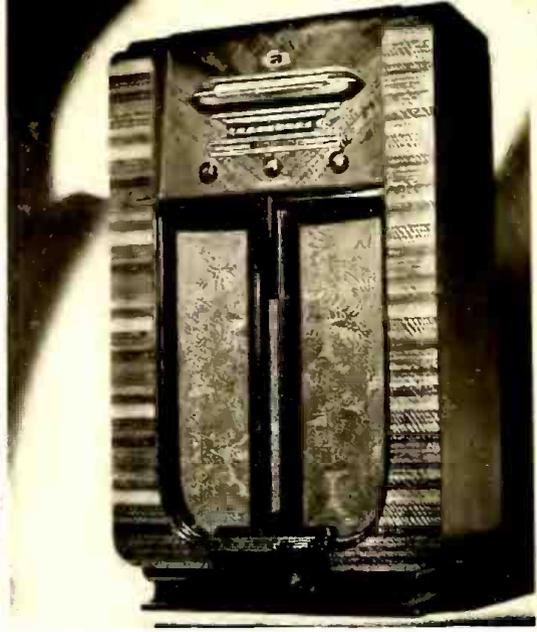
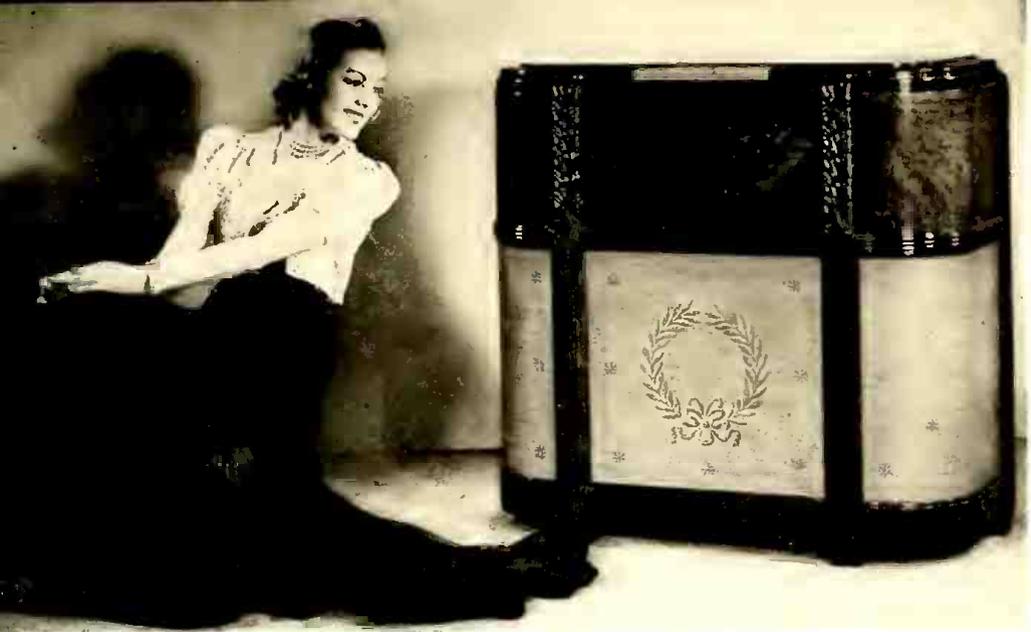
NS—Data not supplied

### CABINET STYLE

- CS—Chairside
- CON—Console (Also C)
- FT—Flat table
- F—Furniture design
- MT—Miniature table
- PC—Phonograph Combination
- PCA—Phonograph combination with automatic record changer
- PCM—Phonograph combination—manual change of records
- PORT—Portable (Also P)
- T—Table
- VT—Vertical table

### WAVEBANDS

- B—Broadcast (approx. 540-1700 KC)
- P—Police (approx. 1700-5500 KC)
- P<



## MORE NEW SETS FOR THE 1938-39 SEASON

(Continued from June issue)

Above—General Electric's 9-tube Radío-forte, \$175.

Upper right—Stewart-Warner's 91-817, 8 tubes.

Left—Stromberg-Carlson's Corner Console 350-V., \$199.50.

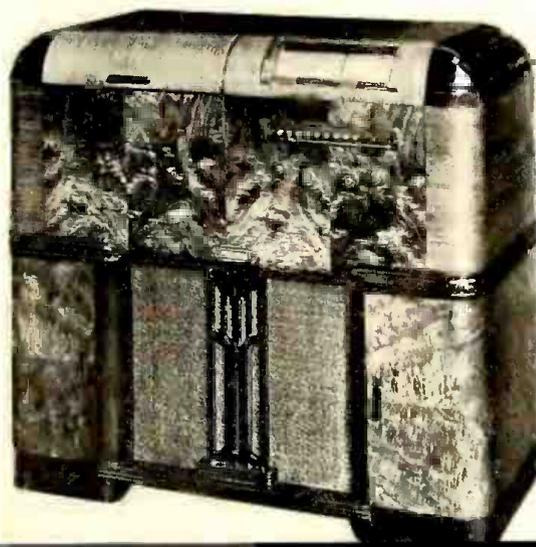
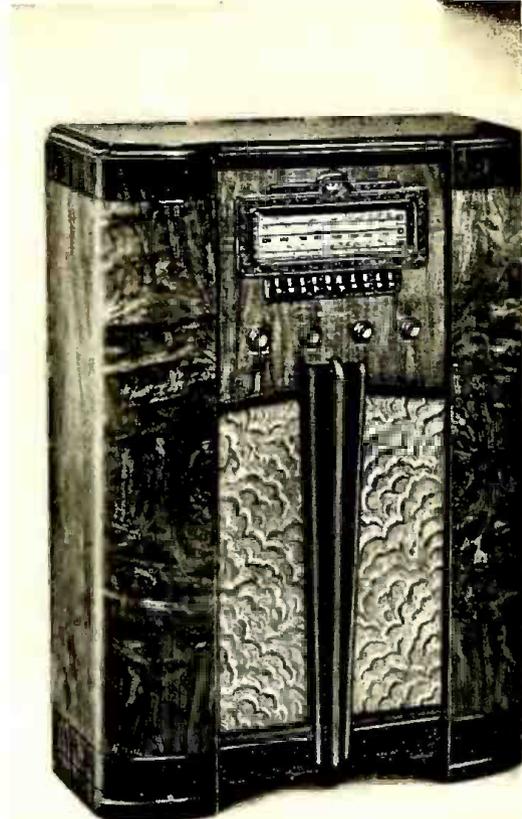
Right—Westinghouse 366, 8 tubes, motor tuning.

Bottom left—Sparton 8618, push-button console, \$89.95.

Bottom center—Admiral No. 144-16S combination, \$295.

Bottom right—Stromberg-Carlson 350M, \$175.

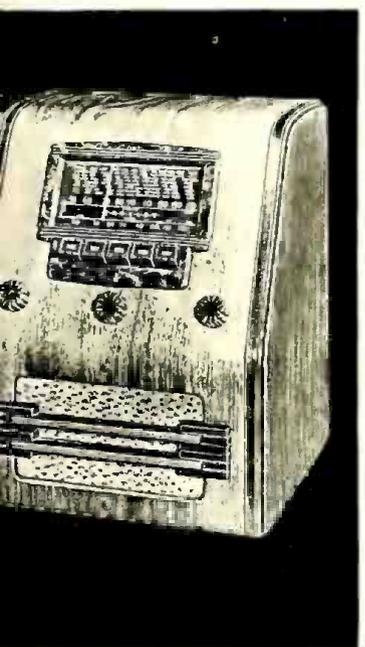
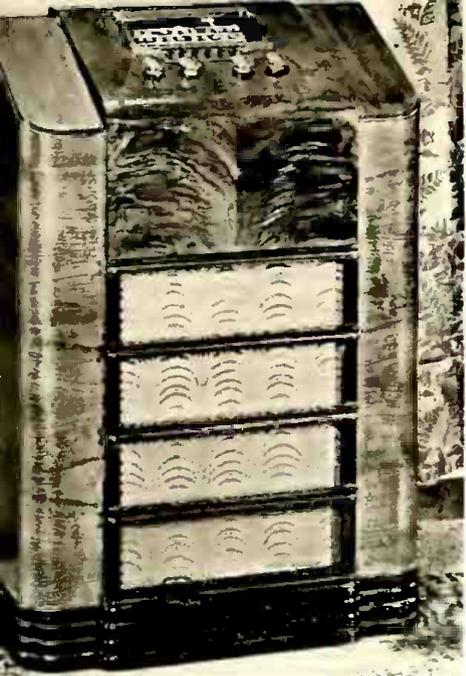
Radio Today, July, 1938



# SALES FEATURES AND SPECIFICATIONS OF THE 1938-39 SETS—Compiled by Radio Today

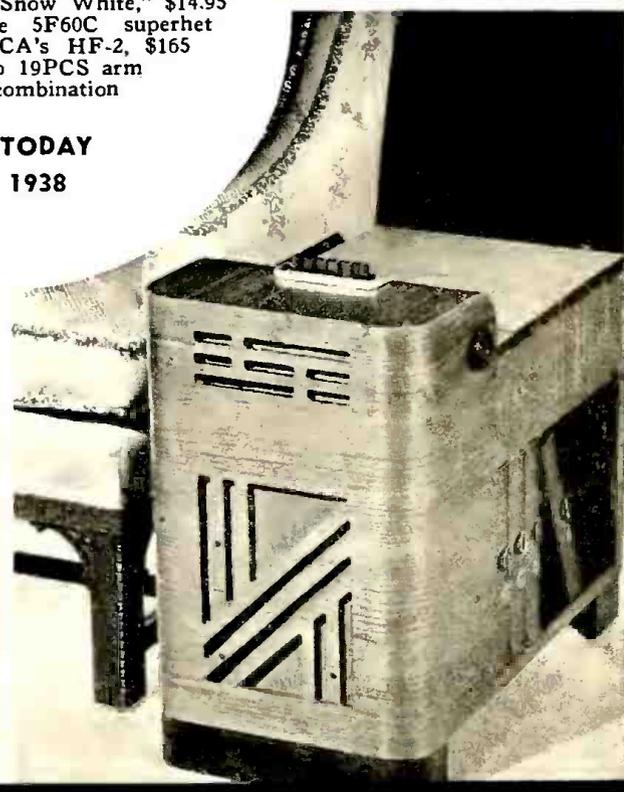
Automatic Tuning

Model No.	List price	Cabinet		Wave-bands	Number tubes (RMA defn.)	Plug-in resistor %	Cond. gang sec. tions	Spkr. size & type	Watts audio power (Max.)	Power Supply and watts	Tone Selectivity	Visual tuning control	Type	Stations		Remote control AVC	I.F. Peak		
		Style	Material											Drift Comp.	Adjustments				
<b>Continental Radio &amp; Television Corp.—Continued</b>																			
123-5E	15.00	T	Plastic	B	5-M	None	2	4-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	Yes	456	
124-5E	15.00	T	Plastic	B	5-M	None	2	4-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	Yes	456	
125-5E	15.00	T	Plastic	B	5-M	None	2	4-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	Yes	456	
126-5E	15.00	T	Plastic	B	5-M	None	2	4-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	Yes	456	
123-4H	10.00	T	Plastic	B	5-0	None	2	4-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	No	456	
124-4H	12.50	T	Plastic	B	5-0	None	2	4-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	No	456	
125-4H	12.50	T	Plastic	B	5-0	None	2	4-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	No	456	
126-4H	12.50	T	Plastic	B	5-0	None	2	5-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	No	456	
516-5C	9.95	T	Plastic	B	5-GO incl. resistor	2	2	5-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	No	456	
517-5C	12.95	T	Plastic	B	5-GO incl. resistor	2	2	5-EE	2	AC-DC	Fixed	Step	None	None	.....	.....	No	456	
520-5C	19.95	PC-T	Wood	B	5-GO incl. resistor	2	2	5-EE	2	AC	Fixed	Step	None	None	.....	.....	No	456	
521-5C	29.95	PC-T	Wood	B	5-GO incl. resistor	2	2	5-EE	2	AC	Fixed	Step	None	None	.....	.....	No	456	
520-5F	24.95	PC-T	Wood	B	5-G	None	2	5-EE	1 1/2	AC	Fixed	Step	None	None	.....	.....	No	456	
521-5F	34.95	PC-T	Wood	B	5-G	None	2	5-EE	1 1/2	AC	Fixed	Step	None	None	.....	.....	No	456	
510-6B	67.50	PC-T	Wood	B.S	6-G	None	2	8-EE	2	AC	Fixed	Var	None	None	.....	.....	Yes	456	
144-16S	295.00	PC-C	Wood	B.P.S	16-0	None	3	12-EE	25	AC	Fixed	Var	None	None	.....	.....	Yes	456	
<b>Detroit Corp., 1501 Beard Ave., Detroit, Mich.—"Detrola"</b>																			
216	\$10.00*	MT	Plastic	B	4-M	None	2	NS	NS	AC-DC	Fixed	None	None	None	.....	.....	No	TRF	
218	15.00	MT	Plastic	B.P	4-M	None	2	NS	NS	AC-DC	Fixed	None	None	None	.....	.....	No	TRF	
219	20.00	MT	Plastic	B.S	5-M	None	2	NS	NS	AC-DC	Fixed	None	None	None	.....	.....	Yes	NS	
208A	9.95†	FT	Plastic	B	4-GO	1	2	5-EE	NS	AC-DC	Fixed	None	None	None	.....	.....	No	TRF	
211A	16.95	FT	Plastic	B.S	5-GO	1	2	5-EE	NS	AC-DC	Fixed	None	None	None	.....	.....	Yes	NS	
212EA	19.95	FT	NS	B.S	6-GO	1	2	5-EE	NS	AC-DC	Fixed	Yes	CR	None	.....	.....	Yes	NS	
227A	29.50	FT	NS	B.S	5-GO	1	2	5-EE	NS	AC DC	Fixed	Yes	None	Mech	NS	4	NS	No	Yes
221A	34.50	FT	NS	B.S	5-GO	1	2	5-EE	NS	AC DC	Fixed	Yes	None	Mech	NS	6	NS	No	Yes
222A	39.50	FT	NS	B.S	6-GO	1	2	5-EE	NS	AC DC	Fixed	Yes	None	Mech	NS	6	NS	No	Yes
225A	41.50	FT	NS	B.P.S	7-GO	None	2	6 1/2-EE	NS	AC-DC	Fixed	Yes	None	Mech	NS	6	NS	No	Yes
226A	29.50	FT	NS	B.S	5-GO	None	2	5-EE	NS	AC	Fixed	Yes	None	Mech	NS	4	NS	No	Yes
220A	34.50	FT	NS	B.S	6-GO	None	2	5-EE	NS	AC	Fixed	Yes	None	Mech	NS	6	NS	No	Yes
233A	41.50	FT	NS	B.P.S	7-GO	None	2	6 1/2-EE	NS	AC	Fixed	Yes	None	Mech	NS	6	NS	No	Yes
209EA	57.50	FT	NS	B.P.S	8-GO	None	3	8-EE	NS	AC	Fixed	Yes	CR	It	NS	6	NS	No	Yes
231A	59.50	FT	NS	B.P.S	9-GO	None	3	8-EE	NS	AC	Fixed	Yes	CR	Motor	NS	8	NS	Opt.	Yes
208AP	34.50	PC-T	NS	B	4-GO	1	2	5-EE	NS	AC	Fixed	Yes	None	None	.....	.....	No	TRF	
228P	99.50	PC-P	NS	B.P.S	7-GO	None	2	6 1/2-EE	NS	AC-DC	Fixed	Yes	None	Mech	NS	6	NS	No	Yes
228AP	94.50	PC-T	NS	B.P.S	7-GO	None	2	6 1/2-EE	NS	AC-DC	Fixed	Yes	None	Mech	NS	6	NS	No	Yes
233AP	84.50	PC-T	NS	B.P.S	7-GO	None	2	6 1/2-EE	NS	AC	Fixed	Yes	None	Mech	NS	6	NS	No	Yes
234P	79.50	PC-P	NS	B.S	5-GO	1	2	6 1/2-EE	NS	AC-DC	Fixed	Yes	None	Mech	NS	4	NS	No	Yes
* In colors \$12.50. † De Luxe model \$22.50. †† In Ivory \$12.50.																			
<b>Emerson Radio &amp; Phonograph Corp., 111 8th Ave., New York, N. Y.—"Emerson"</b>																			
AX-211	\$9.95*	MT	Plastic	B	5-M	None	2	4-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
AX-217	14.95	MT	Wood	B	5-M	None	2	4-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
AX-233	17.95	MT	Plastic	B	5-M	None	2	4-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
AX-212	19.95	MT	Wood	B	5-M	None	2	4-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
BM-206	9.95†	T	Plastic	B	5-GO incl. resistor	2	2	5-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
BY-233	12.95	VT	Plastic	B	6-GO incl. resistor	2	2	5-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
Q-236	14.95	T	Wood	B	4-GO	None	2	5-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	No	TRF	
BB-208	14.95	FT	Plastic	B	5-GO incl. resistor	2	2	5-EE	2 1/2	45 AC-DC	Fixed	None	None	Mech	None	4	1-F	No	TRF
BM-215	14.95	T	Wood	B	5-GO incl. resistor	2	2	5-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	No	TRF	
BB-209	19.95	FT	Wood	B	5-GO incl. resistor	2	2	5-EE	2 1/2	45 AC-DC	Fixed	None	None	Mech	None	4	1-F	No	TRF
BE-198	19.95*	FT	Plastic	B	5-GO	None	2	6 1/2-EE	3	45 AC	Fixed	None	None	Ct	None	6	1-F	No	Yes
BJ-200	19.95*	FT	Plastic	B.P	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
BL-200	19.95*	FT	Plastic	B.P	5-GO	None	2	6 1/2-EE	3	45 AC	Fixed	None	None	None	.....	.....	Yes	455	
BJ-210	24.95	FT	Wood	B.P	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
BL-210	24.95	FT	Wood	B.P	5-GO	None	2	6 1/2-EE	3	45 AC	Fixed	None	None	None	.....	.....	Yes	455	
AU-190	24.95	VT	Plastic	B.P	5-GO	None	2	5-EE	2 1/2	45 AC-DC	Fixed	Step	None	None	.....	.....	Yes	455	
BF-207	24.95†	FT	Plastic	B.S	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	50 AC-DC	Fixed	Step	None	None	.....	.....	Yes	455	
AA-207	29.95†	FT	Plastic	B.S.W	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	50 AC-DC	Fixed	Step	None	None	.....	.....	Yes	455	
CA-234	29.95	FT	Wood	B	6-GO incl. resistor	2	2	5-EE	2 1/2	45 AC-DC	Fixed	None	None	Mech	None	4	1-F	No	Yes
AU-213	29.95	VT	Wood	B.P	5-GO	None	2	5-EE	2 1/2	45 AC-DC	Fixed	Step	None	None	.....	.....	Yes	455	
BF-204	29.95	FT	Wood	B.S	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	50 AC-DC	Fixed	Step	None	None	.....	.....	Yes	455	
AA-204	34.95	FT	Wood	B.S.W	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	50 AC-DC	Fixed	Step	None	None	.....	.....	Yes	455	
BJ-214	29.95	FT	Wood	B.P	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	45 AC-DC	Fixed	None	None	None	.....	.....	Yes	455	
BL-214	29.95	FT	Wood	B.P	5-GO	None	2	6 1/2-EE	3	45 AC	Fixed	None	None	None	.....	.....	Yes	455	
BD-197	39.95	FT	Wood	B.S	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	50 AC-DC	Fixed	Step	None	None	.....	.....	Yes	455	
BF-169	39.95	FT	Wood	B.S	6-GO incl. resistor	2	2	6 1/2-EE	2 1/2	50 AC-DC	Fixed	Step	None	None	.....	.....	Yes	455	
BW-231	39.95	FT	Wood	B.S	6-0M	None	2	6 1/2-EE	5	55 AC	Fixed	Step	None	None	.....	.....	Yes	455	
BO-228	49.95	FT	Wood	B.S	6-0M	None	2	6 1/2-EE	5	55 AC	Fixed	Step	None	Mech	None	6	1-F	No	Yes
BO-229	59.95	FT	Wood	B.S	7-0M	None	2	6 1/2-EE	5	58 AC	Fixed	Step	CR	Mech	None	6	1-F	No	Yes
BM-219	19.95	PC-T	Wood	B	5-GO incl. resistor	2	2	5-EE	2 1/2	55 AC	Fixed	Step	None	None	.....	.....	No	TRF	
AX-219	29.95	PC-T	Wood	B	5-M	None	2	4-EE	2 1/2	55 AC	Fixed	Var	None	None	.....	.....	Yes	455	
AX-221	44.95	PC-T	Wood	B	5-M	None	2	6 1/2-PM	3	65 AC	Fixed	Var	None	None	.....	.....	Yes	455	
AX-221	54.95	PC-T	Wood	B	5-M	None	2	6 1/2-PM	3	65 AC-DC	Fixed	Var	None	None	.....	.....	Yes	455	
BL-220	59.95	PC-T	Wood	B.P	5-GO	None	2	6 1/2-PM	5	65 AC	Fixed	Var	None	None	.....	.....	Yes	455	
BJ-220	69.95	PC-T	Wood	B.P	6-GO incl. resistor	2	2	8-PM	3	65 AC-DC	Fixed	Var	None	None	.....	.....	Yes	455	
BL-218	69.95	PC-T	Wood	B.P	5-GO	None	2	8-PM	5	65 AC	Fixed	Var	None	None	.....	.....	Yes	455	
BJ-218	79.95	PC-T	Wood	B.P	6-GO incl. resistor	2	2	8-PM	3	65 AC-DC	Fixed	Var	None	None	.....	.....	Yes	455	
AX-222	59.95	PC-P	Fabricoid	B	5-M	None													

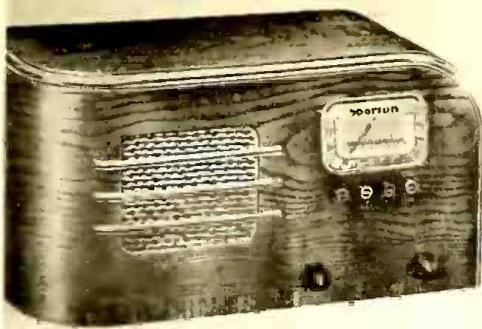


**NEW!**

Top left—  
Howard model 325D  
Top right—Majestic's new  
Charley McCarthy set and Charley  
Middle left — Crosley's model 718A  
Center—Emerson's "Snow White," \$14.95  
Right — FadaLette 5F60C superhet  
Bottom left—RCA's HF-2, \$165  
Right—Philco 19PCS arm  
c h a i r combination



**RADIO TODAY**  
July, 1938



Sparton Model 5518A, 5 tubes \$19.95.



DeWald Pierce-Airo with push-button tuning.



Sentinel Super No. 127BT,

## SALES FEATURES AND SPECIFICATIONS OF THE 1938-39 SETS—Compiled by Radio Today

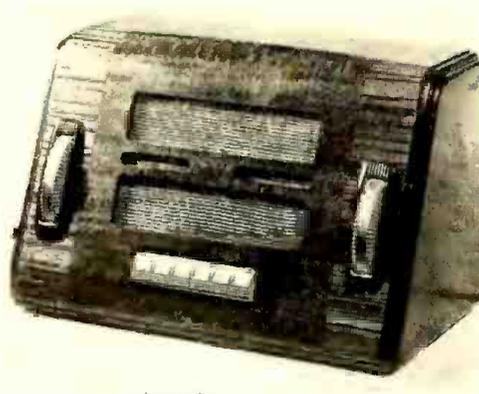
Model No.	List price	Cabinet		Wave-bands	Number tubes (RMA defn.)	Plug. in gang re-sistor%	Cond. in sec-tions	Spkr. size & type	Watts audio power (Max.)	Power Supply and watts	Tone Selectivity	Visual tuning control	Type	Automatic Tuning			I. F. Peak			
		Style	Material											Stations Drift Comp.	Adjust-ments No.	Re-mote control				
Fada Radio & Electric Co., 30-20 Thomson Ave., Long Island City, N. Y.—"Fada Radio"																				
5F60W/V/T NS		MT	Plastic	B	5-0	None	2	4-EE	2	AC-DC	Fixed	None	None	None	.....	.....	.....	Yes	456	
470W/V/T/R		T	Wood	B S	6-0G	1	2	6 1/2-EE	2	AC-DC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
461T/K/L NS		T	Wood	B S	5-GO	1	2	6 1/2-EE	2	AC-DC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
461C NS		CON	Wood	B S	5-GO	1	2	8-EE	2	AC-DC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
6A61W/V NS		T	Plastic	B S	5-GO	1	2	5 1/4-EE	2	AC-DC	Fixed	None	None	Mech	None	6	1-F	No	Yes	456
6A61C NS		CON	Wood	B S	5-GO	1	2	8-EE	2	AC-DC	Fixed	None	None	Mech	None	6	1-F	No	Yes	456
470C NS		CON	Wood	B S	6-0G	1	2	10-EE	2	AC-DC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
470PC NS		PCM-C	Wood	B S	6-0G	1	2	10-EE	2	AC-DC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
470APC NS		PCA-C	Wood	B S	6-0G	1	2	10-EE	2	AC-DC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
6A70T NS		T	Wood	B S	6-0G	1	2	8-EE	2	AC-DC	Fixed	Yes	None	Mech	CC	6	1-F	No	Yes	456
6A70C NS		CON	Wood	B S	6-0G	1	2	10-EE	2	AC-DC	Fixed	Yes	None	Mech	CC	6	1-F	No	Yes	456
451T/K/L NS		T	Wood	B S	5-GO	None	2	6 1/4-EE	2	AC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
6A51W/V NS		T	Plastic	B S	5-GO	None	2	5 1/4-EE	2	AC	Fixed	Yes	None	Mech	None	6	1-F	No	Yes	456
6A51C NS		CON	Wood	B S	5-GO	None	2	6 1/4-EE	2	AC	Fixed	Yes	None	Mech	None	6	1-F	No	Yes	456
465W/V NS		T	Plastic	B S	6-0G	None	2	6 1/2-EE	4 1/4	AC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
465TR/T NS		T	Wood	B S	6-0G	None	2	6 1/4-EE	4 1/4	AC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
465C NS		CON	Wood	B S	6-0G	None	2	10-EE	4 1/4	AC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
465PC NS		PCM-C	Wood	B S	6-0G	None	2	12-EE	4 1/4	AC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
465APC NS		PCA-C	Wood	B S	6-0G	None	2	12-EE	4 1/4	AC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
6A65T NS		T	Wood	B S	6-0G	None	2	8-EE	4 1/4	AC	Fixed	Yes	None	Mech	CC	6	1-F	No	Yes	456
6A65C NS		CON	Wood	B S	6-0G	None	2	10-EE	4 1/4	AC	Fixed	Yes	None	Mech	CC	6	1-F	No	Yes	456
6A80T NS		T	Wood	B P S	8-0M	None	3	8-EE	4 1/4	AC	Fixed	Yes	CR	Mech	CC	6	1-F	No	Yes	456
6A80C NS		CON	Wood	B P S	8-0M	None	3	12-EE	4 1/4	AC	Fixed	Yes	CR	Mech	CC	6	1-F	No	Yes	456
6A80CA NS		CON	Wood	B P S	8-0M	None	3	12-EE	4 1/4	AC	Fixed	Yes	CR	Mech	CC	6	1-F	No	Yes	456
6A80APC NS		PC-C	Wood	B P S	8-0M	None	3	15-EE	4 1/4	AC	Fixed	Yes	CR	Mech	CC	6	1-F	No	Yes	456
560PT NS		PC-T	Wood	B P	5-GO	1	2	5-EE	2	AC-DC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
554PT NS		PC-T	Wood	B P	5-GO	None	2	5-EE	2	AC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
451PT NS		PC-T	Wood	B S	5-GO	None	2	6 1/4-EE	2	AC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
461PT NS		PC-T	Wood	B S	5-GO	1	2	6 1/4-EE	2	AC-DC	Fixed	Yes	None	None	.....	.....	.....	Yes	456	
546W/V/G/R/B/T		T	Plastic/Wood	B	5-GO	1	2	5-EE	2	AC-DC	Fixed	No	None	None	.....	.....	.....	Yes	456	

Fairbanks-Morse & Co., Home Appliance Div., Indianapolis, Ind.—Information not available up to July 15. See August issue of *RADIO TODAY*

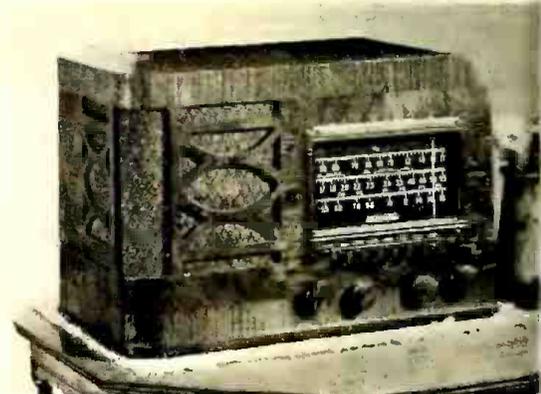
### Index to codes on pages 16 and 34



Westinghouse No. WR-262, 6 tubes.



General Electric 6D52, \$22.95.

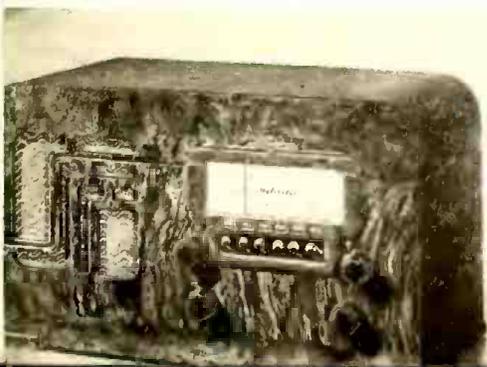


Howard No. 468, 7 tubes.

Motorola No. 59T5 \$29.95.

Crosley "Sixer," No. 628B \$19.99.

Stewart-Warner No. 91-513.

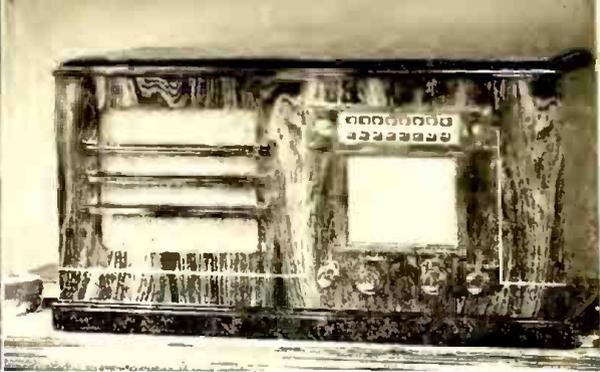




Wilcox-Gay "Thin Man" A 53.



Detrola Super Pee Wee \$20.



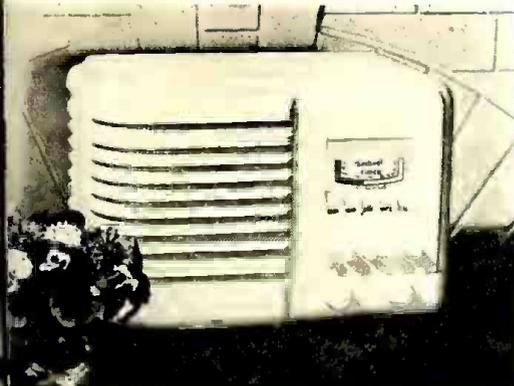
Stromberg-Carlson No. 340 H. \$115.

**SALES FEATURES AND SPECIFICATIONS OF THE 1938-39 SETS—Compiled by Radio Today**

Model No.	List price	Cabinet		Wave-bands	Number tubes (RMA defn.)	Plug-in resistor	Cond. gang %	Spkr. size & type	Watts audio power (Max.)	Power Supply and watts	Selectivity	Tone control	Visual tuning Type	Automatic Tuning		Re-tune control	I.F. Peak		
		Style	Material											Stations No.	Adjust-ments				
Galvin Mfg. Corp., 4545 Augusta Blvd., Chicago, Ill.—"Motorola"																			
59T1	\$14.95	FT	Wood	B	4-GO	1	2	5-EE	.7	45 AC-DC	Fixed	None	None	None	CC	4	1	No	Yes
59T2	19.95	FT	Wood	B	5-G	None	2	5-EE	3	50 AC-DC	Fixed	None	None	None	CC	4	1	No	Yes
59T3	19.95	FT	Wood	B	4-GO	1	2	5-EE	.7	45 AC-DC	Fixed	None	None	Mech	CC	4	1	No	Yes
59T4	24.95	FT	Wood	B	5-G	None	2	5-EE	3	50 AC	Fixed	None	None	Mech	CC	4	1	No	Yes
59T5	29.95	FT	Wood	B,S	5-G	None	2	6-EE	4 1/2	55 AC	Fixed	Var	None	Mech	CC	6	1	No	Yes
Console Models to be announced later.																			
General Electric Co., 1285 Boston Ave., Bridgeport, Conn.—"G-E"																			
GD-41	\$12.95	MT	Wood	B	4-GO	1	2	1-EE	1.8	50 AC-DC	Fixed	None	None	None	CC	5	2-B	No	TRF
GD-52	22.95	FT	Wood	B	5-OM	1	2	5-EE	2.1	50 AC-DC	Fixed	None	None	Ct	None	8	1-F	No	Yes
G-50	29.95	FT	Wood	B	5-G	None	2	6 1/2-EE	4 1/2	50 AC	Fixed	Step	None	Mech	None	8	1-F	No	Yes
GD-62	29.95	FT	Wood	B	5-GO	1	2	6 1/2-PM	2 1/2	45 AC-DC	Fixed	Step	None	Mech	None	8	1-F	No	Yes
G-53	39.95	FT	Wood	B,S	5-OM	None	2	6 1/2-EE	4 1/2	60 AC	Fixed	Step	None	Ct	None	6	2-F	No	Yes
G-61	59.95	FT	Wood	B,P,S	6-OG	None	2	6 1/2-EE	5	70 AC	Var	Step	None	Ct	CC	6	2-F	No	Yes
G-55	39.95	CON	Wood	B	5-G	None	2	8-EE	4 1/2	50 AC	Fixed	Step	None	Mech	None	8	1-F	No	Yes
GD-67	39.95	CON	Wood	B	5-GO	1	2	8-PM	2 1/2	45 AC-DC	Fixed	Step	None	Mech	None	8	1-F	No	Yes
G-56	59.95	CON	Wood	B,S	5-OM	None	2	12-EE	4 1/2	60 AC	Fixed	Step	None	Ct	None	6	2-F	No	Yes
G-66	69.95	CON	Wood	B,P,S	6-OG	None	2	12-EE	5	70 AC	Var	Step	None	Ct	CC	6	2-F	No	Yes
G-85	99.95	CON	Wood	B,P,S	8-OM	None	2	12-EE	5	75 AC	Var	Step	CR	Ct	CC	8	2-F	No	Yes
G-97	129.95	CON	Wood	B,P,S	9-OM	None	3	12-EE	5	95 AC	Fixed	Step	None	Ct	AFC	6	2-R	No	Yes
G-105	159.95	CON	Wood	B,P,S	10-OM	None	3	12-EE	12	125 AC	Var	Step	None	Motor	CC	13	1-R	Yes	Yes
Radio- forte	175.00	CON	Wood	B	9-OM	None	3	12-EE	12	120 AC	Var	Step	None	Motor	CC	13	1-R	Yes	Yes
G-106	200.00	CON	Wood	B,P,S	10-OM	None	3	12-EE	12	135 AC	Var	Step	CR	Motor	CC	13	1-R	Yes	Yes
GD-44	39.95	PC-T	Wood	B	4-GO	1	2	5-EE	1.8	55 AC-DC*	Fixed	Step	None	None	CC	6	2-F	No	TRF
G-68	139.95	PCA-C	Wood	B,P,S	6-OG	None	2	12-EE	5	95 AC	Var	Step	None	Ct	CC	6	2-F	No	Yes
G-69	185.00	PC-C	Wood	B,P,S	6-OG	None	2	12-EE	5	95 AC	Var	Step	None	Ct	CC	6	2-F	No	Yes
*AC-DC set. AC phono may be operated from DC by use of an inverter unit.																			
Hallcrafters, Inc., 2611 Indiana Ave., Chicago, Ill.—"Skyrider"																			
SX16	\$99.00†	T	Metal	B,P,S,U	11-M	None	3	12-PM	13	115 AC	Var	Var	Meter	None	CC	6	2-F	No	Yes
SX17	149.50†	T	Metal	B,P,S,U	13-M	None	4	12-PM	13	125 AC	Var	Var	Meter	None	CC	6	2-F	No	Yes
SX18	77.00†	T	Metal	B,P,S,U	9-MO	None	3	8-PM	3	65 AC	Fixed	Var	None	None	CC	6	2-F	No	Yes
S19	29.50†	T	Metal	B,P,S	5-MG	None	2	5-EE	2 1/2	50 AC	Fixed	None	None	None	CC	6	2-F	No	Yes
S20	49.50†	T	Metal	B,P,S,U	8-MO	None	3	5-EE	3	60 AC	Fixed	Var	None	None	CC	6	2-F	No	Yes
DD1	300.00†	T	Metal	B,P,S,U	23-MG	None	7	12-PM	10	200 AC	Var	Var	Meter	None	CC	6	2-F	No	Yes
†Amateur net price.																			

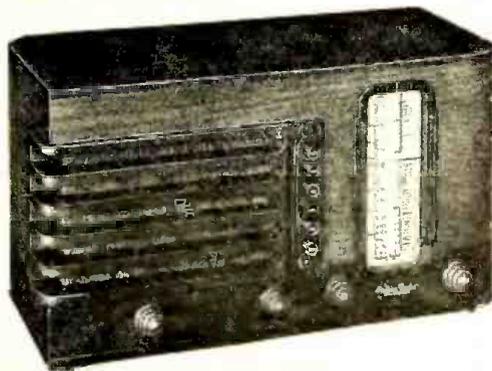
(Continued on page 26)

% Line voltage dropping resistors of plug-in type, commonly referred to as ballast resistors or tubes



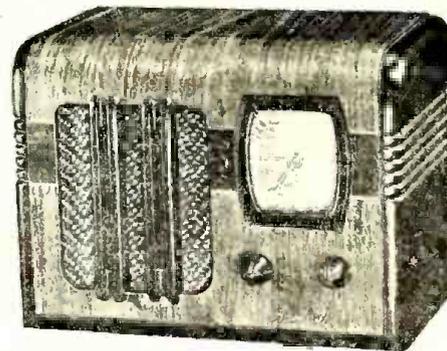
Sentinel No. 124AT \$19.95.

Motorola No. 59T4 \$24.95.



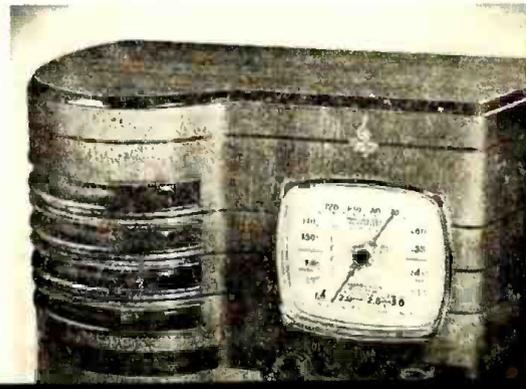
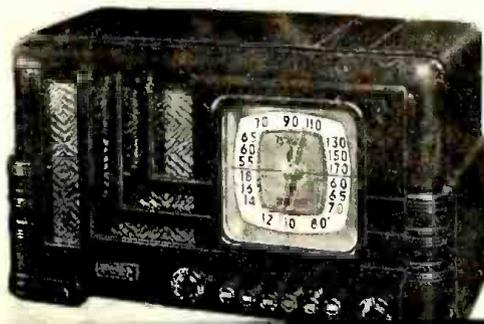
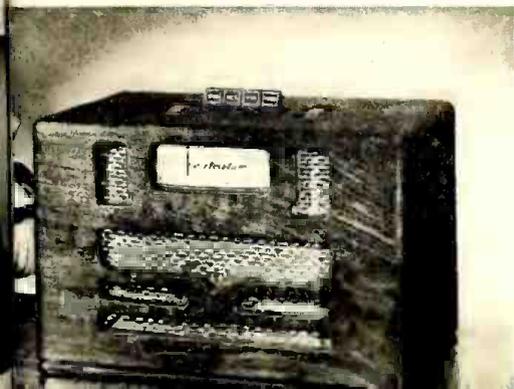
Andrea No. 14E6, 6 tubes.

Fada No. 6A51W, 5 tubes



Admiral No. 129 5F.

Emerson BJ 214 \$29.95.



# PARTS JOBBER HOLDS THE BAG

Evils in radio-parts distribution growing out of fictitious "list-prices." A. M. Hirsch offers remedy

*During the Chicago Radio Parts show and the national convention of the Radio Parts Distributors Association, intense interest was developed among parts distributors present by a proposal made by Alex M. Hirsch, of Radio Television Supply Company, Los Angeles, Calif., designed to curb present price evils in radio parts distribution.*

*So enthusiastic did the parts jobbers become over this plan, that they adjourned their own meeting and held a joint session with the sales manager's group, at which Mr. Hirsch again outlined his views. No record was made of these discussions, but since returning home Mr. Hirsch has drafted for RADIO TODAY the following statement covering his remarks at Chicago.*

**By Alex M. Hirsch,  
Radio Television Supply Co.,  
Los Angeles, Cal.**

Nationally advertised radio parts are usually offered to the consumer on a price basis set by the manufacturer. The so-called "list price" is supposed to be used as the basic figure from which earnings are deducted for the various steps of distribution. The manufacturer who sets the list price and extends discounts against such list prices assumes the responsibility for the sincerity of his proposition.

However, in practice he also proves that the prescribed "list" is meaningless. It has become trade practice to extend to practically anyone who can claim for himself some sort of pretense, a discount of 40 per cent. The manufacturers know this and admit the existence of this fictitious list-price by sanctioning mail-order houses to quote net prices (list less 40 per cent) indiscriminately.

The radio parts manufacturer who has built up this system is also responsible for its breakdown. The service dealer who is supposed to be the recipient of this discount for his profit in the set-up of distribution is left wholly without compensation.

## **Parts jobber powerless**

The wholesaler who, in the present set-up of distribution, is in reality a glorified retailer, is often called to account for this awkward situation but of course he is powerless to reme-

edy a condition which is not of his making.

The so-called "wholesaler," too, has a serious grievance by reason of the discrimination practiced against the larger outlets in favor of the small concerns.

The so-called "wholesaler" whose annual volume does not exceed \$20,000, can conduct his business with an overhead expense ranging from 8 per cent to 12 per cent. Those whose volume does not exceed \$100,000, can operate on an overhead expense ranging from 12 per cent to 18 per cent. If you are fortunate enough to do in excess of \$250,000 annually, your overhead range is from 22 per cent to 28 per cent.

Although the handling expense of the larger business is an admitted saving to the manufacturer, none of the lower costs are passed on to the larger operators. On the other hand, the larger operator is ready prey for the "chiseler" who can underbid him by virtue of his lower overhead.

## **Lack qualifications**

The manufacturer's representative who, as a contact man is a decided factor in the chain of distribution, quite often gives preference to his own pocketbook instead of serving the purpose for which he was intended.

Many instances could be related where manufacturer's representatives have solicited and sold individuals who lacked qualifications, capital, and adequate territory to justify their existence as wholesalers.

Many facts could be related to justify reform of some sort or another.

The trade abuses before mentioned could be eliminated through the formation of a strong interwoven national association consisting of a membership of local associations, all of which would be governed under the same rules of procedure and code of ethics.

Self-imposed regulations should neither include price fixing or any thought which could be construed to be discriminating against any legitimate member of the trade.

The manufacturers' division should be open to any legitimate manufacturer. The wholesaler division should be open to any legitimate wholesaler, and the dealers' division to any legitimate service dealer.

To place all branches of the industry in agreement with an equitable code of ethics and procedure, local associations should certify to the legitimacy of its members and confine their trade exclusively to the members of the national association.

This cooperative element would provide the policing power so necessary.

At this time the plan is merely a suggestion and not as yet a presentation for adoption, for the success of such a plan depends principally on the good intentions of the radio parts manufacturers. They have, perhaps not been told before, although they may all know it, that if one solicits business on the basis of an extended discount which does not exist in fact, one is apt to be involved in an order which may begin with the phraseology "cease and desist."

## **DISCOUNTS GRANTED BUT NOT EARNED**

*Bu BLAKELY E. CROSS  
Adirondack Supply Co., Gloversville  
N. Y.*

*Treasurer National Radio Parts  
Distributors Association*

Probably the greatest evil in parts distribution at the present time is the granting of discounts to those not entitled to them by virtue of financial set-up, experience, or capability of rendering service.

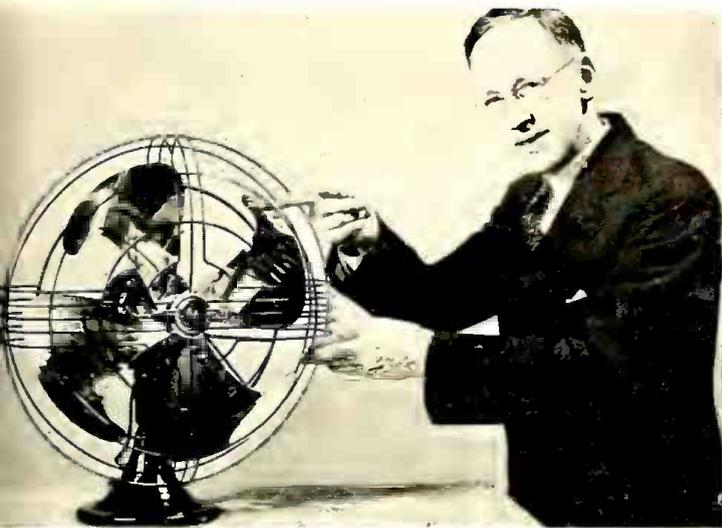
Thus the manufacturer (who is in many cases at the mercy of an insufficiently trained, or self-seeking representative, or who does it that way because he has the chiseling virus in his blood) often grants the jobbing discount to chain stores, large retailers, and those indiscriminate outlets which never could become distributors, but who use their larger margin for cut-price activity at the expense of their more ethical brethren.

The jobber in turn, be he mail-order house or the more conventional type of order-sifter, grants a discount to anyone who makes any claim at all to being a retailer. In many cases, no pretense at all of selecting customers is made, and all who appear with the requisite amount of cash or credit, may buy at wholesale prices. Some jobbers carry this thing not quite so far, but do sell at retail to retail cus-

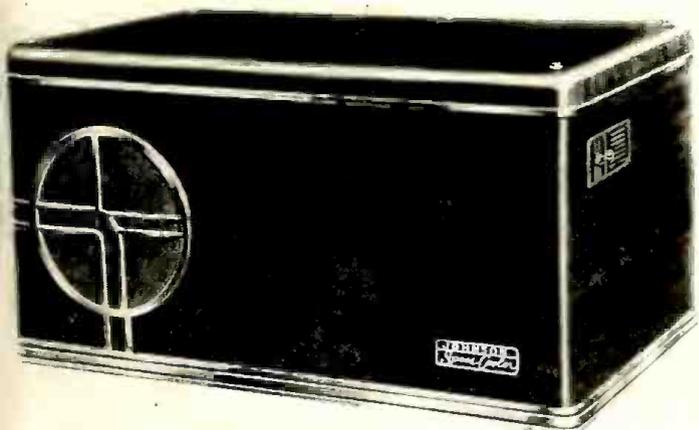
*(Continued on page 37)*



Demand for portable combinations is illustrated here by Ansley.



New, sales-designed fan blade, with GE engineer W. K. Skolfield.



"Heat relief" is the sales phrase for the Johnson Space Cooler.

Glide Shavers, brand new product of International Radio Corp.



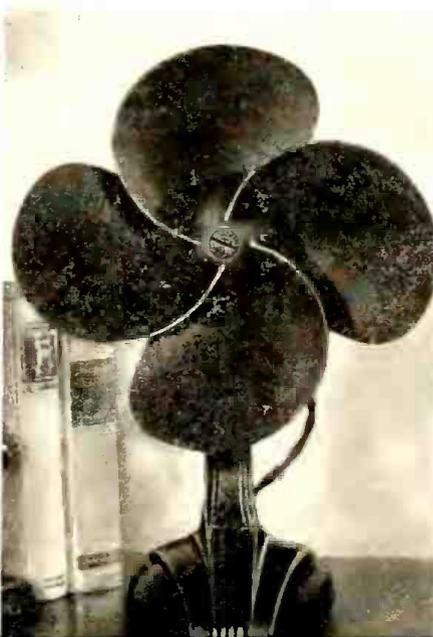
Improved home movies get the benefit of a Home Screen Contest this summer. Olivia DeHaviland of Warner Bros. is shown here with a new Univex. This company is introducing a new line of candid cameras at \$5.95 and \$7.50.

# SWELL FOR SUMMER

Extra lines for hot-weather profits

Smooth-running, smooth-selling Samson rubber-bladed Saflex electric fan.

The very name of "Koolroom" attracts prospects for conditioned air



## SOUND SPECIALIST SELLS SAFETY SERVICE

In Harrisburg, Pa., the public address experts Hite & Hite are keeping busy with their special "Advertone Sound and Movie Coach," which they have established as a dramatic means of selling safety to the public. The coach uses electrical transcriptions of actual auto accidents, displays big signs on the subject of highway safety and carries literature for distribution to crowds.

The coach is hired by various agencies interested in safety, by schools and by groups of dealers who like to be identified with the cause. It appears at parks and playgrounds, and at many types of outdoor events.

Equipment used in the coach is exceptional in that it includes movie projectors, a complete power plant, six different amplifiers and record-playing equipment. Rates charged by Hite & Hite range from \$25 per day up, depending upon the number of local sponsors.

## HUSH MONEY

★ Plant and office noises, many of which could be effectively deadened, cost American industry about \$2,000,000 per day in inefficient operation. Noise caused by telephones, typewriters, voices and machines adds as much as 10 per cent to the nation's payroll, according to figures presented by Celotex engineers.

With modern acoustical materials, noises ordinarily taken for granted as inevitable accompaniments of work, can be so quieted that they no longer cause excessive employee fatigue, nervous strain, and increased errors.

# Selling Sound

## More sales chances for outdoor public address

Actual tests made after installation of acoustical tile showed a 29 per cent reduction of typists' errors and a 52 per cent reduction in mistakes made by machine operators. "Sound-conditioning" resulted in an 8.8 per cent increase in production in the offices of the Aetna Life Insurance Company.

Because of such savings through greater efficiency acoustical treatment has in many cases paid for itself within twelve months, and after that it pays a yearly dividend in improved efficiency and operation.

## DECIBEL FANS ALSO MUST LEARN ABOUT "PHONS"

★ Now that everybody is beginning to get acquainted with the scientists' noise units of decibels, experts propose to start new units called phons, reports Dr. E. E. Free, consulting sound engineer, New York City.

Their reason is not any perverse desire to make things difficult, but is a natural peculiarity of human ears. The decibel units already familiar give the intensity of a sound in terms of physical energy, like the energy of electricity, heat or anything else. If human ears were as simple as the scientists would like, they would respond to this straightforward energy

scale and no noise units except decibels would be necessary. Real ears, however, have a complicated response according to which sounds having the same amount of energy but with different pitches or other characteristics do not always sound equally loud. To meet this situation an international congress of acoustic experts recently called in Paris adopted the second unit of the phon as measuring loudness heard by average human ears. Decibels still will be used to express a sound's intensity or physical energy. The phons will refer only to degrees of loudness and probably will be used to measure such things as city noises or the noises of machinery to be used in households. The old puzzle of whether a tree that falls in the primeval forest makes a sound now can be answered. It will produce the usual number of decibels, but if there is no one there to hear it there will be no phons.

## NO GROUP TOO SMALL—

A decision recently handed down by the Court of Errors and Appeals of the state of New Jersey has considerable significance for sound men. The opinion was that the use of a sound truck to announce the existence of a strike is permissible. The use of the word "scab" through the amplifiers was ruled out, but the sound equipment itself can still be an element in the situation.

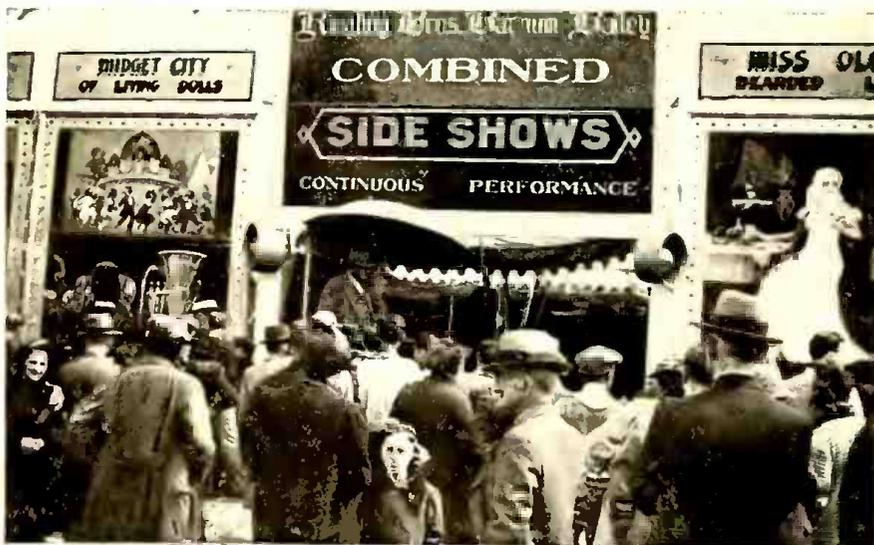
In these days of labor difficulties and lively activity on the part of various unions, the labor leaders may represent an important set of prospects for the owners of sound trucks.

## PA APPLICATIONS GALORE

Many new uses for sound equipment showed up during the recent tour of RCA's "Sound Pullman," the special railway car which went 7,000 miles and exhibited \$50,000 worth of sound products in 24 key cities.

Railway officials saw possibilities in the use of PA in railroad yards for signalling during heavy fogs. Educators and police heads decided that recording equipment had a big place in voice training and court work. Clergymen were interested in amplification of church chimes.

The stunt netted the sound industry a mass of publicity, as governors, mayors and assorted other celebrities visited the car. RCA Commercial Sound Section manager W. L. Rothengerger now believes the amplification business to be a well established, major source of profit for radio men.



When the circus rolls into town, alert PA men are on hand with a bill of goods. Soundman Kirk Fritz, Brooklyn, N. Y., did the job here with Atlas equipment.

ANDREA PRESENTS

# The Feature Phono-Radio Line

for **1939**

F. A. D. ANDREA re-enters the domestic radio field with a line of typical Andrea quality and America's most beautiful cabinets in table models and consoles.



MODEL 6-E-6: Phono-radio features Andrea type sloping dial. MODEL 4-E-6 console has top compartment where turntable and pick-up can be installed subsequently. AC or AC-DC models available. H. 34 1/2 ins., W. 24 ins., D. 17 ins.

A line that radio buyers will go for! It has everything! Marvelous tone quality, "Climate Sealed" construction, instantaneous, automatic Push-a-Button tuning . . . plus beauty and new convenience features that SELL THEMSELVES.

*Push-A-Button*  
AUTOMATIC *Tuning*  
Instantaneous and Trouble-free  
*Climate Sealed*

Tested from Equatorial Africa to the far North. Impervious to temperature changes, humidity and salt water dampness.

## THERE'S MORE MONEY IN RADIO WITH THE ANDREA LINE

"To produce a fine radio receiver is only part of the obligation of a manufacturer, as I see it. Equally important is the obligation to so conduct the business that it is profitable to jobber and dealer. Much of the success of my former company—F. A. D. ANDREA, INC.—while under my ownership and management, was due to my recognition of this vital principle. The same sound policies will prevail with Andrea Radio Corp. You'll find it literally true that 'There's more money in radio with the Andrea line'."

F. A. D. ANDREA

*Also a complete line of table models of which Model 2-E-6 below is typical.*



At right: MODEL 2-E-6: Most admired among all 1939 table models is this distinctive Andrea 6-tube, 3-band receiver available for AC or AC-DC. H. 10 3/4 ins., W. 17 1/4 ins., D. 9 3/4 ins.

Note Model 6-E-6 at left—moderately priced and greatly admired for its beauty. By clever designing, the radio controls and the dial, are kept conveniently high on cabinet. Available with or without turntable installed.

Model 8-E-11 at left—Andrea "Disappearing Turntable" is in a drawer in the front. No need to disturb anything on the top of the cabinet to use the phonograph. Simply open the drawer, put on the record and close the drawer. The radio controls are high on the cabinet in easy view—no bending over. Console has drawer for turntable, which can be installed at a later time as desired.

Model 10-E-11 Lowboy deluxe, automatic phono-radio with automatic record changer at left below, is unsurpassed as a musical instrument. In cabinet beauty and tone quality, it is the perfect answer for the purchaser who wants the very best that can be obtained.

At left: MODEL 8-E-11: Startling innovation! Phono-radio with "Andrea Disappearing Turntable"—beautiful, convenient, original—the feature combination of 1939. Available for AC or AC-DC. 8 or 11 tubes AC, 12 tubes AC-DC. H. 40 1/4 ins., W. 26 ins., D. 15 3/4 ins.

At left: MODEL 10-E-11 . . . automatic combination, with 11-tube AC chassis. Also available with 8-tube AC or 12-tube AC-DC chassis. "Talking Lights" on dial. 12 in. speaker with oversize field coil. H. 31 ins., W. 36 1/2 ins., D. 17 1/2 ins.

Jobbers and dealers, don't delay. Phone, wire or write for full details today. Address ANDREA RADIO CORP., 4820-48th Avenue, Woodside, Long Island, N. Y.

*Andrea Radio*

# SALES FEATURES AND SPECIFICATIONS OF THE 1938-39 SETS—Compiled by Radio Today

## Automatic Tuning

Model No.	List price	Cabinet		Wave-bands	Number tubes (RMA defn.)	Plug-in resistor %	Cond. in gang sections	Spkr. size & type	Watts audio power (Max.)	Power Supply and watts	Selectivity	Tone control	Visual tuning	Stations			Re-mote control	AVC	I.F. Peak	
		Style	Material											Type	Drift Comp.	No.				Adjust-ments
<b>Harris Mfg. Co., 2422 W. 7th St., Los Angeles, Calif.—"Harris Electone"</b> Specifications same as last year—please refer to Part II of the June 1937 issue.																				
<b>Halson Radio &amp; Television, Inc., Cambridge &amp; Tremont Sts., Meriden, Conn.—"Halson"</b>																				
A-5	\$15.00	MT	Fiberloam	B	4-0	1	2	4	2	45 AC-DC	Fixed	None	None	None	None	None	None	No	TRF	
B-5	17.50	MT	Wood	B	4-0	1	2	5	2	45 AC-DC	Fixed	None	None	None	None	None	No	TRF		
C-6	25.00	FT	Wood	B	5-GO	1	2	5	2	60 AC-DC	Fixed	None	None	None	None	None	Yes	456		
MS6	20.00	MT	Fiberloam	B	5-0	1	2	4	2	60 AC-DC	Fixed	None	None	None	None	None	Yes	456		
10	34.50	FT	Wood	B,S	5-G	1	2	6	2.2	60 AC-DC	Fixed	Step	CR#	Ct#	CC	6	2-R	No	Yes	
20	39.50	FT	Wood	B,S,S	6-G	None	2	6	3.4	65 AC	Fixed	Step	CR#	Ct#	CC	6	2-R	No	Yes	
30	49.50	FT	Wood	B,S,S	6-GO	1	2	6	2 1/2	80 AC-DC	Fixed	Step	CR#	Ct#	CC	6	2-R	No	Yes	
40	59.50	FT	Wood	B,S,S	8-GM	None	2	8	6	90 AC	Fixed	Step	CR#	Ct#	CC	6	2-R	No	Yes	
12B	49.50	CON	Wood	B,S	6-GO	1	2	8	2.2	65 AC-DC	Fixed	Step	CR#	Ct#	CC	6	2-R	No	Yes	
*Optional—not supplied with standard models unless requested.																				
<b>Howard Radio Co., 1735 Belmont St., Chicago, Ill.—"Howard"</b>																				
200	NS	MT	Metal	B	4-MO	None	2	3-EE	1 1/2	45 AC-DC	None	None	None	None	Mech	None	4	1-R	No	Yes
220	NS	MT	Metal	B	5-G	None	2	5-EE	2	50 AC	None	None	None	None	Mech	None	4	1-R	No	Yes
270	NS	FT	Wood	B	5-G	None	2	6 1/2-EE	2	50 AC	None	Var	None	Mech	None	4	1-R	No	Yes	
375	NS	FT	Wood	B,P,S	7-OM	None	2	6 1/2-EE	4 1/2	65 AC	None	Var	CR	It	None	6	1-F	No	Yes	
468	NS	FT	Wood	B,P,S	7-OM	None	3	8-EE	4 1/2	70 AC	None	Var	CR	It	None	6	1-F	No	Yes	
318D	NS	CON	Wood	B,P,S	7-OM	None	3	12-EE	4 1/2	70 AC	None	Var	CR	It	None	6	1-F	No	Yes	
418	NS	CON	Wood	B,P,S	11-OM	None	3	12-EE	9	95 AC	None	Var	CR	It	None	6	1-F	No	Yes	
325D	NS	CON	Wood	B,P,S	7-OM	None	3	12-EE	4 1/2	70 AC	None	Var	CR	It	None	6	1-F	No	Yes	
525	NS	CON	Wood	B,P,S	12-OM	None	3	15-EE	15	105 AC	None	Var	CR	It	None	6	1-F	No	Yes	
480	NS	CON	Wood	B,P,S,U	17	None	3	15-PM	15	180 AC	None	Var	Meter	None	None	None	None	Yes	465 (1560)	
450A	NS	FT	Metal	B,P,S,U	12-OM	None	3	8-PM	9 1/2	120 AC	None	Var	Meter	None	None	None	None	Yes	465 (1560)	
440	NS	FT	Metal	B,P,S,U	9-OM	None	3	8-PM	4 1/2	95 AC	None	Var	Meter	None	None	None	None	Yes	465	
430	NS	FT	Metal	B,P,S,U	6-OM	None	2	6-EE	2	60 AC	None	None	Meter	None	None	None	None	Yes	465	
<b>International Radio Corp., Ann Arbor, Mich. Information not available up to July 15. See August issue of RADIO TODAY.</b>																				
<b>Laurehk Radio Mfg. Co., E. Michigan St., Adrian, Mich.—"Laurehk", "Laurette", "Musique"</b>																				
L-500	\$155.00	CON	Wood	B,P,S,U,W	12-MO	None	3	12-EE	15	AC	Var	Var	CR	It	None	7	3-R	No	Yes	
L-409	129.50	CON	Wood	B,P,S,U	9-MO	None	3	12-EE	8 1/2	AC	Var	Var	CR	None	None	7	3-R	No	Yes	
<b>Noblitt-Sparks Industries, Columbus, Ind.—"Arvin"</b>																				
58	\$16.95	FT	Plastic	B	5-OM	1	2	5-EE	2	40 AC-DC	Fixed	None	None	None	None	None	None	Yes	455	
58A	19.95	FT	Plastic	B	5-OM	1	2	5-EE	2	40 AC-DC	Fixed	None	None	None	None	None	None	Yes	455	
68	24.95	FT	Plastic	B	5-OM	None	2	5-EE	2 1/2	40 AC	Fixed	Step	None	Ct	Yes	6	2-F	No	Yes	
78	29.95	FT	Wood	B	5-OM	None	2	5-EE	2 1/2	40 AC	Fixed	Step	None	Mech	None	6	1-F	No	Yes	
88	39.95	PC-T	Wood	B	5-OM	1	2	6-EE	2 1/2	40 AC-DC	Fixed	None	None	None	None	None	None	Yes	455	
518	18.95	T	Wood	B,P	5-G	None	2	5-EE	3 1/2	60 AC	Fixed	Step	None	None	None	None	None	Yes	455	
618	29.95	FT	Wood	B,S	6-0	None	2	6-EE	3 1/2	70 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
628CS	54.95	CS	Wood	B,S	6-0	None	2	8-EE	3 1/2	70 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
638CS	49.95	CS	Wood	B,S	6-0	None	2	8-EE	3 1/2	70 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
628	44.95	CON	Wood	B,S	6-0	None	2	8-EE	3 1/2	70 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
638	49.95	CON	Wood	B,S	6-0	None	2	8-EE	3 1/2	70 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
818	49.95	FT	Wood	B,P,S	8-0	None	2	8-EE	5	90 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
828A	69.95	CON	Wood	B,P,S	8-0	None	2	10-EE	5	90 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
838CS	69.95	CS	Wood	B,P,S	8-0	None	2	10-EE	5	90 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
848CS	99.95	PC-CS	Wood	B,P,S	8-0	None	2	10-EE	5	90 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
828AT	74.95	CON	Wood	B,P,S	8-0	None	2	10-EE	5	90 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
838AT	79.95	CON	Wood	B,P,S	8-0	None	2	12-EE	5	90 AC	Fixed	Var	CR	None	None	None	None	Yes	455	
528CS	29.95	CS	Wood	B,P	5-G	None	2	6-EE	3 1/2	60 AC	Fixed	Step	None	None	None	None	None	Yes	455	
1237D	89.95	CON	Wood	B,P,S	12-0	None	3	12-EE	16	175 AC	Fixed	Var	CR	Ct	AFC	6	3-R	No	Yes	
1247D	119.50	CON	Wood	B,P,S	12-0	None	3	Two 8-EE	16	175 AC	Fixed	Var	CR	Ct	AFC	6	3-R	No	Yes	
1247A	129.50	CON	Wood	B,P,S	12-0	None	3	8-EE	16	175 AC	Fixed	Var	CR	Ct	AFC	6	3-R	No	Yes	
1247X	99.95	CON	Wood	B,P,S	12-0	None	3	8-EE	16	175 AC	Fixed	Var	CR	None	AFC	None	None	Yes	455	
1237X	79.95	CON	Wood	B,P,S	12-0	None	3	12-EE	16	175 AC	Fixed	Var	CR	None	AFC	None	None	Yes	455	
1427	139.50	CON	Wood	B,P,S	14-0	None	3	12-EE	30	240 AC	Fixed	Var	CR	Ct	AFC	10	3-R	No	Yes	
<b>Pacific Radio Corp., 5016 S. Main St., Los Angeles, Calif.—"Pacific Crusader"</b>																				
37	\$22.95	FT	Wood	B,P	5-G	None	2	5-EE	3	38 AC	Fixed	Step	None	None	None	None	None	Yes	456	
37A	29.95	FT	Wood	B,P	5-G	None	2	5-EE	3	38 AC	Fixed	Step	None	Ct	None	6	2-R	No	Yes	
37T	31.95	CS	Wood	B,P	5-G	None	2	5-EE	3	38 AC	Fixed	Step	None	None	None	None	None	Yes	456	
37AT	39.95	CS	Wood	B,P	4-0G	None	2	5-EE	3	38 AC	Fixed	Step	None	Ct	None	6	2-R	No	Yes	
18	10.95	MT	Wood	B	5-G	None	2	3-EE	1 1/2	26 AC	Fixed	None	None	None	None	None	None	No	TRF	
28	19.95	FT	Wood	B	6-G	None	2	5-EE	3	35 AC	Fixed	Step	None	None	None	None	None	Yes	456	
57	31.95	FT	Wood	B,P,S	6-G	None	2	6-EE	3	42 AC	Fixed	Step	CR	None	None	None	None	Yes	456	
57T	49.95	CS	Wood	B,P,S	6-G	None	2	6-EE	3	42 AC	Fixed	Step	CR	None	None	None	None	Yes	456	
57C	55.00	CON	Wood	B,P,S	6-G	None	2	8-EE	3	42 AC	Fixed	Step	CR	None	None	None	None	Yes	456	
57X	55.00	CON	Wood	B,P,S	6-G	None	2	12-EE	3	42 AC	Fixed	Step	CR	None	None	None	None	Yes	456	
57A	39.95	FT	Wood	B,P,S	6-G	None	2	6-EE	3	42 AC	Fixed	Step	CR	Ct	None	6	2-R	None	Yes	
57AN	64.95	CON	Wood	B,P,S	7-GO	None	2	12-EE	3	50 AC	Fixed	Step	CR	None	None	None	None	Yes	456	
27	12.95	FT	Wood	B	4-G	1	2	5-EE	3	42 AC-DC	Fixed	None	None	None	None	None	None	No	TRF	
37P	49.95	PC-T	Wood	B,P	5-G	None	2	5-EE	3	38 AC	Fixed	Step	None	None	None	None	None	Yes	456	
57P	59.95	PC-T	Wood	B,P,S	6-G	None	2	6-EE	3	42 AC	Fixed	Step	CR	None	None	None	None	Yes	456	
<b>Philco Radio &amp; Television Corp., Tioga &amp; C Sts., Philadelphia, Pa.—"Philco"</b>																				
39-12	\$20.00	T	Plastic	B	5-0	None	2	5-EE	NS	40 AC	Fixed	None	None	None	None	None	None	Yes	470	
39-14	25.00	T	Plastic	B,S	5-0	None	2	5-EE	NS	55 AC-DC	Fixed	None	None	None	None	None	None	Yes	470	
39-15	25.00	T	Plastic	B,S	5-0	None	2	5-EE	NS	40 AC	Fixed	None	None	None	None	None	None	Yes	470	
39-17	39.95	CON	Wood	B	5-0	None	2	8-EE	NS	40 AC	Fixed	None	None	Mech	NS	6	1-F	No	Yes	
39-17	29.95	T	Wood	B	5-0	None	2	5-EE	NS	40 AC	Fixed	None	None	Mech	NS	6	1-F	No	Yes	
39-18	39.95	CON	Wood	B	5-0	1	2	8-EE	NS	55 AC-DC	Fixed	None	None	Mech	NS	6	1-F	No	Yes	
39-18	29.95	T	Wood	B	5-0	1	2	5-EE	NS	55 AC-DC	Fixed	None	None	Mech	NS	6	1-F	No	Yes	
39-19	49.95	CON	Wood	B,S	5-0	None	2	8-EE	NS	40 AC	Fixed	None	None	Mech	NS	6	1-F</			

# CROSLLEY

releases the 2nd sensation  
of their startling 1939 radio line

**6 WORKING  
TUBES**

**BROADCAST  
AND SHORTWAVE  
AC RECEIVER  
KNOB TUNING, TOO**

**5 PUSH  
BUTTONS  
(PRESTOTUNE)**

**The "SIXER"  
SUPERHETERODYNE  
ONLY \$19.99**

## CROSLLEY RADIO PLANS for 1939 EXCITE INDUSTRY

The "Vanity", a Crosley push-button radio at \$9.99 is already proving a startling sales maker, as indicated in dealers orders and re-orders and the rush at the factory. Accurate tuning—both push button and knob; beautiful brown moulded cabinet—excellent tone.

**THE  
VANITY  
\$9.99**



The "Vanity de Luxe" in old ivory plaskon moulded cabinet—4 working tubes including beam power tube is another "best seller" at \$12.99.

Magnificent! This will be your comment when you hook up this newly designed radio for trial—when you find the positive clear cut action of the push button tuning—when you explore the easy tuning of the knob control—when you hear the fine tone so free from distortion—when you discover the amazing true volume the set delivers. We had a sensation in the "FIVER" at this price. We present a SMASH HIT in this "SIXER" AC Superheterodyne broadcast and shortwave—5" dynamic speaker in a moulded cabinet of great beauty and acoustic excellence.

*Prices slightly higher in South and West.*

**Don't Wait! Act Now!** Be early to show  
and you'll be first to sell. Send us the coupon.  
Be first with this sure profit maker of 1939.

The Crosley Radio Corporation  
Cincinnati, Ohio.

I am mailing this coupon as the quickest way to see—  
to hear—and to know the new "SIXER". Please  
have the distributor's salesman call on me PRONTO!

RT-738

Name .....

Address .....

City .....

State .....

**THE CROSLLEY RADIO CORPORATION**

POWEL CROSLLEY, Jr., President

CINCINNATI

Home of "The Nation's Station"—WLW-70 on your dial

# SALES FEATURES AND SPECIFICATIONS OF THE 1938-39 SETS—Compiled by Radio Today

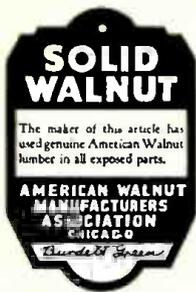
Model No.	List price	Cabinet		Wave-bands	Number tubes (RMA defn.)	Plug-in resistor %	Cond. in gang sections	Spkr. size & type	Watts audio power (Max.)	Power Supply and watts	Selectivity	Tone control	Visual tuning Type	Stations		Remote control	i.F. Peak			
		Style	Material											Drift	Adjustments					
<b>Pierce Airo, Inc.—Continued</b>																				
645	26.50	T	Wood	B.S	5-GO	1	2	5-EE	2 1/4	48 AC-DC	Fixed	None	None	None	CC	6	2-R	No	Yes	456
701	32.95	T	Wood	B	5-GO	2	2	5-EE	2 1/4	50 AC-DC	Fixed	Step	None	CC	6	2-R	No	Yes	456	
648	32.95	T	Wood	B.S	6-GO	1	2	6 1/2-EE	2 1/4	50 AC-DC	Fixed	Var	None	Mech	None	6	6-F	No	Yes	456
650	34.95	T	Wood	B.S.S	6-GO	1	2	6 1/2-EE	2 1/4	50 AC-DC	Fixed	Var	None	Mech	None	6	6-F	No	Yes	456
652	36.50	T	Wood	B.S.S	5-GO	1	2	5-EE	2 1/4	48 AC-DC	Fixed	Var	None	None	None	None	None	None	Yes	456
1104	65.50	Chassis only	Wood	B.P.S	9-MO	2	3	10-EE	6	90 AC-DC	Fixed	Var	CR	None	None	None	None	Yes	456	
1105	77.95	VT	Wood	B.P.S,W	9-MO	2	3	10-EE	6	90 AC-DC	Fixed	Var	CR	None	None	None	None	Yes	456	
529	26.50	T	Wood	B	5-G	None	2	5-EE	2	42 AC	Fixed	None	None	None	None	None	None	None	Yes	456
649	34.95	T	Wood	B.S	6-GO	None	2	6 1/2-EE	2	45 AC	Fixed	Var	None	Mech	None	6	1-F	No	Yes	456
651	36.95	T	Wood	B.S.S	6-GO	None	2	6 1/2-EE	2	45 AC	Fixed	Var	None	Mech	None	6	1-F	No	Yes	456
1002	65.50	Chassis only	Wood	B.P.S	10-MG	None	3	10-EE	15	85 AC	Fixed	Var	CR	None	None	None	None	Yes	456	
1002B	77.95	VT	Wood	B.P.S	10-MG	None	3	10-EE	15	85 AC	Fixed	Var	CR	None	None	None	None	Yes	456	
1003B	81.95	VT	Wood	B.P.S,W	10-MG	None	3	10-EE	15	85 AC	Fixed	Var	CR	None	None	None	None	Yes	456	
531	39.95	PC-T	Wood	B	4-GO	1	2	5-EE	2	58 AC	Fixed	None	None	None	None	None	None	No	TRF	
532	49.95	PC-T	Wood	B	6-GO	2	2	5-EE	2	65 AC-DC	Fixed	None	None	None	None	None	None	No	TRF	
536	42.50	PC-T	Wood	B	4-GO	1	2	5-EE	2	58 AC	Fixed	None	None	None	None	None	None	No	456	
537	52.50	PC-T	Wood	B	4-GO	1	2	5-EE	2	69 AC DC	Fixed	None	None	None	None	None	None	No	456	
808C	61.50	CON	Wood	B, S <sub>1</sub>	7-GO	1	2	14-EE	2 1/2	50 AC	Fixed	Step	CR	Mech	None	6	2-R	No	Yes	456
1200C	59.95	CON	Wood	B, S <sub>1</sub>	8-GO	4	2	14-EE	2 1/2	50 AC-DC	Fixed	Var	CR	None	None	None	None	Yes	456	
1300C	61.50	CON	Wood	B, S <sub>1</sub>	9-GO	4	2	14-EE	2 1/2	50 AC-DC	Fixed	Var	CR	None	None	None	None	Yes	456	
643	36.95	FT	Wood	B.S	6-GO	None	2	6 1/2-EE	5	65 AC	Fixed	None	CR	None	None	None	None	Yes	456	
642	36.50	FT	Wood	B.S	6-GO	1	2	6 1/2-EE	2 1/4	50 AC-DC	Fixed	None	CR	None	None	None	None	Yes	456	
637	36.50	FT	Wood	B.S	6-GO	1	2	6 1/2-EE	2 1/4	50 AC-DC	Fixed	None	CR	None	None	None	None	Yes	456	
636	36.95	FT	Wood	B.S	6-GO	None	2	6 1/2-EE	5	65 AC	Fixed	None	CR	None	None	None	None	Yes	456	
<b>Pierson-De Lane, Inc., 2345 W. Washington Blvd., Los Angeles, Calif.—"Pierson-De Lane"</b>																				
PD-88	\$155.00	CON	Wood	B	8-MO	None	None	12-EE	8	95 AC	Fixed	Var	None	C&I	CC	20	3-R	No	Yes	465
PR-15M	222.50	FT	Metal	B.P.S,U	15-MO	None	4	12-EE	12	125 AC	Fixed	Var	Meter	None	None	None	None	Yes	465	
PR-15R	222.50	FT	Metal	B.P.S,U	15-MO	None	4	12-EE	12	125 AC	Fixed	Var	Meter	None	None	None	None	Yes	465	
PR-15X	222.50	Chassis only	Wood	B.P.S,U	15-MO	None	4	12-EE	12	125 AC	Fixed	Var	Meter	None	None	None	None	Yes	465	
PR-15C	335.00	CON	Wood	B.P.S,U	15-MO	None	4	12-EE	24	150 AC	Fixed	Var	Meter	None	None	None	None	Yes	465	
PR-15UH	143.50	FT	Metal	U	14-MO	None	4	12-EE	12	125 AC	Fixed	Var	Meter	None	None	None	None	Yes	465	
<b>Pilot Radio Corp., 37-06 36th St., Long Island City, N. Y.—"Pilot Radio"</b>																				
WH-141	\$19.90	VT	Plastic	B	4-GO	1	2	5-EE	2	AC-DC	Fixed	Step	None	None	None	None	None	None	No	455
TH-151	26.50	FT	Wood	B	5-GM	1	2	5-EE	2 1/2	AC-DC	Fixed	Step	None	None	None	None	None	Yes	455	
TH-651	26.54	FT	Wood	B	5-G	None	2	5-EE	3 1/2	AC	Fixed	Step	None	None	None	None	None	Yes	455	
TG-462	32.90	FT	Wood	B.S	5-GM	1	2	5-EE	2 1/2	AC-DC	Fixed	Step	None	None	None	None	None	Yes	455	
WG-352	37.50	FT	Plastic	B.S	5-GM	1	2	5-EE	2 1/2	AC-DC	Fixed	Step	None	None	None	None	None	Yes	455	
VG-352	42.50	FT	Plastic	B.S	5-GM	1	2	5-EE	2 1/2	AC-DC	Fixed	Step	None	None	None	None	None	Yes	455	
TH-372	42.50	FT	Wood	B.S	NS	1	2	6-EE	2 1/2	AC-DC	Fixed	Step	CR	None	None	None	None	Yes	455	
TH-762	42.50	FT	Wood	B.S	NS	None	2	6-EE	3 1/2	AC	Fixed	Step	CR	None	None	None	None	Yes	455	
TH-454	56.50	FT	Wood	B.S,S	5-MO	1	2	8-EE	2 1/2	AC-DC	Fixed	Var	None	None	None	None	None	Yes	455	
TH-554	56.50	FT	Wood	B.S,S	5-MO	None	2	8-EE	5	AC	Fixed	Var	None	None	None	None	None	Yes	455	
TH-474	66.50	FT	Wood	B.S,S	6-MO	1	2	8-EE	2 1/2	AC-DC	Fixed	Var	CR	Mech	Yes	8	1-F	No	Yes	455
TH-664	66.50	FT	Wood	B.S,S	6-MO	None	2	8-EE	5	AC	Fixed	Var	CR	Mech	Yes	8	1-F	No	Yes	455
TG-184	67.50	FT	Wood	B.P,S	7-MO	1	3	8-EE	2 1/2	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
XG-184	67.50	FT	Wood	B.P,S	7-MO	1	3	8-EE	2 1/2	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
TG-584	69.50	VT	Wood	B.P,S	8-O	None	2	8	6	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
TG-674	69.50	FT	Wood	B.P,S	7-MO	None	3	8	4	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
XG-674	69.50	VT	Wood	B.P,S	7-MO	None	3	8	4	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
TH-484	79.50	FT	Wood	B.S,S	7-MO	1	3	8	2	AC-DC	Fixed	Var	CR	Mech	Yes	8	1-F	No	Yes	455
TH-874	79.50	FT	Wood	B.S,S	7-MO	None	3	8	5.8	AC	Fixed	Var	CR	Mech	Yes	8	1-F	No	Yes	455
HX-304	99.50	FT	Wood	B.P,S	11-M	1	3	10	6	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
TG-508	104.50	FT	Wood	B.P,S,U	10-MO	None	3	10	10	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
TH-594	112.50	FT	Wood	B.S,S	9-MO	None	3	8	5.8	AC	Fixed	Var	CR	Motor	AFC	12	1-F	No	Yes	455
TG-528	129.50	VT	Wood	B.P,S,U	12-M	None	3	10-EE	14	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
CG-184	94.50	CON	Wood	B.P,S	7-MO	1	3	12-EE	2 1/2	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
CG-674	99.90	CON	Wood	B.P,S	7-MO	None	3	12-EE	4	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
CX-304	129.50	CON	Wood	B.P,S	11-M	1	3	12-EE	6	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
CG-508	149.50	CON	Wood	B.P,S,U	10-MO	None	3	12-EE	10	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
CH-594	159.50	CON	Wood	B.S,S	9-MO	None	3	12-EE	5.8	AC	Fixed	Var	CR	Motor	AFC	12	1-F	No	Yes	455
CG-528	169.50	CON	Wood	B.P,S,U	12-M	None	3	12-EE	14	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
TP-423	99.50	PC-T	Wood	B.P,S	6-MO	1	3	6-EE	2 1/2	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
PH-474	149.50	PC-C	Wood	B.S,S	6-MO	1	2	12-EE	2	AC-DC	Fixed	Var	CR	Mech	Yes	8	1-F	No	Yes	455
PH-664	149.50	PC-C	Wood	B.S,S	6-MO	None	2	12-EE	5	AC	Fixed	Var	CR	Mech	Yes	8	1-F	No	Yes	455
OG-184	149.50	PC-C	Wood	B.P,S	7-MO	1	3	12-EE	2 1/2	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
OG-674	149.50	PC-C	Wood	B.P,S	7-MO	None	3	12-EE	4	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
OG-584	149.50	PC-C	Wood	B.P,S	8-O	None	2	12-EE	6	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
RG-184	\$169.50	PC-C	Wood	B.P,S	8-O	None	2	12-EE	6	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
RG-674	169.50	PC-C	Wood	B.P,S	7-MO	1	3	12-EE	2 1/2	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
PH-484	169.50	PC-C	Wood	B.S,S	7-MO	None	3	12-EE	4	AC	Fixed	Var	CR	None	None	None	None	Yes	455	
PH-874	169.50	PC-C	Wood	B.S,S	7-MO	None	3	12-EE	5.8	AC-DC	Fixed	Var	CR	Mech	Yes	8	1-F	No	Yes	455
QX-304	194.50	PC-C	Wood	B.P,S	11-M	1	3	12-EE	6	AC-DC	Fixed	Var	CR	None	None	None	None	Yes	455	
SG-184	239.50	PCA-C	Wood	B.P,S	7-MO	1	3	12-EE	2 1/2	AC-DC	Fixed	Var	CR							



# Motorola 1939

## SOLID WALNUT CABINETS

### Set New Radio Style Trend



★ Each Cabinet Carries Approval Seal of American Walnut Manufacturers Association

Motorola "Top" Tuning Models are housed in distinctively beautiful genuine Solid Walnut cabinets that will stand out in your store. Rich, hand-rubbed mirror lustre finish. Each carries the seal of the American Walnut Manufacturers Association. Your women customers will "go for" this new table model styling.

#### Crowded With Demonstrable Features

- ★ ALL 1939 MOTOROLA TABLE MODELS ARE SUPERHETERODYNES.
- ★ "TOP" TUNING—No knobs on front or sides. Tune with a touch of the fingertip.
- ★ FULL RANGE PUSH BUTTONS—Special automatic unit far superior to cheap induction or trimmer tuned types. You can set any button for any station anywhere across entire broadcast band. All Push Buttons set with one screw.
- ★ QUALITY BUILT THROUGHOUT—In line with Motorola's tradition of high quality manufacture, automatically tuned sets are stabilized by using heat-treated trimmers and temperature compensation to overcome drift.
- ★ TABLE MODELS LOW AS \$14.95 F. O. B. CHICAGO.

Wire, Write or Phone for Your Samples

GALVIN MANUFACTURING CORPORATION • CHICAGO

LOOK FOR  
THE 1939  
"SURPRISE"  
CONSOLES  
Ready Soon



# Mr. Radio Dealer, — HERE IS THE

**TABLE MODELS**  
IN THE POPULAR  
HORIZONTAL STYLE

PRICED FROM ... **\$39.95** F. O. B. FACTORY

**STANDARD CONSOLES**  
FULL SIZE AND PERFORMANCE

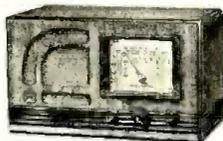
PRICED FROM ... **\$79.95** F. O. B. FACTORY



No. 324-S



No. 325-N



No. 320-H



No. 325-J



No. 337-H



No. 340-H

It *strengthens* Stromberg-Carlson's already dominant position in the price range above \$150—the real profit range of radio—with a line full of "selling-up" features. It *storms* the \$100 to \$150 big volume profit range with authentic Period Styles and Labyrinth Models from \$119.50\*. It *invades* the volume range—under \$100—with Stromberg-Carlson Table Models from \$39.95\* and Consoles from \$79.95\*.

It *multiplies* sales possibilities in the highly profitable combination and chair-side market with popular priced Radio Phonographs and new style "Chairsides." It's a line that puts a dealer back into money making in his radio department. Mail coupon for information regarding franchise.

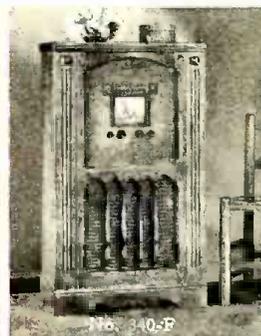
\*F. O. B. Factory  
STROMBERG-CARLSON TELEPHONE MFG. CO.  
ROCHESTER, N. Y.



No. 340-V



No. 321-S



No. 340-F



No. 231-F

*There Is Nothing Finer than a*

# Stromberg

# LINE YOU ASKED FOR!

**LABYRINTH  
MODELS**

**RADIO'S GREATEST  
TONAL ADVANCE**

PRICED  
FROM ... **\$119.50**  
F. O. B.  
FACTORY

**AUTHENTIC  
DESIGNS**

**GIVING STYLE  
NEW TO RADIO**

PRICED FROM  
**\$99.50**  
F. O. B.  
FACTORY

**EAR-LEVEL  
PROJECTION**

**MADE POSSIBLE BY  
THE EXCLUSIVE**

**LABYRINTH**



No. 335-L



No. 337-L



No. 340-M



No. 345-M



No. 350-M



No. 336-P



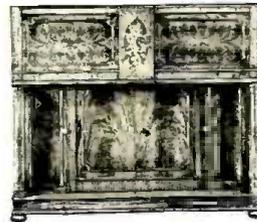
No. 340-P



No. 341-P



No. 350-P



No. 260-P



No. 343-P



No. 350-V



No. 360-V



No. 360-M



No. 370-M

**- Carlson**

Stromberg-Carlson Telephone Mfg. Co., 175 Carlson Rd, Rochester, N. Y.  
Send information on new line and franchise.

Name \_\_\_\_\_

Address \_\_\_\_\_

# SALES FEATURES AND SPECIFICATIONS OF THE 1938-39 SETS—Compiled by Radio Today

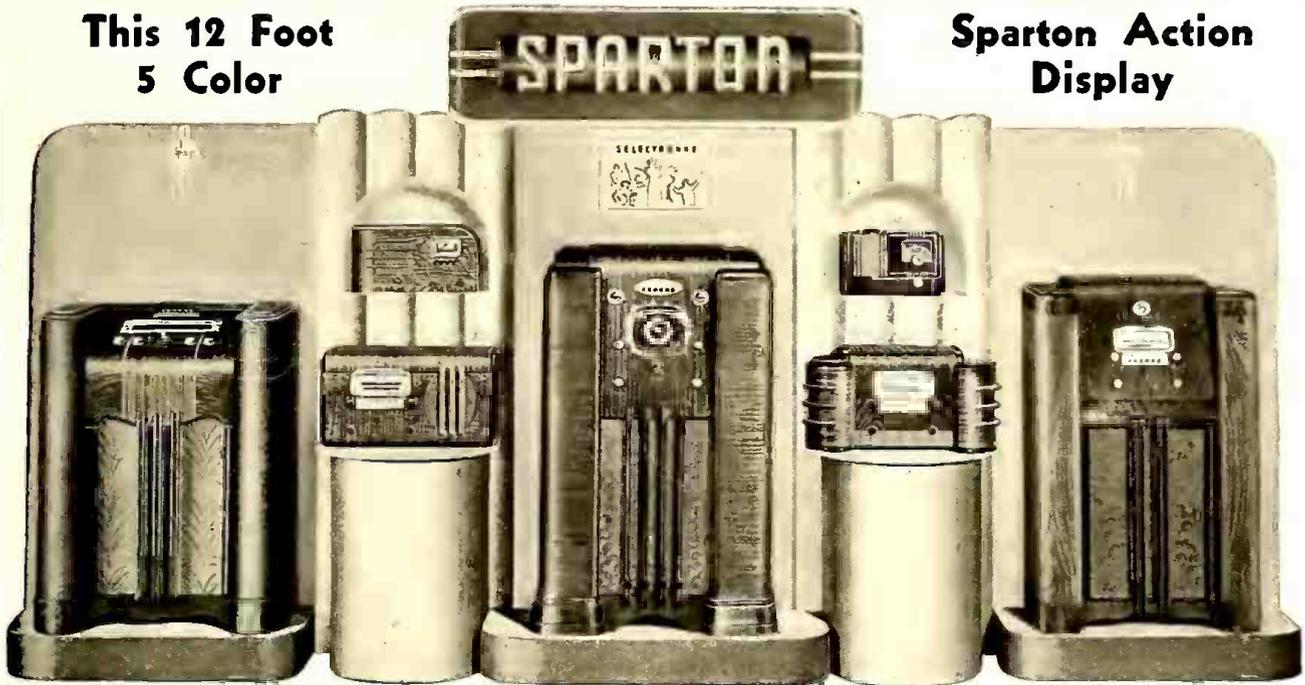
## Automatic Tuning

Model No.	List price	Cabinet		Wave-bands	Number tubes (RMA defn.)	Plug-in resistor	Cond. gang %	Spkr. size & type	Watts audio power (Max.)	Power Supply and watts	Selectivity	Tone control	Visual tuning	Stations			Re-mote control AVC	I.F. Peak		
		Style	Material											Type	Drift Comp.	No.			Adjust-ments	
<b>RCA Mfg. Co., Inc.—Continued</b>																				
97T	59.95	FT	Wood	B,S <sub>1</sub> S	7-M	None	2	6-EE	4	80 AC	Fixed	Var	CR	C&I	CC	6	2-R	No	Yes	455
96T3	49.95	FT	Wood	B,S <sub>1</sub> S	6-M	None	2	6-EE	4	75 AC	Fixed	Var	CR	C&I	CC	6	2-R	No	Yes	455
96T2	39.95	FT	Wood	B,S	6-M	None	2	6-EE	4	75 AC	Fixed	Var	CR	C&I	CC	6	2-R	No	Yes	455
96T1	34.95	FT	Wood	B	6-MO	None	2	5-EE	4	75 AC	Fixed	Var	CR	C&I	CC	5	2-R	No	Yes	455
96T	29.95	FT	Wood	B	6-MO	None	2	5-EE	4	75 AC	Fixed	Var	CR	C&I	CC	5	2-R	No	Yes	455
95T5	24.95	FT	Wood	B	5-OM	None	2	5-EE	1½	50 AC	Fixed	None	None	C&I	CC	5	2-R	No	Yes	455
95T1	NS	FT	Wood	B	5-OM	None	2	5-EE	1½	50 AC	Fixed	None	None	None	CC	5	2-R	No	Yes	455
98X	59.95	FT	Wood	B,S <sub>1</sub> S	7-M	1	2	8-PM	2½	55 AC-DC	Fixed	Var	CR	C&I	CC	6	2-R	No	Yes	455
97X	NS	FT	Wood	B	6-MO	1	2	5-EE	1½	50 AC-DC	Fixed	Var	None	C&I	CC	5	2-R	No	Yes	455
95X1	NS	FT	Wood	B	4-MO	1	2	5-EE	1½	50 AC-DC	Fixed	None	None	CT	None	5	2-B	No	No	TRF
95X	NS	FT	Wood	B	4-MO	1	2	5-EE	1½	50 AC-DC	Fixed	None	None	None	CC	5	2-R	No	No	TRF
9X	NS	MT	Wood	B	4-MO	None	2	3-EE	1½	50 AC-DC	Fixed	None	None	None	CC	5	2-R	No	No	TRF
U134	355.00	PC-C	Wood	B,P,S	16-M	None	3	12-EE	24	205 AC	Var	Step	CR	Motor	AFC-CC	8	1-R	Opt	Yes	455
U132	280.00	PC-C	Wood	B,P,S	14-M	None	3	12-EE	12	160 AC	Var	Step	CR	Motor	AFC-CC	8	1-R	Opt	Yes	455
U130	230.00	PC-C	Wood	B,P,S	12-M	None	3	12-EE	12	150 AC	Var	Step	CR	Motor	AFC-CC	8	1-R	Opt	Yes	455
U128	185.00	PC-C	Wood	B,S <sub>1</sub> S	10-M	None	3	12-EE	12	145 AC	Fixed	Var	CR	Motor	CC	8	1-R	Opt	Yes	455
U126	155.00	PC-C	Wood	B,S <sub>1</sub> S	10-M	None	3	12-EE	12	145 AC	Fixed	Var	CR	Motor	CC	8	1-R	Opt	Yes	455
U124	99.95	PC-C	Wood	B,S <sub>1</sub> S	6-M	None	2	12-EE	4½	105 AC	Fixed	Var	None	C&I	CC	6	2-R	No	Yes	455
U122E	99.95	PC-CS	Wood	B,S <sub>1</sub> S	6-M	None	2	8-EE	4½	105 AC	Fixed	Var	None	C&I	CC	6	2-R	No	Yes	455
U119	79.95	PC-T	Wood	B,S <sub>1</sub> S	6-M	None	2	6-EE	4½	105 AC	Fixed	Var	None	C&I	CC	6	2-R	No	Yes	455
U111	39.95	PC-T	Wood	B	5-OM	None	2	5-EE	4	80 AC	Fixed	Step	None	None	CC	6	2-R	No	Yes	455
<b>Sentinel Radio Corp., 2222 Diversey Pky., Chicago, Ill.—“Sentinel”</b>																				
137UT	\$15.00	MT	Plastic	B	5-M incl. resistor	2	2	3½-EE	2	45 AC-DC	Fixed	None	None	None	None	4	1-F	No	Yes	455
124AT	19.95	FT	Plastic	B	5-G	None	2	5-EE	2½	30 AC	Fixed	None	None	None	None	4	1-F	No	Yes	455
124AA	39.95	CS	Wood	B	5-G	None	2	8-EE	2½	30 AC	Fixed	None	None	None	None	4	1-F	No	Yes	455
124ACT	39.95	CON	Wood	B	5-G	None	2	8-EE	2½	30 AC	Fixed	None	None	None	None	4	1-F	No	Yes	455
125ATE	NS	FT	Wood	B,S	6-GM	None	2	6-EE	3½	50 AC	Fixed	Var	CR	It	None	5	1-F	No	Yes	455
125ACE	NS	CON	Wood	B,S	6-GM	None	2	8-EE	3½	50 AC	Fixed	Var	CR	It	None	5	1-F	No	Yes	455
<b>McMurdo Silver Corp., 2900 S. Michigan Ave., Chicago, Ill.—“McMurdo Silver,” “Masterpiece,” “Orpheon”</b>																				
Orpheon	\$165.00	CON	Wood	B	7-M	None	2	15-EE	20	100 AC	Fixed	Var	None	None	CC	6	2-R	Yes	No	TRF
Masterpiece	VI	355.00	Chassis only	B,P,S,U,W	20-M	None	4	18-EE	34	200 AC	Var	Var	CR	None	CC	6	2-R	Yes	No	465
15-17	205.00	Chassis only	B,P,S,U	15-M	None	3	15-EE	20	180 AC	Var	Var	CR	None	CC	6	2-R	Yes	No	472	
<b>Sonora Radio &amp; Television Corp., Merchandise Mart, Chicago, Ill.—“Sonora, Clear as a Bell”</b>																				
P99	9.99	MT	Wood	B	4-MO	None	2	3½-EE	2	AC-DC	Fixed	None	None	None	CC	6	2-R	No	No	TRF
P100	9.99	MT	Plastic	B	4-MO	None	2	3½-EE	2	AC-DC	Fixed	None	None	None	CC	6	2-R	No	No	TRF
PS102	12.95	MT	Plastic	B	5-OM	None	2	3½-EE	2	AC-DC	Fixed	None	None	None	CC	6	2-R	No	Yes	456
B-22	18.95	FT	Plastic	B,S <sub>1</sub>	6-OM incl. resistor	2	2	5-EE	2	AC-DC	Fixed	None	None	None	CC	6	2-R	No	Yes	456
D12	34.95	FT	Wood	B,S <sub>1</sub>	6-OM incl. resistor	2	2	6-EE	2	AC-DC	Fixed	Var	None	None	CC	6	2-R	No	Yes	456
DA12	37.95	FT	Wood	B,S <sub>1</sub>	6-OM incl. resistor	2	2	6-EE	2	AC-DC	Fixed	Var	None	Mech	None	4	1-F	No	Yes	456
DD14	29.95	FT	Wood	B,S <sub>1</sub>	6-OM incl. resistor	2	2	5-EE	2	AC-DC	Fixed	None	None	None	None	4	1-F	No	Yes	456
DDA14	32.95	FT	Wood	B,S <sub>1</sub>	6-OM incl. resistor	2	2	5-EE	2	AC-DC	Fixed	None	None	Mech	None	4	1-F	No	Yes	456
A-11	12.95	FT	Plastic	B	5-GO incl. resistor	2	2	5-EE	2	AC-DC	Fixed	None	None	None	None	4	1-F	No	No	TRF
R-66	54.95	FT	Wood	B,P,S	8-OM incl. resistor	3	3	8-EE	6	AC-DC	Fixed	Var	None	None	None	4	1-F	No	Yes	456
RA66	59.95	FT	Wood	B,P,S	8-OM incl. resistor	3	3	8-EE	6	AC-DC	Fixed	Var	None	None	None	8	1-F	No	Yes	456
R88	69.95	CON	Wood	B,P,S	8-OM incl. resistor	3	3	8-EE	6	AC-DC	Fixed	Var	None	None	None	8	1-F	No	Yes	456
RA88	79.95	CON	Wood	B,P,S	8-OM incl. resistor	3	3	8-EE	6	AC-DC	Fixed	Var	None	None	None	8	1-F	No	Yes	456
BA22	NS	FT	Plastic	B,S <sub>1</sub>	6-OM incl. resistor	2	2	5-EE	2	AC-DC	Fixed	None	None	Mech	None	4	1-F	No	Yes	456
C22	18.95	FT	Plastic	B	6-OM incl. resistor	2	2	5-EE	2	AC	Fixed	None	None	None	None	4	1-F	No	Yes	456
E33	33.95	FT	Wood	B,S	6-OM incl. resistor	2	2	6-EE	3	AC	Fixed	Var	None	None	None	6	1-F	No	Yes	456
EA33	37.95	FT	Wood	B,S	6-OM incl. resistor	2	2	6-EE	3	AC	Fixed	Var	None	Mech	None	6	1-F	No	Yes	456
F55	39.95	FT	Wood	B,P,S	7-OM	None	2	6-EE	5	AC	Fixed	Var	None	None	None	6	1-F	No	Yes	456
FA55	43.95	FT	Wood	B,P,S	7-OM	None	2	6-EE	5	AC	Fixed	Var	None	Mech	None	6	1-F	No	Yes	456
G66	59.95	FT	Wood	B,P,S	8-OM	None	3	8-EE	7½	AC	Fixed	Var	None	None	None	6	1-F	No	Yes	456
GA66	69.95	FT	Wood	B,P,S	8-OM	None	3	8-EE	7½	AC	Fixed	Var	None	Motor	None	6	1-F	No	Yes	456
G88	79.95	CON	Wood	B,P,S	9-OM	None	3	12-EE	7½	AC	Fixed	Var	None	None	None	6	1-F	No	Yes	456
GA88	89.95	CON	Wood	B,P,S	9-OM	None	3	12-EE	7½	AC	Fixed	Var	None	Motor	None	6	1-F	No	Yes	456
KA109	109.95	CON	Wood	B,P,S	12-OM	None	3	12-EE	12	AC	Fixed	Var	None	Motor	None	6	1-F	No	Yes	456
F77	59.95	CON	Wood	B,P,S	7-OM	None	2	8-EE	5	AC	Fixed	Var	None	Motor	None	6	1-F	No	Yes	456
FA77	64.95	CON	Wood	B,P,S	7-OM	None	2	8-EE	5	AC	Fixed	Var	None	Mech	None	6	1-F	No	Yes	456
<b>Sparks-Withington Co., Plant 3, Jackson, Mich.—“Spartan”</b>																				
5008	\$12.95	PORT	Plastic	B	5-0 incl. resistor	2	2	5-EE	2	45 AC-DC	Fixed	None	None	None	None	4	R	No	No	TRF
5018	19.95	FT	Metal	B	5-0 incl. resistor	None	2	5-EE	2	45 AC-DC	Fixed	None	None	None	None	4	R	No	No	TRF
5518A	19.95	FT	Metal	B	5-G	None	2	5-EE	3.4	50 AC	Fixed	None	None	Mech	None	6	F	No	Yes	456
538	24.95	FT	Wood	B,P,S	5-0	None	2	6-EE	3.4	60 AC	Fixed	Var	None	None	None	6	F	No	Yes	456
628	29.95	VT	Wood	B,P,S	6-0	None	2	6-EE	3.4	65 AC	Fixed	Var	CR	None	None	6	F	No	Yes	456
5218	34.95	FT	Wood	B,S	5-G	None	2	6-EE	3.4	50 AC	Fixed	Var	None	Mech	None	6	F	No	Yes	456
6218	44.95	FT	Wood	B,S	6-GO	None	2	6-EE	3.6	50 AC	Fixed	Var	CR	Mech	None	6	F	No	Yes	456
558B	49.95	FT	Glass	B,S	5-G	None	2	6-EE	3.4	60 AC	Fixed	Var	None	None	None	6	F	No	Yes	456
678A	59.95	CON	Wood	B,P,S	6-0	None	2	10-EE	3.4	65 AC	Fixed	Var	CR	Ct	None	6	R	No	Yes	456
7618	69.95	CON	Wood	B,S	7-GO	None	2	10-EE	3.6	50 AC	Fixed	Var	CR	Mech	None	6	F	No	Yes	456
768	79.95	CON	Wood	B,P	7-0	None	3	10-EE	3.4	70 AC	Fixed	Var	CR	None	None	6	R	No	Yes	456
8618	89.95	CON	Wood	B,P,S	8-0	None	3	10-EE	4¼	85 AC	Fixed	Var	None	Ct	AFC	6	R	No	Yes	456
1068	99.95	CON	Wood	B,P,S	10-0	None	3	10-EE	4¼											

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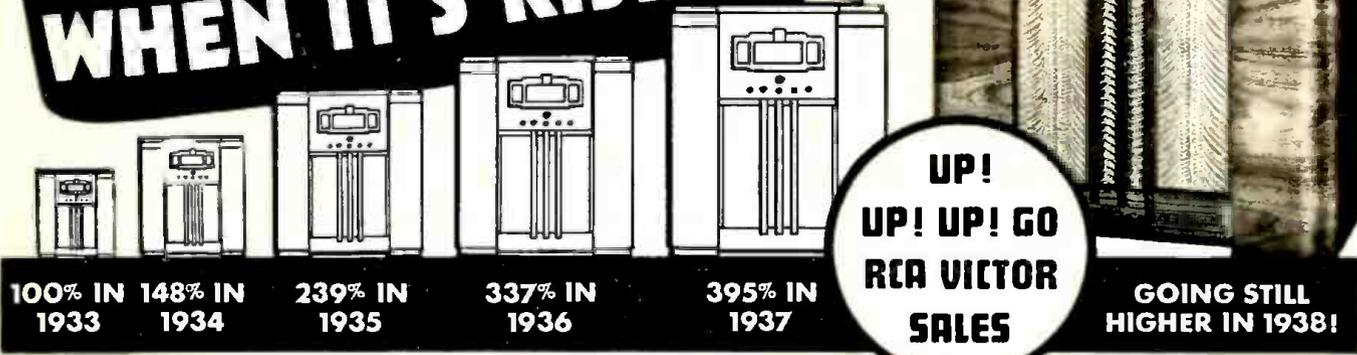
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# SALES FEATURES AND SPECIFICATIONS OF THE 1938-39 SETS—Compiled by Radio Today

Model No.	List price	Cabinet		Wave-bands	Number tubes (RMA defin)	Plug-in gang re- sistor%	Cond. sections	Spkr. size & type	Watts audio power (Max.)	Power Supply and watts	Selectivity	Tone control	Visual tuning	Automatic Tuning			I.F. Peak			
		Style	Material											Type	Drift Comp.	Stations Adjust- ments		Re- mote control	AVC	
<b>Stromberg-Carlson Telephone Mfg. Co.—Continued</b>																				
337L	99.95	CON	Wood	B.S.	7-MG	None	3	12-EE	3½	70 AC	Fixed	Var	CR	Ct	CC	6	2-F	No	Yes	455
340M	127.50	CON	Wood	B.S.	9-MO	None	2	10½-EE	10	80 AC	Fixed	Var	CR	Ct	CC	8	2-F	No	Yes	455
345M	150.00	CON	Wood	B.S.	10-MO	None	2	10½-EE	10	90 AC	Fixed	Var	CR	Ct	CC	8	2-F	No	Yes	455
350M	175.00	CON	Wood	B.P.S.	11-MG	None	3	10½-EE	15	120 AC	Var	Var	CR	Ct	AFC	8	2-F	No	Yes	455
320T	99.50	F	Wood	B.S.	5-OM	None	2	6-EE	2	40 AC	Fixed	Step	None	None	CC	.....	.....	.....	.....	455
325S	99.50	F	Wood	B.S.	5-OM	None	2	6-EE	2	42 AC	Fixed	Step	None	Ct	CC	6	2-F	No	Yes	455
325N	99.50	F	Wood	B.S.	5-OM	None	2	6-EE	2	42 AC	Fixed	Step	None	Ct	CC	6	2-F	No	Yes	455
341R	145.00	CS	Wood	B.S.	9-MO	None	2	10½-EE	10	80 AC	Fixed	Var	CR	Ct	CC	8	2-F	No	Yes	455
340V	119.50	F	Wood	B.S.	9-MO	None	2	8½-EE	10	80 AC	Fixed	Var	CR	Ct	CC	8	2-F	No	Yes	455
213F	155.00	CS	Wood	B.P.S.	7-MO	None	2	10½-EE	3½	65 AC	Fixed	Var	CR	None	.....	.....	.....	.....	455	
340F	135.00	CON	Wood	B.S.	9-MO	None	2	10½-EE	10	80 AC	Fixed	Var	CR	Ct	CC	8	2-F	No	Yes	455
345F	165.00	CON	Wood	B.S.	10-MO	None	3	10½-EE	10	90 AC	Fixed	Var	CR	Ct	CC	8	2-F	No	Yes	455
350V	199.50	F	Wood	B.P.S.	11-MO	None	3	10½-EE	15	120 AC	Var	Var	CR	Ct	AFC	8	2-F	No	Yes	455
350R	215.00	F	Wood	B.P.S.	11-MO	None	3	10½-EE	15	120 AC	Var	Var	CR	Ct	CC	8	2-F	No	Yes	455
360N	265.00	F	Wood	B.P.S.	12-MO	None	3	10½-EE	15	135 AC	Var	Var	CR	Motor	AFC	8	1-R	Yes	Yes	455
370M	325.00	F	Wood	B.P.S.	14-MO	None	4	10½-EE	18	150 AC	Var	Var	CR	Motor	AFC	8	1-R	Yes	Yes	455
336P	135.00	PC-CS	Wood	B.S.	7-MO	None	2	10½-EE	3½	80 AC	Fixed	Var	CR	Ct	CC	6	2-F	No	Yes	455
340P	175.00	PC	Wood	B.S.	9-MO	None	2	8½-EE	10	100 AC	Fixed	Var	CR	Ct	CC	8	2-F	No	Yes	455
341P	265.00	PC	Wood	B.S.	9-MO	None	2	10½-EE	10	100 AC	Fixed	Var	CR	Ct	CC	8	2-F	No	Yes	455
350P	360.00	PC	Wood	B.P.S.	11-MO	None	3	10½-EE	15	140 AC	Var	Var	CR	Ct	AFC	8	2-F	No	Yes	455
260P	795.00	PC	Wood	B.P.S.	16-MO	None	4	Two 10½-EE	30	260 AC	Var	Var	CR	Mech	AFC	7	1-R	No	Yes	465
<b>Trebler Radio Co., Pasadena, Calif.—"Trebler"</b>																				
T60	\$24.95	FT	Wood	B.S.	6-M	None	2	6-EE	4	55 AC	Fixed	Var	None	Motor	None	6	1-R	No	Yes	455
T81	49.95	FT	Wood	B.P.S.	8-M	None	3	8-EE	8	80 AC	Fixed	Var	None	Motor	CC	4	1-R	Yes	Yes	455
T54	19.95	FT	Plastic	B	5-M	None	2	5-EE	2½	40 AC	Fixed	None	None	Mech	None	8	1-R	No	Yes	455
T53	19.95	FT	Plastic	B	5-M	None	2	5-EE	2	40 AC-DC	Fixed	None	None	None	.....	.....	.....	.....	Yes	455
<b>Ultramar Mfg. Corp., 1160 Howe St., Chicago, Ill.—"Ultramar"</b>																				
386	NS	NS	NS	B.P.S.	5-OG	1	2	6-EE	2	60 AC-DC	Fixed	None	None	Ct#	None	7	2-F	No	Yes	465
387	NS	NS	NS	B.S.W	5-OG	1	2	6-EE	2	60 AC-DC	Fixed	None	None	Ct#	None	7	2-F	No	Yes	465
385	NS	NS	NS	B.P.S.	5-OG	None	2	6-EE	5	70 AC	Fixed	None	None	Ct#	None	7	2-F	No	Yes	465
395	NS	NS	NS	B.S.W	5-OG	None	2	6-EE	5	70 AC	Fixed	None	None	Ct#	None	7	2-F	No	Yes	465
396	NS	NS	NS	B.P.S.	7-OG	None	2	8-EE	5	80 AC	Fixed	Var	CR	Ct#	None	7	2-F	No	Yes	465
397	NS	NS	NS	B.S.W	7-OG	None	2	8-EE	5	80 AC	Fixed	Var	CR	Ct#	None	7	2-F	No	Yes	465
387	NS	NS	NS	B.P.S.	8-OG	None	3	8-EE	6	90 AC	Fixed	Var	CR	Ct#	None	7	2-F	No	Yes	465
378	NS	NS	NS	B.S.W	8-OG	None	3	8-EE	6	90 AC	Fixed	Var	CR	Ct#	None	7	2-F	No	Yes	465
389	NS	NS	NS	B.P.S.	8-OG	1	3	8-EE	2½	95 AC-DC	Fixed	Var	CR	Ct#	None	7	2-F	No	Yes	465
398	NS	NS	NS	B.S.W	8-OG	1	3	8-EE	2½	95 AC-DC	Fixed	Var	CR	Ct#	None	7	2-F	No	Yes	465
838	NS	NS	NS	B.S.U	9-MO	None	3	8-EE	6	95 AC	Var	Var	CR	Ct#	None	7	2-F	No	Yes	465
839	NS	NS	NS	B.S.U,W	9-MO	None	3	8-EE	6	95 AC	Var	Var	CR	Ct#	None	7	2-F	No	Yes	465
* Automatic tuning optional.																				
<b>Montgomery Ward &amp; Co., 619 W. Chicago Ave., Chicago, Ill.—"Airline"</b>																				
62-325	NS	FT	Plastic	B	4-MO	1	2	5-EE	1.3	45 AC-DC	Fixed	None	None	None	.....	.....	.....	.....	No	456
62-350	NS	FT	Plastic	B	5-OM	None	2	5-EE	1½	45 AC	Fixed	None	None	Mech.	None	4	1-F	No	Yes	465
62-274	NS	FT	Plastic	B	6-OM	None	2	5-EE	1½	45 AC	Fixed	None	CR	Mech	None	6	1-F	No	Yes	465
62-361	NS	FT	Wood	B.S.	6-OM	None	2	6-EE	3.4	50 AC	Fixed	Var	CR	Mech	None	6	1-F	No	Yes	465
62-370	NS	FT	Wood	B.S.	7-OG	None	2	6-EE	3.4	50 AC	Fixed	Var	CR	It	CC	6	1-F	Yes	Yes	456
62-390	NS	FT	Wood	B.P.S.	9-MO	None	3	6-EE	4	70 AC	Fixed	Var	CR	It	CC	6	1-F	Yes	Yes	465
62-470	NS	CON	Wood	B.S.	7-OG	None	2	8-EE	3.4	50 AC	Fixed	Var	CR	It	CC	6	1-F	Yes	Yes	456
62-490	NS	CON	Wood	B.P.S.	9-MO	None	3	10-EE	4	70 AC	Fixed	Var	CR	It	CC	6	1-F	Yes	Yes	465
62-401	NS	CON	Wood	B.P.S.	11-OM	None	3	12-EE	12	90 AC	Var	Var	CR	It	CC	6	1-F	Yes	Yes	456
62-403	NS	CON	Wood	B.P.S.	13-OG	None	3	12-EE	20	150 AC	Var	Var	CR	It	CC	6	1-F	Yes	Yes	456
<b>Westinghouse Elec. Supply Co., 150 Varick St., New York, N. Y.—"Westinghouse"</b>																				
WR150W	NS	MT	Plastic	B	4-MO	1	2	5-EE	1½	AC-DC	Fixed	None	None	None	.....	.....	.....	.....	No	455
WR150I	NS	MT	Plastic	B	4-MO	1	2	5-EE	1½	AC-DC	Fixed	None	None	None	.....	.....	.....	.....	No	455
WR152	NS	FT	Wood	B	5-OG	1	2	5-EE	1½	AC-DC	Fixed	None	None	None	.....	.....	.....	.....	Yes	455
WR154	NS	FT	Wood	B	5-OG	1	2	5-EE	1½	AC-DC	Fixed	None	None	None	.....	.....	.....	.....	Yes	455
WR158	NS	VT	Wood	B	6-MO	None	2	5-EE	1½	AC-DC	Fixed	None	None	C&I	None	5	2-R	No	Yes	455
WR256	NS	FT	Wood	B	5-OM	None	2	5-EE	2	AC	Fixed	None	None	None	.....	.....	.....	.....	Yes	455
WR258	NS	VT	Wood	B	5-OM	None	2	5-EE	2	AC	Fixed	None	None	C&I	None	5	2-R	No	Yes	455
WR260	NS	FT	Wood	B.P	5-OM	None	2	5-EE	2	AC	Fixed	Step	None	C&I	None	5	2-R	No	Yes	455
WR262	NS	FT	Wood	B.S.	6-OG	None	2	6-EE	3½	AC	Fixed	Var	CR	C&I	None	6	2-R	No	Yes	455
WR264	NS	VT	Wood	B.S.,S	7-MO	None	2	6-EE	4	AC	Fixed	Var	CR	C&I	None	6	2-R	No	Yes	455
WR366	NS	CON	Wood	B.S.,S	8-OM	None	3	12-EE	5	AC	Fixed	Var	CR	Motor	CC	9	1-R	No	Yes	455
WR368	NS	CON	Wood	B.S.,S	10-OM	None	3	12-EE	12	AC	Fixed	Var	CR	Motor	CC	9	1-R	No	Yes	455
WR370	NS	CON	Wood	B.P.S.	12-M	None	3	12-EE	12	AC	Var	Var	CR	Motor	CC	9	1-R	No	Yes	455
WR472	NS	PC-T	Wood	B	5-OM	None	2	5-EE	3½	AC	Fixed	Step	None	None	.....	.....	.....	.....	Yes	455
<b>Wilcox-Gay Corp., Charlotte, Mich.—"Wilcox-Gay"</b>																				
A43	\$27.50	WALL	Wood	B	5-M	None	2	5-EE	4.1	49 AC	Fixed	Var	No	None	.....	.....	.....	.....	Yes	456
A44	27.50	WALL	Wood	R	5-M	None	2	5-EE	4.1	49 AC	Fixed	Var	No	None	.....	.....	.....	.....	Yes	456
A45	29.95	PC-T	Wood	B	5-M	None	2	5-EE	4.1	49 AC	Fixed	Var	No	None	.....	.....	.....	.....	Yes	456
A50	14.95	T	Wood	B	5-G	None	2	4-EE	2	43 AC-DC	Fixed	Var	No	None	.....	.....	.....	.....	Yes	456
A51	13.95	MT	Plastic	B	4-M	None	2	4-EE	1½	35 AC-DC	Fixed	None	No	None	.....	.....	.....	.....	No	TRF
A52	19.95	T	Wood	B	5-G	None	2	6½-EE	3.9	49 AC	Fixed	Var	No	None	.....	.....	.....	.....	Yes	456
A53	17.95	FT	Wood	B	5-G	None	2	6½-EE	3.9	49 AC	Fixed	Var	No	None	.....	.....	.....	.....	Yes	456
A54	34.95	WALL	Plastic	B	5-M	None	2	5-EE	1½	46 AC-DC	Fixed	None	No	None	.....	.....	.....	.....	Yes	456
A55	4																			

**RIDE THE TIDE  
WHEN IT'S RISING**



*Dealer orders indicate increasing sales for 1938! Read what distributors say about dealer reactions to brilliant, new 1939 RCA Victor radios.*

"Sales figures talk!" says Alan Steinert of Eastern Co. in Boston. "And the way our dealers have been placing orders for the 1939 RCA Victor line is proof that it's plenty hot!"

"Our dealer showing this year was the most successful in our history. The dealers are unanimous in saying RCA Victor's line is the greatest ever, and what's more, they're buying," says Irving Sarnoff of Bruno-New York.

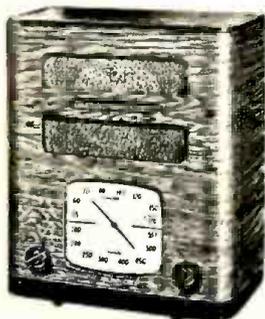
"When I looked at the RCA Victor 1939 line at the Atlantic City Convention I was enthusiastic," says Elmer Hamburg of Hamburg Bros., Pittsburgh, Pa., "But my enthusiasm didn't hold a candle to that displayed at our dealer showings. We got the largest orders in all our experience."

"I was never more surprised in my life," says Bill O'Connor of Southern Wholesalers, Washington, D. C. "Never expected so much business. But when our dealers saw the RCA Victors for 1939—they bought 'em like hot cakes!"

This new RCA Victor line is packed with profits! It's easy to sell! 44 outstanding features—and sensationally low prices—mean that *this* is going to be your *big* RCA Victor year.

**CONSOLE GRAND MODEL 97KG** (upper right, top of page). This radio, the newest note in styling, offers you such outstanding sales features as Electric Tuning for 6 stations, 3-band Straight-Line Dial, Victrola Button, "Plug-in" for Victrola Attachment, RCA Victor Metal Tubes, Magic Eye, and a host of others. Its cabinet beauty and beauty of tone make it a set that will bring you many sales, large profits.

**FOR FARM HOMES—MODEL 94BT**



For farm homes without electricity—this exceptional instrument was designed. It's Current Cutter Model 94BT and provides standout performance with 2-volt storage battery. New Current Cutter saves up to one-third on battery costs. Other sales features include four tubes, superheterodyne circuit, tuning range from 540 to 1720 kcs., dynamic speaker, magnetite "frequency locking" transformers and Automatic Volume Control. . . \$19.95  
Same cabinet is available for 6-volt battery operation in Model 94BT-6. . . \$29.95

**MODEL 96K2.** A radio set of unusual beauty, chock-full of features that make sales easy. Has Electric Tuning for 6 stations, 3-band Straight-Line Dial, Victrola Button, "Plug-in" for Victrola Attachment, RCA Victor Metal Tubes, and more than 10 other features. And it sells at amazingly low cost.



*Listen to the Magic Key of RCA every Sunday, 2 to 3 P. M., E. D. S. T. on the NBC Blue Network.*

For finer radio performance—RCA Victor Radio Tubes

**RCA Victor**  
RCA MANUFACTURING CO., INC., Camden, N. J.  
*A Service of the Radio Corporation of America*

# SALES FEATURES AND SPECIFICATIONS OF 1938-39 FARM SETS

Complete information on battery operated sets compiled by *Radio Today*

Model No.	List price	Cabinet		Wave bands	Number tubes (RMA defin.)	Ballast resistor	Cond. gang sections	Output		Spkr. size & type	Tone control	Fil. volts	Stor. batt. amps.	Battery Drain			Auto Tuning		Illum. dial	I.F. Peak	
		Style	Material					Watts (max)	Class amp.					"A" amps.	"B" volts	"B" mits	Type	No of stations			AVC
Emerson Radio & Phonograph Corp., 111 Eighth Ave., New York, N. Y.—"Emerson"																					
AJ-149	\$19.95*	FT	Plastic	B	5-G	None	2	1 1/2	A	6 1/2-PM	None	2	....	.42	135	16-18	None	....	No	Yes	455
AJ-192	24.95*	FT	Wood	B	5-G	None	2	1 1/2	A	6 1/2-PM	None	2	....	.42	135	16-18	None	....	No	Yes	455
AF-179	39.95*	FT	Wood	B,S	7-G incl. ballast	None	3	1 1/2	A	6 1/2-PM	Step	2	....	.48	135	13-17	None	....	No	Yes	455
AS-179	39.95*	FT	Wood	B,S	6-OG	None	2	1 1/2	A	6 1/2-PM	Step	6 or 32	2 1/2	....	....	....	None	....	Yes	Yes	455
AJ-137	39.95*	PORT	Wood	B	5-G	None	2	1 1/2	A	6 1/2-PM	None	2	....	.42	135	16-18	None	....	No	Yes	455
Espey Mfg. Co., Inc., 67 Irving Pl., New York, N. Y.—"Espey"																					
641	\$19.95	FT	W	B	4-G	None	2	1/2	A	5-PM	None	2	....	.3	135	15	None	....	No	Yes	456
General Electric Co., 1285 Boston Ave., Bridgeport, Conn.—"G-E"																					
FB-52	\$19.95*	VT	Wood	B,S	5-0	None	2	2 1/2	A	6 1/2-PM	Step	2	1.7#	.42	135	26	None	....	No	Yes	465
FB-56	29.95*	CON	Wood	B,S	5-0	None	2	2 1/2	A	8-PM	Step	2	1.7#	.42	135	26	None	....	No	Yes	465
FB-72	29.95*	VT	Wood	B,P,S	7-0	None	2	1.6	B	8-PM	Step	2	1.7#	.66	135	22-45	None	....	Yes	Yes	465
FB-76	39.95*	CON	Wood	B,P,S	7-0	None	2	1.6	B	12-PM	Step	2	1.7#	.66	135	22-45	None	....	Yes	Yes	465
† This current drawn from 2 cells of a storage battery when "B" voltage is obtained from a power adapter instead of "B" batteries.																					
Grebe Mfg. Co., Inc., 119 Fourth Ave., New York, N. Y.—"Grebe"																					
2B2L	NS	FT	Wood	B,S	6-0	None	2	1 1/2	B	6 1/2-PM	Var	2 1/2	....	NS	135	NS	None	....	Yes	Yes	456
2B2T	NS	VT	Wood	B,S	6-0	None	2	1 1/2	B	6 1/2-PM	Var	2 1/2	....	NS	135	NS	None	....	Yes	Yes	456
2B2-1	NS	CON	Wood	B,S	6-0	None	2	1 1/2	B	8-PM	Var	2 1/2	....	NS	135	NS	None	....	Yes	Yes	456
2B2-L	NS	FT	Wood	B,P,S	7-0	None	3	1 1/2	B	8-PM	Var	2 1/2	....	NS	135	NS	None	....	Yes	Yes	456
3B2-3	NS	CON	Wood	B,P,S	7-0	None	3	1 1/2	B	8-PM	Var	2 1/2	....	NS	135	NS	None	....	Yes	Yes	456
‡ All models available for 6-volt operation.																					
Howard Radio Corp., 1735 Belmont Ave., Chicago, Ill.—"Howard"																					
4B	NS	VT	Wood	B	4-0	None	2	1/2	A	5-PM	Step	2	....	.25	90	12	None	....	No	Yes	465
L'Atro Mfg. Co., 417 W. Water St., Decorah, Iowa—"L'Atro"																					
OQ-29	\$19.95	VT	Wood	B	4-0	None	2	1 1/2	A	6-PM	Step	2	....	.36	90	18	None	....	No	Yes	456
AQ-69	39.95	HT	Wood	B,S	5-0G	None	2	1.2	A	6-PM	Step	6&AC	1.9	....	....	....	None	....	Yes	Yes	456
BQ-69	65.95	CON	Wood	B,S	6-0G	None	2	1.2	A	10-PM	Step	6&AC	2.3	....	....	....	None	....	Yes	Yes	456
NQ-69	39.95	VT	Wood	B	5-0G	None	3	1.2	A	8-PM	Step	6	1.7	....	....	....	None	....	Yes	Yes	175
BQ-69	49.95	CON	Wood	B	5-0G	None	3	1.2	A	10-PM	Step	6	1.7	....	....	....	None	....	Yes	Yes	175
CQ-69	99.95	CON	Wood	B,P,S	7-0	None	3	3 1/2	B	12-PM	Var	6	2.5	....	....	....	Ct	5	Yes	Yes	460
LC-39	39.95	VT	Wood	B	6-G	None	3	1.8	A	6-EE	Step	32	1.2	....	....	....	None	....	Yes	Yes	175
DQ-39	49.95	HT	Wood	B,S	6-G	None	2	1.8	A	6-PM	Step	32	1.23	....	....	....	None	....	Yes	Yes	456
EQ-39	65.95	CON	Wood	B,S	6-G	None	2	1.8	A	10-PM	Var	32	1.23	....	....	....	None	....	Yes	Yes	456
FQ-39	99.95	CON	Wood	B,P,S	8-G	None	3	1.2	B	12-PM	Var	32&AC	1.55	....	....	....	Ct	5	Yes	Yes	460
GQ-89	19.95	VT	Wood	B	4-0	None	2	.2	A	6-PM	Step	1.4	....	.25	90	10 1/2	None	....	No	Yes	456
HQ-39	19.95	VT	Wood	B	NS	None	2	.45	A	6-EE	Step	32	1.25	....	....	....	None	....	Yes	Yes	456
Noblitt-Sparks Industries., Columbus, Ind.—"Arvin"																					
518B	\$34.95	FT	Wood	B,S	5-0	None	2	1.2	A	6-PM	Var	6	1.3	....	....	....	None	....	Yes	Yes	455
578B	19.95	FT	Wood	B	4-0	None	2	.3	A	6-PM	None	2	....	.36	90	14	None	....	No	Yes	455
617B	39.95	VT	Wood	B,P,S	6-G	None	3	2	B	8-PM	Var	6	2.7	....	....	....	None	....	Yes	Yes	455
627B	49.95	CON	Wood	B,P,S	6-G	None	3	2	B	10-PM	Var	6	2.7	....	....	....	None	....	Yes	Yes	455
618B	29.95	FT	Wood	B	6-G	None	2	1 1/2	A	6-PM	None	2	....	.54	90	18	None	....	No	Yes	455
628B	44.95	CON	Wood	B	6-G	None	2	1 1/2	A	8-PM	None	2	....	.54	90	18	None	....	No	Yes	455
638B	54.95	CON	Wood	B	6-G	None	2	1 1/2	A	8-PM	None	2	....	.54	90	18	None	....	No	Yes	455
Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—"Philco"																					
39-70B	\$24.45*	VT	Wood	B	4-0	None	2	NS	A	5 1/2-PM	None	1 1/2	....	.25	90	8-8 1/2	None	....	No	Yes	470
39-70F	34.95*	CON	Wood	B	4-0	None	2	NS	A	8-PM	None	1 1/2	....	.25	90	8-8 1/2	None	....	No	Yes	470
39-75T	29.95*	FT	Wood	B	4-0	None	2	NS	A	5 1/2-PM	None	1 1/2	....	.25	90	8-8 1/2	Mech	6	No	Yes	470
39-75F	44.95*	CON	Wood	B	4-0	None	2	NS	A	8-PM	None	1 1/2	....	.25	90	8-8 1/2	Mech.	6	No	Yes	470
39-80B	42.50*	VT	Wood	B	4-0	None	2	NS	A	5 1/2-PM	None	1 1/2	....	.2	90	6-6 1/2	None	....	No	Yes	470
39-80XF	59.95*	CON	Wood	B	4-0	None	2	NS	A	6 1/2-PM	None	1 1/2	....	.2	90	6-6 1/2	None	....	No	Yes	470
39-85B	52.50*	VT	Wood	B,S	4-0	None	2	NS	A	5 1/2-PM	None	1 1/2	....	.2	90	6-6 1/2	C&It	6	No	Yes	470
39-85XF	69.95*	CON	Wood	B,S	4-0	None	2	NS	A	6 1/2-PM	None	1 1/2	....	.2	90	6-6 1/2	C&It	6	No	Yes	470
Pilot Radio Corp., 3706 36th St., Long Island City, N. Y.—"Pilot Radio"																					
XG56	\$74.50*	VT	Wood	B,S	5-G	None	3	3	A	8-PM	Var	6	4.5	....	....	....	None	....	Yes	Yes	455
XG5206	76.50*	VT	Wood	B,S	5-G	None	3	3	A	8-PM	Var	32	NS	....	....	....	None	....	Yes	Yes	455
RCA Mfg. Co., Inc., Front & Cooper St., Camden, N. J.—"RCA-Victor"																					
94BT	\$19.95*	VT	Wood	B	4-0	None	2	.3	A	5-PM	None	2	....	.36	90	12-18	None	....	Yes	Yes	455
94BT6	29.95*	VT	Wood	B	4-0	None	2	.3	A	5-PM	None	6	2.8	....	....	....	None	....	Yes	Yes	455
94BK	36.95*	CON	Wood	B	4-0	None	2	.7	A	6-PM	None	2	....	.36	135	17	None	....	Yes	Yes	455
8QB	89.95*	VT	Wood	B,S	8-0	None	3	2.8	B	8-PM	Var	6&AC	3.3	....	....	....	None	....	Yes	Yes	455
8QBK	115.00*	CON	Wood	B,S	8-0	None	3	2.8	B	12-PM	Var	6&AC	3.3	....	....	....	None	....	Yes	Yes	455
Sentinel Radio Corp., 2222 Diversey Pky., Chicago, Ill.—"Sentinel"																					
118BT	\$18.95	FT	Plastic	B	4-0	None	2	.2	A	5-PM	None	1.4	....	.2	90	8	None	....	No	Yes	455
118BCT	34.45	CON	Wood	B	4-0	None	2	.2	A	8-PM	None	1.4	....	.2	90	8	None	....	No	Yes	455
127BT	27.95	FT	Wood	B	4-0	None	2	.2	A	6-PM	None	1.4	....	.2	90	8	Mech	4	No	Yes	455
127BC	39.95	CON	Wood	B	4-0	None	2	.2	A	8-PM	None	1.4	....	.2	90	8	Mech	4	No	Yes	455
119BT	24.95	FT	Plastic	B	4-0	None	2	1/2	A	5-PM	None	6	1.8	....	....	....	None	....	Yes	Yes	455
119BCT	39.95	CON	Wood	B	4-0	None	2	1/2	A	8-PM	None	6	1.8	....	....	....	None	....	Yes	Yes	455
130BT	34.95	FT	Wood	B,S	5-0	None	2	.7	A	6-PM	Var	6	1.95	....	....	....	Mech	4	Yes	Yes	455
130BC	49.95	CON	Wood	B,S	5-0	None	2	.7	A	8-PM	Var	6	1.95	....	....	....	Mech	4	Yes	Yes	455
143LT	44.95	FT	Wood	B,S	6-0	None	2	1 1/2	A	6-EE	Var	32	1.05	....	....	....	Mech	4	Yes	Yes	455
143LC	59.95	CON	Wood	B,S	6-0	None	2	1 1/2	A	6-EE	Var	32	1.05	....	....	....	Mech	4	Yes	Yes	455
144XT	44.95	FT	Wood	B,S	5-0	None	2	.8	A	6-PM	Var	6&AC	1.95	....	....	....	Mech	4	Yes	Yes	455
144XC	59.95	CON	Wood	B,S	5-0	None	2	.8	A	8-PM	Var	6&AC	1.95	....	....	....	Mech	4	Yes	Yes	455
Stewart-Warner Corp., Chicago, Ill.—"Stewart-Warner"																					
1901	NS	FT	Wood	B,S	4-G	1	2	1 1/2	A	6-PM	NS	2	....	.5	135	19	None	....	NS	Yes	NS
1905	NS	CON																			

## PARTS JOBBER HOLDS THE BAG

(From page 22)

tomers, in direct competition to their own dealer accounts.

In connection with the above, there are many manufacturers who sell direct to the retailer, or direct to the retail customer, in competition with established outlets who buy from them in the conventional way. (No mention is made of the manufacturer who confines himself strictly to a policy of selling direct to the retailer or to the retail trade.)

### Give away profits

Mention should be made also of the damfool serviceman or retailer who gives all his profit away to his customer, thus paving the way for an official visit of the sheriff and his cohorts.

There is, I believe, no question in the minds of those who are building for permanent good of the industry, as to what should be done about this condition—it should be bitten off short! As to the means by which this may be accomplished, I believe that hope lies in the direction of such organizations as the Radio Manufacturers Association, the Sales Manager's Club, the Representatives, the National Radio Parts Distributors Association, and the Radio Servicemen of America, Inc., working together in harmony, with a single vision of what should be accomplished, and a willingness to work hard to achieve the desired results.

There is ample evidence that a more harmonious accord exists between the various groups in this great industry of ours, than has existed at any previous time in its history. The proper working out of the problems confronting us will take time, but I believe that concerted effort on the part of the better elements will show larger results, as indeed it has begun to do.

## ZENITH SCOTCHES RUMORS

Commander E. F. McDonald, Jr., president of Zenith Radio Corporation, Chicago, in reply to questions about rumors circulating in the radio trade that Zenith is manufacturing radios for others or is having its own sets made in other factories, branded such reports as wholly false and unfounded.

"All Zenith radios," said Commander McDonald to *Radio Today*, "are made in our own large factory, and the Zenith plant is devoted wholly to manufacturing products bearing the Zenith name. We are not making radios or other products for anyone but ourselves."

# Announcing the RIDER Chanalyst



**JOHN F. RIDER**  
in whose Successful  
Servicing Laboratories this revolutionary instrument  
was developed.

## The Greatest Advance Ever Made in the History of Servicing Instruments

Because the Rider Chanalyst is of fundamental design it makes possible, for the first time, receiver testing under theoretically ideal conditions! It enables you to localize troubles in a particular stage or part of a receiver or amplifier with greater speed and more efficiency than ever before, no matter how complicated the circuit and regardless of the number or types of tubes.

Testing with the Chanalyst is done without the use of adaptors or plugs! With the Chanalyst, any serviceman can apply a standard, systematic, time-saving routine of servicing to his work. Its applications are so numerous it is impossible to list them all here. Following are a few of the major tests which you can conduct with the Chanalyst **WHILE THE RECEIVER IS IN NORMAL OPERATION:**

**1** Trace passage of signal through receiver from antenna to speaker in r-f, i-f or a-f stages, enabling you to establish points where signal exists, dies, becomes weakened or distorted and where it takes a bum.

- 2** Check actual operating voltages at any point in the receiver without loading the circuit.
- 3** Accurately check actual control voltages developed by the signal and present at the tube elements—also without interfering with the normal operation of the receiver.
- 4** Check frequency output of the oscillator section in a superheterodyne.
- 5** Instantly check wattage consumption of the receiver during actual operation.
- 6** Quickly locate troubles in intermittent receivers.

The test channels available in the Rider Chanalyst provide a means of separating a complete receiver into five basic sections. Each of these sections has its own indicator. When an intermittent condition develops, the indicators show the presence or absence of the signal in the various sections—the change in wattage consumption and operating voltage—if any. By interpreting the indications—you can localize the fault as being in a certain part.

These are but a few of the many uses for the RIDER CHANALYST—send today for explanations of this remarkable—essential—basic—new instrument!

**SERVICE INSTRUMENTS, Inc.**  
404 FOURTH AVE., NEW YORK CITY

SEND TODAY FOR FREE  
BOOKLET ON THE RIDER CHANALYST  
WHAT IT IS—WHAT IT DOES  
—HOW IT WORKS!

SERVICE INSTRUMENTS, INC.  
404 Fourth Avenue, New York City  
on The Rider Chanalyst.  
Name.....  
Address.....

Address.....

# NEW THINGS

Latest news of radio products from manufacturers



## Uni-directional mike

★ Crystal-type microphone operating on a new principle. Essentially responsive only to sound approaching from front of unit. Output level of minus 60 db. below one volt per qar. 15 db. discrimination between sounds arriving from front and rear. May be made non-directional by tilting unit. Model 730A Uniplex—list \$29.50 with cable and plug. Shure Bros., 225 W. Huron St., Chicago, Ill.—RADIO TODAY.



## Push-button tube tester

★ Dynamic mutual conductance tube tester and volt-ohm-milliammeter unit. Roller type chart indicates proper buttons to depress for each tube type. Meter indicates tube condition on illuminated scale. Voltage ranges 0-10-50-250-500-1,000 AC and DC. Resistance measurements 2 ohms to 3 megs. Current ranges, 0-10-50-250 mils DC. Model 1616—net \$73.34. Triplett Electrical Instrument Corp., Main St., Bluffton, Ohio—RADIO TODAY.

## Universal plate transformer

★ Transformer designed for operation from 6 volts DC with vibrator or 115 volts AC. Delivers 300 volts DC at 100 mls and rectifier filament voltage. Type 465-301. Jefferson Electric Co., Bellwood, Ill.—RADIO TODAY.

## Console recording phonograph

★ Cabinet model recording machine. Combination sound recorder, phonograph, and public address system, housed in walnut cabinet. Handles up to 12-inch records. Class A amplifier with 3 watts output. 12-inch high fidelity speaker unit. Dynamic type of microphone. Presto Recording Corp., 139 W. 19th St., New York, N. Y.—RADIO TODAY.



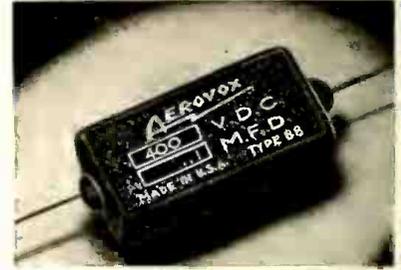
## Dynamic tube tester

★ Tube checker providing dynamic test of each element. Illuminated meter and dials. Rotating type of tube chart for over 350 tubes and 150 ballasts, 23-position switch with manganin resistors in logarithmic taper. Model 33—net \$32.50. Electronic Apparatus Corp., 814 N. Damen Ave., Chicago, Ill.—RADIO TODAY.



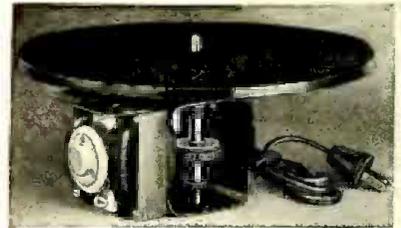
## Vacuum tube voltmeter

★ Combination circuit tester and vacuum tube voltmeter. High accuracy on low range voltages. Push-button type switches provide rapid selection of test and range desired. Ordinary tests of voltages, currents, resistance, and capacity are provided. Extra-high range ohmmeter tests up to 150 megohms. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia.—RADIO TODAY.



## Rubber-cased condensers

★ Paper-type by-pass condensers molded in live rubber. Provide superior electrical characteristics for r.f. functions. No moisture released by vulcanizing process. Also no great pressures are exerted on the paper section during molding. Available in capacities up to ½ mike at 200 volts, 1. at 400, .05 at 600 and .01 at 1000 volts. Type 88. Aerovox Corp., 70 Washington St., Brooklyn, N. Y.—RADIO TODAY.



## Phono turntables

★ AC type turntable for phonographs and combinations. "Even Speed" motor eliminates need of a governor—maintains uniform speed through all variations of record drag and line voltages. Laminated bakelite helical cut gears provide smooth, silent operation. Available with 9, 10 or 12-inch turntables. Alliance Mfg. Co., Alliance, Ohio—RADIO TODAY.

## Tool kit

★ Special kit of tools for use in installing and servicing the Philco Cool-Wave air conditioning unit. Specially constructed wrenches reduce servicing operations to a minimum of time. Philco Radio & Television Corp., Tioga St., Philadelphia, Pa.—RADIO TODAY.

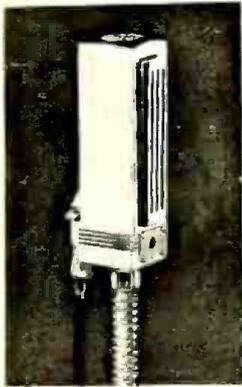
## Electric metal etcher

★ Etcher for permanently marking metal surfaces regardless of hardness. Copper and alloy points supplied. Transformer has hi-lo switch. Unit supplied complete. Ideal Commutator Dresser Co., 4033 Park Ave., Sycamore, Ill.—RADIO TODAY.



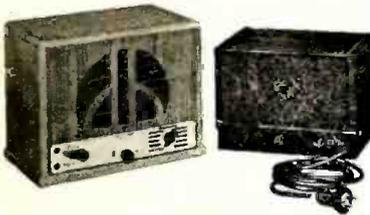
### Auto radio service lab

★ Rack and panel type of service equipment selected for auto radio work. Left-hand section contains a signal generator, 'scope and frequency modulator, and audio oscillator. Right-hand rack has a universal speaker, tube checker and unimetre combination, and battery voltage control. Units easily removable and interchangeable. Clough-Brengle Co., 2815 W. 19th St., Chicago, Ill.—RADIO TODAY.



### All-purpose microphone

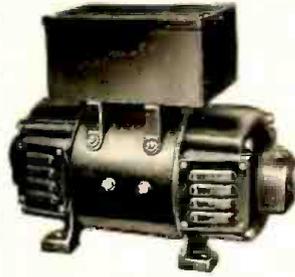
★ Microphone for all purposes. Output level of —66 DB. Frequency range of 40 to 10,000 cycles. Furnished in all standard impedances. Extremely small and light in weight. Push-button type on-off switch. Locking plug and 25-foot cable. Model 5MM. Universal Microphone Co., Inglewood, Cal.—RADIO TODAY.



### Paging and interphone system

10-station system known as Traffic Signal model, because a red lamp lights up on master unit indicating "listen" and green one indicating "talk." System is rated 7-10 watts—push-pull amplifier. May be used with 10 sub-stations, each having 6" p.m. speaker. Separate power supply, giving low hum level. List, \$79.50 for master unit, power pack and one sub-station. Regal Amplifier Mfg. Corp., 14 W. 17th St., New York—RADIO TODAY.

# Janette Rotary Converters



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● Built especially for radio and sound apparatus—capacities 110 to 3250 volt amperes—with or without all wave filters. Dynamotor construction—economical to operate—ruggedly built for years of trouble-free service—used or recommended by the largest manufacturers of radio and sound apparatus—in use all over the world ●

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# MORE NEW THINGS



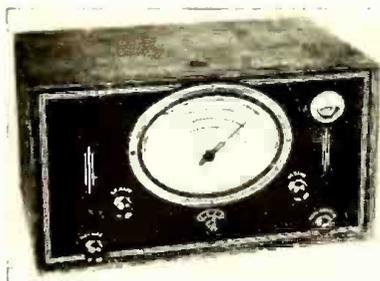
## Remote-controlled amplifier

★ 30-40 watt amplifier with remote control of two channels. Control circuit does not carry signal voltages—provides complete mixing and fading facilities at a remote point. Cascade inverse feedback. System has two 12-inch speakers with baffles, choice of microphone. Complete with all accessories Clarion model C-123 list \$180.40. Transformer Corp. of America, 69 Wooster St., New York, N. Y.—RADIO TODAY.



## Cathode-ray picture tube

★ Television tube with 3-inch screen. Only 12 inches long. Standard color is a greenish hue (others on request). Two sets of electrostatic deflection plates. Sylvania Type 906. Hygrade Sylvania Corp., 500 Fifth Ave., New York, N. Y.—RADIO TODAY.



## Farm receiver kit

★ All-wave type radio set for farm use in kit form. Uses new 1.4 volt low-drain type tubes. Tunes 540-22,000 kc. in 3 bands. R.F. amplifier on all bands. Tuner unit is wired and aligned at factory. High sensitivity and fidelity. Output of 240 milliwatts with 14.6 mills battery drain. Browning Labs., Main St., Winchester, Mass.—RADIO TODAY.

## 225-watt rheostat

★ Vitreous-enameled rheostat with 225-watt rating. All-porcelain and metal construction. Smooth,

practically stepless resistance variation. Large copper graphite sliding contacts. Model P is 5 inches in diameter and 2½ inches deep. Supplied with ¾-inch bakelite hand wheel. Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.—RADIO TODAY.

## Cased by-pass condensers

★ 400 and 600-volt metal-cased by-pass condensers for all receiver and amplifier uses. 400-volt units same size as usual 200-volt units. Available in single and multiple units in a wide variety of capacities. Type CB. P. R. Mallory & Co., Indianapolis, Ind.—RADIO TODAY.



## Beat frequency audio oscillator

★ Audio oscillator designed for use by radio servicemen. Output of 30 to 15,000 cycles with distortion of less than 5 per cent. Plus or minus 1 DB from 30 to 10,000 cycles. Down 2 DB at 15,000 cycles. Large, easy-to-read dial. AC operated—uses metal tubes. Model 154—net \$49.95. RCA Mfg. Co., Front St., Camden, N. J.—RADIO TODAY.



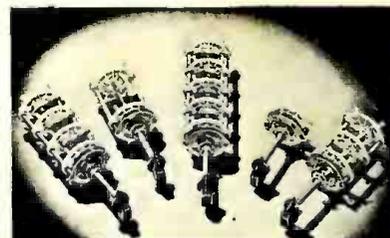
## High-fidelity receiver

★ Quality console receiver having an acoustic range of from 30 to 8,000 cycles which is substantially flat. Output of 8 watts with less than 2 per cent distortion. Bass-reflex acoustic system employed. Push button tuning for 20 stations. Superhet circuit. 12-inch speaker unit. Model PD-88—list \$155. Pierson DeLane Co., 2345 W. Washington Blvd., Los Angeles, Cal.—RADIO TODAY.



## Lafayette binaural sound systems

★ Three-dimensional sound systems using two complete sound systems. Each amplifier has its own microphone and pair of high-fidelity speakers, each mike and associated speakers being placed on opposite sides of stage. Available in dual 25-35, 30-40, and 40-45 watt systems. Wholesale Radio Service Co., 100 Sixth Ave., New York, N. Y.—RADIO TODAY.

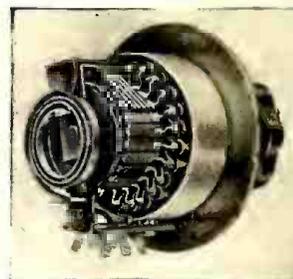


## Hamband switches

★ Ceramic-insulated switches for amateur transmitters. Heavy silver-plated current carrying parts. Convenient contact spacing, continuous rotation. Smooth wiping action keeps contact clean. P. R. Mallory & Co., Indianapolis, Ind.—RADIO TODAY.

## I.R.C. attenuator

★ 20-step attenuator using a molded commutator with conducting segments of polished copper. Multi-finger beryllium copper contact and spiral spring connector result in an extremely low noise level of -150 DB which is maintained in service. Wire-wound resistors in low-resistance attenuators, while insulated metallized resistors are used for high-impedance circuits. 0 to 45 DB attenuation in 2½ DB



steps, tapering to infinity in the last two steps. International Resistance Corp., Philadelphia, Pa.—RADIO TODAY.



Here's the new Andrea "Studio Tone" combination, with push button tuning, Easy-View Dial, silent self-starting motor, studio type "Climate Sealed" pick-up, automatic stop, etc.

### MEISSNER BUYS VIBRATOR DIVISION OF ELECTRONIC LABS

Announced late last month was the purchase of the Auto Radio Replacement Vibrator Division of Electronic Laboratories, Indianapolis, by the Meissner Mfg. Co., Mt. Carmel, Ill. Vibrator equipment of the former firm, and many of the personnel in that division will be moved to Meissner factories at Mt. Carmel, where a new Meissner-Electronic vibrator will be manufactured.

Vice-president G. V. Rockey of Meissner said that his company has long experimented in the vibrator field and after a recent survey decided to purchase the best outfit in the country, in that line. Meissner developments will be added to those of Electronic Labs in the production of the new products.

President Norman R. Kevers of the Indianapolis company announced that his firm will now concentrate on the production and sale of heavy duty vibrators, converters, and power supplies for all types of applications.

### RURAL METER

Factory and sales offices for a new firm, Stark Electrical Instruments, have been established at 418 S. Wells St., Chicago. After three years of consistent success in Canada and other markets, the company enters the U. S. radio field with its Rural Meter, a combination battery operated tube tester and analyzer designed for servicemen operating in unelectrified areas. Officers are Allen Stark, director of sales and promotion, and Hugo Nevard, in charge of production and management.

Stark officials predict a definite place in the American radio field for service instruments with self-contained power supply.

July, 1938

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# DYNATESTING THE AUDIO STAGES

## Checking for distortion and frequency discrimination

By VINTON K. ULRICH,  
(Service Editor, RADIO TODAY)

Knowing that a particular part or stage of the radio set is in perfect condition is valuable information—for with such knowledge time is not wasted in making separate tests of the various component parts in that particular section.

In dynamic testing, the first step is to establish whether or not the section under test is working properly. As has been explained in previous articles, it is the author's preference to work from the speaker, backward to the antenna circuit taking advantage of the amplification afforded by circuits already tested and okayed.

### Output measurements

For the most part, the indicating devices or meters are connected in the output circuit of the set and the signal generating devices are connected into various parts of the circuits. This month's discussion will describe some of the tests which are applied to the output stage of the radio set.

As definite measurements are desired, rather than just maximums such

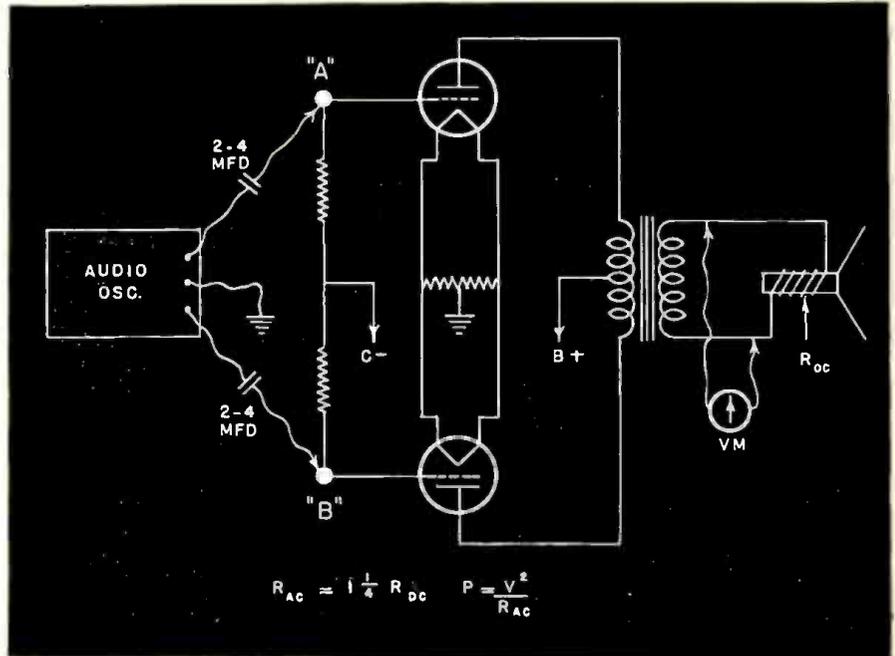


Fig. 2. A push-pull stage requires the use of an audio oscillator with a push-pull or center-tapped output. Power output is calculated from the AC voice coil resistance and voltage across it.

as are used when aligning sets; one of the first requirements is that the output meter be independent of frequency up to about 5,000 cycles for ordinary sets. This requirement is met by most of the quality copper-oxide type output meters when used *without* the series DC voltage blocking condenser. A vacuum tube voltmeter is ideally suited for output measurements.

For checking waveform there is no instrument as handy as the cathode-ray oscilloscope, yet much can be done without it by merely using one's ear to tell when the distortion becomes excessive. If the serviceman has a scope, so much the better.

### Single-ended amplifiers

The schematic of the usual single-ended amplifier is shown in Fig. 1-a, for the purpose of showing how to make connections for a simple frequency response test and a harmonic distortion test. When the grid is at ground potential (cathode bias) the audio signal generator can be connected directly to point "A". The output meter is connected across the voice coil so as to avoid the need of a DC blocking condenser and also to take into account the presence of the output transformer.

The audio generator is connected through a blocking condenser as shown in Fig. 1-b when the grid is negative

with respect to the chassis. This blocking condenser is *essential* to avoid shorting out the grid bias of the amplifier under test.

### Connections to push-pull amplifiers

With push-pull type amplifier the connections are much the same as shown in Fig. 2. The oscillator output must be center-tapped in order to provide equal and oppositely-phased voltages for each tube. As with single-ended amplifiers, a blocking condenser must be used if the grid is not at the same potential as the chassis.

A check of the audio frequency characteristic of the amplifier is made by varying the frequency of the audio oscillator and noting the output meter reading. Just what the results will be are largely dependent upon the price class of the set. Also in superhets, it should be remembered that I.F. will not pass extremely high frequencies, so if the audio does not have much high response it is not usually serious. In Fig. 3 are shown the over-all frequency responses of typical \$25 and \$100 sets—the latter being a console. Note that the more expensive set has a slightly rising response at the bass end while the \$25 set has a falling bass characteristic. Generally, these tests are made at a fairly low power output.

At 100 cycles the response of the cheaper set is off 6 DB or 50 per cent

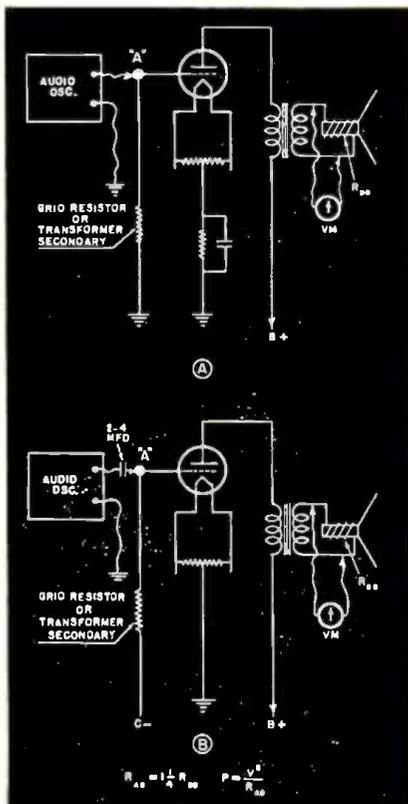


Fig. 1 shows how connections are made to a single-ended amplifier.

of the 400 cycle value—however, this is quite normal and makes little difference in the tonal quality since a small speaker unit is employed. If more bass were present, the speaker couldn't handle it. The larger set has an excellent bass characteristic which is without doubt better than that of the speaker.

The high frequency response of both sets is about average. Some of the high-frequency cut-off shown in Fig. 3 is due to discrimination of the I.F. circuits since the curves are for an over-all test of the set from antenna to speaker. An audio test alone would show slightly better high-frequency response. To try to increase the high-frequency response appreciably would be rather absurd since the I.F. amplifier definitely limits the upper frequency that will be passed. Even if the audio end would pass 10,000 cycles, the tonal quality of the set would not be improved unless the I.F. band width could be increased.

While it is somewhat up to the serviceman to use judgment in determining what is a satisfactory frequency response, a sweep from low frequency to high frequency will show up numerous defects in the set, speaker, and cabinet. How to locate the causes of the defects as they make themselves apparent will be explained later.

### Distortion vs. power output

Distortion checks are somewhat more difficult than frequency response tests. The requirements, however, are similar for all radio sets. At low power levels the distortion should be extremely low and with only a slight increase at full power output of the set. Any advance beyond the maximum "undistorted" power output will cause a tremendous increase in the distortion which is apparent on the oscilloscope or to the ear.

What the maximum undistorted power capability of the set is, is dependent upon the output tubes and operating voltages. Manufacturers of radio sets generally rate their sets on maximum power output regardless of distortion, so it is necessary to scale that figure down when making actual power measurements. Taking into account the losses in the output transformer and the power overrating, about one-half of the manufacturer's output rating is normal for the undistorted power delivered to the voice coil of the set. Or if the manufacturer's data is not available, the radio tube manuals state what outputs can be expected from the tubes under various operating conditions. For example, a type 41 with 250 volts on the plate is rated at 3.4 watts for 10 per cent distortion. Taking into account the transformer losses and other factors, about 75 per cent of this value will be delivered to the voice coil or about 2½ watts.

Power output values are easily calculated from the voice coil resistance and voltage across the voice coil. The effective AC resistance of the voice coil is about 1¼ times the DC resistance.

And power according to Ohm's Law equals *voltage squared* divided by the *resistance*. (At 400 cycles.)

In order to drive the power output stage to full output, it is necessary to have an audio oscillator that has sufficient voltage output. This means that the peak output of the oscillator should be equal to somewhat more than the grid bias of the output amplifier in the set. The RCA service oscillator used in RADIO TODAY's labs has somewhat less than 15 volts r.m.s. output and is essentially constant over the entire range. In terms of peak voltage, the output is about 20 volts, which is ample to drive pentode and beam power output tubes to their full outputs.

### Increasing output voltage of oscillator

For triode tubes such as the type 45 and 2A3, a voltage output of about 65 peak volts either side of center-tap is necessary. A simple one-stage amplifier feeding into a push-pull input transformer will provide sufficient voltage gain to drive all types of triodes. If the output of the oscillator is center-tapped, it is well to use two tubes in push pull so as to keep harmonic distortion to a minimum. Ordinary triodes of the 56 and 76 type are suitable. They will provide a gain of about 10 in a transformer-coupled stage (output).

If a higher power and more amplification is desired from the oscillator (speakers can then be tested independently of the set) a triode-type push-pull power amplifier can be added, making a 2-stage amplifier. Using type 45's the interstage coupling transformer can be replaced by resistance coupling. A power type modulation transformer or other unit with a high-impedance center-tapped secondary

should be used to couple the output tubes to the circuits under test.

In our work the output of the RCA audio oscillator is fed into a U.T.C. type LS 6A3 amplifier unit which is a push-pull amplifier having 6A3 output tubes. A modulation type transformer with a high impedance secondary winding is employed. Voice coil taps are also available in case it is desired to drive a speaker directly from the amplifier.

Any amplifier that is added to the output of the oscillator should have a substantially flat frequency response, or else the output voltage should be checked and maintained constant by means of the output control on the oscillator unit. Naturally, the audio input voltage to the set must be held constant, otherwise even a set with a flat frequency response would appear to have frequency discrimination.

When driving the output amplifier of the set to full power, the output of the set should be monitored preferably by a cathode ray oscilloscope and when the waveform becomes rather bad, the condition of maximum output is reached. The ear can also hear this condition. The sound coming from the speaker unit no longer sounds pure, but it is raspy and higher-pitched. The power output at this value is easily calculated from the formula previously given.

If it is found that the output stage delivers the required power and passes the necessary frequencies, the test proceeds to the preceding audio stage and similar tests are made. The power output stage having been tested, is used as an amplifier so as to provide easily measured voltages and waveforms that can be easily interpreted by ear or on the 'scope. If all the audio stages are found okay, then it follows that the trouble lies before the audio system.

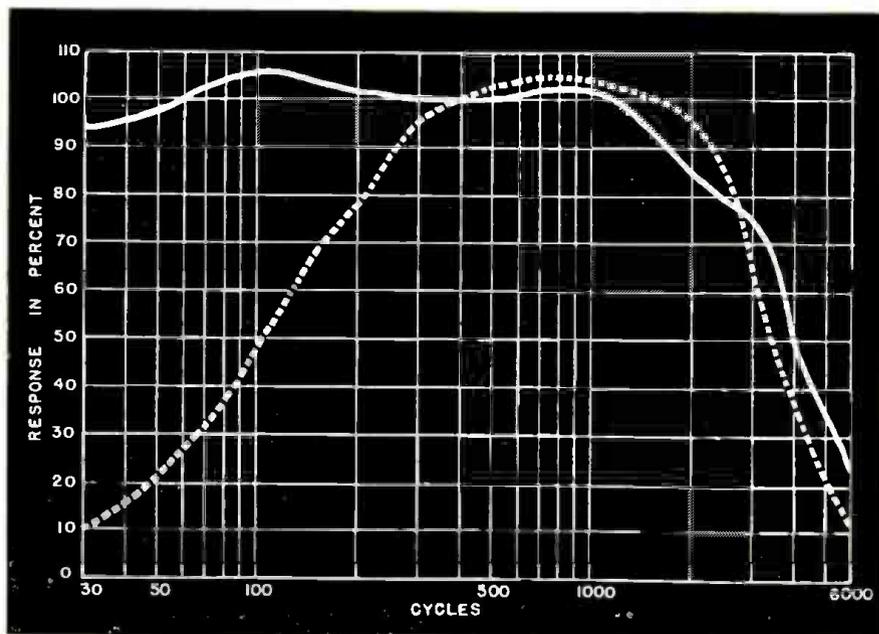
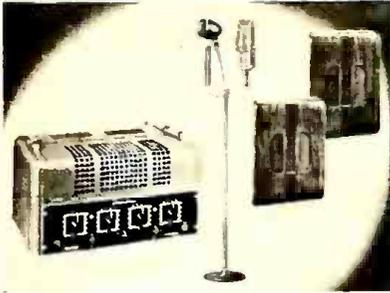


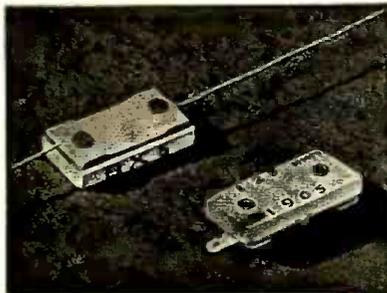
Fig. 3. The over-all frequency response of a typical \$100 all-wave console is shown by the solid line, while the dotted line shows the response of a \$25 table set. Note that the main difference lies in the bass frequencies.

# MORE NEW THINGS



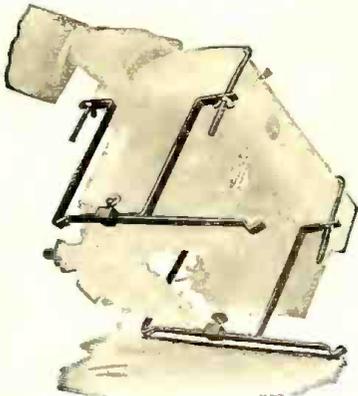
## 35-watt sound system

★ 12-tube, 5-stage sound system having a 35-watt output. High-speed expander, multi-stage degeneration, and dual tone compensation. Remote control. For installations having a seating capacity of 7,000 to 9,000 persons. Complete system includes amplifier, 2 P.M. speakers and choice of velocity or dynamic mike. Model FR-35. Webster Co., 5622 Bloomingdale Ave., Chicago, Ill.—RADIO TODAY.



## Silvered-mica condensers

★ Extremely stable condensers with silver in molecular contact with the mica. Available in capacities from 5 to 500 micromicrofarads. Tolerances of 1 per cent plus or minus available. For all R.F. and I.F. circuits requiring a stable condenser. Furnished with wire leads or lugs. Sprague Specialties Co., N. Adams, Mass.—RADIO TODAY.



## Radio chassis guards

★ Brackets for supporting any type of radio while doing service work. Protects chassis and tubes in any position. Easy to use. Adjustable to all sizes and chassis heights. Type RCG—net \$1.75 per pair. General Cement Mfg. Co., Rockford, Ill.—RADIO TODAY.

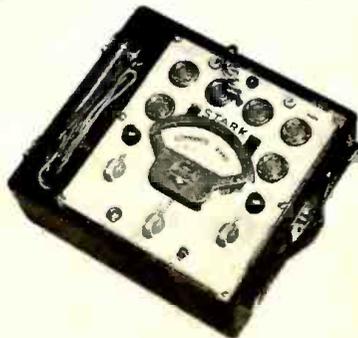
## Push-pull vibrator

★ Vibrator using push-pull principle—reed is driven in both directions and an impact of equal force is obtained in both directions. Reduces high voltage peaks, provides steadier operation. R.F. interference reduced 50 per cent. 19 replacement types available—list \$3.95. Guaranteed 1 year. Pauly-James Corp., 4619 Ravenswood Ave., Chicago, Ill.—RADIO TODAY.



## Operadio sound system

★ 30-watt portable type sound system with remote mixer for handling 2 microphones. Bass and treble tone compensators. Bullet-type crystal microphones. Two extra-heavy-duty PM type speakers in infinite baffle type enclosures. Controls are fully protected, recessed, and illuminated. Operadio Mfg. Co., St. Charles, Ill.—RADIO TODAY.

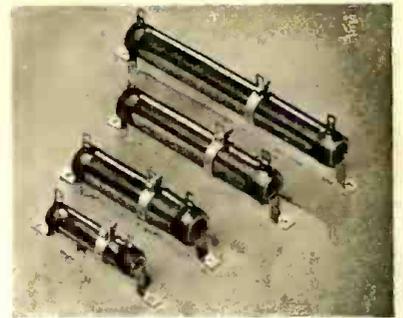


## Rural Meter test instrument

★ Tube checker and multi-range meter for use in servicing battery type receivers. Unit has a self-contained tube checker that is independent of external power—uses batteries. Direct-reading type meter. Hot leakage tests. Has DC voltage ranges of 0-10-100-300. Resistance ranges 0-1M/100M/1 megohm. Stark Electrical Instruments, 418 S. Wells St., Chicago, Ill.—RADIO TODAY.

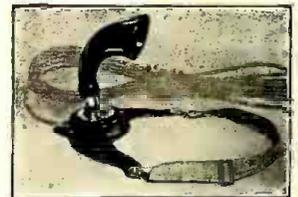
## Aircraft receiver

★ T.R.F. type aircraft receiver for quiet reception. Litz-wound coils. May be coupled to antenna with 50 to 250 micromicrofarad capacity. Tunes 190 to 550 KC. Dynamotor type plate supply. Easily installed in any plane. Model AR-3. Simplex Electric Co., Route 11, Box 262A. Indianapolis, Ind.—RADIO TODAY.



## Adjustable resistors

★ Line of vitreous enameled resistors with adjustable taps. Units available in sizes from 10 to 200 watts dissipation. Double coat of enamel insures complete protection. Resistance tolerance of plus or minus 5 per cent is standard. Utah Products Co., 820 Orleans St., Chicago, Ill.—RADIO TODAY.



## "Round-the-neck" mike

★ Crystal-type microphone designed for hanging from neck. Speaking horn increases output level and reduces stray pick-up. Unit is extremely light. Supplied with 25-foot cable. Model 211—list \$35. Sundt Engineering Co., 4238 Lincoln Ave., Chicago, Ill.—RADIO TODAY.

## Buffer-driver kit

★ Foundation kit for the buffer-driver stage of an amateur transmitter. Designed to simplify the construction of "ham" transmitters. Kit includes all hardware items and Hammarlund parts required. Uses a beam power output tube having 40 watts output. Type BD-40. Hammarlund Mfg. Co., Inc., 424 W. 33rd St., New York, N. Y.—RADIO TODAY.



## Stancor AC-DC amplifier kit

★ Low-priced amplifier kit for AC-DC operation. Power output of 4 watts and gain of 90 DB. Push-pull beam power output tubes. Output impedances of 4, 8, 15, 500 ohms. Kit supplied in knock-down form with all parts except tubes. Model 11—list \$17.95. Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.—RADIO TODAY.



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Dynamic testing checks entire stages or sections of a receiver, and furthermore, through easily recognizable cathode ray patterns, not only isolates the defect, but more often than not, through revealing its nature, indicates source.

Example: Assume there's distortion originating in the AVC circuit, audio amplifier or speaker. Pick up the diagram of any modern receiver and see how many points have to be identified and measured in order to come close to a solution, and, further, what a job of identification this presents, with the scanty information available.

Through dynamic method, performed with the aid of time-saving cathode ray, first the speaker is checked as a whole, next the speaker and audio amplifier, and third the AVC system together with the first two, and each time there is obtained a plain "Stop" or "Go" cathode ray pattern that tells at a glance whether the road is blocked and where, or whether to go ahead.

There are fourteen Stop-and-Go lights along the dynamic cathode ray highway

running through radio receivers. Short, to-the-point, easily understood directions for setting them up and following them are given in a new booklet, "Complete Dynamic Testing," mailed anywhere for 50c, or supplied free to the purchaser of any C-B instrument.

A business-boosting wall chart 45" long has also been prepared of the 14-point dynamic check-up chart below. Use it and increase the size of your average service check by \$3.50 or more. Mailed to registered C-B owners for 50c. Over 8,000 now eligible.

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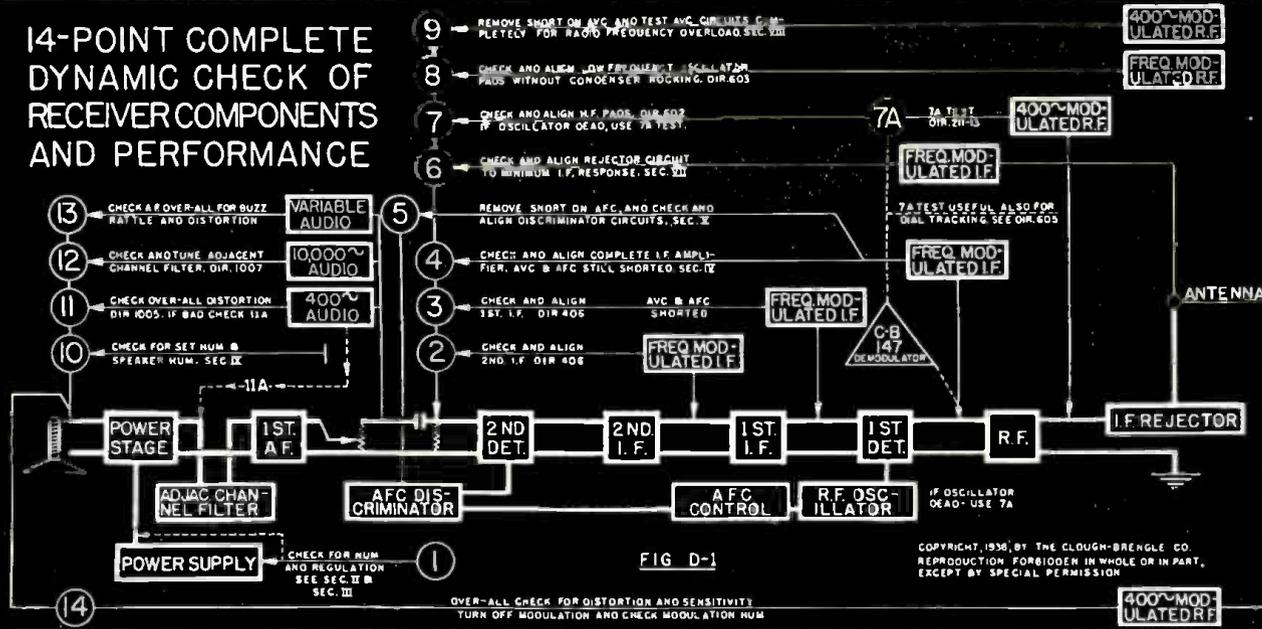
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### 14-POINT COMPLETE DYNAMIC CHECK OF RECEIVER COMPONENTS AND PERFORMANCE



# SERVICE NOTES

## RIDER CHANALYST

According to John F. Rider, in whose Successful Servicing Labs. the new instrument was developed, "The Chanalyst is, by far, the greatest advance ever made in the history of servicing instruments."

One of the outstanding features of this new instrument is its fundamental design which makes possible a new and logical time-saving method of approach in the diagnosis of all receiver troubles, regardless of make of receiver, model, or the complexity of circuits.

The basis of operation of the Rider Chanalyst embraces two major ideas: first, to trace the passage of the signal throughout the entire receiver; second, to establish the true operating voltages and the control voltages developed by the signal—both without interfering with the operation of the receiver.

The signal, fed into the receiver through the antenna post, can be traced through the r-f, i-f, and a-f channels, thereby making it possible to establish the points where the signal exists—how far it travels through the set—where it dies—where it becomes weaker—where it becomes distorted or where it takes on hum!

The design of the Chanalyst is such that in many cases an approximate di-

agnosis of a fault in a receiver can be made from the top of the chassis without removing it from the cabinet.

It solves the problem of intermittents by enabling the serviceman to divide the receiver into five basic divisions and provides constant monitoring of the various divisions in the receiver, including the operating voltage. When the intermittency develops, interpretations of the indications upon the cathode ray tuning eyes of the Chanalyst enable the location of the fault in a certain part of the receiver.

The Chanalyst includes: a calibrated r-f and i-f channel, operative over a band between 95 and 1700 kc.; embracing all intermediate frequencies used in commercial receivers; an oscillator channel operative over a range of from 600 kc. to 15 mc. with further checking oscillator operation up to 70 mc.; a calibrated a-f channel from 50 cycles to 50,000 cycles over a range from approximately 0.1 volt to 1,000 volts; and a wattage indicator from 25 to 250 watts.

The Electronic Voltmeter with a constant input resistance of 10 megohms indicates voltages which are positive or negative with respect to ground with no switching of the leads because of the polarity. Over the 5-volt range this input resistance is equal to 2 megohms per volt. The Voltmeter operates over 4 ranges: -5 to zero to +5; -25 to zero to +25; -100 to zero to +100, and -500 to zero to +500 volts. It is



capable of measuring actual values of AFC and AVC control voltages right at the control grids, and all other DC voltages in other parts of the receiver without loading the circuit to an extent that will interfere with the readings.

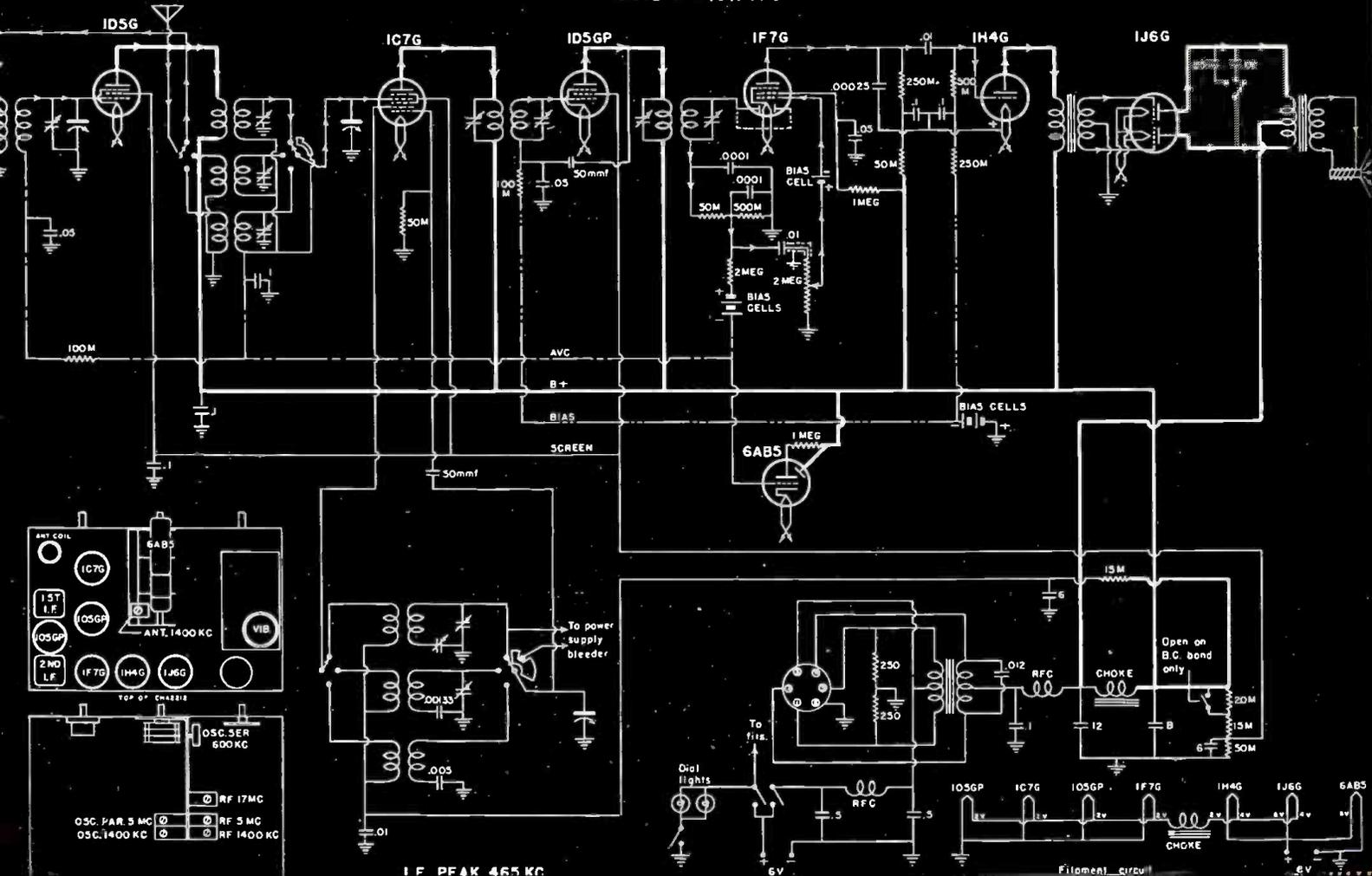
Jacks are provided so that the signal present in the r-f, i-f, or a-f circuits can be heard in a pair of headphones, thus providing a noise and hum check in any part of the set.

## ANDREA PUSH-A-BUTTON CIRCUIT

Double-throw push-button switches are employed in the Andrea type 6-D-5 receiver, which uses condenser type trimmers. The wave-change switch is used also to switch the circuits for push-button tuning. In the push-button position, the 2-gang tuning condenser is cut out of the circuit and the bank of trimmer condensers substituted.

In contrast to most push-button cir-

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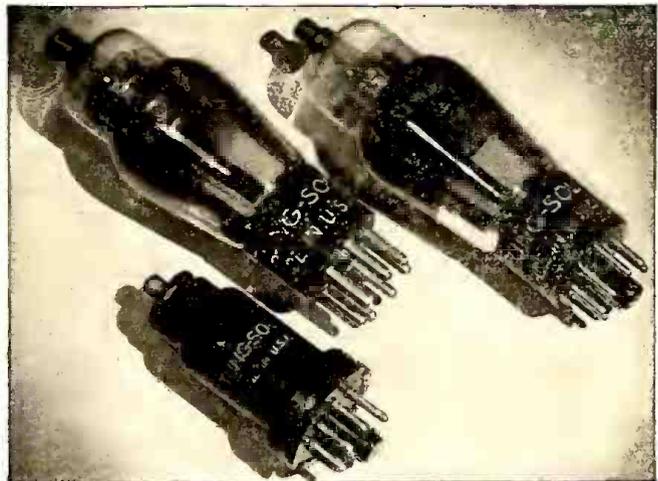
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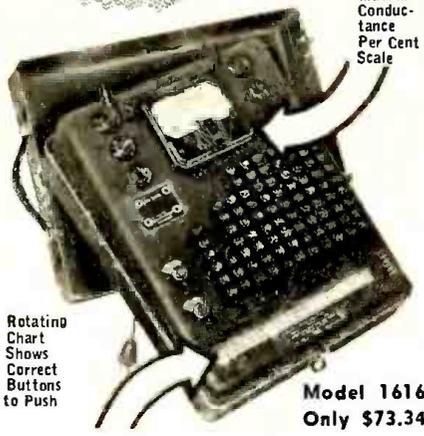
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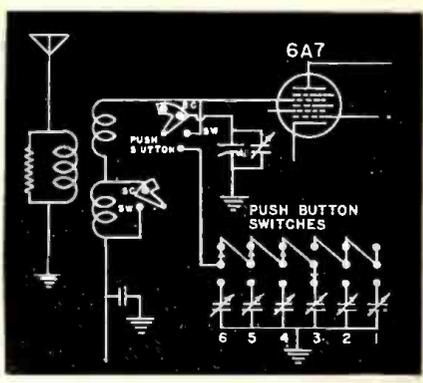
City..... State.....

# SERVICING

circuits double-throw switches are employed for the purpose of disconnecting the preceding switches and associated wiring. Position No. 6 is the button for the highest frequency, while No. 1 is for the lowest frequency.

Since the distributed and stray capacity is most harmful at the higher frequencies, the switches are so arranged as to disconnect the switches for lower frequencies. When button No. 6 is depressed, only trimmer No. 6 and switch No. 6 are in the circuit. In the accompanying circuit, switch No. 3 is depressed—note that switches 1 and 2 are completely disconnected from the circuit.

This type of switching also has the advantage, that if two buttons are depressed at once, only the trimmer condenser for the higher frequency is connected into the circuit, instead of two trimmer condensers. Therefore, the owner will always get a station, even if more than one button is pressed simultaneously by mistake.



Double - throw type push - button switches are used in the Andrea sets.

The arrangement of switch contacts is electrically the same as that shown in the circuit herewith, but mechanically the arrangement is quite different. This particular electrical arrangement was chosen to show the connections more clearly.

While only the antenna circuit is pictured in the circuit, a similar arrangement is used in the oscillator circuit.

# VIBRATOR POWER SUPPLY TROUBLES

## A practical test for vibrator units locating defects in farm and auto-radio power units

How vibrators work and how to service the circuits involved is of extreme importance to those radiomen working on sets which derive their plate voltage from a storage battery. In the second edition of the *Mallory-Yarley Radio Service Encyclopedia* much space is devoted to the subject of vibrators, part of which is quoted in the following paragraphs. In addition to an analysis of the important circuit features of 17,000 radio sets, there are numerous sections devoted to charts and descriptions of vital radio-set parts and circuits.

The following material outlining causes of vibrator troubles and describing a practical vibrator test is from the vibrator section of the *Service Encyclopedia* and is reprinted through the courtesy of P. R. Mallory & Co.

When vibrators were first introduced, servicemen regarded them with suspicion and uncertainty. They were inclined to attribute many auto radio troubles, such as unaccountable noises, low plate voltage, etc., to the vibrator, when actually its operation was perfectly normal. The unquestionable proof of this statement lies in the fact that until recently, more than one-half of all vibrators returned as defective, were perfectly good in every respect. Vibrators can only be damaged by two causes:

Rarely if ever do power transformers give any trouble.

If vibrator servicing problems are to be simplified, specific troubles and the recommended remedy must be shown. A list of these troubles is given along with the best way of determining the exact trouble and the method of elimination.

### No "B" voltage

If the vibrator is operating and still there is no "B" voltage, first disconnect the lead from the B+ output of the filter. If the voltage becomes much higher than normal when this lead is disconnected, the trouble is in the radio receiver proper. The procedure for making receiver checks and repairs is outlined in other sections of the encyclopedia.

If, after disconnecting the B+ lead, there is still no voltage, the trouble is in the power pack circuit. The following list shows the probable defects, in the order of their importance:

1. Shorted filter condenser.
  2. Shorted buffer condenser.
  3. Shorted rectifier tube.
  4. Shorted "B+" bypass condenser.
  5. Grounded filter choke.
  6. Shorted transformer secondary.
  7. Ground in wiring.
- If the vibrator does not operate, remove the vibrator and check for:
1. Low battery voltage.
  2. Blown fuse.
  3. Burned switch.
  4. Broken "A" lead.

All of these points may be quickly checked by measuring the voltage between the center tap of the transformer primary and the *reed* terminal of the vibrator socket. This voltage should read 5.5 volts or more.

If the check is satisfactory, the vibrator should be tested for proper operation either in a vibrator tester or by the substitution of a new Mallory replacement vibrator. Sticking or shorted vibrators are usually caused by "projections" being built up on the contact points. These "projections" (contact transfer) are the result of an unbalanced condition in the circuit. A careful check of the "buffer" condenser should be made. If this condenser is open or the capacity not as specified, it should be replaced with a Mallory oil filled condenser, Type VB or OT having the specified capacity. *Never change the specified capacity of this condenser unless specifically instructed to do so.*

### Low "B" voltages

Check the points given below as the cause for low "B" voltage.

1. Battery voltage low.
2. Corroded fuse clips.
3. High switch resistance.
4. Weak rectifier tube.
5. Defective buffer condenser.

(Caution: See preceding instruction on buffer condenser replacement).

6. Defective filter condenser.
7. Worn vibrator.

(Check in tester or substitute new Mallory replacement vibrator).

8. Check for troubles in radio which will cause low voltage such as shorted cathode resistor, by-pass condenser, shorted transformer, defective tubes, etc.

### Intermittent operation

1. Generally caused by troubles in the receiver, such as defective antenna insulation or connections, defective wiring, defective tubes, etc. Other sections of the ency-

clopedia specifically explain this method of servicing these troubles.

2. Intermittent vibrator operation usually caused by worn vibrator nearing the end of its life.
3. Loose connections in the power pack.
4. Defective rectifier tube.

### Unusual mechanical noise

Unusual mechanical noise from the vibrator may be caused by:

1. Vibrator touching out parts and vibrating against them or causing other parts to vibrate. Correct this trouble with a cardboard pad around the vibrator.
2. An old vibrator nearing the end of its life.
3. Loose case screws, or loose parts in the radio set.

### Electrical hum from speaker

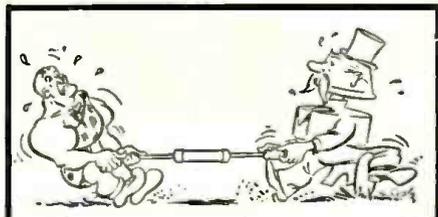
Hum from the speaker is usually caused by:

1. Defective filter condensers (low capacity).
2. Microphonic tubes.
3. Microphonic condensers. (Usually variable condenser).
4. Loose chassis screws.
5. Poor grounds in radio.

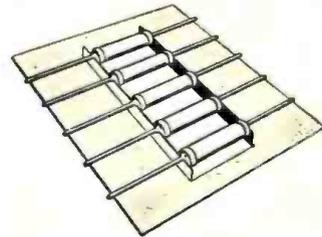
### Don'ts

1. *Never change the specified capacity of the buffer condenser (unless circuit matching is carefully checked with oscillograph).*
2. *Never attempt to repair a vibrator. Filling contacts or bending springs destroys the factory adjustment which has been carefully made with expensive instruments.*
3. *Never replace a vibrator until you are sure it is defective.*
4. *Never hesitate to write Mallory for specific information and help.*

A practical vibrator test, which will give the service engineer as good an indication of the vibrator condition as the tube tester does of tubes, will probably be of extreme interest to many in



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### A Practical Vibrator Test

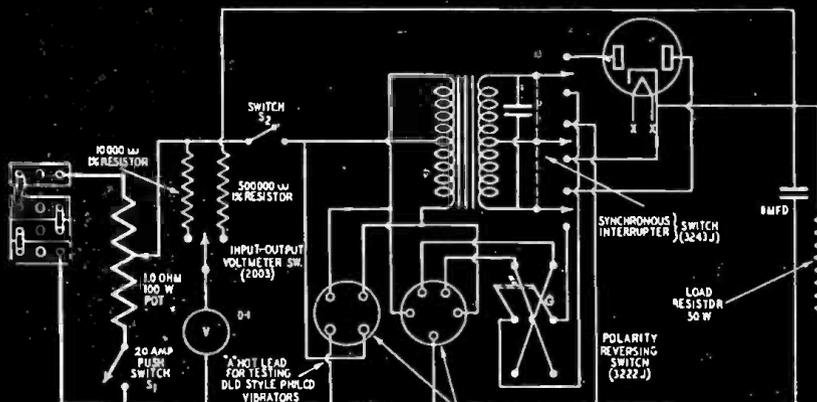


FIGURE 13

Circuit of the vibrator tester suggested by Mallory-Yaxley and described on these pages.

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## VIBRATOR TESTING

the service profession. Many inquiries have been received for information, which would outline the proper method of using an oscillograph for testing a vibrator. The use of an oscillograph for testing vibrators is much less valuable than the dynamic characteristics of the mutual conductance method would be in testing tubes. The English reading emission tester has become by far the most popular method of testing tubes.

There are a good many vibrator testers available but a simplified test would enable the service engineer to find out easily and rapidly the very things he needs to know about a vibrator. Earlier this article pointed out that vibrators should never need replacement until the contacts are worn to such an extent that the output of the power supply is unsteady or the vibrator fails to start at about 5½ volts.

The goodness of a vibrator may be tested by the value of the starting voltage the same as the goodness of a tube may be checked by the value of electronic emission from the cathode.

Phrasing a vibrator test into English reading indications, vibrators which will start at 5.2 volts or less are "good" vibrators and will give many more hours of satisfactory service. Vibrators that start between 5.2 and 5.6 volts are "doubtful" vibrators and may be expected to fail in the near future. Vibrators that only start above 5.6 volts are "bad" vibrators and may be expected to give immediate trouble, usually when the car battery is low and not being charged by the generator.

After the starting tests are made, the vibrator should be operated on 6 to 6½ volts with a voltmeter connected in the output circuit. If the voltage fluctuates over a fairly wide range, the vibrator is definitely bad, but a fairly steady output voltage indicates a good vibrator. This test is equivalent to the "short's test" of tube testers.

Vibrators which have been subjected to these two tests may be properly classified and the good ones used with confidence.

Figure 13 shows a typical circuit of a tester which will provide the above tests. (See page 49.)

The vibrator is first placed in the proper socket. The voltage is then adjusted by the potentiometer, with switch S1 held in a closed position, to 5.2 volts. Switch S2 is then closed. If the vibrator starts, the starting voltage is 5.2 volts or less, indicating a good vibrator. If it fails to start, open switch 2 and readjust the potentiometer to 5.6 volts and again close switch 2. By adjusting the voltage to various values and opening and closing switch 2 the exact starting voltage of the vibrator and its corresponding condition may be obtained.

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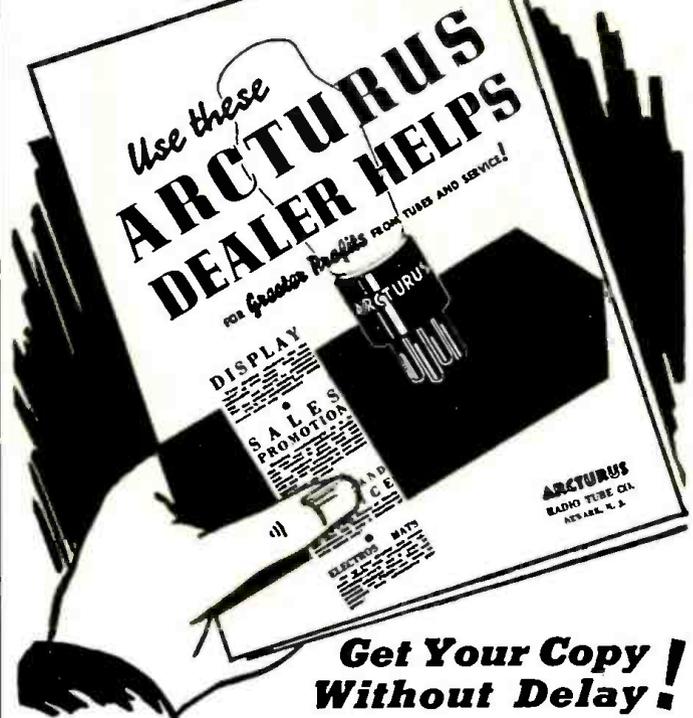
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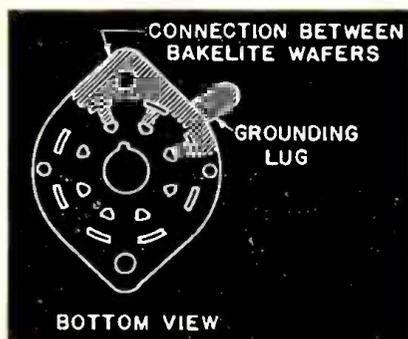
**YOU NEED ALL 8  
Rider  
MANUALS**

After the starting voltage of the vibrator has been obtained, adjust the potentiometer so that the voltage is between 6 and 6½ volts, then observe the output meter for smooth flow of secondary power. The output meter can be calibrated in "good" and "bad" readings by using known good and bad vibrators.

Vibrator testers of this type will prove invaluable since the true condition of the vibrator may be quickly, easily and accurately determined.

## GROUND CONNECTIONS ON NEW TYPE OCTAL SOCKETS

When tracing the wiring in Stewart-Warner 1939 radio chassis, it will be found that apparently certain socket terminals are not connected to ground, even though the circuit diagram shows a ground connection. Actually such terminals are connected to a common grounding lug which is located between the two bakelite wafers of the socket. It is important to remember this fact when tracing the circuit wiring since if you do not know of these internal connections, the circuit wiring may seem to be incomplete.



Sockets with the internal connections can be identified by the grounding lug extending from the side of the socket (see diagram). In the chassis this lug is always grounded. The bottom view of the socket shows which three terminals are connected to the grounding lug. For most tubes these terminals are the cathode, one side of the heater and the shield connection.

Most of the Stewart-Warner 1939 A.C. receivers use one or more of these special sockets, employing them wherever all three of the above terminals are to be grounded to the chassis. Of course, any wiring or other parts connecting to any of these three socket terminals are thus grounded by the internal socket connector.

★ One manufacturer of small sets cautions the serviceman to place the back of the receiver at least six inches away from the wall, etc., so as to allow free circulation of the air. Set referred to is an AC-DC job using a plug-in type resistor in series with filaments. Seems that this might also apply to AC-DC sets made by other manufacturers.

## MEN WHO ARE STABILIZING RADIO-PARTS SALES

(One of a series)



Leon Adelman

Sales problems of the Cornell-Dubilier Electric Corporation are managed by genial Leon L. Adelman.

At the lusty age of nine, when most moppets are falling off tricycles, Adelman was already looking into the curious workings of inductance coils, condensers, crystal detectors and aerials—with a view, possibly to "taking up" radio.

This is significant because few men of his age—Adelman is now 35—bring to their job so vast a fund of useful experience. Salesman, laboratory assistant, director of publicity, editor, advertising manager, sales manager—these are satisfactory careers in themselves for most men, but to Leon it's all in a lifetime, and all in radio, at that.

Those who know him will tell you, at the drop of a condenser, of this man's extremely likable, smiling disposition, of his honest, straightforward business dealings and his genius for hard work. And a quick glance at Cornell-Dubilier's sales chart offers insight into the man's managing ability.

Under Adelman's persistent guiding hand, C-D jobber sales have skyrocketed. In 1934, sales have doubled those of '33; in 1935, they were up 100 per cent again over the previous year. 1936 saw them shoot ahead another 60 per cent and in 1937, 40 per cent higher.

Adelman's formula for success is simple. Work. If the lights are burning late in the home office, you know Adelman is in town, and seeing to it that every order has been filled. Mostly though, he is on the road.

As radio editor of *Science and Invention* and the *Experimenter*; technical editor of *Radio News*; contributing editor of *Radio World* and associate editor of *Amateur Radio*, he worked tirelessly to keep interest alive in the burgeoning art by spreading information to eager fans many of whom were to become foremost figures in radio.

As a counter salesman in radio's pinafore days, Adelman learned firsthand the requirements of radio parts buyers and dealers. Later, as service manager for the F.A.D. Andrea Company, he came to know radio sets and

the importance of quality parts in avoiding service troubles.

From Fada, Leon Adelman joined the pioneer Charles H. Freshman Company. Next, he became assistant sales manager of the Hammarlund Manufacturing Company, Inc. For a time after that, he operated his own company, Leon L. Adelman, Inc., exporters and importers.

Out of this wide experience he developed a keen perception of modern merchandising principles and a sound knowledge of the "radio game." To quote Adelman: "Work is man's salvation—and mine!"

## RSA ELECTS NEW NATIONAL OFFICERS

At the annual meeting of the Board of Directors held in Chicago, June 8, 1938, the following officers were elected to serve until June 1939:

T. P. Robinson, Dallas, Texas—Pres.  
A. J. Theriault, Cleveland, Ohio—V.P.  
Donald H. Stover, Freeport, Ill.—Sec'y  
Lee Taylor, Chicago, Ill.—Treas.

New Chapters that have recently completed affiliation with the RSA are Alton, Ill.; Quincy, Ill.; Fremont, Ohio; Steubenville, Ohio; Ogden, Utah; and Long Island, N. Y. In addition to the above Chapters, Danville, Ill.; Cincinnati, Ohio; Indianapolis, Ind.; and Tulsa, Okla., are all definitely considering affiliation with the RSA. We're growing and growing!

### Highlights of first RSA convention

After three days of unremitting activity, the Board of Directors of the RSA completed the tremendous task of revising the by-laws, establishing the Code of Ethics, electing new officers, and choosing an emblem and slogan for the RSA, as well as other business of the organization.

After long and serious deliberation, the Board of Directors fixed the amount of the national dues at three dollars a year effective January 1, 1939, in order that members can continue to receive all of the many benefits enjoyed in the past as well as a host of new ones to be added in the near future, and in order that the RSA might continue to be self-sustaining and entirely free from any subsidy or domination. An admission fee of one dollar for 1939, was also agreed upon.

Duluth—Duluth Chapter voted to have one meeting a month during the summer. A very interesting meeting was held at which Mr. H. B. Eilers gave a very fine talk on "Facsimile". KSTP in St. Paul is on the air nightly with a facsimile program.

Holyoke—A regular meeting was held on June 15th.

A list of slow pay customers was made up and will be distributed to our members at our first meeting held in September.

# ABC? YES . . . BUT THAT IS NOT ALL!

## THE BIG THING IS COVERAGE OF BUYING POWER *especially SUPER OUTLETS and ABOVE-AVERAGE DEALERS*

There are 61,722 radio dealers in this country.

Some have difficulty in doing \$1,000 yearly radio volume. Others do \$1,000,000 with ease! Yet there is nothing in a circulation audit to differentiate between them. It becomes a question of how much a publisher knows, or is willing to tell, about his circulation.

Whether readers are "paid" or "free" is of no consequence if they have little or no volume. The important thing is to know all that can be learned about *how much merchandise they actually sell.*

In the very beginning, RADIO TODAY set up its records to "go ABC" at the earliest possible moment but it also

made a capital investment of over \$20,000 in setting up its mailing lists on the basis of buying power.

For example, RADIO TODAY secured the cooperation of the two largest manufacturers in building the only available list of super dealers. This is a group that does over 30% of the total radio volume. It is coverage that the radio industry must have and practically all of them are paid subscribers.

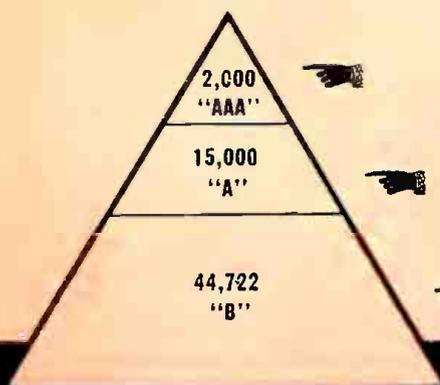
The fact that RADIO TODAY has the only trade circulation actually built on buying power, can be proved by a simple test that any manufacturer can make—a spot check of readers in a typical community or a questionnaire-survey to the super dealers.

### THE RADIO MARKET AT A GLANCE

These charts show the entire trade buying power and where the volume is done. They clearly show the importance of the two groups in which RADIO TODAY'S circulation is largely concentrated. There is no other way of

getting all that RADIO TODAY gives you unless you buy coverage of the whole 61,722—which, of course, no combination of publications can give.

DEALERS  
Total No. 61,722

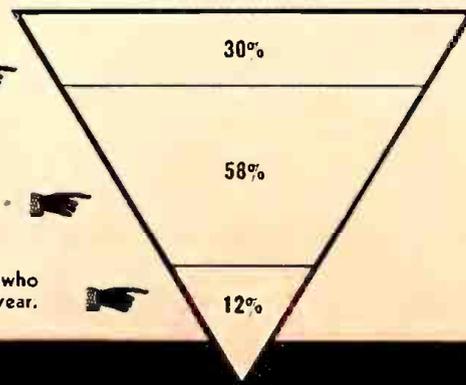


Super Dealers

Moderately large dealers doing over \$5,000 annually.

Small marginal dealers who sell only a few sets each year.

100% OF TRADE  
BUYING POWER



RADIO TODAY, Published by Caldwell-Clements, Inc., 480 LEXINGTON AVE., NEW YORK

# WHEN IS A TUBE NOT A TUBE?

Industry opinion backs Radio Today's drive against "dummies"  
Supports proposals to apply RMA definition in describing sets

When RADIO TODAY revealed in its November, 1937, issue the racketeering and misrepresentation going on in radio-set selling, by counting dummy resistor plug-ins as legitimate tubes, the storm which broke in the radio industry resulted in the drafting of a definition of "what constitutes a radio tube," by the engineering committee of the Radio Manufacturers Association. This definition has now been formally approved by the directors of the RMA. It reads:

"A radio tube is a device used in radio equipment in which an electric or magnetic field causes or controls the electronic or ionic conduction through a vacuum or a gas. This definition shall not be construed to include dial lamps used for illumination only, ballast or other resistance devices."

With this definition approved by representative leaders of the radio industry, RADIO TODAY in following up its own original move to clear up confusion of terms in radio-set selling, has proposed applying this definition to all descriptions and specifications of radio sets published in its pages.

We believe that it is to the best interest of the radio trade to omit resistor tubes, plug-in resistors, dummy tubes, etc., from the tube count.

Before applying this definition, which would mean that descriptions in RADIO TODAY would refer only to "active tubes" in the set, the editors have invited the comments of representative radio manufacturers on such a move. A number of these comments follow:

**W. R. G. Boker**

**General Electric Company**

Regardless of whether or not it was a sound business policy, the radio industry has consistently encouraged the consumer to measure in some degree, the performance of a radio receiver in terms of the number of tubes. If such a "measuring stick" is to be employed, the industry should jealously guard such a standard and it would seem that the RMA definition of a tube is very definitely a constructive step toward that end.

**Lewis M. Clement**  
**RCA Manufacturing Co.**

We are quite in agreement with both the RMA and *Radio Today's* policy on the subject of not including "resistor" tubes in the tube count on radio receivers. Where we use such tubes in our present line and make mention of the number of tubes we say in each case "a blank-tube set plus ballast tube", thus omitting the ballast tube from the actual tube count.

We agree with your stand and feel that the industry has been benefited by your active campaign on this subject.

**L. L. Spencer**  
**Stromberg-Corlison Telephone Mfg. Co.**

"Allow us to congratulate you upon your effort to clear the radio industry of one of its worst evils; namely, the 'Dummy Tube,' which has been used by the unscrupulous in the hope of securing sales.

"RMA's definition will be a great help, I hope, in clearing this menace from the industry.

"We hope that you continue your campaign."

**Powel Crosley, III**  
**The Crosley Radio Corporation**

"We are in accord with the RMA's definition of a radio tube, and feel that the Association is doing its best to improve a situation which, in our opinion, has been very bad.

"We, too, feel that it is for the best interest of the radio trade to refer only to active tubes when describing the number of tubes in a radio set, and are in favor of your applying the RMA's definition in this way."

**G. W. Russell**  
**Electrical Research Laboratories, Inc.**

"We are absolutely in accord with applying the RMA definition the way you contemplate. But you will find that many will list and advertise 7-tube sets that are using a ballast tube as a 7-tube set including a ballast tube, rather as referring to it as just a 6-tube set.

"We do not agree 100 per cent that a ballast tube is not an operating tube, particularly when used on a 2-volt

battery set, as a ballast tube in a set of this type really does function and perform a definite duty, but regardless of our opinion in this matter, we will cooperate 100 per cent in this new ruling."

**Roy C. Ellis**  
**Delco Radio Division**  
**General Motors Corp.**

"It seems to us satisfactory that you use the RMA tube definition for your descriptions and specifications of radio receivers."

**Alon R. Tripp**  
**Pilot Radio Corporation**

"We believe that it would be a step in the right direction to list receivers of all manufacturers at the number of working tubes which they employ. Of course, the success of this scheme would depend upon all publications adopting your method of listing."

**S. H. Beebe**  
**Fodo Radio and Electric Company**

"We do not believe that it will make very much difference what the manufacturers do in regard to the RMA definition, as it is our opinion that the retail trade will continue to sell six-tube sets as such if there are six articles in the set that look like a tube to the consumer. If the manufacturers of these devices would stop making them look like a radio tube, it might be possible to educate the retail trade accordingly.

"We further believe that it would be desirable if all manufacturers of radio sets followed the same practice in their tube designations and we are heartily in favor of any move in this direction, provided it can secure sufficient support to make the result unanimous to all practical intents and purposes."

**L. E. Murrey**  
**Better Business Bureau**

"We heartily recommend the adoption of the advertising policy you are considering as regards tube and tube complement designation, as well as commend you on the work you have been doing in this respect. This subject has been one of vital interest to this bureau for some time as evidenced by its bulletins on the subject."



Sales force of Shure Bros., Chicago, gather to honor new lines, new plans.

The altogether new line of micro-phones and acoustic devices introduced by *Shure Bros.*, Chicago, got a snappy reception last month when the company's representatives huddled at the Stevens Hotel for a special Representatives' Luncheon. Feature sales plans were discussed and approved for the new season. Shure officials and guests are shown herewith. Left to right, they are:

*First row:* Fred Ptashny, advertising; W. Sharer, design; H. Teplitz, advertising; R. M. Campion, Dallas; H. W. Burwell, Atlanta; M. Evander, engineering; R. Clark, purchasing.

*Second row:* H. S. Lea, service manager; S. K. Macdonald, Philadelphia; M. A. Cope, production manager; R. P. Glover, chief engineer; S. N. Shure; E. L. Berman, sales manager; J. B. Albert, assistant sales manager; H. Brauer, engineering.

*Third row:* F. Ellinger, Chicago; F. Hill, Minneapolis; J. P. Kay, Tulsa; L. M. Wood, St. Louis; W. Wood, St. Louis; H. P. Hardesty, Detroit; J. Clawson, Boston; J. C. Hill, export manager; B. Baumsweiger, engineering; H. Palmleaf, engineering; M. Steiner, engineering.

*Fourth row:* O. H. Smith, Chicago; C. H. Dolfuss, Jr., Cleveland; A. C. Simmonds, Toronto; W. H. Ellinger, Chicago; W. Davenport, Detroit; J. H. Vawter, Buffalo; W. Bert Knight, Los Angeles; R. C. James, Jr., Seattle; A. Dolnick, engineering; F. E. Schmitt, New York City.

New representatives for *Sonora* radio and phonograph divisions in the southeastern states are *Brouer Murphy* and *Jack Cota*, according to news from president *Joe Geri* of *Sonora Radio & Television Corp.*, Chicago. Headquarters are in Atlanta, Ga.

Also are announced two new jobbers: *Herbert H. Horne*, Los Angeles, for *Sonora* phonographs and combinations in Southern California; *C. F. Sexton* of *Radio Products Sales Co.*, for exclusive distribution of *Sonora* sets throughout Pacific Coast states.

*Mueller Electric Co.*, Cleveland, Ohio, now has two new sales agents. *Fred Somers* of Kansas City will handle the line in Missouri, Iowa, Nebraska and Kansas. *Walter W. Boyd* of Chicago will represent *Mueller* in Illinois and in eastern and southern Wisconsin. Both are seasoned specialists in the automotive and radio fields; both experts in jobber service.

*J. J. McBride*, Chicago district manager of *National Union Radio Corp.*, announces the appointment of *Fred Gusler*, sound and radio tube expert, as his assistant. Mr. Gusler has wide experience in radio and public address work, having sold RCA products in the Mid-West for many years.

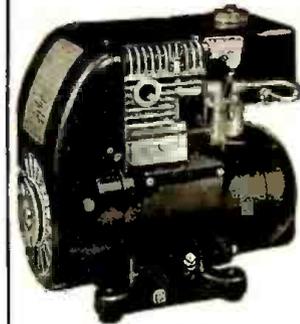
Second meeting of the *National Association of Radio & Appliance Retailers*, which was scheduled for Chicago early this month, was postponed due to the fact that many dealers cancelled their trips to the Merchandise Mart for the furniture and housewares buying events. Business lull during recent months was the reason, but plans are being made for another meeting. *Russell Atkinson*, 4 Ralph Ave., Brooklyn, N. Y., is president; *B. H. Poucher*, 3930 Lancaster Ave., Philadelphia, Pa., is executive secretary.

For *Premax* Products, the new representative in metropolitan New York and the eastern territory is *William (Bill) Gold*, 72 Park Place, New York City. New man for *Premax* in the Chicago area is *Al Bruning*, 208 N. Wells St., Chicago. The company also reports unusual success at the recent Parts Show, where the new *Tri-Bar* auto antenna got an exceptional reaction; the *Premax Vertical Antenna* for receiving purposes and the *Vertical Radiators* for amateur transmission also were applauded.

Last month 500 radio dealers and their wives went to the Yorktown Heights, N. Y., estate of *I. Goldberg*, president of *Pilot Radio Corp.*, to see new 1939 models and to celebrate Mr. Goldberg's 30th anniversary in the radio and wireless field. Guests at the big party unanimously applauded the "Rotor-dial" and "Piano Tuning" features of the new models.

"Not a firecracker in a carload" is the new slogan being used by *Cornell-Dubilier Electric Corp.*, S. Plainfield, N. J., in order to emphasize the safety factor in the type BR "Blue Beaver" electrolytics. In the improved units special vents are used to permit the normal dissipation of electrolytic vapor.

## Complete Electric Plants



NEW  
1938  
MODELS  
SIZES  
350 to 500  
WATTS

### COMPLETE POWER UNITS

Operating A.C. Radio, PUBLIC ADDRESS SYSTEMS, SOUND CARS, MOTION PICTURE EQUIPMENT, and RADIO TRANSMITTERS. Also furnish Power for Lights, Water Systems, Refrigerators, all Household Appliances for FARMS, CAMPS, LAKE HOMES, or STANDBY SERVICE. For use anywhere Power Line Current is not available.

### A PLANT FOR EVERY PURPOSE

110 Volt A.C., 6, 12, 32 and 110 Volt, D.C. as well as Combination A.C.-D.C. Units. Anyone can Operate. COMPLETE, READY TO RUN.

WRITE FOR DETAILS ON DEALERS' PROPOSITION AND TERRITORY

**D. W. ONAN & SONS**  
593 Royalston Ave., Minneapolis, Minn.

**A GOOD NAME GOES A LONG WAY**



Share the prestige of the KenRad name. Satisfy customers, make profit with dependable KenRad Radio Tubes.

KEN RAD TUBE & LAMP CORP.  
OWENSBORO, KY.

# ★ KEN•RAD ★

DEPENDABLE RADIO TUBES

Want to make some easy PLUS profits on an item guaranteed to build big business in the future?

Then Sell  
**TELEVISION**  
NOW!

Lee de Forest—"father of radio"—says it's "lucid, illuminating, I predict for it many amazed readers!"

Here's the one sure-fire method of showing your customers that YOU will be television headquarters. Sell them NOW the most informing book on the most controversial subject in radio—the whole story of sound-and-color television, and of the fights now raging over its patents and government control.

**TELEVISION**

**A Struggle for Power**

by FRANK C. WALDROP  
and JOSEPH BORKIN

Introduction by  
GEORGE HENRY PAYNE,  
Member of the F. C. C.

This big sensational book is an easy plus sale for every alert radio dealer. But—much more—it is perfect insurance for your future. Every book you get into the hands of a customer makes that customer know that you are the up-to-the-minute, completely equipped source of supply for all radio interests.

Get in on the ground floor with this hot proposition: A boost to your radio business today, a lever to your television business tomorrow! Stock it NOW.

--- TEAR OFF HERE ---

WILLIAM MORROW & CO., Inc.  
386 4th Ave., New York City

Gentlemen: I want to make some easy plus profits NOW and sow the seeds of future television-set sales. Send me AT ONCE, while there's so much in the papers about television..... dozen copies of TELEVISION: A Struggle for Power, by Waldrop & Borkin, as a starter. Allow me your big trade discounts as follows: 12 books for \$19.80; 24 for \$38.40; 48 for \$73.92. (Single copies wholesale \$1.84. Retail price \$2.75.)

Name .....

Firm .....

Address .....

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



"We plan to sell the prospect" is what this Detroit sales staff assures president Jack Ross. Sitting, left to right, Messrs. Goodman, Schuster, Goodman. "Jim" Davin (sales mgr.), Harry Legg (asst. sales mgr.), McCarthy, McMorrows. Standing, Evans, Harris, Rusch, Finger, Farkas, Engel, Lewis, Miller, Brennan. Divisional reps are now holding jobbers' dealer meetings.

**THE REPRESENTATIVES GROW**

When President Perry Saffler called to order the annual meeting of "The Representatives" on June 9 in Chicago, he found 85 members there, representing every section of the U. S.

Committee reports were lively; the membership group revealed that total members now number 125, compared with a total of 38 when the first meeting was held in October, 1935. Present membership covers all 48 states.

During the past year, 26 radio parts manufacturers requested a list of the members of the organization. Ten new applications were filed by interested representatives during the recent Chicago show.

Besides President Saffler, the officers are D. R. Bittan, vice-pres.; and David Sonkin, 220 E. 23rd St., New York City, secretary-treasurer. Next meeting is set for September.

**ARCTURUS HAS 50 SALES HELPS**

Dealer and service merchandising aids, over 50 of them ranging from the "magic slate" advertising novelty to service carrying kits, window displays, streamers, etc., have been announced by Arcturus Radio Tube Co., Newark, N. J. They are all listed in a new 4-page catalog which will be sent free on request.

Four main groups of the materials are (1) window and counter displays, (2) sales promotion units for appeal to old and new customers, (3) store and service necessities, and (4) free electros and mats.

General sales manager George W. Russell of Sentinel reports that general business conditions in Western and Southwestern area are excellent, following his recent trip through those territories. Sentinel jobbers in those sections registered enthusiasm for the new 1½ volt, 6 volt and AC models, according to Mr. Russell. President and general sales manager Ernest Alschuler noticed the same reaction from distributors, after his return from a recent vacation to Hot Springs, Ark.

A new line-up among the representatives of the Standard Transformer Corp., 1500 N. Halstead St., Chicago, has been announced. Added to the Stancor list of reps are: W. Bert Knight, Inc., 115 W. Venice Blvd., Los Angeles, Calif., to cover the lower part of California up to and including Fresno, Arizona, Nevada and Utah; Brown-Sherrill Co., 310 E. Morehead, Charlotte, N. C., to cover North and South Carolina, Georgia on the Fan line only; Hollingsworth & Still, Norris Bldg., Atlanta, Ga., to cover Alabama, Georgia, Florida, North and South Carolina and Tennessee; J. M. Cartwright, 1288 Vinton Ave., Memphis, Tenn., to cover Louisiana, Mississippi, Memphis and Jackson in Tennessee, Texarkana and Eldorado in Texas.

W. J. B. Kennedy has been announced as the new home set representative in the New England area for Galvin Mfg. Corp., makers of Motorola car and home radio. Adolph Ullman of Boston remains the company's auto radio representative in the territory. Mr. Kennedy's radio merchandising experience has been long and successful; he was once an RCA field representative and recently worked with GE. He has moved his family to Melrose, Mass.

To the sales force of Wincharger Corp., Sioux City, Iowa, have been added L. G. Collins and J. R. Espinola. Mr. Collins will direct advertising, to replace Mort Duff, now general sales promotion manager. Mr. Espinola will assist export manager A. A. Stewart. These specialists were added to help handle a big new ad campaign, the new dealer cooperative plan, the field force which has been doubled twice, and other activity connected with the firm's increase in sales.

Winners of Detroit Corp's national window display contest are both Kansas City, Mo., dealers. Goldman's won first award for a graduation gift display; Mace's won second for a window on "Credit at Cash Prices."

New representative for Sentinel in the state of California is Herbert H. Horn, Los Angeles, according to news from general sales manager George Russell.

# RADIO TOMORROW

By David Sarnoff, President RCA

One would be blind not to realize that forces are in motion throughout the world today, not only in our country, but across the seas, whose potentialities no one can measure with any exactness. The world in many parts is in a state of revolution and conflict. We are witnessing a transition, from what was once a peaceful and prosperous world, into a universe which at the moment is at loggerheads over a large part of its area. Doctrines with strange connotations are being hurled at us every day.

Yet, I feel that all these disturbances are merely adjustments to the progress which man has made during the past century, and particularly during the past two or three generations. The technological developments brought about by science and industry have, at least for the moment, outrun man's capacity socially to keep pace with them. So I view the world as in a state of disequilibrium, seeking to adjust itself to new conditions.

No one can read the history of the world, and of the revolutions and changes which have taken place throughout any period of history, without coming to the conclusion that each upset was followed by a period of progress and improvement. Truly, man advances by the sweat of his brow. It was Dante who said, "Thy struggles shall make thee strong."

## No depression in listening

Regardless of how deep the depression has been in other fields, no one can say that there is a depression in listening to radio programs—which, after all, is the business that you and I are in. The listeners to radio programs in this country do not number less than they did a year ago. They number more. And they can't listen without radio sets and radio tubes and radio devices. They can't listen long without recognizing that you cannot take out of a receiver all the things that are put into the microphone at the transmitting end, unless you have a proper mechanism at the receiving end. If the listener fails to recognize that fact, it is your job and my job to make it known. After all is said and done, you may have a Toscanini and a symphony orchestra before the microphone, and you may have the finest broadcasting transmitters, and the best wire lines connecting broadcasting stations for national hookups, but if the receiver, the loud speaker and the tubes are so made that they cannot let through the full range of frequencies, you get only a part of what is transmitted. And this means poor reception.

The improvement in programs, in transmission, and in the general level

of the type of programs that have been sent out during the past year or two, already exceeds to a considerable extent the capacity of the average radio receiver properly to receive what is being transmitted. I don't believe that any receiving set more than a few years old can measure up to the capability of transmission in the radio art at the present time.

## New sets needed

So after you get through talking about gadgets, and about this button and the other button, the fact remains that the best reason why a new radio set should be installed in the home is because the new radio set can deliver the new radio program and the old set cannot. That's without talking about the extra sets, the different models, or the automobile field and other fields that are open to radio merchandising. I still believe that the best reason for a new set is: the best reproduction of tone—the best reproduction of program quality.

As to new developments, my feeling is that the radio industry and the radio art are a long, long way from stabilization. I do not make that statement with any regret or apprehension. It has been said that the greatest asset on the radio balance sheet is our ignorance, because if we knew all there is to be known in radio, the values on the balance sheet would be definitely limited. The things yet to be done constitute the promising assets.

## Radio isn't finished

The reason there is not going to be stabilization in the radio industry for a long time is because the radio industry isn't finished. It wouldn't surprise me at all if, five years from now, practically every known radio device, whether for transmission or reception, would be inadequate to meet the necessities of the art; just as I think that any radio transmitter or receiver which is today five years or more old, is inadequate to meet the requirements of the present-day art. So there is no saturation in radio, and there "ain't going to be none" while you are still young enough to be in it.

We have begun to open the field of short waves. When we speak of short

waves, we do not mean the kind of short waves which you now listen to on a receiver. There are ultra-short waves, and there are waves below one meter, there are centimeter and even millimeter waves. Who knows what rich unopened fields are to be found in those unknown regions of the spectrum? We have always thought of radio as long-distance communication. But, I think that with the further development of these extremely short and ultra-short waves, we will be able also to develop new methods of short-distance radio communication.

Radio devices have been applied to a myriad of new uses. Some one has made a tabulation, I think, of more than 150 different uses to which radio tubes are now being put, including sorting cigars and showing the different qualities of materials, that were never contemplated when vacuum tubes were being developed.

## Television

You have been hearing discussions about facsimile and television. I have no more doubt of the ultimate practicability of radio facsimile and television than I have about the fact that I am now standing before you.

The problem is the program: the financing of the program and the building up of a circulation adequate to attract enough receivers in the homes. You can't have home receivers before you have transmitters to send them programs. You can't have transmitters until you have programs to put on those transmitters.

It is interesting to observe how limited is our human imagination, compared to the actual possibilities of development along scientific lines. It was the very limitation of the wireless telephone, the very fact that it did not confine its voice to a single individual listener, that gave it its universality; that now makes it possible for a single voice to be heard simultaneously throughout the world. That limitation was a glorious opportunity. It was what made broadcasting. Perhaps some such nugget will be found in the very combination, which for the moment holds, locked up, the service possibilities of television.

## Fresh opportunities

I have been trying to paint for you my feeling that no one need worry about there being no fresh opportunities to do business in radio. No one need feel that the present transitional period offers the slightest excuse for not exercising more than our normal effort. For in this struggle, in the effort to see through a fog a little bit further than those who merely follow the procession, is an opportunity for leadership. I think we can find adequate justification for our confidence—in ourselves, in our organization, in our industry, and in the ultimate soundness and prosperity of the country in which we are proud to live.

**"Progress in a Period  
of Transition"  
An Extemporaneous  
Address to RCA-  
Victor Distributors**

**NEW!**

Model CC



# CAPACITOR ANALYZER



Incorporates Model CB Features, plus High Capacity Scale, High Test Voltage, Simplified Scales, Sloping Panel

This advanced Analyzer measures Capacity .00001 to 800 mfd., including motor starting condensers; measures Power Factor 0 to 50%, including motor starting condensers; measures Resistance 50 to 2,000,000 ohms; measures Insulation Resistance to 1000 megohms, using test voltages to 600 D.C.; detects leakage and intermittents. A.C. operated.

Cat. No. CC-1-60 (110 v., 60 cyc.) Less tubes—\$24.90 net

Order through your jobber

**SOLAR MFG. CORP. 599-601 Broadway, New York**

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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.

# SALES TONIC

## MINIATURE CHARGERS



Wind charger models that are 20 in. high have been announced for display purposes by Parris-Dunn Corp., Clarinda, Iowa. The miniatures are built to scale, with a propeller cut to operate in front of an electric fan, if desired. In the showroom or shop window the model may be run by a concealed fan, to form an eye-catching motion display.

## TO STIR SERVICE BUSINESS

For dealers and service men to use in snappy direct mail work among customers, Hygrade Sylvania Corp. has issued a set of four new one-cent government post cards, and two new consumer folders.

The cards go heavy on the point of regular radio inspection, and attract the set owner by both comic and serious illustration. Brisk colors are used throughout the set.

Folders are printed in green and black, with human interest sketches on the outside, the better-reception-via-the-radio-serviceman message on the inside.

## "CALL US FOR SERVICE"



Window-counter display card, a dramatic one printed in three colors and gold is now available from National

Union jobbers. Large illustration of a monkey's head fits in with the advice "don't monkey with your radio—call us for radio service." The card has an easel back.

Also in this set of display material is a new window streamer which similarly sells radio service to the public.

## SELLING SILENT RADIO

A display card designed in lively colors to fit over the new Fada Silent radios has been released by Fada Radio & Electric Co., Long Island City, N. Y. The sales story of radio with the improved Dictograph Mystic Ear is told at a glance, suggesting that "regular radio reception plus absolute quiet" has an appeal for a wide market including living rooms, hospitals, children's rooms, offices, bed rooms, hotels, guest rooms, apartments, dormitories, airplanes, clubs, trains, nurseries, ships, etc.

## NEW BOOKLETS

Announced by Solar Mfg. Corp., 599 Broadway, New York City, is a new 9-S catalog, a feature publication which includes the firm's new line of Minicap dry electrolytic condensers, as well as the new CC analyzer. Besides extra illustration and elaborate rating data, this catalog features five colors. It is available from New York headquarters, rather than from Solar jobbers.

With special completeness, a wide variety of products are described and illustrated in a new 44-page 1938 catalog just issued by Meissner Mfg. Co., Mt. Carmel, Ill. Arranged for easy reading and quick reference, the book attractively includes electrical characteristic tables and is available free from Meissner headquarters or from parts jobbers.

Special circular, with space for dealer's imprint, has been issued by Stromberg-Carlson, to describe and illustrate the 1939 SC line. Specifications, features and other products are included.

## NRPDA ELECTS

At a big meeting during the Parts Show in Chicago, the National Radio Parts Distributors Association decided on officers for the 1938-1939 season: President, Leslie C. Rucker, Washington, D. C.; vice-pres., Emmet Tydings, Pittsburgh, Pa.; secretary, George D. Barbey, Reading, Pa.; treasurer, Blakely E. Cross, Gloversville, N. Y.

The directors are Arthur C. Stallman, Ithaca, N. Y.; William A. Shuler, New Orleans, La.; Walter Hollenbeck, Altoona, Pa.; Joseph A. DeMambro, Boston, Mass.; and Ralph C. James, Sr., Seattle, Wash.

During the sessions the organization took steps to hike business volume, to promote progressive methods, to support the RSA, and to promote further cooperation between manufacturers, distributors and servicemen for improvement of economic conditions. Price-fixing was checked out.

## Boost PROFITS with this New WARD AERIAL



If you've been looking for a quality aerial in the low price bracket, Ward's new 5XX is the aerial you want. Complete with 36" approved Low Loss Shielded Lead Cable and insulated lower bolt assembly, this 3-section, telescopic, side cowl model sells at only \$2.95 and still makes you a handsome profit on every sale! Easy to install. Made of rustproof Admiralty metal.

## FREE!!

See what's new for Fall in WARD'S complete line of car aerials. Write for free catalog.

**The WARD PRODUCTS Corp.**  
WARD BUILDING CLEVELAND, OHIO



● Everything you need in radio. It's all in this new 1939 RADOLEK RADIO PROFIT GUIDE. Every repair part for every receiver. Newest radio receivers. New 1939 model public address amplifiers; outputs from 5 to 100 watts. New model public address speakers. Test instruments, Technical books. Special equipment. Leading standard brands. Every item guaranteed. It must be right or we make it right.

● And everything under one roof. You get what you want promptly, and exactly what you want. Radolek's immense stock plus Radolek's efficient organization insures you fastest service, 25,000 servicemen depend on this service and benefit by Radolek's lowest prices. Send now for your copy of Radolek's Radio Profit Guide. You save time and money at Radolek!

**The RADOLEK Co.**  
601 W. Randolph, Chicago, Dept. D-21

Send me the New 1939 Radolek Profit Guide FREE.

Name .....  
Address .....  
Serviceman?  Dealer?  Experimenter?

# AMPERITE offers "ADJUSTABLE RESPONSE"

... made possible by  
**THE ACOUSTIC  
COMPENSATOR**

(pat. pend.)



\*Higher or lower pitch with the same microphone.

With the flip of a finger you can now (1) lower or raise the response of the microphone. . . (2) adjust the microphone for most desirable response for close talking or distant pickup. . . (3) adjust the system to any "taste", room condition, or equipment.

MODELS RBHk. RBMk. with Acoustic Compensator, frequency range 40 to 11000 cps, output, -65 db., complete with switch, cable connector and 25' of cable. . . . . \$42.00 LIST

## NEW LOW-PRICED CONTACT "MIKE"

\$12.00 LIST



The new popular-priced Amperite Contact Microphone can be used on most radio sets made since 1935 and on all P.A. systems. It "makes an ordinary violin sound like a Strad" . . . gives a small piano the tone of a Grand. And yet, there is no distortion. No unnatural effects. No "fingering noises." No changes in strings or instrument. Attached without tools.

Operates with either high or low gain amplifiers. Has frequency response of 40 to 9000 cps. Output, -40 db. 20' of cable.

MODEL SKH (Hi-imp); SKL (200 ohms), \$12.00 LIST  
Professional Model KTH (or KTL) . . . \$22.00 LIST

## NEW COMPACT "MIKE"



A new velocity microphone of compact size, having a head only 1 1/4" x 2 3/4" x 1 1/4". Good for speech and music. May be used as hand mike as well as for stand mounting. Complete with output transformer, cable connector and switch. Output, -70 db. into open line. Frequency response 60 to 7500 cycles.

MODEL ACH (Hi-imp); ACL (200 ohms) . . . . . \$25.00 LIST

## MODEL RAH...\$22.00 LIST

P.A. Men, you can improve those "price" jobs by using the popular Amperite Model RAH (or RAL). You will get better results because (1) it is excellent for both speech and music; (2) has flat response without undesirable peaks; (3) reduces feedback; (4) stands up under rough handling and changes in temperature, pressure or humidity. . . . Frequency range 60 to 7500 cps. Output, -68 db.

MODEL RAH (Hi-imp) with 12' of cable; RAL (200 ohms) with 8' of cable.

ONLY \$22.00 LIST

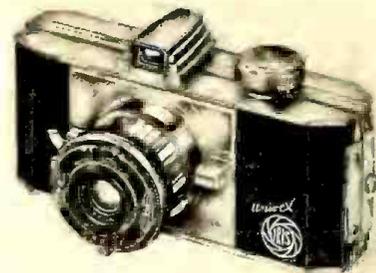


Write for Complete Illustrated Bulletins and Valuable Sales Helps.

**AMPERITE Co.** 561 BROADWAY, N. Y.  
Cable Address: Alkem, New York

**AMPERITE** velocity **MICROPHONE**

# EXTRA LINES



## Iris candid cameras

Two models, Standard and Deluxe, are the first of a series of the candid type. Vitar F:7.9 color corrected lens, precision type 3-speed shutter with 4-stop diaphragm. Picture size, 1 1/2 x 1 1/8", using fast Ultrapan 6-exposure film roll retailing at 15 cents. Camera measures 5 x 2 1/4 x 1 3/16", weighs 19 1/2 oz. Bright vision type optical view finder. Provision for cable release. Standard model CD-79 in black enamel with chromium trim, \$5.95. Deluxe model in chromium finish with leatherette covering, \$7.50. Universal Camera Corp., 32 W. 23rd St., New York, N. Y.—RADIO TODAY.

## Koolroom complete conditioner

Line of self-contained air conditioning units includes nine models, from \$175 to \$1,350. Unit with low price is 33 A-WS, portable, window sill job. Capacity 4,000 B.T.U. per hour, equal to melting 600 lbs. of ice per day. Motor is 1/3 h.p. 110-volt 60-cycle AC. No water connections; operating cost less than 1 cent per hour. Automobile steel cabinets with baked finishes in ivory, office green or walnut. Height 17", width 23", depth 29". Net weight 175 lbs. List, \$175. Koolroom Division, Indian Products Corp., Chicago.—RADIO TODAY.



## Kandor cameras

Three new models. Kandor C401, Kandor Comet C402, and Kandor Deluxe C403, Komet, illustrated herewith, has waterproof leatherette covering with chromium trim, steel construction throughout. Three diaphragm openings, Eyvar Meniscus 50 mm. lens. Uses any of 5 standard films. Picture size, 1 1/2 x 1 1/4". Camera size, 4 3/8 x 2 3/4 x 1; weight 14 oz. Provision for tripod. C401 lists at \$2.98; C402, \$3.98; C403, \$4.95. Irwin Corp., 27-33 W. 20th St., New York, N. Y.—RADIO TODAY.

Pleasantaire Corp., 1623 Connecticut Ave., Washington, D. C., has been granted a patent on window-type electric room-coolers. U. S. Patent No. 2,120,208 recognizes 20 claims as new in the air-conditioning art. "The claims of this patent cover quite broadly numerous features of the unit," explains President Richard F. Roper, "and therefore the patent affords Pleasantaire Corp. a very substantial monopoly upon air-conditioning units of the window type. We hope that other patent claims we now have on file will make the room-cooler a major-appliance item with a year or two."

Federal Refrigerator Corp., 57 E. 25th St., New York City, have gone into action as exclusive distributors for the Johnson Space Cooler in the area. Distribution will be made through dealers now handling products either made or jobbed by Federal, and the firm expects to shortly have some 250 dealers lined up on the cooler.

Stefan Kugler, 1805 N. Wilcox Ave., Los Angeles, Calif., has started operations as manufacturers' representative. He was for 12 years buyer for May dept. stores in Denver, Colo., and for the past 3 years owned and operated the OK Appliance Corp., a distributing firm for radios and appliances in the same city. Latter company was dissolved due to the accidental death of business partners. Mr. Kugler's activity in Los Angeles will accent radio, appliances and allied lines.

## RECORDS WORTH WATCHING

BING CROSBY with Eddie Dunstetter at the organ singing Little Lady Make Believe and Don't Be That Way with John Scott Trotter and his orchestra—Decca 1794.

MUSIC OF YESTERDAY AND TODAY STYLED THE BLUE BARRON WAY playing When They Played the Polka with VR by Russ Carlyle, Ronny Snyder and ensemble and Sweet Genevieve with VR by Three Blue Notes—Bluebird B7605.

WINGY MANNONE and his orchestra playing Martha and The Flat Foot Floogee, both with VR by Mannone—Bluebird B7621.

FRANCES LANGFORD singing Night and Day and Then You've Never Been Blue, with Harry Sosnik and his orchestra—Decca 1831.

BOB CROSBY and his orchestra playing Royal Garden Blues and Tea for Two, featuring Bob Zurke at the piano—Decca 1850.

CHICK WEBB and his orchestra playing A-Ticket A-Ticket with VC by Ella Fitzgerald and Liza—Decca 1840.

LARRY CLINTON and his orchestra playing Foo To You with VR by chorus and Harmonica Hop—Victor 25882.

RUBY NEWMAN and his orchestra playing in a Little Dutch Kindergarten and The Charming Spell of Your Embrace, both with VC by Ray Morton—Decca 1878.

BENNY GOODMAN and his orchestra playing The Flat Foot Floogee with VR and Big John Special—Victor 25871.

ANDREWS SISTERS singing Says My Heart from the Paramount film, "Cocoanut Grove," and Oh, Faithless Maid—Decca 1875.

SWING AND SWAY WITH SAMMY KAYE, playing I Married an Angel and Whispering both with VC by Jimmy Brown—Vocalion 4140.

# Calling All RADIO DEALERS...



Howard quality is recognized by the amateur and the serviceman. These radiocritics prefer Howard... ask them.

who didn't make a PROFIT in 1937-38

## Try HOWARD RADIOS

**With Howard: Dealers Do Not Have to Worry About...**

- **PRICE SLASHING RUINING YOUR BUSINESS:** No Howard set was ever dumped in any distributor's territory.
- **MANUFACTURER'S COMPETING WITH YOU:** Howard is sold under one name and exclusively through dealer-distributor channels.
- **EXCESSIVE SERVICE EXPENSE:** Howard has been universally recognized as manufacturing precision radio products for 17 years.
- **A LINE WITH EIGHT DOZEN MODELS ONLY A FEW OF WHICH SELL:** Howard covers the entire popular price range with 12 outstanding receivers.
- **HIGH PRESSURE TACTICS—NOR EXCESSIVE INVENTORY:** Howard Radios can be purchased when and as required.



**MODEL 418**

11 Tubes—All Wave  
**MOST BEAUTIFUL CONSOLE IN AMERICA. BASS BOOST TONE CONTROL**—providing variable amplification of bass notes without sacrificing clarity.

Push Pull Beam Power Output—11 Watts Undistorted  
 12' Auditorium Dynamic Speaker.

Perm-a-matic Iron Core Push Button Tuning—exclusive Howard development eliminating drift—easiest to set.

### TYPICAL HOWARD 1939 VALUE....

Howard is an exclusive manufacturer of radio sets with a performance record of 17 years' experience in quality merchandise. Howard has learned through this long experience that in order for the dealer and the distributor to make a profit, radio manufacturing operations must be highly flexible with production under control at all times. Dealers must be permitted to order merchandise that sells without being loaded up with "dead Indians" that won't sell. The manufacturer must be set up to produce the right merchandise when it is needed and with quality that doesn't entail endless service. Distributors and dealers must be permitted to make their full profit at all times and must not be subjected to factory competition.

Howard's line for 1939 offers the most beautiful style appeal in their 17 years of radio set manufacturing and includes every tested new feature at prices made possible only because Howard manufactures more parts than any other manufacturer in the industry.

For complete catalog and information on sales, advertising and financing plans, write —

### Showing a few of Howard's 12 Models



**MODEL 200**

Extremely compact midget receiver having iron core coils and indirect dial drive.



**MODEL 430**

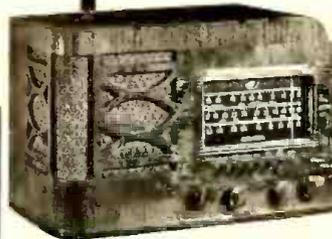
**Communication Receiver**

Six Tubes — Four Bands

Ceramic Coil forms:—Separate band spread condenser gang; excellent 10 meter performance; Iron Core I.F. Transformers; Frequency Coverage 540 KC to 40 MC. Amateur Net Price \$29.95 with built-in speaker. A complete line of Communications Receivers from \$29.95 to \$105.45.

**DISTRIBUTORS:** Jobbing proposition is open in some territories. Call or wire collect. Howard also offers Communication Receivers.

**HOWARD RADIO CO.**  
 1731 West Belmont Avenue, Chicago, Illinois  
*America's Oldest Radio Manufacturer*



**MODEL 468**

8 Tube—3 Band A.C. Super; 8-inch dynamic speaker; Bass boost tone control, Perm-a-matic push button tuning. The ultimate in a table model!

# Still the MOST ECONOMICAL RADIO POWER



**NEW** MODEL  
**'39**

**3650 Hours**  
For **50¢** A YEAR  
POWER  
OPERATING COST

NEVER any need to cut down on listening hours when a Wincharger powers the radio. For power costs Wincharger owners next to nothing—makes 10 radio hours a day as cheap as one—and ALSO gives extra power for lights, a fan, an electric fence or razor, and for recharging car, truck or tractor batteries—all at no extra cost!

#### **No Dry Batteries — No Replacements —**

Yes, wind-power is "FREE POWER"—plentiful, cheap and always dependable provided it is generated by the original Wincharger with its exclusive CROSS-BAR GOVERNOR and with 1939 features yielding up to 30% more power.

**Endorsed by Leading Radio Manufacturers  
for Best Results with Farm Radios**

WRITE OR WIRE FOR COMPLETE DETAILS AND NEW BOOK "CLOSE FIGURING"

# WINCHARGER

**CORPORATION**  
**SIoux CITY, IOWA**

**World's Largest Manufacturer of Wind Electric Equipment**