



# RADIO TODAY

A PEEK AT THE SHOW  
AND THE NEW RADIO SETS

JUNE

*You are cordially invited to preview*

THE **SCOOP LINE** OF



**SEE THE LINE WITH THE GREATEST ROLL CALL  
OF PRECEDENT BREAKING FEATURES IN OUR RADIO HISTORY**

Hold everything! Until you've previewed this sensational new G-E Radio line. Watch for announcement of showings in your vicinity arranged by your local G-E Radio Distributor . . . or get in touch with him for full details.

**GENERAL  ELECTRIC**

**YOU'LL APPLAUD  
SCOOP No. 1  
WHAT IS IT**

**YOU'LL ACCLAIM  
SCOOP No. 2  
WHAT IS IT**



**YOU'LL CHEER FOR  
SCOOP No. 3  
WHAT IS IT**

**YOU'LL GO FOR  
SCOOP LINE of 1939  
WHAT IS IT**



# 1938 Brings New Stars into the MALLORY-YAXLEY Family

Radio service engineers depend on Mallory . . . for the finest and most efficient replacement parts . . . and for the pioneering that keeps radio service abreast of radio manufacturing.



**New!** Small-Sized Metal-Cased Tubulars, Type BB. These condensers represent the result of over ten years of research. They embody every possible safety factor. They are completely dependable.

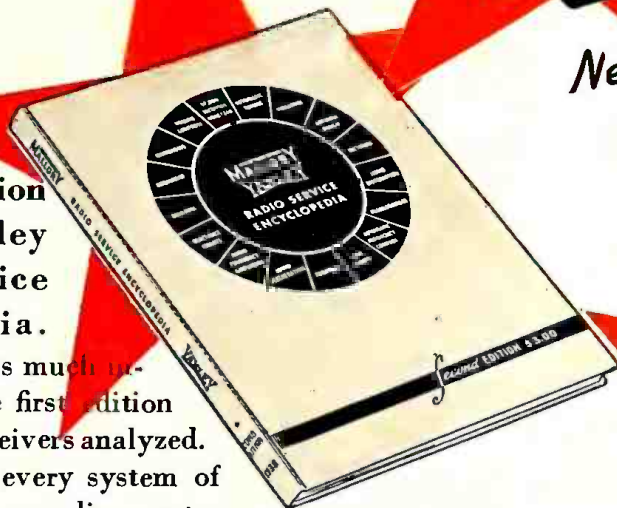
**New!** Midget Replacement Controls with Plug-In Shafts . . . 10 new Mallory-Yaxley Midget Volume Controls plus 17 Plug-In Shafts give you the servicing range of 170 ordinary Exact Replacement Controls with fixed shafts.



**New!**

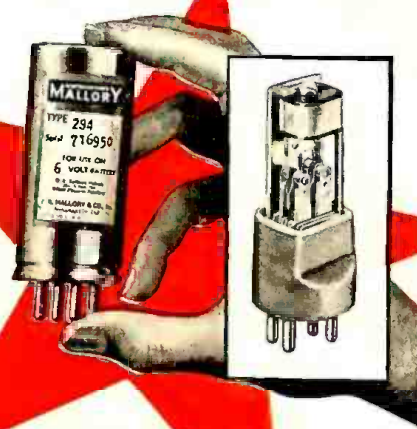
The 2nd Edition Mallory-Yaxley Radio Service Encyclopedia.

Contains twice as much information as the first edition MYE. 17,000 receivers analyzed. All the dope on every system of automatic tuning . . . alignment . . . audio degeneration. Complete tube charts. You wouldn't believe that such a book could be possible. It will pay for itself in the time you save on one job.



**New!**

Long-Life Vibrators, priced right. Mallory Replacement Vibrators assure lowest cost per "use hour" and trouble free long life.



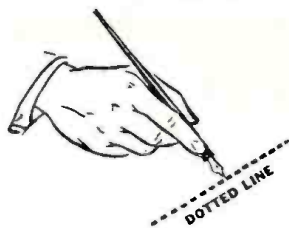
*Always insist on Mallory . . . the Quality Product that Costs No More Than Ordinary Products*

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

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

Use **YAXLEY** REPLACEMENT VOLUME CONTROLS

# "I HAVE MANY OF YOUR PROSPECTS



*half sold now!"*



**I** CAN help you close sales with many of your good prospects who have already purchased automobiles or household appliances on the Commercial Credit time-payment plan. They appreciate our friendly, fair treatment. When you talk terms to them you find them "sold" on Commercial Credit financing.

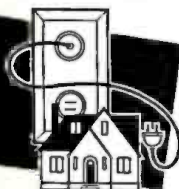
I know your local credit picture from A to Z. I know how to protect you from risky sales. I

make collections in a frictionless way that relieves you of worry or embarrassment. The resources of a great national organization are back of me, to finance all the sound business you can produce, regardless of temporary local conditions.

Every dealer who uses our service gets the complete cooperation he's looking for.

If you want to know more, I'm easy to find. I'm your local Commercial Credit manager, ready to serve you from any one of more than 200 offices in principal cities of the United States and Canada. Call me up.

**REFRIGERATORS • RADIOS  
RANGES • HEATING AND AIR  
CONDITIONING EQUIPMENT**



## COMMERCIAL CREDIT COMPANY

COMMERCIAL BANKERS

HEADQUARTERS BALTIMORE

CONSOLIDATED CAPITAL AND SURPLUS OVER \$64,000,000



Serving Manufacturers, Distributors and Dealers Through More Than 200 Offices in the United States and Canada

# *Motorola* HOME Radio

Will Feature

**SOMETHING MORE THAN PUSH-BUTTONS . . .  
SOMETHING MORE THAN REMOTE CONTROL**

The 1939 Motorola Home Radio line incorporates many new, practical features that will capture the imagination of Mr. & Mrs. John Q. Public. Buyers will be intrigued with Motorola's new conveniences and delighted with its honest values. Motorola "has what it takes" to close sales this year—especially in the brackets *under one hundred dollars*.

## **SELL THE NEWEST**

Your customers will really "go for" the new Motorola which tunes itself—a unique instrument with no auxiliary apparatus—positive, accurate and foolproof in operation.

## **BEAUTIFULLY STYLED**

Motorola's cabinets will be truly beautiful pieces of furniture. Your women customers will appreciate their "good taste" adaptability to any room setting.

## **TABLE MODELS READY**

New lower priced 1939 Motorola Table models will be in your hands shortly. Look for performance that ought to cost \$10.00 more.

## **MOTOROLA CONSOLES WHEN YOU NEED THEM**

Wise dealers who adopt a sound buying policy will profit by waiting for the July showing of 1939 Motorola Consoles. Out in plenty of time to stock up for Fall selling.

## **DON'T TIE UP YOUR CREDIT!**

Motorola's policy of supplying exciting *NEW* merchandise when your retail selling actually starts permits you to *buy what you need when you need it* without tying up your credit. It's better to take your profit out of fast moving items that insure a quick "turnover."

*Don't Buy in June What You Won't Sell Until September*

**GALVIN MFG. CORPORATION • CHICAGO**



F. A. D. ANDREA  
President  
ANDREA RADIO CORP.

# ADVANCE INFORMATION ON THE GREATEST PROFIT SET-UP IN YEARS

**W**ITHIN the next 30 days, Andrea Radio, under the ownership and personal management of Frank A. D. Andrea, will introduce a complete line of radio receivers. The line will be distributed and sold by methods so different from present practices that the better dealers, the real merchandisers, will say, "Here's my chance to go to work on radio sales again. I can make money with this Andrea set-up"!

As one of radio's most experienced organizations, Andrea Radio Corp. is determined and able to adhere to the same sound merchandising methods that were proved so successful by my old company when it was under my sole ownership and management from 1920 to 1932. Controlled production, carefully gauged to consumption, avoided dumping and ruinous price competition. Today, this is all the more possible for Andrea Radio because its world-wide sales make us independent of seasonal domestic conditions.

The Andrea set-up is not planned at all for dealers who are willing to sell at cost-plus-a-dollar profit. It is not intended for chain stores which sell at cut prices. Nor is it for sub-jobbers or "industrials" which offer 40 per cent discounts to members of large organizations.

But here is a real thrill for radio salesmen, because they know that their prospects won't say, "I like that set, but I can get it cheaper from a friend who's in the business." Or, "I'm going to look around a bit. I think I've seen it for less down the street." Or, "I'll wait until after Christmas when you'll be giving these sets away."

Naturally, some of the dealers who survived the kicking around they took last season will again forget that the only real reason for being in the radio business is to make a fair profit on sales. But those dealers who have forgotten about profits won't compete with Andrea dealers because the Andrea set-up is only for able, aggressive, progressive merchandisers.

The 1939 Andrea models are outstanding in tone quality and in advanced engineering features —with cabinet designs whose beauty and distinction set them apart from all others. Details will be made public within 30 days. Each model will provide the extra measure of satisfaction to the customer and *the legitimate profit to the dealer* that has characterized Andrea equipment since 1920. Andrea Radio dealers will do business *at a profit*. If you're interested in profits, write for information on the Andrea Radio line.

**NOTICE:** Every radio set manufactured by Mr. F. A. D. ANDREA since 1934 bears the full name ANDREA. No set produced since 1934 is of Andrea manufacture unless it carries the Andrea name spelled out as it appears below.

*F. A. D. Andrea*

# Andrea Radio

4823 48TH AVENUE  
WOODSIDE, NEW YORK

# Capitalize *on* Curiosity-



**Sell**

## **PHILCO TUBES**

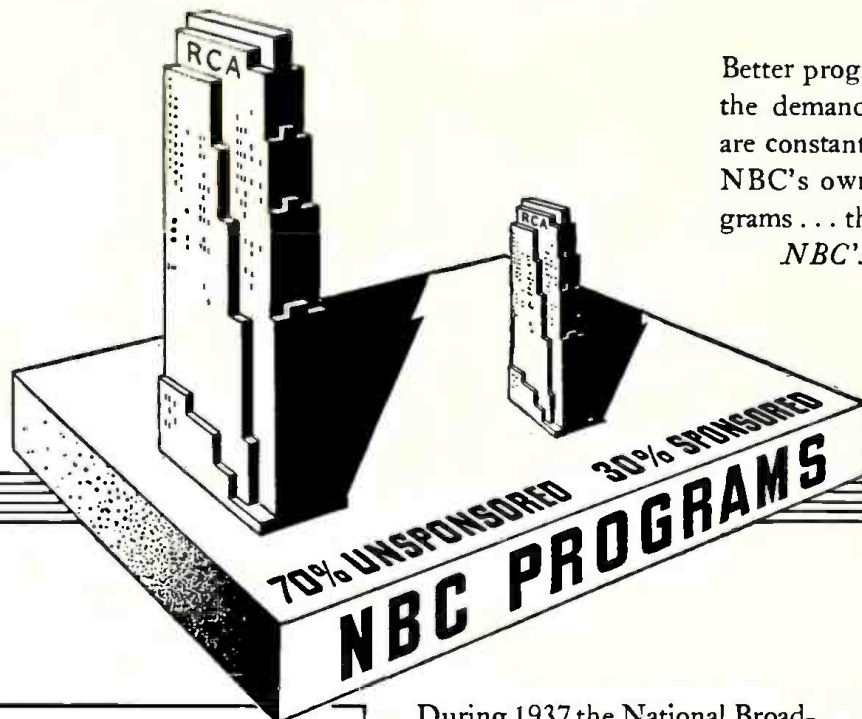
**to those who are just "looking around"**

**N**EW PHILCO models on display in your store will bring "lookers" as well as buyers. But even those who just come to look can be turned into buyers of Philco Tubes! If they're not quite ready to place an order for a 1939 Philco . . . offer to check the tubes in their present sets. The very fact that they're interested in a new radio is the best evidence in the world that they're not completely satisfied with the set now in their home . . . and in all probability, one or more tubes are in an old, weakened condition.

Capitalize on curiosity! If you can't make a new Philco sale . . . sell the Philco Tubes they certainly need for proper, efficient operation of their present sets. You'll not only make an immediate profit . . . but you'll lay the foundation for a future Philco set sale!

*The Easiest Tubes in the World to Sell*

# RCA Continues to Build America's Radio Audience!



Better programs—which increase the demand for better radios—are constantly being fostered by NBC's own unsponsored programs . . . they constitute 70% of NBC's time on the air!

## NBC HIGHLIGHTS

These are but a few of the many fine programs which make up NBC's 70% unsponsored time on the air!

- ★ Metropolitan Opera Broadcasts
- ★ NBC Symphony Broadcasts
- ★ Music Appreciation Hour
- ★ National Farm & Home Hour
- ★ NBC Radio Guild
- ★ America's Town Meeting of the Air
- ★ The Radio Pulpit
- ★ University of Chicago Round Table

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

During 1937 the National Broadcasting Company, a service of RCA, broadcast more than 50,000 unsponsored programs. Such service accounted for 70% of all NBC time on the air. The variety offered was as wide as human interests.

Through the miracle of radio such programs bring to millions entertainment, information and help which they could not receive otherwise. Through NBC, living rooms become boxes at the Metropolitan Opera. Or they are filled with the sonorous cadences of great symphonies, played by the NBC Symphony Orchestra, con-

ducted by Arturo Toscanini, or some other famous conductor.

Again, it may be current prices of eggs, or pork, or a discussion of books and plays. But whatever the subject, if it is of interest to any considerable part of the public, NBC provides programs which deal with it.

Programs such as these, together with the fine programs sponsored by NBC advertisers, have been largely responsible for the increased sale of radios. And in offering listeners better radios RCA further stimulates America's interest in fine radio programs.



## 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



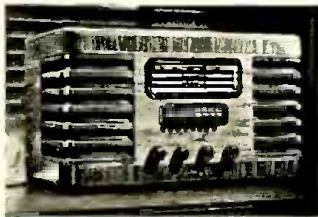
# Sonora

CLEAR AS A BELL

A GREAT NAME IN RADIO  
 A GREAT LINE FOR 1939  
 A GREAT DISTRIBUTOR OPPORTUNITY

## 34 GREAT MODELS

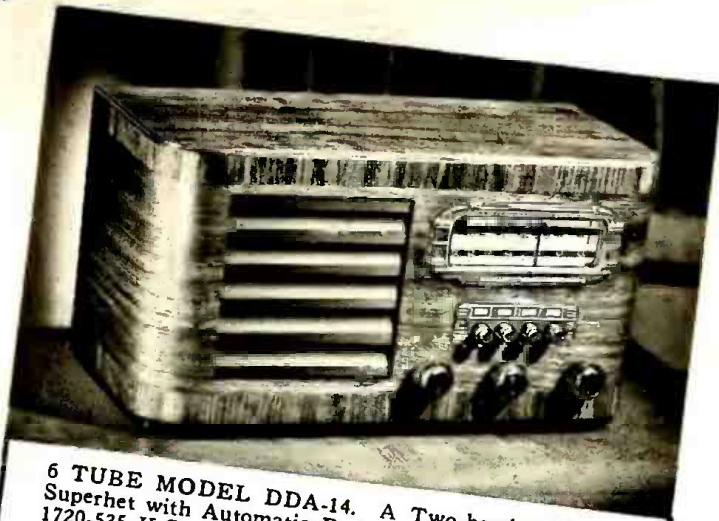
Now—for 1939, SONORA offers a new opportunity—an unparalleled opportunity for profitable distributor operation. SONORA presents a complete quality line of 1939 radios with a powerful sales "punch"—a line of 34 magnificent models with "eye" appeal and "Clear-as-a-Bell" tone appeal—priced right for today's market—with distributor net prices that mean exceptional profits. SONORA fits the big, waiting market that only a quality-built, richly-toned, intelligently-priced line of radios can command—and the twenty-five year old SONORA reputation backs this new line of sets—a great line ranging from a hand-sized "Teeny-Weeny" to a luxurious 12-Tube all-wave console. In engineering, in styling, in beauty of tone and of cabinet artistry, SONORA is a logical distributor choice. In price-range, in national policy, too, SONORA brings you the outstanding radio opportunity for 1939!



9 TUBE MODEL GA-66. Brilliant three-band A.C. Superhet in outstanding deluxe cabinet. Tunes 535-18100 K.C. Features: Automatic Push-Button Tuning; 8" Slide-Rule Dial; Tone Control; A.V.C.; 9 Watts Output; 8" Dynamic Speaker; Pre-selector, etc. Size: 22" x 12" x 11". A brilliant SONORA presentation.



7-TUBE MODEL FA-55. A three-band A.C. Superhet presented in a smartly-styled 1939 cabinet. Tunes 535-18100 K.C. Includes: SONORA Automatic Push-Button Tuning; 6" Slide-Rule Dial; Tone Control; A.V.C.; Wave Trap; 5 Watts Output; 6" Dynamic Speaker; Dyna-Boost Circuit, etc. Size 18" x 10" x 8".



6 TUBE MODEL DDA-14. A Two-band A.C.-D.C. Superhet with Automatic Push-Button Tuning. Tunes 1720-535 K.C. and 5650-18100 K.C. Features: 2 Watts Output; Beam Power Tube; A.V.C. Push-Button Tuning of any 4 desired stations; 6" Slide-Rule Dial; 6" Dynamic Speaker; Built-in Aerial. Size 15 1/4" x 8 1/2" x 7". The brilliantly styled table cabinet has the exclusive "as-a-Bell" tone. Provides superb "Clear-



6 TUBE MODEL C-22. A typical SONORA value for 1939. A new A.C. radio in a brilliant plastic-molded cabinet. Tunes 1720 to 535 K.C. Features: exclusive SONORA Dyna-Boost Circuit; 2 Watts Output; Slide-Rule Vernier Dial; Full Dynamic Speaker. Available in ivory, mottled walnut, black, ivory face with black body. The sensational distributor's net price will amaze you! Mottled walnut model lists at only..... **\$22.95**

SONORA is open for qualified distributors for territories not yet adequately represented. Write, 'phone or wire for complete details.

**Sonora**  
 Clear as a Bell  
**RADIO & TELEVISION CORP.**  
 MERCHANDISE MART • CHICAGO

SINCE 1914 — THE LEADING NAME IN THE MUSIC REPRODUCING WORLD



HARRY BOYD BROWN  
National Merchandising  
Manager of Philco

## NO DEALER CAN AFFORD TO BE WITHOUT IT—BUT ONLY PHILCO DEALERS MAY HAVE IT!

**M**YSTERY CONTROL—the greatest radio discovery since radio itself—an amazing invention that means unparalleled retail sales for Philco radio dealers.

Think of it! No wires—no cords—no plug-in connections of any kind! So small—so light—so compact that you can carry it anywhere and place it anywhere. And then—with one flick of the finger—tune in any one of 8 different stations from *any place in the home within enjoyable hearing distance of the radio.*

Furthermore—the volume can be regulated—increased or decreased as you wish it—and the radio can also be turned off from this same Mystery Control. And each Mystery Control Unit is “in tune” *only with its own companion receiver*—no chance of any confusion—no chance of any effect on the neighbor’s Mystery Control receiver.

No radio dealer can afford to be without this thrilling, fascinating, phenomenal radio invention—and yet only Philco dealers may have it—*only Philco dealers can “cash in” on the vast new market it opens up.*

Mystery Control comes in 2 magnificent Philco models—the Philco 116RX and the Philco 55RX—both in superb new styling—a new beauty in cabinet design plus a new high standard of radio performance. Radios so new—so different—so sensational that they will sell in volume in spite of business conditions—anywhere.

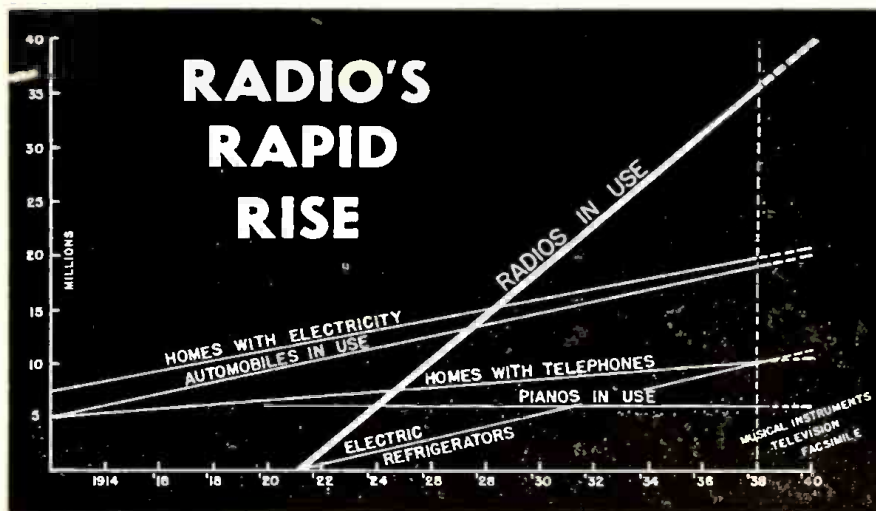
Yes, and these 2 Stars of the radio world—these Philco models with Mystery Control—*will also sell hundreds of thousands of other Philco models*—because the mystery, magic and fascination of Mystery Control will fill your store with people—with interested prospects. And it is prospects—and plenty of them—that makes it possible for you to sell radios in volume.

And what a magnificent array of other Philco models in every price bracket. A wide variety of perfected instant Push-Button Tuning radios—furniture models—table models—compacts. Merchandise of irresistible appeal—*priced to meet conditions—priced to fit the purchasing power of millions of pocketbooks*—merchandise that is bound to sell—depression or no depression—good times or bad.

In other words, business prosperity—real selling activity is here again for the radio dealer, if he gets the Philco franchise. Therefore, by all means, get in touch with the Philco distributor in your territory right away. Be ready to sell and deliver the very day that Philco’s amazing radio values are offered to the American buying public.

*Harry Boyd Brown*

# PHILCO



# ONLY THE BEGINNING!

Radio, youngest of industries, has only started to grow

Here's a chart that has a message for every radio man. Of all the services that make up modern living, radio is the youngest. Yet it is still expanding at a rate that leaves other services—like the telephone, electric light, automobile—far behind.

Even with only five or six million sets to be sold this year, radio is still the wonder-business of the age, compared by any of the other yardsticks for other lines.

Just because a recession is in progress in general business at the moment, radio men can't afford to let down.

There are still lots of radios to be sold—still people who need better sets—additional sets; need new tubes, new parts, new antennas—need these more now than ever before. And have money to pay for them.

Radio men can't slow down now, or relax their efforts. Conditions abroad may be distressing; affairs in Washington and Wall Street may be disappointing. But these are not excuses for the radio dealer to put the brakes on his own efforts. On the contrary such critical news situations actually help to *increase the demand for radios* as people insist on getting the vital news of the hour!

## New leaders will come

The only thing that will put radio selling back on its feet is to keep busy going out after business. This much the radio man owes to his family and dependents—owes to the organization he has built around him in his business.

But even more important to his own future will be another result of effort now—repeating history familiar to most. Back in 1932, when a real depression was upon us, and things looked blackest, some firms resignedly slowed up or "folded." But others initiated policies of

*aggressive action*, and went out and *got what business there was*. Then as the old depression lifted, it was these tireless workers who found themselves to be the new leaders in their fields—found themselves at the top of the ladder, to which they never would have climbed had business just been "easy."

The same switches in position will take place during the present recession. Vigorous fighters will grab the opportunity to sail ahead of stodgy conservative competition. New business equities will be established. New names will arise, to shine as radio leaders in their communities.

## Possibilities unlimited

Radio men who really know this great art and its myriad potentialities ahead, will never lose faith in it. It is only unseeing business opportunists that suspect "radio is at the end of its rope," because they know no better. New uses for radio, new services, facsimile printers, television, musical instruments, are all in the magic box of radio's future.

Radio's prizes-to-come are of surpassing promise—they are worth fighting for, more than ever. Out of the present recession will come new leaders for radio's bigger days ahead.

And these leaders will pull themselves into front rank by the energy and enterprise they display now.

O. H. Caldwell

Editor, Radio Today

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Sales Manager

# RADIO TODAY

ORESTES H. CALDWELL  
Editor

M. CLEMENTS  
Publisher

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MEMBER AUDIT BUREAU OF CIRCULATIONS



J. M. Skinner and the new Philco "mystery control". Dialing box at hand, tunes and controls volume of receiver in background. No wires, no plug in!

## CONVENTION RUSH

May was a month of conventions for many manufacturers and their distributors. Zenith, General Electric, RCA-Victor, Westinghouse, Philco and Stewart-Warner held their meetings before the month was over. The Emerson distributor convention is

scheduled for New York during the week of June 20.

At Chicago, June 7 to 11, in the Hotel Stevens and vicinity, will be held a series of radio-trade gatherings, centered around the National Parts Show, June 8-11. The Radio Manufacturers Association will have its annual convention June 7-8, closing with the annual industry banquet the evening of the 8th. Meeting of the Radio Servicemen's Association will be held daily, during the period of the Parts Show. The Sales Managers Club meets June 9, and "The Representatives" get together the same day. The annual convention of the National Association of Radio Parts Distributors is scheduled also for June 9.

## NY SOLUTION TO TRADE-IN ALLOWANCES

In a skillful and serious effort to make the 1938-39 radio season a different and a more profitable one in the New York metropolitan area, organized groups of dealers have huddled with their distributors, and a new attitude toward fair trade regulations is the result.

The main features of the plan will



John F. Ditzell, Stewart-Warner sales manager, who introduced new lines at Chicago convention May 31-June 1.

be that net selling prices on each model will be definitely fixed, and there will be a special agency set up to enforce this price. These two points were found to be popular with dealers in the area when their ideas were sampled by Percy Peters, chairman of the radio committee of the Electric Appliance Dealers Association of Brooklyn. Other regulations requested by the dealers included elimination of trans-shipment, a committee of dealers to pass on fair trade contracts offered by jobbers, special cooperative action with financing agencies on lines not having price protection, more franchise control, a 30-day notice on price changes, price advertising limited to list figures, and post-season models to be covered by identical price regulations.

Half a dozen leading distributors



A. A. Brandt, adv. supervisor, E. H. Vogel, manager radio division, and P. F. Hadlock, commercial engineer, demonstrate new GE Radios before Bridgeport meeting May 18.

readily agreed to the essentials of the plan. Stromberg-Carlson, represented by Ben Gross, says that no change in the firm's fair-trade contracts will be necessary to meet the requests of the dealers. General Electric, with D. W. May as spokesman, announces a new contract, incorporating the flat maximum allowance feature, and continuing its policy of orderly marketing in general.

## MORE DIALS THAN DOORS

★ For those enlightened persons who have been interested in the second and third set idea as a likely trend in the American home, this item is plastered over some other radio news.

In the small town of East Rockaway, Long Island, N. Y., the police department made a survey of radio ownership and found more sets than



E. A. Tracey of Zenith took leading part in the firm's lively showing of 1939 models, early last month.

families. There were 1,960 radios among the 1,587 families in town. There were also revealed 1,509 autos in the place, but only 211 car-radios.

## PHILCO ADDS AIR-CONDITIONING

Philco Radio & Television Corporation is invading the air-conditioning field with a bang. Larry E. Gubb, president of the Philco company, announces in an exclusive interview with RADIO TODAY.

Philco is entering the air-conditioning field on a mass-production basis, declared Mr. Gubb. Its product is a portable air-conditioning unit called "Cool-wave" which can be placed in any room of a home, in offices, hospitals or hotels.

Production has already been started on this new air-conditioner (for details see page 68) and a national promotion campaign has been planned for its introduction to the public.



RCA launches a banner line at Atlantic City—left to right, H. C. Bonfig, David Sarnoff, who addressed the 500 guests personally; Robert Shannon, and jobber Elmer Hamburg.

## SURVEY OF BUSINESS TRENDS

★ At the close of 1937, the average radio store inventory was 6.3 per cent of the sales for the year, while receivables amounted to 2.2 per cent, among the 48 radio concerns who have so far reported figures in Dun & Bradstreet's 1935-37 Survey of Business Trends. Radio stores are listed in the "Furniture and House Furnishings" group, and other findings in that classification are presented for comparison:

Sales show an increase in 1937 of only 1 per cent over 1936 as compared with a 30 per cent increase between 1935 and 1936. Inventories, on the other hand, increased 24 per cent between 1936 and 1937, but only 19 per cent during the previous year. Receivables followed the behavior of sales, increasing 10 per cent between

1936 and 1937 as compared with 41 per cent in the 1935-36 period.

Reporting Concerns	Radio	Furniture	Electric House-hold Appliances	House Furnishings	All Re-tailing
Number	48	383	133	124	10,312
1935 Sales (\$000,000)	1	22	4	4	2,070
1937 Ratios of Sales to					
Inventories	6.3	4.4	7.1	4.2	
Receivables	2.2	2.4	6.3	3.6	
Percentage Increases and Decreases					
1935 to 1936					
Sales	30	24	29	16	16
Inventories	19	17	28	13	10
Receivables	41	16	20	4	11
1936 to 1937					
Sales	1	8	17	11	8
Inventories	24	5	31	14	11
Receivables	10	8	12	7	8
1935 to 1937					
Sales	32	34	51	28	25
Inventories	47	23	69	30	22
Receivables	56	26	35	12	20

Note: Inventories and receivables are at the close of the years. The ratios of sales to inventories and sales to receivables are shown only to indicate the relative importance of investments in stocks and outstanding receivables relative to sales in the case of the reporting concerns. These ratios are not necessarily reliable guides to desirable financial ratios because of the wide range of types of concerns falling within single classifications.



Industry showmen, all moguls of the Chicago Parts Show. Director Ken Hathaway has the pencil; left to right, Arthur Berard, Arthur Moss, K. C. Prince, H. E. Osmun, S. N. Shure.

# THE 1938-1939 RADIOS

High spots of principal new lines as thus far announced  
 "Mystery" control, new antennas, phonograph novelties

New features—and new values for the listener—mark the new 1938-39 radio sets now coming onto the market. Many of the new models exhibit improvements along lines already pretty well standardized. Thus push-button tuning, introduced a year ago, has seemingly become nearly universal for the new season. In the higher priced brackets a number of striking new novelties are offered. But for the great bulk of the models revealed so far, the principal changes are in refinements and in price adjustments which will make these 1939 radios the "best buys" ever!

Most manufacturers' lines for the new season appear to be somewhat shorter than heretofore, concentrating on fewer models compared with a year ago, but spanning the various price ranges in a way to reduce inventory, without limiting the purchaser's choice of selection of features.

## Prices down

Although the price level has moved downward, reflecting both economies of production and a greater proportion of smaller sets and table models, there are still a number of fine consoles and combinations offered in the "above \$100" brackets already released by leading manufacturers, indicating



Philco's "mystery control". This little box weighs 2 pounds, works like a telephone dial, can be carried anywhere around house. No wires, no connections.

that radio designers and makers recognize the importance of a continuing market for fine quality and fine tone. In fact at several manufacturers' showings, sales managers emphasized to their distributors that the continuing prosperity of both jobber and dealer depended on selling a fair proportion of higher priced sets during 1938-39.

Meanwhile the new local-station high-fidelity sets, capable of receiving only nearby programs, are being given attention by several manufacturers,

and new models are being made ready for the market.

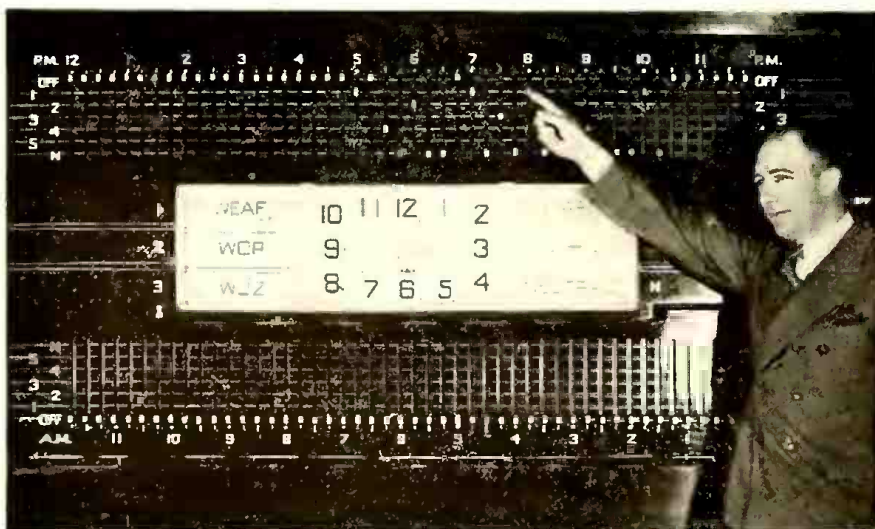
Combinations will have a more active play this year than ever before. It is reasoned that purchasers looking around to buy sets above the medium-priced range will need some special inducement such as a combination phonograph-radio, and therefore the combination market is expected to boom in the 1938 models. Already records are selling at a new high in volume, reminiscent of the old phonograph days, thanks to the public's re-awakening to phonograph convenience and the trade's provision of record-playing attachments.

RCA Victor has combination phonograph-radio units (which it now calls "Victrolas") selling as high as \$260. A new record-changing mechanism developed at Camden feeds the records from above the playing position, the pile of records being carried above the pickup arm, and fed down, one by one, to the turntable as the pickup arm is momentarily swung out of the way. In this new pickup, also, the needles are conveniently loaded from the top. Philco has a record "repeater" which repeats by lifting the lid of the phonograph compartment.

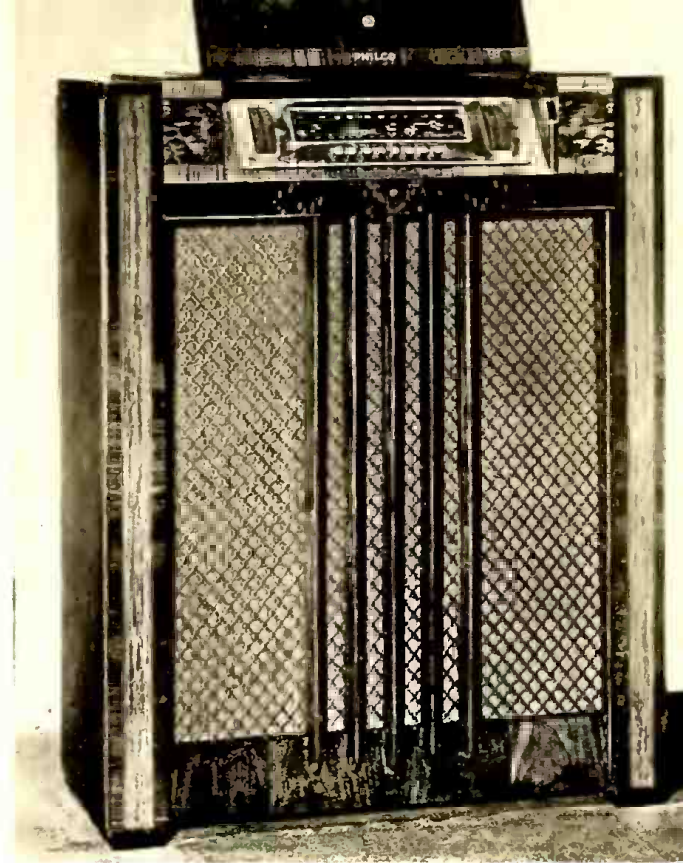
## Push-buttons

Push-button tuning seems to be widely applied in the new 1938 radio lines soon to be announced. Such push-button control is of four kinds: (1) motor-driven, (2) pre-set circuits employing trimmer condensers, (3) pre-set circuits using iron-core inductance tuning, and (4) lever-type tuning, in which the control lever must be pushed "clear down" to a fixed stop. In the new circuits iron-core or permeability tuning is becoming increasingly important, and already occupies a prominent position.

Technical advances have been made in the push-button trimmer tuning circuits which now make automatic frequency control unnecessary. Oscillator circuits are being stabilized with iron-core or permeability-tuned coils. Silvered mica condensers are providing a capacity which is extremely stable under all circumstances. Tem-

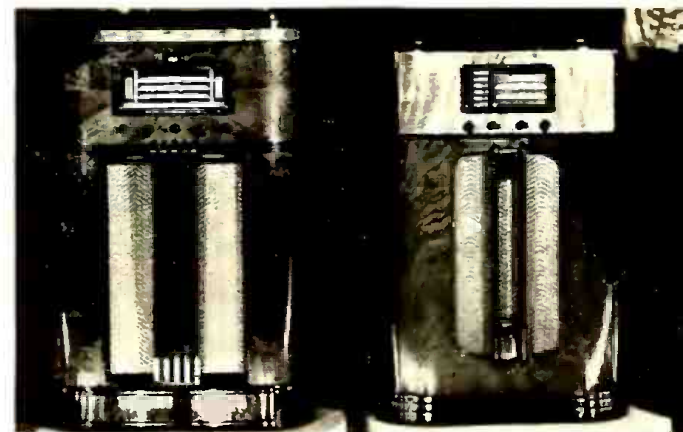


Giant demonstrating model of GE Radio's "Time-tuning" control. Any of five stations can be pre-set to be tuned-in automatically for any 15-minute period in the next 24 hours.



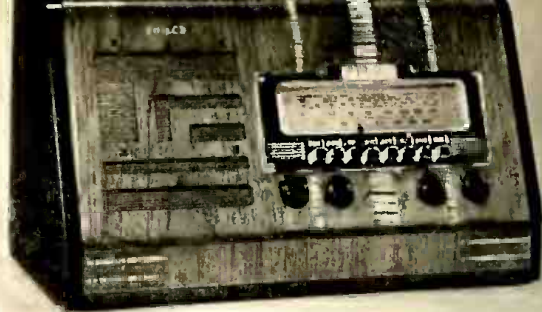
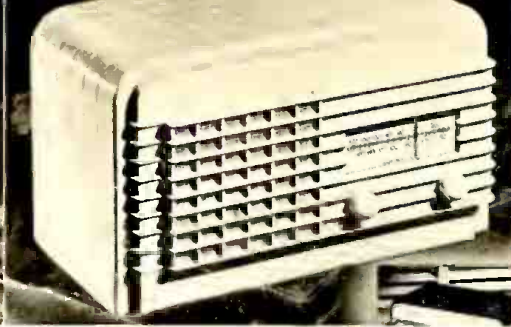
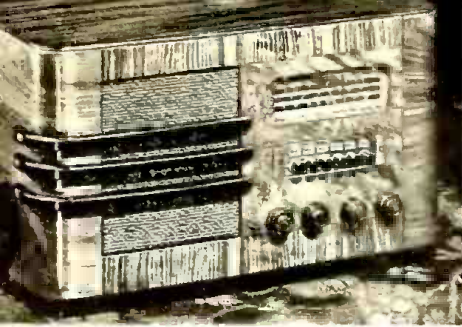
# NEW LUXURY MODELS

- Above—RCA Victor HF6. 14-tube high-fidelity. 7 bands. \$200.00
- Upper right—Philco 45XX. Eight push-buttons. Manual. \$129.50
- Right, center—General Electric, keyboard tuning. Beamscope antennas.
- Below, left—Zenith 6S341. 6 tubes. Tip-touch tuning. \$59.95
- Below, right—RCA Victor 97 KG. 7 tubes. Three bands. \$85.00



Greater convenience, handsomer designs, finer cabinetry, mark the 1938-39 models. Push-button tuning is now pretty universally adopted, with provision for as many stations as are likely to be tuned in. For the purchaser who wants a quality set, with full tonal response, there is wide selection to be had in the upper price brackets.





Knight-Allied. Three-band. Slide-rule dial. Sonora C 22. Plastic. Ivory, walnut, black.

Philco 30 T. 6 tubes. 8 push-buttons. \$55.

perature compensating condensers of numerous designs are being used in many sets to offset shifts in frequency due to temperature.

For simplicity in station set-up, two and three stages of iron-core trimmer circuits are ganged to a single control for each station, instead of having a separate control for each tuned stage.

### Stability, speed

Mechanical levertype tuning systems have been redesigned and are now extremely simple. This type of tuning, though more commonly used with a condenser gang, is also suitable for use with iron-core tuning. In this latter application, the mechanism controls the movement of iron cores in the coil system, thus doing away with the conventional variable condenser.

Motor-driven push-button systems have been speeded up so that only a second or so is required for a full 180° condenser travel. Also the mechanisms themselves have been simplified and made more fool-proof. "Homing" type mechanisms, where the device tunes directly to the desired station, are being widely used. Mechanically the devices have been

made accurate, eliminating the need of AFC.

Departing from the usual push-button arrangement, GE provides a series of keys arranged like a piano keyboard (but of dark cabinet finish) along the upper front edge of its higher priced sets. These station keys can be reached conveniently from either a sitting or standing position.

### "Mystery" control

Keen trade interest has centered around the new "mystery control" announced by Philco. With this wireless remote control, the radio set can be tuned in on any of eight stations, volume can be controlled or the set turned off, from any point in the house, upstairs or down. The control operates without wires, plug-ins or connections of any kind. The control element is a compact box, apparently battery-energized, which can be carried about anywhere. Each control box is tuned to its own radio so there is no possibility of one control box operating a neighbor's set. The box is fingered like a telephone dial, sending out a succession of radio impulses which actuates the receiver tuning mechanism. To up volume, the "louder" position is dialed, and

the volume continues to increase until stopped by again dialing. Volume reduction is accomplished in the same way, with the additional feature that if continued unchecked, the set automatically turns itself off. It cannot be turned on again, however, except by hand.

### Time tuning

Pre-set tuning or timing of future programs desired is provided for in several new higher-priced units. One of the most elaborate of these mechanisms, GE's "station preselector," is shown in an accompanying picture, and arranges for automatically tuning in any one of five stations for any quarter-hour period during the ensuing 24 hours from the time of setting up the levers.

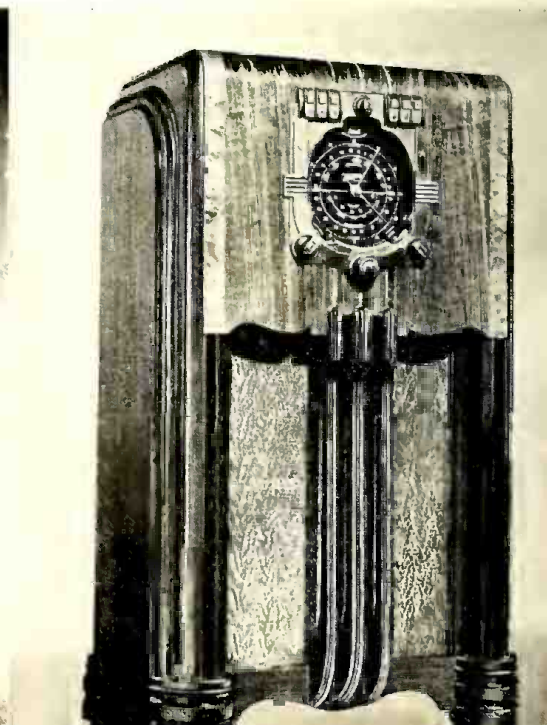
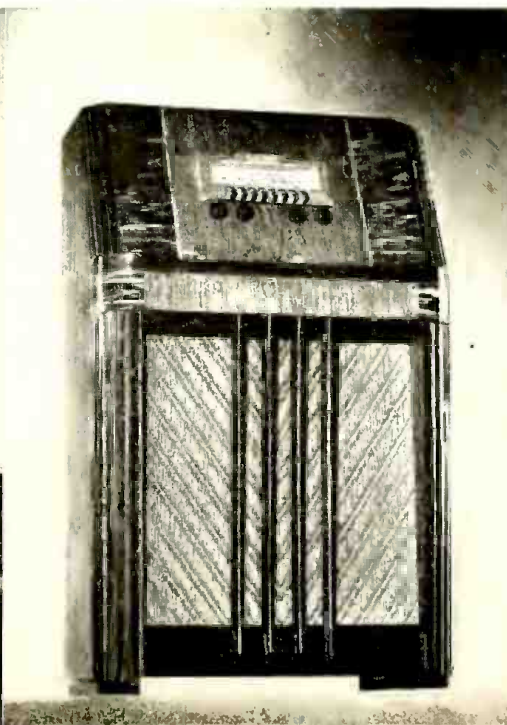
New antenna arrangements and interference eliminators characterize a number of the new lines. Thus all new RCA models of eight tubes and up include the new "master noise eliminator" which permits antenna and set to be adjusted for minimum interference for its location.

A shielded loop antenna called a "beam-scope" is provided inside the cabinets of certain GE models, making them self contained and independent of outside areal or ground. The

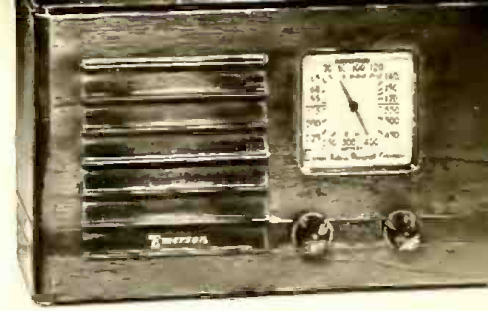
RCA 9-tube 99T. 8 stations, 3 bands. \$89.95.

Philco 35XX. 8 push-buttons, illuminated.

Zenith 6S362. 9 tubes. Tiptouch tuning. \$89.95.

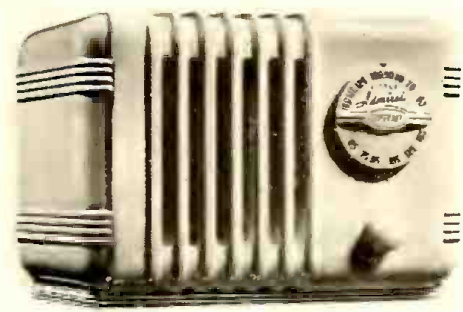






Admiral 516-5C. AC-DC. Ivory or walnut. Fada 30J. Two bands. Golden-Glo dial.

Emerson AX217 Little Miracle. \$14.95.



Fada Silent radio S-46-G. Mystic ear.

Admiral 125-5E. Ivory or colored bakelite.

Andrea 2-E-6. 6 push buttons. 3 bands.

tuned loop is rotated inside a copper-mesh cage, and is set in the maximum position for the location. The cage shield, it is explained, intercepts static from nearby interference, while the magnetic impulses from broadcast stations pass unimpeded through the copper shield to be picked up by the loop.

Meanwhile Philco introduces a new vertical steel rod aerial which rises as high as 12 feet and can be installed without wires, supports or tools.

Twisted pair lead-ins, with one wire connecting with a simple antenna (the other wire serving to neutralize the nearby interference picked up by

the first wire), are another development of the 1938-39 season.

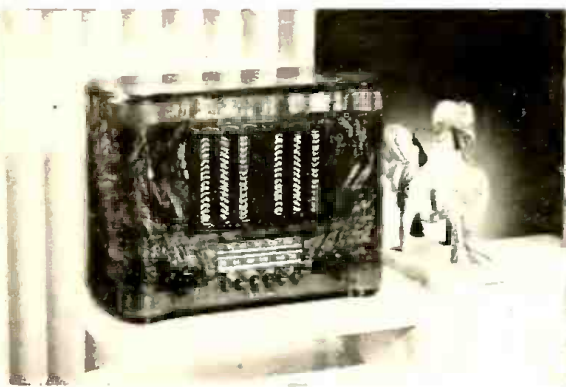
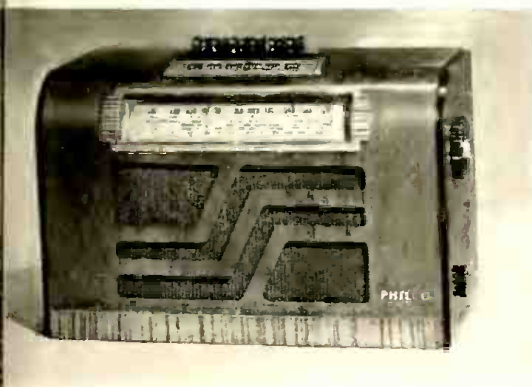
Arm-chair radios are in evidence in the 1939 lines, although probably less in number than a year ago. The largest number noted in any lines so far announced is five; another has three, including one combination unit; a third line has no arm-chair models.

The present season may mark a transition year for short-wave or all-wave radio. Certainly the number of short wave bands provided has been considerably curtailed, looking over the new models as a whole, and some sales managers have even advised their distributors that "short wave is

on the way out."

Early emphasis is put on new farm radios, and particularly on improvements which make for decreased battery current consumption. These sets are available in both 6-volt and 2-volt lines, and several have cut-over provisions for operation on 110 volts alternating current, useful when an isolated farm later gets "high-line" service.

Auto radios show the same trend toward push-button tuning as home sets. Greater values are available for the same price levels and the lower brackets continue to creep downward in initial cost.



Philco 17T. Six buttons. \$29.95.

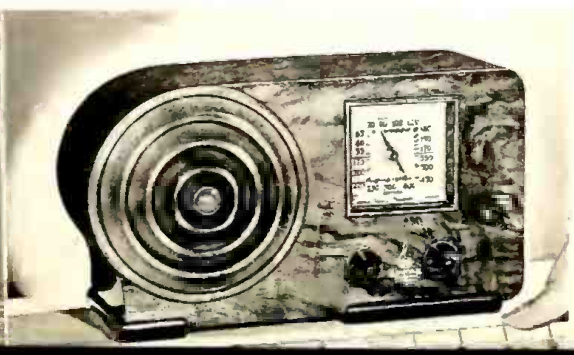
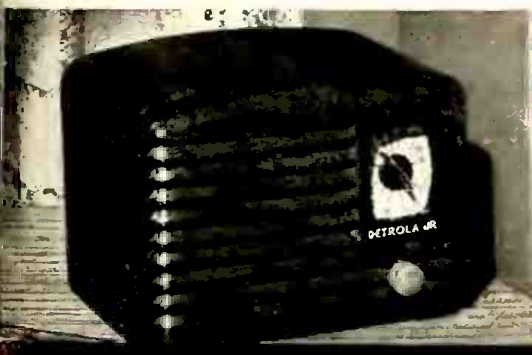
RCA Victor 96T. Six buttons. \$34.95.

Sonora C66. Three bands. Slide-rule dial.

Detrola, Jr. Model 216. AC-DC. \$10.

Emerson AX 212. AC-DC. \$19.95.

Zenith 5R312. Brown Bakelite. \$19.95.



# GETTING THE MONEY "IN"

## Collections continue problem for parts jobber Co-operative credit information important

"Service man credit is a touchy proposition," sighs a parts jobber torn at the present moment between the need to make more sales and the sterner necessity of collecting money for sales already made. "The jobber who can handle his credit problem best is the fellow who can make it his business to become better acquainted with his customers, both in and out of their shops."

Being of a philosophic turn of mind, this jobber executive has the following to say of the average service man:

"Engaged in an enterprise so full of its own peculiarities; one which would seem to require all at once a psychiatrist's insight into human behavior; the level head of an executive; a salesman's temperament; Dale Carnegie's personality; an engineer's mind; a doctor's hours and a truck driver's stamina, the remarkable thing is that any of these service men, tackling it single-handed, are able to make as much of a success of it as they do."

### Conditions tighten

"The condition of the radio service men in our locality is the lowest ever," complains an Eastern parts distributor. "Ones that have always paid promptly are sixty to ninety days behind and getting worse. We are taking steps to collect old accounts, but the universal cry is that these service men are operating at a loss. We are very particular about who we give credit to and we have stopped everyone except the gilt-edged accounts. We find that the individual service man is hopelessly in debt. In the last few months credit conditions have become extremely bad."

"We select our accounts on the basis of loyalty to our concern," explains another distributor. "This, with ability to pay, and potential profitable volume, constitutes the one-two-three of our requirements. Accounts selected in this way are now paying within 30 to 60 days, and the bad-debt proportion in this group is negligible. We depend upon references and salesmen's contacts, and we watch very closely all cases where any doubt arises."

"We ask for trade references," de-

clares another successful parts jobber, "and then we allow limited open account (\$10 to \$15, maximum) and see how they pay. We are successful in collecting most of the amount due us, by keeping after them in a nice way."

### Stock or cash

"Unless the service man or dealer has a store and some stock on hand, we demand cash," reports an up-state distributor. "As the result, most of them pay cash, and some run their accounts for 60 days. We are tightening our credit terms, for we find that service men are falling further behind than formerly."

"We use regular credit channels, but are especially successful with Dunn's form No. 82," reads a report from New England. "Some of our service men's accounts are slower than ever, but these are only a few—the rest are better than before. We select our accounts on the basis of moral risk, and ability in service work. We started tightening even as far back as last October, and are tightening again."

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## PARTS JOBBERS METHODS FOR IMPROVING COLLECTIONS

Careful training of radio servicemen to be thoughtful buyers and bookkeepers as well as mechanics.

More attention to new products in the service field which may be tonic to the serviceman's income.

Personal support for the promotion plans undertaken by accounts.

Exchange of credit notes and methods among fellow jobbers.

Extension of limited credit as a preliminary test of good will and ability to pay.

Constant sales contact with accounts, even during periods of inactivity.

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A distributor in New York bases his whole credit procedure on regular interviews with his accounts. He is willing to give each of his customers the business benefit of his experience among a large group of servicemen, and offers them aid and advice—at the same time getting a full statement as to what ails the particular business and what the customer intends to do about it. In judging credit risks, this jobber considers first of all character and references.

At still another distributing center, the wholesaler is strong on bank references. He investigates the neighborhood in which the applicant is located, notes the store investment and the amount of equipment. He talks to those who have known the serviceman for a long time, and takes tips from credit associations on what to look for in good local credit risks.

He believes the radio service business to be a substantial one, and is willing to take chances on its future, even during a recession.

## BOSTON JOBBERS DISCUSS CREDITS AND COLLECTIONS

★ Credit matters were the chief topic before the Boston jobbers group's Spring meeting, held at 739 Boylston Street, Boston, and presided over by Joseph A. Demambro, of the Radio Transformer Co., Boston. Radio jobbers from Worcester and Providence were also present.

Plans were formulated to submit a system whereby a jobber having an account which is sixty days past due would without any option be obliged to report it to the secretary of the New England Group who in turn would place the reported name on a monthly report sent to all jobbers. This would afford simply protection for all jobbers. Moreover, the object would be accomplished without revealing to the group the name of the person or company reporting the past due account.

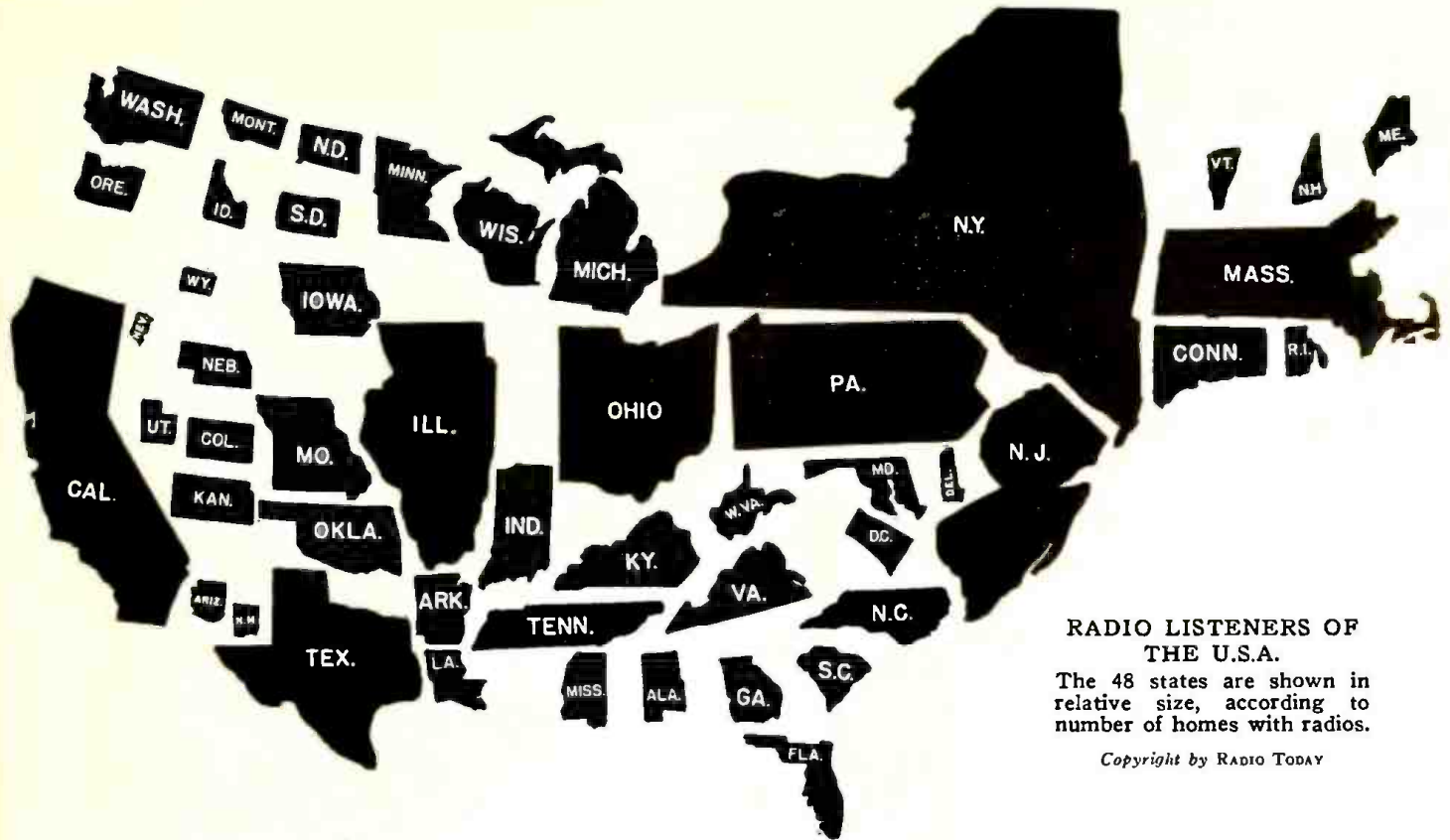
In connection with the credit plan a letter from S. G. Hagin of the National Association was introduced describing a plan developed in cooperation with the Radio Parts Jobbers of the Pacific Northwest.

### Northwest plan

This plan has been devised to aid in making the trade safe for legitimate and permanent customers, as well as to eliminate losses to the supply trade.

On such accounts as the wholesaler grants monthly terms and the custom-

(Continued on page 62)



**RADIO LISTENERS OF THE U.S.A.**

The 48 states are shown in relative size, according to number of homes with radios.

*Copyright by RADIO TODAY*

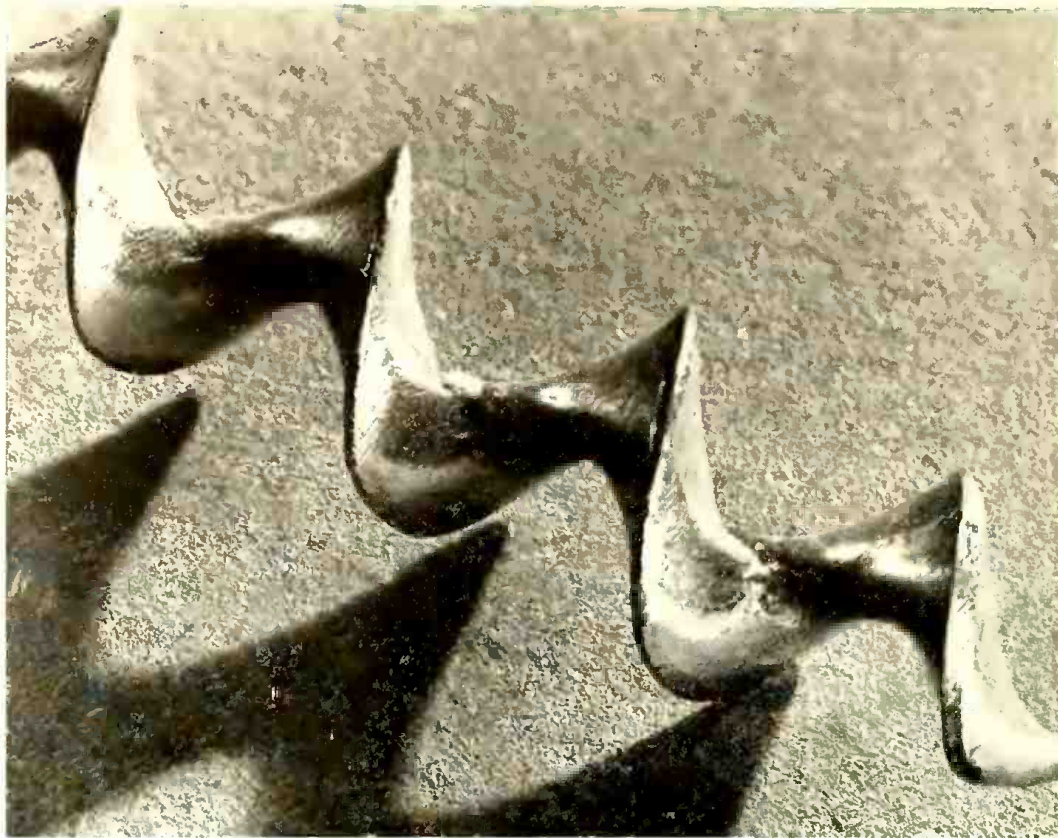
# 26,666,500 RADIO FAMILIES

American firesides having radio sets have been counted all over again by the Joint Committee on Radio Research.

Total radio families added up to 26,666,500, an increase of 17 per cent over the committee's 1936 estimate of 22,869,000. The new total indicates

that 82 per cent of all U. S. homes now have receivers. With "second" and extra sets and auto radios, this brings U.S. total sets above 36,000,000!

STATE	RADIO OWNERSHIP %	TOTAL FAMILIES	1938 RADIO FAMILIES	State Name	Percentage	1938 Families	Current Families
California	95	1,818,000	1,719,800	Wisconsin	83	735,000	612,700
Nevada	95	30,000	28,500	Colorado	81	288,000	233,500
Oregon	95	299,000	285,400	Montana	81	142,000	114,600
Washington	95	468,000	443,300	Nebraska	81	352,000	284,100
New Jersey	93	1,098,000	1,022,500	Idaho	80	124,000	98,700
New York	93	3,372,000	3,132,300	South Dakota	80	167,000	132,900
Connecticut	92	437,000	402,100	Wyoming	80	62,000	49,800
Massachusetts	92	1,104,000	1,019,200	Arizona	77	104,000	79,600
Michigan	92	1,220,000	1,122,200	Missouri	77	1,072,000	822,800
New Hampshire	92	136,000	124,400	North Dakota	77	156,000	119,600
Ohio	92	1,777,000	1,641,500	Kansas	73	501,000	367,800
Rhode Island	92	169,000	155,500	Oklahoma	73	619,000	454,300
Dist. of Col.	91	168,000	152,900	Kentucky	70	708,000	494,900
Maine	91	221,000	201,100	Texas	68	1,516,000	1,033,500
Illinois	90	2,063,000	1,857,100	Florida	67	443,000	297,900
Pennsylvania	90	2,452,000	2,206,400	Tennessee	67	689,000	459,900
Utah	90	123,000	111,000	Virginia	65	613,000	400,200
Vermont	90	99,000	88,600	New Mexico	61	102,000	62,300
Indiana	87	934,000	816,800	Louisiana	58	510,000	297,400
Maryland	87	410,000	355,100	Alabama	56	670,000	375,200
Delaware	86	67,000	57,600	North Carolina	55	736,000	408,600
Iowa	85	680,000	577,800	Georgia	52	716,000	370,800
Minnesota	85	652,000	556,900	Arkansas	51	501,000	254,800
West Virginia	84	417,000	348,300	South Carolina	51	407,000	207,300
				Mississippi	42	494,000	207,000
				<b>Total</b>	<b>82</b>	<b>32,641,000</b>	<b>26,666,500</b>



# CORKSCREW BUYING

One manufacturer told his distributors last month: "Our prices are low because we put the screws on our suppliers—we forced their bids down to the last penny, and then some. They were helpless. So we won. And you win."

Of course such talk is nothing new in radio. Other manufacturers have long used similar tactics. Other buyers have "won" by the same demands. All over the radio industry prices have been chiseled, whittled and gouged, until business has become precarious for all concerned, and every order constitutes a hazard.

## **Who wins?**

But *did* that manufacturer "win"?

Did his *distributors win*?

*Did anybody win* as the result of this practice? Does anybody win, when the whole result of such evil business policies is to wreck price schedules, demoralize sales, grind down wages, curtail employment, spread losses, and check purchasing power?

For "corkscrew buying"—as some call it—demoralizes all who come in contact with it. It is as crooked as the twisted implement that gives it name. Its sharp barb

bites in every direction. It achieves its ends by gouging and by pressure. Like some deadly coiled snake, it is a menace to all in radio.

Great products, great lines of merchandise, in other fields have been built on the quality and value wrought into every constituent part. Nowhere are quality parts more important than in radio.

## **Everybody loses**

When chiseling and corkscrewing start, value must be cut along with price. Gypping follows, and that gypping is suffered and participated in all along the line—by manufacturer, distributor and dealer.

When the buyer "puts the screws on" the supplier, engineering service is sacrificed and the product is trimmed. The engineering staff suffers, and so do the production employees. Discounts are whittled, and distributors and dealers lose income. Earnings and purchasing power are sacrificed all along the line. Meanwhile the public loses the benefit of engineering skill and design in the products, it buys.

When "the screws are put on" and corkscrew buying follows, the public is the final victim.

# THE KEY TO RADIO PARTS CITY

Exhibition streets at the Parts Show are lined by 130 manufacturers. People and products at Hotel Stevens, Chicago, June 8-11

Here we go, from booth to nifty booth among the exhibitors at the radio parts event of the year:

**Aerovox Corp.**—Charles Golenpaul, S. I. Cole, J. A. Simberkoff, F. R. Ellinger, C. H. Dolfuss, Jr., J. P. Kay, J. W. Beneke, W. C. Hitt, H. Parke, M. K. Franklin, H. Gerber, J. J. Backer, B. Murphy, J. J. Cota, F. J. Stevens, G. G. Willison, C. Heiner, H. Meinhard—dry and wet electrolytic condenser, paper, mica, auto radio, transmitting exact duplicates, fixed mica, padder condensers, condenser bridge, interference filters, motor capacitors, capacitor analyzer, carbon, insulated, vitreous enamel fixed, and adjustable resistors.  
Booth 206 Coulomb St.

**Alliance Mfg. Co.**—R. F. Doyle, E. V. Schneider, Edward Singer—electric tuning motors, electric turntable motors.  
Booth 217A Franklin Ave.

**Alpha Wire Corp.**—Peter Bercoe, A. E. Bernardik, C. F. Barner, Harry Gerber, L. E. Jaques, Ted Keller, James Millar, H. B. Parke, H. A. Roes, J. Earl Smith, B. L. MacPherson, Francis Harvey, Martin Friedman—wire, wire products, aerial kits and aerial accessories.  
Booth 211 Faraday Ave.

**American Condenser Corp.**—Irving Menschik, R. Lew, Raymond Lascoe, Sidney Fishberg—condensers.  
Booth 213 Marconi Blvd.

**American Microphone Co.**—A. H. Bruning, F. A. Yarbrough—microphones and accessories.  
Booth 211A Bell St.



Perry Saftler, president of "The Representatives," whose big meeting is June 9. He was also the man at the throttle on the Radio Special train from New York City.

**American Phenolic Corp.**—Arthur J. Schmitt, Henry J. Hohn, Edwin Mraz, A. H. Peterson, D. R. Bittan, J. R. Longstaffe, Harry B. Segar, G. O. Tanner, F. R. Ellinger, Arthur H. Baier—radio tube sockets, plugs and connectors.  
Booth 204 Steinmetz Ave.

**American Radio Hardware Co., Inc.**—D. T. Mitchell, H. H. Smith, M. J. Stessin—complete line of radio hardware, transmitting accessories and tools for servicemen.  
Booth 208 Coulomb St.

**American Television & Radio Co.**—Albert Goffstein, J. M. Cartwright, Frank A. Emmet, Ted Keller, William F. Kelly, E. H. Lewis, J. V. Costello, M. A. Sachs, Edward Singer, George D. Norris, J. Earl Smith, Morris F. Taylor, Elmer W. Ozman, Thomas T. Scott, B. L. MacPherson—vibrators, DC-AC inverters, battery chargers, "A" eliminators, power supplies.  
Booth 217 Henry Ave.

**Amperev Electronic Products**—S. Norris, C. R. Strasser, William Ellinger—air-cooled transmitting tubes, mercury vapor rectifiers, water-cooled transmitting tubes.  
Booth 213 Bell St.

**Amperite Co.**—A. G. Ostrand and William Ruttenberg—microphones, Kontak microphone, stands, regulators. . . . Booth 210 Hertz Ave.

**Arcturus Radio Tube Co.**—A. E. Cerf, W. J. Johnston, G. D. Norris, H. E. Erickson, J. Schoonmaker, M. D. Ealy, R. S. Diethert, A. C. Leonard, J. Geartner, F. P. Benson, J. A. Stobbe, J. Millar, G. G. Moss—radio tubes.  
Booth 202 Steinmetz Ave.

**Astatic Microphone Laboratory, Inc.**—F. H. Woodworth, R. T. Schottenberg, J. Walter Berggren—crystal microphones, crystal pickups and accessories.  
Booth 216 Henry Ave.

**Atlas Sound Corp.**—R. C. Reinhardt, Carl R. Blumenthal, Royal A. Stemm and Jr., James P. Kay, Arnold A. Sinai, Ralph C. James, Jr.—public address horns and speakers, microphone stands, baffles and enclosures.  
Booth 209 Franklin Ave.

**Audak Co., Inc.**—Royal Stemm, Edward Stemm, George V. Smith, Maximilian Weil—electrical reproducing apparatus, including pickups and cutting heads.  
Booth 211 Franklin Ave.

**Barker & Williamson**—B. R. Barker, J. F. Williamson—turrets, inductors, swinging links, ceramics and accessories.  
Booth 212 Marconi Blvd.

**Belden Mfg. Co.**—Whipple Jacobs, H. W. Clough, H. H. Wermine, E. K. Butler—antenna systems, hook-up wires, magnet wires, multiple conductor cable and microphone cable.  
Booth 208-210 Marconi Blvd.

**Bell Sound Systems, Inc.**—F. W. Bell, G. P. Williams, R. E. Potts—complete sound equipment and intercommunicating equipment.  
Booth 107 Marconi Blvd.

**Birnback Radio Co., Inc.**—Morris Birnbach, Samuel Schaeffer, Aaron Danziger, Nathaniel Jacoby, Alfred Jacoby—aerials, antenna equipment and accessories, ceramic insulators, cables and wires, jacks, plugs, sockets.  
Booth 217 Steinmetz Ave.

**Bliley Electric Co.**—F. D. Bliley and G. E. Wright—crystals and mountings. . . . Booth 105 Bell St.

**David Bogen Co., Inc.**—Haskel A. Blair, Ralph Ritter, David Bogen, H. A. Steinberg—public address equipment, intercommunication systems and centralized program systems. . . Booth 206 Steinmetz Ave.

**William Brand & Co.**—William Brand, William Naumburg, Jr., Earl W. Brinson, Frederick Hallmark—Turbo oil tubing, saturated sleeving, varnished cloths, papers and tapes; mica plates, mica films.  
Booth 207 Bell St.

(To next page)



President Leslie C. Rucker of the National Assn. of Radio Parts Jobbers, has snappy plans for the group's convention on June 9.

**Bruno Laboratories, Inc.**—William A. Bruno, Paul von Kunits, H. Grossman, L. C. McCarthy—velocity microphones, both type Veletron microphones, recorder and pickup, microphone stands, allied equipment. . . . Booth 212 Henry Ave.

**Brush Development Co.**—W. H. St Clair, John Altmayer, M. P. Odell—sound cell microphones, crystal headphones, "Hushatones," speaker-microphones, microphone stands, vibration pickups, oscilloscope units. . . . Booth 216 Hertz Ave.

**Bud Radio, Inc.**—Max L. Haas, George Grostick, Nat Spitz, John Moran, Maurice Musler—transmitting and receiving variable condensers, chassis, cabinets, relay racks and panels, dials, insulators, coils, other amateur radio equipment. . . . Booth 212 Franklin Ave.

**Allen D. Cardwell Mfg. Corp.**—R. L. Morehouse—fixed and variable air and oil dielectric capacitors and radio accessories. Booth 207 Marconi Blvd.

**Carron Mfg. Co.**—J. Prince, C. S. Linell, H. A. Howell—replacement cones, etc. . . Booth 106 Coulomb St.

**Centralab**—H. E. Osmun, W. Fritz, T. B. Hunter, Earl Champion, W. S. Parsons—volume controls, fixed resistors, ceramic condensers, switches. . Booth 114-116 Bell St.

**Cinaudagraph Corp.**—Sherman Reese Hoyt, D. P. O'Brien, L. B. Cornwall, H. W. Harwell—loudspeakers and Nipermag permanent magnet alloy. . . . Booth 214 Faraday Ave.

**Clarostat Mfg. Co., Inc.**—Victor Mucher, Eddie Trefz, S. Bialek, J. M. Cartwright, L. G. Cushing, H. Gawler, H. Gerber, H. P. Hag-

erty, A. D. Leban, L. E. Jacques, J. Millar, B. L. Moore, G. G. Moss, G. D. Norris, J. O. Olsen, W. I. Otis, J. J. Perlmuth, H. A. Roes, L. C. Shumac, R. Smith—volume controls, resistors, resistor tubes, line voltage dropping resistors. Booth 208 Steinmetz Ave.

**Clough-Brengle Co.**—Kendall Clough, Ralph Brengle, Fred Wellman, Eugene Carrington, R. O. Lund, W. Sorenson, M. Krasno, H. Cooper, J. Wazny, P. D. Terwilinger, M. A. Dobbin, S. Harper, G. W. Sipe, F. B. Hill, Mr. Hedquist, W. Bert Knight, R. N. Swanson, A. C. Simmonds, E. P. Scott, M. B. Patterson, R. Carson, R. T. Perron, R. A. Adams, M. McMahon, E. L. Hollingsworth, L. C. Still—radio servicing and test instruments. Booth 106-108 Bell St.

**Continental Carbon, Inc.**—G. F. Benkelman, W. M. Kohring, W. W. Boyd—carbon and wire-wound resistors, suppressors, noise filters, paper dielectric condensers. Booth 115 Ampere St.

**Continental Diamond Fibre Co.**—N. N. Wright, W. R. Yates, Andrew J. Fisher, Alfred G. Rosnes, C. R. Jones, H. P. Weldon, William Weber, Ed Scheuer, John Eason, Robert E. Tappan, Buddy Gotshall—radio sockets, dials, coil forms, radio insulation. Booth 209 Marconi Blvd.

**Cornell-Dubilier Corp.**—L. L. Adelman, Octave Blake, Fred Neuberth, Charles H. Caine, R. B. Ritter, H. E. Walton, R. M. Champion, W. B. Knight, R. C. James, Jr., S. K. MacDonald, G. M. Cameron, H. A. Steinberg, William Bailey, P. M. Deeley, R. T. Perron, R. W. Mitscher, G. O. Tanner, G. W. Piekens, J. E. Muniot, Jr., J. Millar, G. G. Moss, D. S. Hill, R. F.

Becker—capacitors, paper, Dykanol, mica, wet and dry electrolytics for all requirements of radio and electrical industries. Booth 207 Faraday Ave.

**Cornish Wire Co., Inc.**—W. F. Osler, Jr., J. S. Miller—radio wires and antenna accessories. Booth 204 Marconi Blvd.

**Coto-Coil Co., Inc.**—F. C. Henrikson and Lewis Bellem—amateur radio parts. . Booth 211 Steinmetz Ave.

**Crowe Name Plate & Mfg. Co.**—Winslow Goodwin, W. W. Barry, M. M. Lane, J. L. Robinson, H. Z. Benton, A. F. Nosek, F. O. Buffington, L. R. Gasper, H. R. Whitacre, E. P. Walley—remote controls; tuning units; escutcheons; glass, metal and pyralin dials; name plates; metal cabinets. Booth 104-106 Marconi Blvd.

**Tobe Deutschmann Corp.**—Tobe Deutschmann, Arnold Deutschmann, Mrs. Mae Strauss, C. W. Metcalf, Mort Hineman—filterettes, condensers, service instruments, automatic recorders for frequency testing. Booth 216 Marconi Blvd.

**Drake Electric Works**—George Feigel and W. A. Kuehl—electric soldering irons. . Booth 110-112 Bell St.

**Hugh H. Eby, Inc.**—C. N. Wiltbank and W. F. Bomke—sockets, switches, plugs, relays, photo cells. Booth 213 Hertz Ave.

**Electro Motive Mfg. Co., Inc.**—L. B. Weyburn, Phillip Lauter, Nelson J. Clark, Harry Fox—all types of resistors and condensers. Booth 209 Bell St.

**Electronic Design Corp.**—John S. Meck, Robert L. Barr, Earl H. Petersen, H. Williams, R. O. Lund, W. Cannon—amplifiers, sound systems and accessories. Booth 113 Ampere St.

**Electronic Laboratories, Inc.**—Norman R. Kevers, William W. Gars tang, L. C. McCarthy—vibrators for all commercial and radio applications, vibrator converters, Vibrapaks, polarity changers. Booth 210 Henry Ave.

**Electro-Voice Mfg. Co.**—A. R. Kahn and Adolph Schwartz—microphones (dynamic, velocity and carbon), microphone stands. Booth 206 Marconi Blvd.

**Garrard Sales Corp.**—William Carduner—record changers, phonograph assemblies and motors. Booth 213 Steinmetz Ave.

**General Cement Mfg. Co.**—Stanley B. Vallulis, Richard G. Ellis, Anthony C. Vallulis—service aids, cements, finishes, dial cables, dial belts, specialties. . . Booth 107 Edison St.

## "PETE" HERRING, SALES MANAGER, RADIO TODAY

M. E. (Pete) Herring has joined *Radio Today* as vice-president and sales manager, with headquarters at Chicago. Mr. Herring was for ten years publishing director of *Radio Retailing* and, later, *Electronics*, in which position he was long associated with M. Clements and O. H. Caldwell, now of Caldwell-Clements, Inc., publishers of *Radio Today*.

"Pete," as he is widely known in advertising circles, started his publishing experience in St. Louis in 1921 as advertising representative for the McGraw-Hill electrical papers, and from 1923 to 1925 was Cleveland manager for those publications, before being called to New York to become sales and publishing head of the radio-electrical trade group. As the result of this long and intimate contact with radio, Mr. Herring brings to *Radio Today* a broad and valuable experience in radio advertising and merchandising, starting with the early inception of the radio parts business and continuing through to the present form of receiver distribution.



M. E. Herring

(To page 53)



Top square, Allied Radio Distributors, Indianapolis. Left to right, J. G. Thomas, Tom Hall, Charlie (Aerovox) Golenpaul, G. Snively.

At the top, C. H. Merrill of the James Bailey Company, Portland, Maine.

In the upper row are Leon Shriver, P. P. Porch, Pete Chapman and George Randolph, Tenn. Valley Appliances, Nashville.

Top, R. Moulden, Tuscola (Ill.) Radio. Lower square, J. Harper Stoddard, Memphis.

Lower square, Edward Spilker, Russ Vogt and Billie Hunt of Reno Radio Co., Detroit, Mich.

Shown in the lower square are Frank Paul and Emmett Tydings, Tydings Co., Pittsburgh, Pa.

Lower row, J. E. Aquin, Bill Shuler, and H. J. Ballam of Shuler Supply Co., New Orleans, La.

# PARTS JOBBERS—LIVELY AND IMPORTANT

Directly below are Charlie Brown and Hall Gayhart of Radio Parts Company, Milwaukee, Wis., with Charlie Golenpaul of Aerovox in the middle.

Right below are F. E. Beaudry, B. W. Krell, Columbia, S. C.

R. N. Crowden, Radio Elec., Ft. Dodge, Ia.

Directly below is George S. Carson of Iowa City, Iowa.

At bottom of page, M. H. Edwards, Providence, R. I.

Lower photo, F. Ellinger, shown with Bill Schoning, Lukko, Chicago

Bottom shot shows H. Riszi, Radio Supply, Detroit.

At bottom of page, W. L. Wayman, Radio Specialties Co., Detroit.



## "INTERFERENCE" GOOD SALES OPENER

"Good morning, madam. I'm checking up on radio interference in this section of town. I'm from Carnett Electric. . . . I'm wondering if you're having any trouble with your set. . . ." Thus do salesmen of the Carnett Electric store, Lubbock, Texas, make practical house-to-house contacts and perform a practical service to radio set owners at the same time.

If the set-owner is having trouble, either with the set or from outside interference, she usually tells the salesman so. Upon her invitation, he goes in, checks over the set and determines to the best of his ability what the trouble is.

If the set-owner is having trouble, with the set itself, he offers to send a service man out to check it more thoroughly, pointing out that the service will cost nothing unless the customer wishes to have the set fixed by the shop (if such service is needed). The radio specialist can then determine its age, general condition and the advisability of the owner's having it repaired. Some of the sales department's most lucrative leads come from these contacts.

## GOOD BETS FOR EXTRA SALES

A lively series of spots in which radio sets may be sold today is listed in a recent jobber bulletin released by Sales Manager J. J. Davin of Detroit. The ideas were outlined in respect to the "Pee Wee" models and were alertly geared to the 1938 market. Here are some good sales bets

# FOR A LIFT IN SALES

mentioned in the firm's "Flash" bulletin:

(1) Punch board operators who used merchandise prizes.

(2) Hotel managers who can rent receivers to guests.

(3) Buyers of electric ranges, who will be interested in a kitchen radio to match.

(4) Sponsors of local contests, who require suitable prizes.

(5) Buyers of premiums.

(6) College folk, whose colors correspond to radio cabinet colors.

## POSTCARDS KEEP THEM REMINDED

★ A personal and inexpensive method of keeping prospects aware of radio sales and service offers is the practice of sending about 1,500 postcards every three weeks, according to G. L. Cox, Glenn Radio Co., Washington, D. C. The device has been given a long-time trial at Glenn's, and the report is that "we are constantly tracing business to this idea and we like it."

Messages on the cards are simple. Here are samples of catch lines: (1) Take your choice of weapons against poor radio reception, (2) Radio troubles are no mystery to our service de-

partment, (3) When doing your spring house cleaning let us recondition your old radio, and (4) Don't look now, but did you know that Glenn Radio gives 6 months' guarantee on new radios? These are followed by brief sales material, and are always accompanied by an appropriate and informal free-hand sketch.

Glenn's used to mail the cards, but now use Western Union messenger service. Latter method was found to be cheaper, and also the messengers covered homes not listed in the telephone book.

## NEW USES FOR WIND-DRIVEN GENERATORS

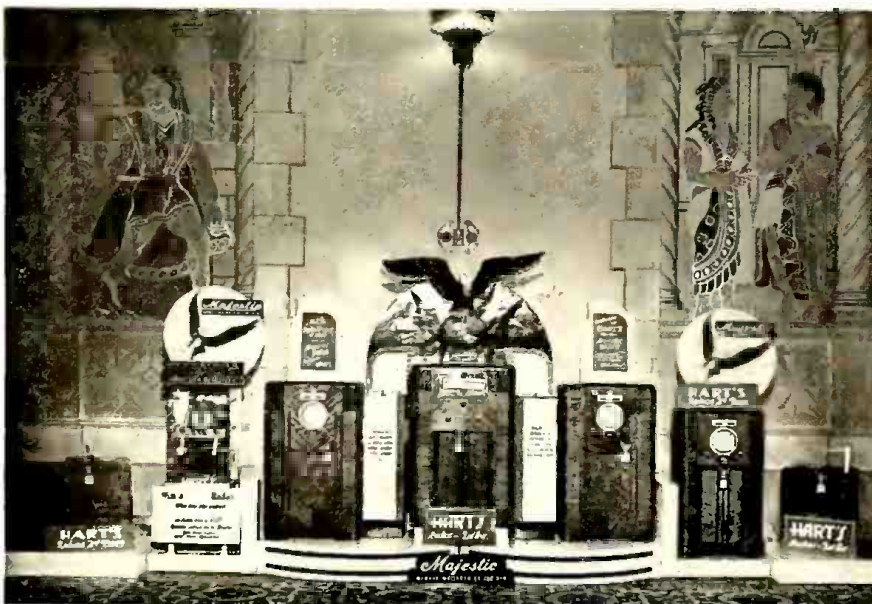
★ Developed first to generate electricity for radio sets, wind-driven generators are now used for many purposes.

"We are now applying wind-electric equipment for lighting sign boards. We have a number of installations over the country and the Outdoor Advertising Association has recently approved Winchargers for this use," reports Mort Duff, of the Wincharger Corporation, Sioux City, Iowa.

"The Union Pacific Railway is now testing our Hi-Way units. These units are used to supply lights and electrical conveniences on the caboose. They are also being tested for use on the Pullman cars to supply lights on the train.

"Probably the most interesting of all is our adaptation of wind electric for use in preventing pipe-line corrosion. Leading gas-line operators are going in for wind-electric power as the ideal way to protect their lines. Pipe-line companies have been troubled for many years with corrosion or disintegration of the lines, which has necessitated constant repair work and replacement. At first, it was believed that the corrosion was due to a chemical action of the ground, but after extensive research, their engineers found it was an electrolytic action. In other words, the metal pipe was acting as a battery plate in the ground and drawing off positive ions, causing the pipe to disintegrate, as the electricity flowed from positive to negative.

"They have been able to halt this action by planting around the pipe a bed of iron and connected the positive lead wire from the Wincharger to this bed of iron, and the negative to the pipe, thus causing current to be reversed and halting the corrosion. This is commonly known in the oil industry as 'cathodic protection,' and Winchargers are playing an important role in this development."



Fine setting for radio display is the lobby of your local theater. Here's how dealer Caro Miller of Hart's, San Jose, Calif., tied in with "Big Broadcast of 1938."



# HOLD THE PHONE! —



JUST HOW LOW IS THE  
NEW LOW PRICED  
LABYRINTH  
MODEL?



WHEN CAN I SEE THE  
NEW FURNITURE DESIGNS  
THE LABYRINTH MAKES  
POSSIBLE?



RUSH THAT NEW TABLE  
MODEL WITH THE  
LOWEST PRICE IN  
STROMBERG-  
CARLSON  
HISTORY!



CAN I GET A  
STROMBERG-CARLSON  
FRANCHISE?  
I'M SICK OF  
BEING KICKED  
AROUND!



RUSH THOSE NEW  
MODELS! — I'M CLEAN  
OUT OF  
STROMBERG  
CARLSONS.



I WANT  
STROMBERG-CARLSON!  
I NEED  
PROFIT!



There's going to be a stampede to Stromberg-Carlson. And why not? A line of Stromberg-Carlsons is coming with *new engineering features . . . new styling* and a *new range of prices*. Soon Stromberg-Carlson representatives will be ready to give you complete information of the season's *surprise* radio line . . . a line which will put dealers back to making money in their radio business. Be ready for the big news!

STROMBERG-CARLSON TELEPHONE MFG. CO.  
ROCHESTER, NEW YORK

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

# SUMMER APPLIANCE \$

Strokes in promotion of seasonal lines.

## NATIONAL WASHER-IRONER EVENT

Already being planned by the member companies of the American Washing Machine Manufacturers' Association is a National Washer-Ironer Week, set for Oct. 23-29. Individual companies will plan special campaigns for their dealers, and general promotion aids will be released by the Association, according to Executive Secretary J. R. Bohnen.

Part of the national event will be to enlist the cooperation of soap manufacturers, suppliers and all interests which are involved in the home laundry industry.

## REFRIGERATORS SELL SELVES

A new stunt for dealers to use in demonstrating refrigerators equipped with radios has been worked out with the use of a record player and a recording of a sales talk. Through the radio is played a dialogue between various features of the refrigerator, dramatized in a form novel enough to hold the interest of the prospect while the salesman points out the features as they are mentioned. The device naturally emphasizes the advantages of radio-equipped "boxes," and demonstrates itself with appropriate music.

Crosley Radio Corp. is sponsoring the idea for selling its musical Shelvadors, and suggests that it may be used for doorway displays, sales meetings, shows, exhibitions, as well as for store sales presentations.

## FOR ROOM COOLERS

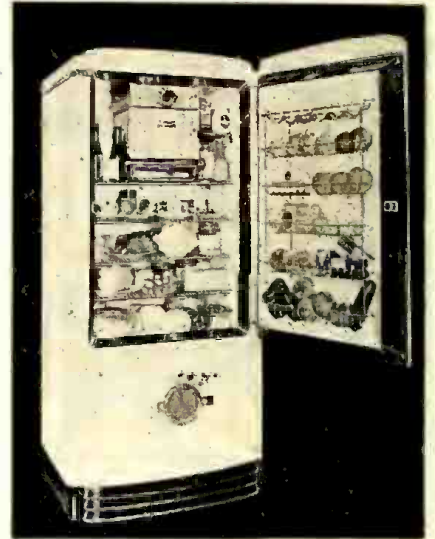
There is one question which every salesman and every dealer who handles room coolers must be prepared to answer, declares president Richard F. Roper of Pleasantaire Corp. Most prospects want to know immediately "how much will the room cooler lower the temperature in my room?"

"It is altogether natural that the prospect should ask this question because he must ask *something* of the salesman who brings him something brand new. He will not buy a 'pig in a poke.'

"Any salesman who answers this query by quoting a certain number of degrees is licked before he starts. If he quotes too small a temperature reduction, the prospect loses interest. If he promises too large a temperature drop, the prospect will buy a thermometer and become dissatisfied if he does not obtain the promised reduction.

"The ordinary 'dry bulb' thermometer is not a gauge of human comfort

and should not be used for measuring air conditioning efficiency. The thing to do is to use a hygrometer, a combination wet and dry bulb thermometer, so that the amount of moisture in the air, the amount of air circulation, and the dry bulb temperature may all be taken into account."



## Four new Shelvadors

New "Regular" line of refrigerators introduced by Crosley in addition to Standard and Deluxe lines, includes KB5-31, KB5-452, KB5-552 and KB5-652, with capacities of 3.16, 4.5, 5.5 and 6.5 cu. ft., respectively. List prices range from \$99.50 to \$149.95. Features include 18-point temperature control, cold storage tray, automatic interior light, removable and hinged shelves. Bonderized Dulux finish steel cabinet, modernistic base, bottom-mounted units, Electrosaver, double-surface condenser, etc. Radio optional on all except KB5-31. Five-year protection plan available for extra \$5. Crosley Radio Corp., Cincinnati, Ohio.—RADIO TODAY.



Better Housing Shows are ideal demonstration spots for room-cooler interests. Here's Garry Eser, Hochschild, Kohn & Co., Baltimore, at such an event, with room and all. Entire booth was used in the store, after housing show closed.

## Goodman revolving salesman

★ Midget turntable, for display of radio or appliances up to 75 lbs. 12" metal platform turned by AC motor. Uniform speed with light or heavy loads; does not burn out if stalled. Only 3 moving parts, self-lubricating. No radio interference, low operating costs. Will take larger platforms or superstructures. Turntables \$10 to \$15. Goodman's Rotary Radio Display Specialties, 19 W. 34th St., New York, N. Y.—RADIO TODAY.

## Rhythmic Ring fans

★ Adjustable fans with 2-point motor suspension to minimize noise and vibration. Streamlined base, motor housing of torpedo design, modernized guards, aluminum overlapping blades. May be adjusted to desired angles for desk use or wall mounting. The fans come in two lines, listing from \$4.50 for the 8" straight to \$26.95 for the 16" oscillating. Illustrated herewith is No. 730, 10" oscillator, with 3-speed switch listing at \$11.95. Fitzgerald Mfg. Co., Torrington, Conn.—RADIO TODAY

# CROSLEY *presents*

## THE FIRST OF A LINE OF STARTLING 1939 RADIO VALUES

# PUSH BUTTON RADIO



WITH KNOB  
TUNING, TOO

for  
only

\$ **9.99**

In presenting this "calling card" of its 1939 line, Crosley comes through with a truly sensational value to start dealers off with a bang!

Startling as is this radio value it is merely an indication of what is yet to come in the complete Crosley line for 1939.

Crosley dealers can get going now—closing real sales volume with the new Crosley Vanity push button radio at the unprecedented low price of \$9.99—the greatest radio value the industry has ever seen. When you see and hear it, you will be amazed that such a truly fine radio can be priced so low. The VANITY is a graceful little model in a handsome brown plastic cabinet styled by radio's foremost designers. Push Button Tuning is instantaneous and accurate. Stations can be quickly set by even the most inexpert operator. A set that every one will want because of its marvelous tone and performance—a set that will make your sales volume skyrocket.



Both models are designed for two-position use—in flat position with the push buttons at the bottom or in upright position with the push buttons at the top. Control knobs on the side make an attractive innovation. In either position the cabinet may serve also as a book-end.

### THE VANITY DeLuxe

An exquisite model in an old ivory Plaskon molded cabinet. A masterpiece of design with instantaneous, accurate Push Button tuning as well as conventional knob tuning. Has four working tubes including Beam Power Tube that provides increased volume and sensitivity. A certain "best seller" at an unbelievably low price of **\$12.99**

*Prices slightly higher in South and West.*

Remember, this is only the "calling card" of Crosley's 1939 line—see this startling value now—decide that you will be on the Crosley "Band Wagon" and going strong when the rest of the line is announced.

**THE CROSLEY RADIO CORPORATION - CINCINNATI**

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

**POWEL CROSLEY, Jr.,**  
President

# YOUR RECORDED SALES

## RECORD VOLUME CONTINUES

"The rate at which records are coming back into popular favor has been comparatively unaffected by recent depressed business in other fields," declares RCA Victor executive E. W. Wallerstein.

"The popularity of recorded music is experiencing a boom without precedence in industrial history, with the demand about equally divided between popular music of the 'swing' type and the more serious music.

"Frequent broadcasts by the world's leading artists is one of the biggest influences in expanding the ranks of music lovers. Record sales have increased no less than 500 per cent since 1933. Fundamentally the public is hungry for music of all types and records are the best means of providing 'music we want, when we want it.'"

Mr. Wallerstein reported on the remarkable success of the Victor Record Society plan, and pointed out that around 80 per cent of the society members are new converts to recorded music.

The RCA company's Thomas F. Joyce has announced a 50 per cent increase in advertising expenditures for records and Victrolas.

## VOICE MIRROR

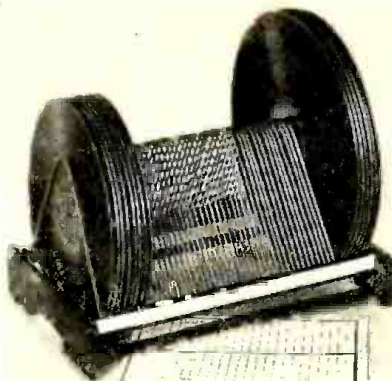
A brand new source of store income is noted by radio men as a device called the "Voice Mirror" makes its appearance in the field. For those who have a "studio" corner in their stores, or are otherwise sound specialists, the new merchandise affords a chance to sell store time to customers, or to sell the equipment itself.

The Voice Mirror is an instrument which records the voice, and at the touch of a switch, instantly plays it back. It handles speeches of any length, reproduces them clearly and any number of times until automatically erased by turning another switch. This is accomplished by magnetic recording on an endless steel tape. Thus the Mirror becomes an all-purpose instrument for experiment and study in speech, song and instrumental work.

Attracted to the instrument are many types of prospects for studio service or sales. These include announcers, composers, orchestra lead-

ers, stage folk, educators, hard-of-hearing groups, speech specialists in medical and psychological professions, singers, etc.

The Voice Mirror, along with other new developments of a special nature for sound production and control, is marketed by Acoustic Consultants, Inc., 1270 Sixth Ave., New York, N. Y.



### Handy record file

Size 10 x 14½" record rack which holds 50 discs and keeps them separated by cloth-covered dividers. Designed to fit into small corners. Sections are numbered and index card provided so that any title can be conveniently located. List. \$3.50. Schloss Bros., 801 E. 135th St., New York City—RADIO TODAY.



### Electric portable phonograph

Compact Port-O-Matic model will play 10 or 12" records with top closed. Crystal pickup, extra record-carrying space, individual controls for tone and volume, Wondertone chamber. AC, \$54.50; AC-DC, \$59.50. Port-O-Matic Corp., 1013 Madison Ave., New York City—RADIO TODAY.



Kenny Baker of the Jack Benny show has made new hits on Decca discs.

## WAX WORTH WATCHING

HORACE HEIDT and his Brigadiers playing Ferdinand the Bull with VC by the Three Kings and Red Farrington, and Dh Ma Ma with VC by Red Farrington and Frank De Val—Brunswick 8138.

THE SOPHISTICATES playing Liebestraum and Swing Low, Sweet Chariot—Decca 1818.

DICK POWELL with Harry Sosnick and his orchestra playing The Girl in the Bonnet of Blue, with male quartet, and In My Little Red Book—Decca 1782.

JIMMY DORSEY and his orchestra playing Who Do You Think I Saw Last Night with VC by Don Matteson, and At Your Beck and Call with VC by Bob Eberle—Decca 1784.

BENNY GODDMAN and his orchestra playing It's the Dreamer in Me and Why'd Ya Make Me Fall in Love? both with VR by Martha Tilton—Victor 25846.

FREDDIE "SCHNICKELFRITZ" FISHER and his orchestra playing Colonel Corn from Warner Bros. "Gold Diggers of Paris" with VC by Freddie Fisher, and The Wild Wild Women with VC by Stan Fritts—Decca 1771.

RUSS MORGAN orchestra playing Ten Miles from Town with VC by Russ Morgan and Swing Fourteen and Will You Remember Tonight Tomorrow? with VC by Russ Morgan—Brunswick 8119.

BUDDY ROGERS and his Famous Swing Band playing This Time It's Real and Lovelight in the Starlight from "Her Jungle Love" both with VC by Bob Hannon—Vocalion 4058.

RUDY VALLEE and his Connecticut Yankees playing The Latin Quarter with VR by Rudy Vallee and the Gentlemen Songsters, and A Stranger in Paree with VR by Vallee, both from Warner Bros. "Gold Diggers in Paris"—Victor 25835.

LARRY CLINTON and his orchestra playing Ferdinand the Bull from the Walt Disney production of the same name and If It Rains Who Cares both with VR by Bea Wain—Victor 28541.

ABE LYMAN and his Californians playing A Garden in Granada and Sunday in the Park from "Pins and Needles," both with VR by Ed Holly—Bluebird B7568.

MAXINE SULLIVAN with Claude Thornhill's orchestra singing A Brown Bird Singing and THE CHARIDTEERS singing Speak to Me of Love—Vocalion 4068.

EDDY DUCHIN and his orchestra playing Ride Tenderfoot Ride and I'll Dream Tonight, both from "Cowboy From Brooklyn," both with VC by Stanley Worth—Brunswick 8130.

RUSS MORGAN and his orchestra playing I Love a Lassie and Casey Jones, featuring the Swing Fourteen—Brunswick 8127.

SHEP FIELDS and his Rippling Rhythm orchestra playing This Little Ripple Had Rhythm, vocal refrain by Bob Goday and chorus, and You Took the Words Right Out of My Heart, vocal refrain by Bob Goday, both from "Big Broadcast of 1938"—Bluebird B7304.

# NEW THINGS

Latest news of radio products from manufacturers



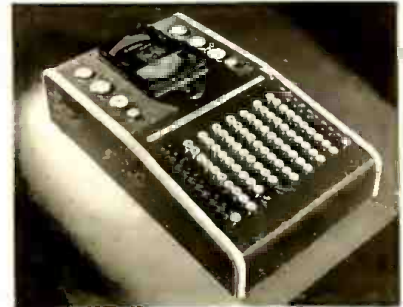
## Automatic tube tester

★ Push-button type tube tester for testing all types of tubes in a minimum amount of time. Roller index shows switches to be set up for each type of tube. Locking type push-buttons complete circuit arrangement for test and meter indicates directly. Short test also controlled by push buttons. Emission type of tests. Model 430—net \$34.50. Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.—RADIO TODAY.



## Shure crystal pick-up

★ Economy crystal pick-up for use in small combinations and record players. Rubber-isolated pivot-bearing assembly is designed for single-hole mounting. Triple moisture-proofed grafoll bimorph crystal cartridge. Tracking error reduced by "needle-tilt" principle. Output of 2½ volts at 1000 cycles. Model 94A—list \$6.50 with arm rest. Shure Bros., 225 W. Huron St., Chicago, Ill.—RADIO TODAY.



## Zephyr tube tester

★ Cash register type of counter tube tester using push button switches. Spin chart roll until type number of tube appears—then push down buttons according to numbers shown on chart. Large double scale illuminated dial then reads *good*, *?*, or *bad*. Supreme Instruments Corp., Greenwood, Miss.—RADIO TODAY.



## Mobile amplifier

★ 28-watt mobile amplifier operating on 110 AC and 6 volts DC. Changeover accomplished by selector switch. Motor for turntable operates from main power pack whether on 6 or 110 volts. Webster-Chicago model M-928. Webster Co., 5622 Bloomingdale Ave., Chicago, Ill.—RADIO TODAY.



## 400 cycle filter

★ Filter unit for passing 400 cycle audio signal. Used in aligning radio sets—blocks out all other frequencies when aligning set with a 400 cycle modulated oscillator and output meter. Eliminates need of a screened room. External noises and signals eliminated. Philco Radio & Television Corp., Tioga & C Sts., Philadelphia, Pa.—RADIO TODAY.



## Motor starting capacitors

★ Electrolytic type condensers for motor starting and other AC applications. Hermetically sealed in small aluminum cans and insulated with fiber sleeve. Designed for a maximum of 20 starts per hour, each start of 3 seconds duration. For all fractional horsepower motors. Type ETN. Cornell Dubilier Electric Corp., S. Plainfield, N. J.—RADIO TODAY.

## Marconiphone combination

★ Portable automatic phonograph-radio combination for AC-DC operation. Record changer will change 8 10-inch records and play 12-inch discs. High-fidelity pick-up unit. Dual tone control. Dynamic speaker, illuminated dial. Record compartment. Model D-6—list \$110. Marconiphone, Inc., 679 Madison Ave., New York, N. Y.—RADIO TODAY.

## Recording discs

★ Recording blank with low surface noise, easy cutting quality. Long wearing, non-deteriorating. Sustained quality. Available in regular sizes. Audio Devices, Inc., 1600 Broadway, New York, N. Y.—RADIO TODAY.

## Television transformers

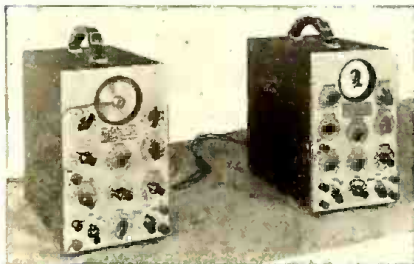
★ Hi-voltage and filament type transformers for use with the new Kinescope television tubes. For use with type 879, 878 cathode ray tubes and 1800 and 1801 tubes. Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.—RADIO TODAY.

# MORE NEW THINGS



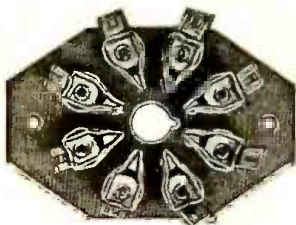
## Multi-speaker transformer

★ Matching transformer for using up to six 500 ohm speakers from a 250 or 500 ohm line. Designed for temporary installations and for demonstration work. Two transformers will handle 12 speakers, etc. Halldorson Co., 4500 Ravenswood Ave., Chicago, Ill.—RADIO TODAY.



## Television demonstrator

★ Pair of cathode-ray oscillographs to provide a television demonstration. One unit is provided with a phasamajector or image generating tube. Second unit uses a teletron or television receiving tube. Three-inch tubes used in both units. Allen B. DuMont Labs., 532 Valley Rd., Upper Montclair, N. J.—RADIO TODAY.



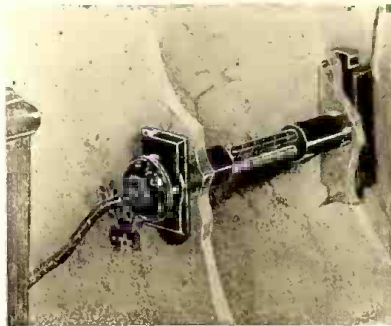
## Heavy-duty wafer socket

★ Heavy-duty socket for industrial and amplifier applications. Two-piece construction using low-loss bakelized canvas. Contacts are heavy, non-corrosive metal reinforced with sturdy steel clamps to insure perfect contact and long life. Available in all standard pin arrangements. Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.—RADIO TODAY.

## Raytheon receiving tubes

★ Type OA4G is a cold cathode triode designed for use in remote controlled AC sets; 4A6G is a twin

triode power amplifier for battery sets. 6P5G is an octal-based triode with the same characteristics as the 76. Type 6S7 is a low-drain pentode amplifier with metal bulb. RK1851 is a pentode amplifier for television receivers. Raytheon Production Corp., 55 Chapel St., Newton, Mass.—RADIO TODAY.



## Aerial lead-in

★ Connector for bringing antenna leads to radio set through the wall. Cor-Nex consists of a lightning arrester, inside plate with leads, and polarized plug with cord. Easily installed—present neat appearance. Cornish Wire Co., 30 Church St., New York, N. Y.—RADIO TODAY.



## Film type recorder

★ Filmograph unit for general office use. Can be used for dictation, recording phone conversations, conferences, etc. Uses standard 8 or 16 mm. movie film. 80 minutes conversation can be recorded on a 100-foot film. Films easily filed and take up but little storage space. Model D illustrated. Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.—RADIO TODAY.



## Neon indicating lamp

★ Bulls-eye type of indicating lamp using neon lamp. Used in amplifier, radio, transmitter and other electrical equipment. Bulb consumes only ¼ watt and has 3000 hour life. Can be used on 120 to 500 volt circuits. Type 590 unit less bulb—80 cents. H. R. Kirkland Co., 75 West St., New York, N. Y.—RADIO TODAY.



## Popular-priced antenna

★ All-wave noise-reducing antenna. Unit complete with antenna wire, transmission line, set and antenna transformers and accessories. Completely assembled. Type 600—list \$5. Technical Appliance Corp., 17 E. 16th St., New York, N. Y.—RADIO TODAY.



## J. F. D. auto antennas

★ Cowl and hinge type auto antennas. Admiralty metal, chromium plated. Stainless steel top extension. Four section types—72 and 96 inches extended. May be installed in five minutes. Heavy lacquered low-loss leads, protected by shielded loom. J. F. D. Mfg. Co., 4111 Ft. Hamilton Pky., Brooklyn, N. Y.—RADIO TODAY.

## Univex titler

★ Low-cost titler designed for use with Univex cameras. Made of pressed steel. Lens spacer permits use of standard camera lens. Accurate camera mounting is provided which directs it exactly on to the titler frame. Complete with assortment of title cards and lettering kit. List \$2.50. Universal Camera Corp., 32 W. 23rd St., New York, N. Y.—RADIO TODAY.

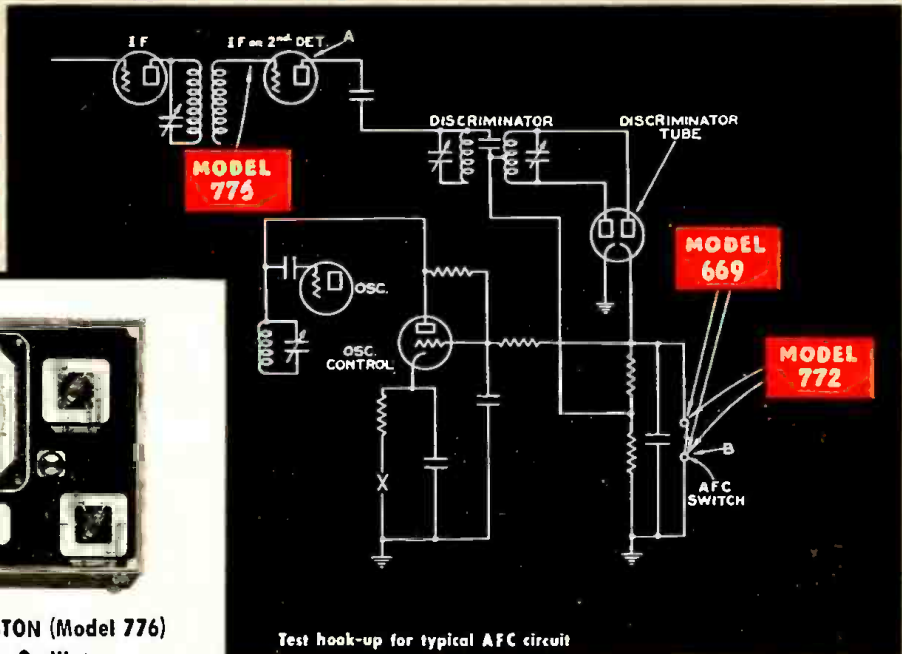
## High-power transformer components

★ High-power transformers and chokes for use in transmitters and broadcasting stations. A 10 henry 20 ampere inductance available for use with a 400 K.V.A. transformer bank weighs approximately 3½ tons. Other similar units available. United Transformer Corp., 72 Spring St., New York, N. Y.—RADIO TODAY.

# These 3 instruments

## MAKE AFC ALIGNMENT

*Quick, Simple, Profitable!*



Test hook-up for typical AFC circuit



WESTON (Model 776)  
Oscillator  
individually hand  
calibrated dials



WESTON (Model 669)  
Vacuum Tube Voltmeter



WESTON (Model 772)  
Super-Sensitive Analyzer  
sensitivity  
20,000 ohms-per-volt

Push button tuning provides another real opportunity for servicemen properly equipped. Nothing complex, nothing time-consuming about AFC alignment when you have these 3 dependable, WESTON instruments. Instead, perfect alignment is a quick, simple operation . . . *highly profitable* the WESTON way. And equipped with these 3 instruments, plus the WESTON Tube Checker, you are *set* for all servicing needs.

If you are anxious to *save money* on your instrument purchases over the years . . . *make more money* servicing *every year* . . . be sure your instruments are dependable WESTONS. The coupon will bring you complete information, as well as a copy of the "WESTON Pointer" . . . which gives profitable suggestions and short cuts for AFC alignment and on other servicing problems. Return the coupon today!

WESTON ELECTRICAL INSTRUMENT CORPORATION  
597 Frelinghuysen Avenue, Newark, N. J.  
Send a copy of the WESTON POINTER, Vol. 1—and literature on  
WESTON Instruments.

NAME .....

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

# WESTON

## *Instruments*

Announcing the

# SUPREME COUNTER TUBE TESTER!

# Zephyr!

**NO DOWN PAYMENT!  
10 DAY FREE TRIAL!**

IF YOUR CLERK CAN RING UP A SALE ON A CASH REGISTER—SHE CAN ACCURATELY TEST TUBES ON THE SUPREME *Zephyr!*

Think of it—a tube tester so simple that instructions are not necessary. Even a child can operate it. Simply spin the numerical chart roll until the type number of the tube comes up—then punch the buttons according to the numbers shown (just like a cash register)—and the big illuminated meter reads "Good," "Bad," or "THAT IS ALL THERE IS TO IT." The large double scale meter is easily read from BOTH SIDES of the counter.

Here is an opportunity you cannot afford to overlook if you are selling tubes, for you can order and have delivered to you the SUPREME ZEPHYR Counter Tube Tester—without putting one cent down—and without any risk on your part. Use the SUPREME ZEPHYR for a period of 10 days—and if it does not meet with your expectations—send it back to us without any obligation on your part whatever. If, after 10 days, you decide to keep the ZEPHYR you can pay for it by sending a small remittance each month. Order your SUPREME ZEPHYR today—here is a quicker, easier way for you to make extra tube profits.

Most reliable parts jobbers have SUPREME instruments in stock—write us if your own parts jobber cannot supply you.



**NO DOWN PAYMENT**  
\$6.55 FOR 10 MONTHS ON SUPREME'S OWN S.I.C. EASY TERMS  
CASH PRICE **\$59.50**

Let your customers test their own old radio tubes!

**SUPREME INSTRUMENTS CORP.**  
GREENWOOD, MISSISSIPPI, U. S. A.

Cable Address: LOPREH, New York

Export Dept., Associated Exporters Co.  
145 W. 45th St., New York City

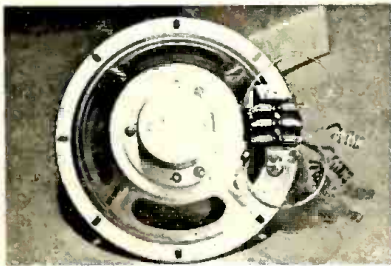


# MORE NEW THINGS



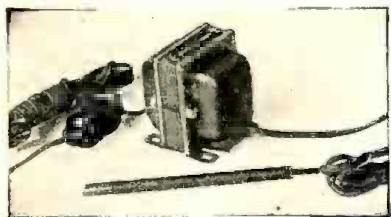
## Teletalk intercommunicators

★ Line of master, fully-selective master, and annunciator type interphones. Fully-selective system unit illustrated permits simultaneous communication between any pair of instruments. Annunciator type handles 12 outlying stations and has 12 annunciators to indicate which station is calling. Speaker units at remote points have call buttons, and may be located at distances up to 3000 feet. Webster Electric Co., Racine, Wis.—RADIO TODAY.



## Replacement speakers

★ 5-speaker line of permanent-magnet type construction to service all types of sets now in use. Plug-in jack universal type transformers match all tube combinations and lines. Units priced from \$4 to \$14.25. Accurate Electric Co., 3575 Armitage Ave., Chicago, Ill.—RADIO TODAY.

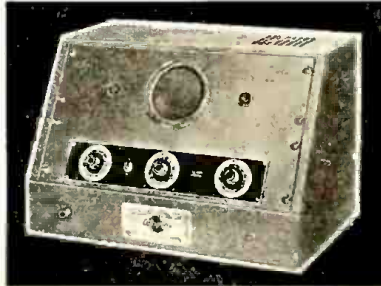


## Electric soldering tool

★ Small tool with two carbon heating elements for soldering small parts and wires. Extremely small—can be used in limited space. Consumes current only when in use. Metal reaches soldering temperature almost instantly. Operates from AC line through a transformer. Consumes 100 watts. For all radio and electrical work. Type 1 Thermogrip. Ideal Commutator Dresser Co., 4033 Park Ave., Sycamore, Ill.—RADIO TODAY.

## Oil condensers

★ High-voltage type oil condensers in oil-filled and wax-filled types. Compact units in rectangular cans. Brackets for upright or inverted mounting. Impregnated with super-dielectric Hyvol oil. High tension pillar terminals. Available in 1, 2, 4, mfd.—600 to 3,000 volts. Aerovox Corp., 70 Washington St., Brooklyn, N. Y.—RADIO TODAY.



## Console unit amplifier

★ All-metal console amplifier affording complete monitoring facilities. Inclined front panel, contains all amplifier controls, a 5-inch monitoring speaker and standby and cue switches. Also has monitor mike. Designed for theaters and audition studios. Wholesale Radio Service Co., 100 Sixth Ave., New York, N. Y.—RADIO TODAY.



## Molded plastic knobs

★ Complete line of molded knobs for all types of radio and sound equipment. Lever controls, bar knobs, push-button knobs and many others described in catalog. Knob illustrated is the No. 2250, which is streamlined and has white indicating line. Length is 2¼ inches. Model 2150 is similar but 1¼ inches long. Harry Davies Molding Co., 1428 N. Wells St., Chicago, Ill.—RADIO TODAY.

## Screw driver and wire dresser

★ Combination type tool having insulated screw driver for alignment and a specially-hooked end for dressing wires and testing soldered joints. Philco Radio & Television Corp., Tioga St., Philadelphia, Pa.—RADIO TODAY.

## Dial light jewel assembly

★ Pilot light unit which mounts in a single 1-inch hole. Chrome plated finish. Supplied with candelabra, miniature bayonet, miniature screw bases. Red, green, blue, amber, opal jewels. Dial Light Co. of America, 136 Liberty St., New York, N. Y.—RADIO TODAY.

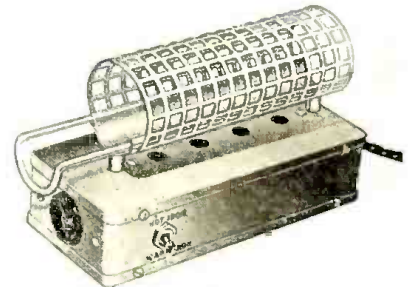


## Radiart shaver pack

★ Vibrator type power pack permitting use of electric razors from a 6-volt battery. A 32-volt model also available for trains and farm lighting plants. Radiart Corp., Shaw Ave. at 133rd, Cleveland, Ohio.—RADIO TODAY.

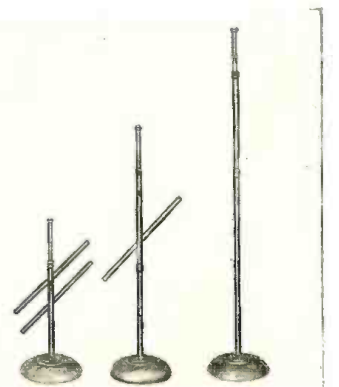
## Electronic mixer

★ Three-channel electronic mixer which overcomes the shunting effect on the load resistance of the tube actuated by the DC plates resistance of the tubes not actuated. Volume controls located in the output circuits. Jefferson Electric Co., Bellwood, Ill.—RADIO TODAY.



## Soldering iron stand

★ Variable-heat soldering iron stand with protective hood. Handles up to a 150-watt or smaller iron. Heat controlled by switch. Iron heats fully from warm position in a short time. Hood prevents accidental burns. Model 300-H.—list \$4. Drake Electric Works, 3654 Lincoln Ave., Chicago, Ill.—RADIO TODAY.



## Three-in-one mike stand

★ Microphone stand with velvet-action self-adjusting clutch. One section used for banquet stand, two sections for a chair stand, and three sections for a floor stand. Ten-inch base with rubber pads. Brass tubes and cast-iron base. Model MS-31—list \$9. Atlas Sound Corp., 1447-51 39th St., Brooklyn, N. Y.—RADIO TODAY.

# MORE NEW THINGS



## Mobile sound system

★ 25-watt sound system for operation from 110 volts AC and 6 volts DC. Housed in a single unit with phono turntable and pick-up. Dynamic type microphone unaffected by adverse climatic conditions. Dual speakers. Provisions for remote volume control and meter monitoring. Model 172. Operadio Mfg. Co., St. Charles, Ill.—RADIO TODAY.

## Cage-type resistors

★ Ventilated cage-type resistors for one, two or four resistors. Designed for use where the resistors must be protected from accidental contact. Cages with sturdy sheet metal ends and with perforated metal sides. Terminals brought out at ends by feed-through insulators. Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.—RADIO TODAY.

## Low-cost auto antenna

★ Hinge-mounting antenna for small auto radios. Stainless steel extension and chrome-plated brass tubing. Extends to 47 inches. 36-inch lead-in partially shielded. Fits all cars. Model 9851—list \$1.95. RCA Mfg. Co., Front St., Camden, N. J.—RADIO TODAY.

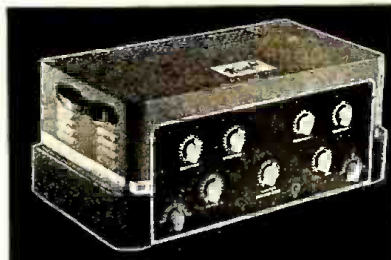


## Crystal phonograph pick-up

★ Phonograph pick-up using a crystal element which is thoroughly moisture-proofed, sealed in molded flexible-rubber housing which eliminates internal resonance. Metal outer shell serves as electro-magnetic and electrostatic shield. Crystal has high capacitance and low reactance. Solid walnut tone arm designed to reduce tracking errors down to 3 to 4 per cent. Series X-76. Webster Electric Co., Racine, Wis.—RADIO TODAY.

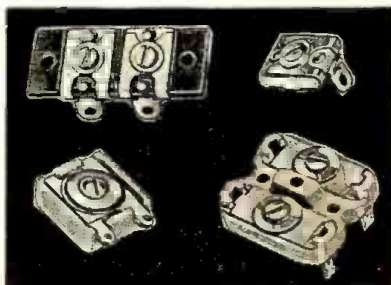
## Ceramic cased mica condenser

★ Mica condenser for radio receivers. Postage stamp size. High-grade mica and foil plates. Wire terminals anchored to plates. Housed in ceramic case and imbedded in moisture proof cement. Extremely stable characteristics. Dumont Electric Co., Inc., 514 Broadway, New York, N. Y.—RADIO TODAY.



## 60-watt amplifier

★ High-power amplifier with automatic volume control and volume expansion. Dual tone controls. 6-input channels and 5-channel mixer. 60-watts undistorted output. Inverse feedback to reduce distortion. Plug-in connections. Other Knight 1938 Styled units are available for all sound requirements. Allied Radio Corp., 833 W. Jackson Blvd., Chicago, Ill.—RADIO TODAY.

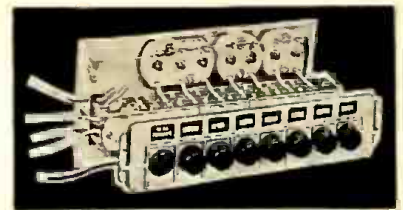


## Trimmer condensers

★ Line of trimmer and padder condensers using a mica dielectric. Designed to prevent drift, or change with temperature or moisture. Available with bakelite or ceramic bases. Single and multiple section units. P. R. Mallory & Co., Indianapolis, Ind.—RADIO TODAY.

## Improved tuning eye

★ Cathode-ray type tuning indicator with wide-angle double-range tuning. When used with a 6AE6G control tube, a double shadow pattern is obtained. For low voltages the shadow on one half closes and the other remains stationary. When a strong signal is developed, the second shadow then takes over the function of indication. Type 6AD6G tube. National Union Radio Corp., 57 State St., Newark, N. J.—RADIO TODAY.



## Push-button tuner

★ Automatic push-button adapter unit for superhet or tuned R.F. sets. Selects 7 stations. Release button returns set to manual operation. May be mounted vertically or horizontally. Type 10-7554—list \$7.50. Meissner Mfg. Co., Mt. Carmel, Ill.—RADIO TODAY.

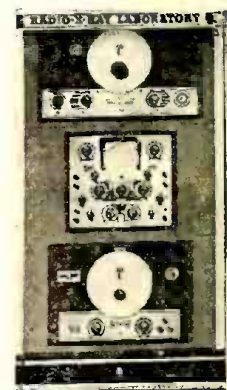
## Dynamic microphone

★ Uni-directional dynamic microphone. Energy response pattern is a cardioid. Wide pick-up angle from front and apparent dead rear field. High output level. Output impedances of 50, 200, 500 and 10,000 ohms. Model 9DT—list \$35 for low impedance. \$37.50 for high impedance. American Microphone Co., 1915 S. Western Ave., Los Angeles, Calif.—RADIO TODAY.



## Wee Pee Wee clip

★ Extremely small insulated clip for radio testing. Thin nosed for use in crowded chassis. Will not short on close-wound coils. Non-ferrous material. Black and red rubber insulators. Type 88 clip with 93 insulator—list \$3.90 per box of 10. Mueller Electric Co., 1533 E. 31st St., Cleveland, Ohio.—RADIO TODAY.



## C-B service lab

★ Rack type of service lab. for all service instruments. Illustrated above is a single rack section with all-wave signal generator type 110 with direct reading verni-vider dial. Center unit is the 127 uni-signal frequency modulator and cathode ray oscillograph. Bottom unit is the 79C beat frequency audio oscilator. Clough-Brengle Co., 2815 W. 19th St., Chicago, Ill.—RADIO TODAY.



# RCA VICTOR

*Electric  
Tuning  
for All!*

**32 New Ways for you  
To Make PROFITS!**

THE CLIMAX TO FORTY

RCA



OFFERS AMAZING VALUES...

RCA  
VICTOR  
RADIOS

ELECTRIC TUNING  
FOR ALL

VICTROLA PUSH-  
BUTTON CONTROL

VICTROLA ATTACH-  
MENT "PLUG-IN"

MASTER NOISE  
ELIMINATOR

RCA VICTOR  
MASTER ANTENNA

RCA VICTOR TUBES

HIGH FIDELITY

NEW STYLE CONTI-  
NENTAL, CONSOLE  
GRAND, AND 18th  
CENTURY CABINETS

ELECTRICAL  
MAGIC VOICE

TRIPLE-CONE  
SPEAKER

NEW FULL-VISION DIAL



RCA Victor Model 97KG

Electric Tuning for 6 stations, Victrola Push-Button Control, Victrola Attachment "Plug-In", Console Grand Cabinet, Magic Eye, RCA Victor Metal Tubes. \$85.00\*

RCA Victor Table Model 96T1

Electric Tuning for 5 stations, RCA Victor Metal Tubes, Standard Broadcasts and Police Calls, Magnetite "frequency-locking" Transformers, Electro-dynamic Speaker, Continental Style Cabinet, and many other features. \$34.95\*

RCA Victor Table Model 9X

Cabinet available in walnut and four distinctive colors—onyx brown, Brazilian onyx green, Arizona onyx green, onyx black. AC-DC operation. Built-in Antenna. The price—see your distributor.



\*Prices f.o.b. Camden, N. J., subject to change without notice.

Now — More Than Ever Before...  
The Road to PROFITS is Marked

YEARS OF LEADERSHIP

# Victor

BRILLIANT NEW STYLES for 1939



**RCA Victrola Model U-128**

Has new gentle action, automatic Record Changer for 10" and 12" records, Crystal Pick-up with top needle loading, Electric Tuning for 8 stations, 12" Dynamic Speaker, 10 RCA Victor Tubes, \$185.00\* including RCA Victor Master Antenna and \$9.00 worth of Victor Records.

**RCA Victrola Model U-111**

Instrument has Feather-touch Crystal Pick-up, True-Tracking Tone-Arm, Synchronous Electric Motor, Tone Control. The radio gets Domestic Broadcasts and Police Calls. \$39.95\*

**RCA Victrola Model R-89**

(Phonograph only.) Plays 10" and 12" records, has Feather-touch Crystal Pick-up, True-Tracking Tone-Arm, Cushion-mounted Constant Speed Motor, RCA Victor Tubes and other fine sales features. \$24.50\*



**NEW GENTLE-ACTION  
AUTOMATIC RECORD  
CHANGER**

**TOP-LOADING  
CRYSTAL PICK-UP  
TRUE-TRACKING  
TONE-ARM**

**HIGH FIDELITY  
TRIPLE-CONE  
SPEAKER**

**RCA VICTOR  
ELECTRIC TUNING  
CABINETS OF NEW AND  
UNUSUAL BEAUTY**

**Victor Record Society Steps  
Up Victor Record Sales!**

The Victor Record Society, which has sent record sales soaring to new peaks, will continue to make money for dealers, not only from the standpoint of record sales, but Victrola sales as well! For the Society's benefits are now included in the price of the 1939 RCA Victrolas.



# RCA All The Way



**INCREASED ADVERTISING**

One of the most gigantic advertising campaigns ever placed by RCA Victor will create customers for you this year!

**A Weekly Radio Message to 3,000,000 Homes!**

The RCA Magic Key program, broadcast every Sunday on an NBC network of 107 stations—and Victor Record programs, broadcast 6 times weekly on 9 stations—will feature the new radios and Victrolas in strong commercial announcements.

**An Audience of 17,988,000 Magazine Readers!**

Printed advertising on radios and Victrolas will do a mighty selling job for you! Some of the many publications RCA Victor will use to pound home its sales story on radios and Victrolas include frequent, consistent, 4-color pages in the Saturday Evening Post and Collier's, four pages per advertisement in the "Listen" supplement of Life, Radio Guide, American Home, American Magazine, Cosmopolitan, Time, New Yorker, Scribner's, Esquire, National Geographic, Nation and American Mercury.

For your own use, RCA Victor has prepared a large and widely varied series of cooperative advertisements which advertising experts pronounce the most forceful and effective they've ever seen.

**FOR FINER RADIO PERFORMANCE . . . RCA VICTOR RADIO TUBES**  
*RCA presents the Magic Key every Sunday, 2 to 3 P. M., E. D. S. T., on the NBC Blue Network.*



**New Sales-Producing Promotional Material**

For you, too, RCA Victor has prepared a splendid array of promotional material including some of the most ingenious window and floor displays you've ever seen. The first display of the 1938-39 window service is shown above. Your RCA Victor distributor will be glad to give you full details about the new window displays. They'll combine with the advertising to bring you more calls than ever before—and when people call—they buy!

**FOR MORE PROFITS**

# RCA Victor

RCA Victor is a service of the Radio Corporation of America

# WHAT IT COSTS TO OPERATE A SERVICE BUSINESS

## Helpful pointers on figuring overhead

"Get out of the business of merely repairing sets," was Arthur E. Rhine's advice to the members of the New York R.S.A. at the May 9 meeting, and he quickly added: "Get into the business of selling radio knowledge!"

Mr. Rhine, who has a large service organization at 158 W. 230th Street, New York City, made this as his introductory statement to his talk on the cost of operating a radio service business. In order to illustrate how the operating costs mount up, Rhine presented some representative figures which, he said, were entirely reasonable for even the most modest radio business. And for average size shops the costs would unquestionably be greater.

Assuming a two-man shop, the proprietor's salary might be \$30 a week, while the helper would get \$15. This means a total of \$45 a week or \$195 a month for salaries.

Other expenses on a monthly basis are as follows:

Rent .....	\$25.00
Electricity .....	4.00
Telephone .....	6.50
Advertising, including postage..	3.00
Service manuals and magazines.	1.65
Tools .....	1.00
Workmen's compensation .....	7.00
Social security for helper.....	.65

Uncollectible accounts .....	3.45
Car depreciation .....	10.00
Gasoline for car .....	16.50
Car repairs .....	1.50
Tires for car .....	2.00
License plates .....	1.25
Garage for car.....	6.00
Depreciation on test equip.....	8.00
Heat for store.....	none
Insurance on car and store.....	none
Other taxes .....	none
Depreciation on fixtures .....	none
Idle time (helper & owner)....	78.00
Total expenses .....	\$175.50
(exclusive of salaries)	

Most of the items are so simple as to need no explanation. Test equipment is valued at \$480 and is assumed as having a 5-year life, which means that it depreciates at the rate of \$96 a year, or \$8 a month. Automobile depreciation is based on the purchase of a \$300 car which two years later is worth \$60, thus representing \$120 a year depreciation.

### Working vs. idle time

Idle time, the last item on the list, takes into account the time which is wasted around the store waiting for calls getting parts from the jobber, and all other things which are not charged to the customer as labor.

Assuming a 60-hour week, a total of

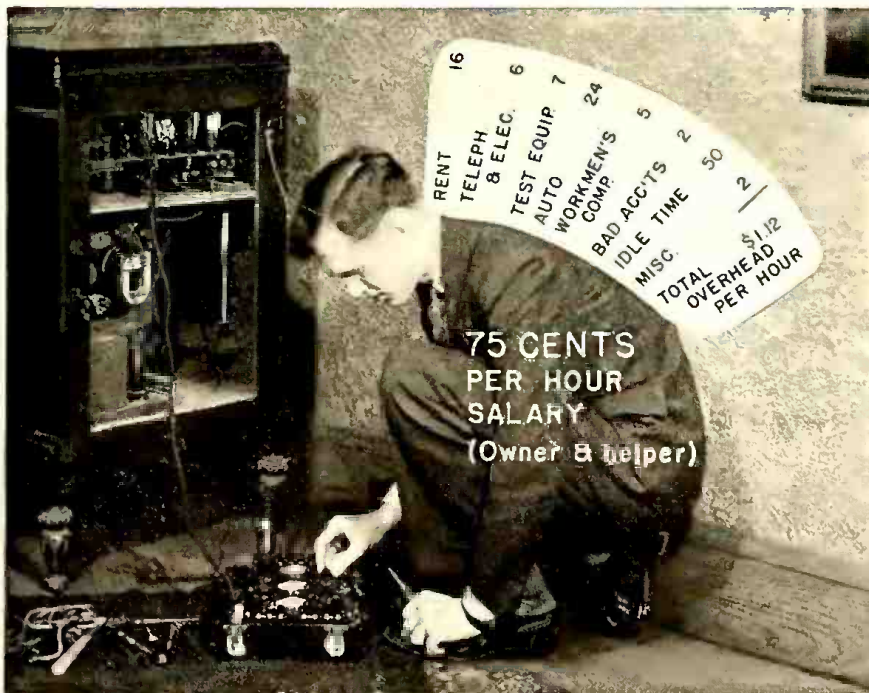
240 working hours per month are available. Of this 240 hours only about 60 per cent of the time, or 156 hours, is directly chargeable as labor on customers' jobs; therefore the remaining 40 per cent must be charged up to overhead expenses. Since this applies to both owner and his helper, \$78 of the \$195 payroll becomes overhead rather than a labor charge.

The item of \$3 for advertising is extremely low and in keeping with the other items. Postage, business cards, signs, folders, and other items certainly are more than 75 cents a week. However, to keep everything at rock bottom, this low figure is used. Note also that some items are not even included in the total, although they are listed so that the serviceman will not forget about them.

Workmen's compensation will vary throughout the country. In New York it is \$7 a month—in some states it may be nothing.

In a previous paragraph it was stated that the idle time was \$78—that means that the total time sold was valued at \$195—\$78 or \$117. Note carefully that the overhead item of \$175.50 is 150 per cent of the labor sold. (In other words, if the labor cost is \$.75 figured on the hourly rate, the overhead cost is an additional \$1.12).

## THE LOAD ON THE BACK OF THE SERVICEMAN—"OVERHEAD"



Every hour that he works, the serviceman must earn \$1.12 to cover the items of overhead, rent, telephone, auto, bad debts, etc., besides earning the 75 cents for an hour's wages to himself and helper. Thus overhead costs 1½ times as much as productive labor.

### Cost of doing business

Adding the total time sold and the total expenses, one gets \$292.50 as the total cost of doing business for the month. Since the time that was salable is only 60 per cent of the total of 240 hours monthly, or 156 hours, the cost of doing business per hour is \$292.50 ÷ 156 or \$1.87 per hour.

This cost of \$1.87 per hour is net cost or actual cost. It does not represent any profit whatsoever. A mark-up of 20 per cent for profit raises this figure to \$2.25 an hour. Such a mark-up will make a profit of about \$600 for the year, which is not very much on an annual business of about \$3,600.

Rhine stated this 20 per cent mark-up is a minimum for profit and suggested that the serviceman use his judgment as to whether or not it be increased. Based on \$2.25 an hour, the profit earned is only 16⅔ per cent.

It was Rhine's contention that no serviceman should make a single transaction until he had figured his costs. After all, what is the sense of doing business unless a profit is made? And when quoting prices on jobs, do not accept one cent less than the estimate.

In concluding Rhine advised every serviceman to make his present business profitable before trying to increase the size of it. It is profit, and not volume that counts.

## AUDITORIUM PA JOB WITH CONCEALED UNITS

The auditorium of the New York Academy of Medicine has recently been equipped with a modern public-address system. The medical profession considers this auditorium one of the most famous lecture halls in the country, and for a number of years there was much talk about the installation of such a sound system.

Two major difficulties were encountered in the selection of a suitable P.A. system for this auditorium. First, it was necessary to install the equipment so that all of it would be concealed from view. The second difficulty was that usual bugbear found in auditoriums, poor acoustics.

After service engineering layouts were proposed, the equipment installed included: A Western Electric "salt shaker" dynamic microphone installed at the speaker's rostrum. A small American dynamic microphone attached to the wall alongside the motion-picture screen. Two Cinaudagraph speaker units and air-column horns installed behind the grille of air ducts which are located at the left and right sides of the proscenium. A Lafayette 30-watt amplifier concealed below the speaker's rostrum.

A remote volume control was installed at the rear of the auditorium as being the most logical place to control the volume from the loudspeakers. The connecting wires and all the various components with the exception of the two microphones and

## Selling Sound

the one volume-control knob on the back wall of the auditorium were completely concealed from view.

Earphones are available in various parts of the auditorium for use by those who are hard of hearing. These are now connected to the Lafayette amplifier.

Two separate volume controls are incorporated in the amplifier to allow adjustment of the volume from each microphone. A remote-control unit at the rear of the auditorium is actually the "master" volume control. This "point of reception" control permits adjusting the volume to the best level. Thus the amplifier can be installed behind the scenes out of sight.

## TOLL-COLLECTORS USE COMMUNICATORS

★ Toll booths for bridges and tunnels provide a threefold use for inter-communication systems. The several booths at toll-collection points are in most all cases under the supervision of one man. Inter-communicators allow the supervisor to listen in, so that in cases of disputes (which do arise frequently) the supervisor has the opportunity to hear both sides of the argument and thereby be of valuable assistance to his subordinate.

As these toll points are generally managed by police departments, flash instructions for capturing criminals can also be transmitted instantaneously to all booths. Use of inter-communicators also permits the individual collector to summon aid when necessary, as in the case of attempted robbery.

## SOUND—GIFT FOR GRADUATING CLASSES

Each graduating class likes to leave behind a gift to its alma mater, whether college, university or high school.

Under the direction of Parts Manager Bob Herr, Philco is running a Spring campaign on portable sound amplifiers addressed to graduating classes in the country's schools and colleges, and built upon this custom of graduating classes to make a departing gift to their schools. With sound amplification finding steadily-increasing uses in schools, Herr points out that a portable amplifier is an ideal class gift—and therefore the campaign directed at the coming June exodus.

## CRYSTAL VS. VELOCITY MIKES

Editor RADIO TODAY:

Referring to articles on microphones in your April and May issues:

(1) I find no reason to believe that velocities cannot be used out of doors. For ordinary pickups, I have used velocities without any interference from wind, with the exception of storms. I have had the ribbons exposed to as high as a 40-mile an hour gale and nothing was blown out.

(2) I find the response of ribbon mikes to be flat (as discerned by ear, and not by measurements).

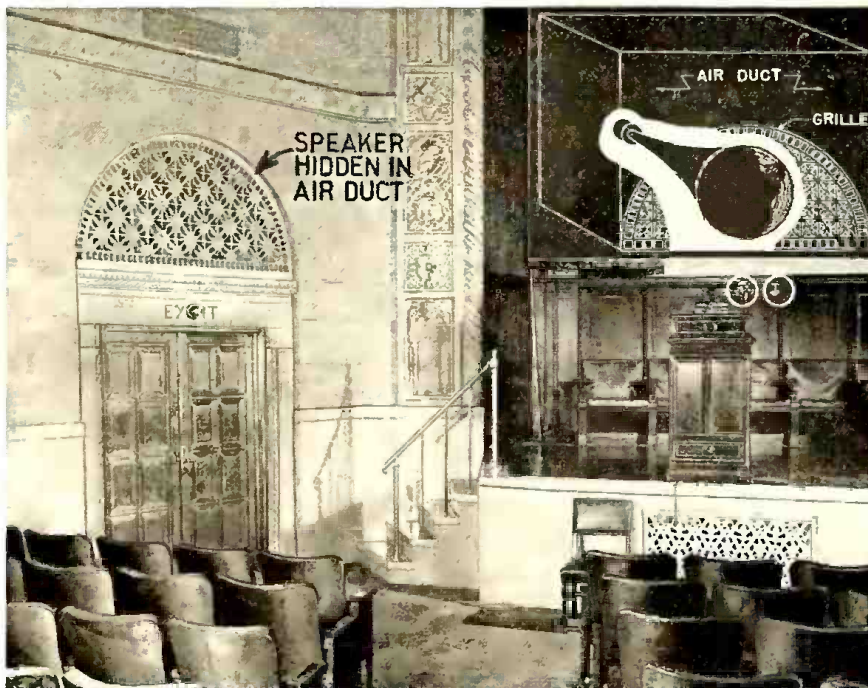
(3) I do not agree with Mr. Ruttenberg that ribbon mikes can be connected in parallel without losses in both output and frequency discrimination. I have always used my mikes through an electronic mixer, and would never parallel them. I have also found it fairly practical to parallel *crystal* mikes when the cable length does not exceed *sixty* feet.

(4) I find that it reduces hum level to any high impedance mike if it is grounded. I also find that I cannot operate the older types of velocities in any AC field due to heavy hum pickup through the mike transformer.

In closing I would like to say that I am inclined to favor the crystal mikes for their ability to take a licking and still do as good a job as before.

SIMON FRIEDLANDER,  
Sound Service.

363 Victory Blvd.  
Tompkinsville, Staten Island, N. Y.



Insert sketch, upper right, shows how speaker was concealed by Wholesale Radio engineers behind grills over doorway.



# AMPERITE

offers  
**"ADJUSTABLE RESPONSE"**  
 (HIGHER OR LOWER PITCH WITH THE SAME MICROPHONE)

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

(pat. pend.)

Here is an improvement of great value at no extra cost! Exclusive with Amperite, the Acoustic Compensator gives you these advantages:

- (1) With the flip of a finger, you can now lower or raise the response of the microphone—without introducing any peaks or other undesirable effects. (Not a volume control. Gradually changes operation of the microphone from constant velocity to constant pressure.)
- (2) Permits adjustment of the microphone for most desirable response for close talking or distant pickup.
- (3) Makes the system immediately adjustable to any "taste," room condition, or equipment.

MODELS RBHE, 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. Chrome, \$43.00 LIST.  
 MODELS RBHn, RBMn. without acoustic compensator, \$42.00 LIST

## IMPROVES ANY "LOW-COST" INSTALLATION ON 4 COUNTS!

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, changes in temperature, pressure or humidity. . . . Frequency range 60 to 7500 cps. Output, -68 db. MODEL RAH (Hi-imp.) with 12' of cable; MODEL RAL (200 ohms) with 8' of cable. . . . ONLY \$22.00 LIST

## NEW LOW-PRICED CONTACT MICROPHONE . . \$12.00 LIST

The success of our Model KTH (\$22.00 List) has created a demand for a popular-priced Amperite Contact Microphone. The new model listed below 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." Installation is simple . . . no changes in strings or instruments . . . 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  
 SKH or SKL with foot-operated volume control . . . . . \$20.00 LIST  
 Professional Model KTH (or KTL) . . . . . \$22.00 LIST

## "TOPS IN MIKES"

Station KVOL of Lafayette, La., writes us, unsolicited: ". . . the Amperite mikes have been in service here for almost three years, and have proven themselves to be "tops" in mikes. They have broadcast in the rain and in the hot sun. They have even been dropped, but they always came through in fine shape . . ." The Amperite Studio Velocity Model SR80n now has -56 db output. Frequency range 40 to 15000 cps. Triple shielded, fitted with switch, (optional), cable connector, and 25' of cable.  
 MODEL SR80n (200 ohms): \$80.00 LIST  
 MODEL SR80Hn (Hi-imp.). \$80.00 LIST

*Sales Aids for the P. A. Man* Amperite offers the following co-operation to P.A. Men.

- (1) FREE Window Decal advertising your Sound Service. Size 5 1/4 x 9 1/4, finished in 4 striking colors.
- (2) FREE Window Display, 11 x 17.
- (3) Special Sound Equipment Letterheads. Samples and prices on request.
- (4) FREE use of cut for printing business cards, etc.

Write for these valuable sales helps, and new Illustrated Bulletins, today!

**AMPERITE CO.** 561 BROADWAY, N. Y. U. S. A. CABLE ADDRESS ALKEM, NEW YORK



VELOCITY

**AMPERITE**

MICROPHONES

# DYNAMIC TESTING OF RADIOS

## Sources of frequency discrimination in audio amplifiers

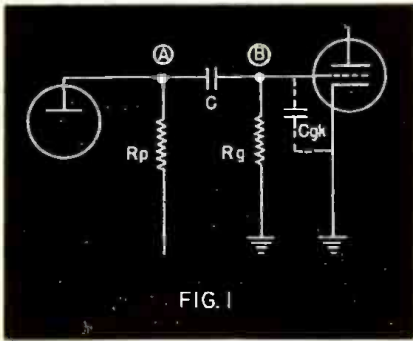


FIG. 1

Resistance-coupled circuit showing coupling and shunt capacities.

The audio frequency response of a radio set is an important factor in the proper reproduction of radio programs. It is one thing that largely determines the tone quality of a radio set—and tone is one of the most important features of a radio set.

Therefore, if a serviceman is to be successful in his repair jobs, he must return the set with the same tone quality that it had before needing servicing. By listening to a radio program, or, better still, several different types of programs, the capable radio-man should be able to tell whether or not the set is operating okay from a tonal viewpoint. If the set does not have the proper tone, then a mere listening test to a broadcast station is not usually sufficient to tell just what the difficulty is and where it lies.

### Amplitude distortion

As stated last month in RADIO TODAY, on page 30, audio frequency discrimination is a form of distortion, in that the amplitude of the various frequencies is changed in proportion to each other. Therefore a test of the audio frequency response of a set is an important part of dynamic testing.

Frequency discrimination is caused by circuits external to the tube, in contrast to harmonic distortion which

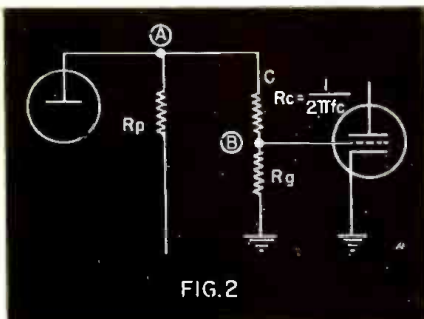


FIG. 2

Coupling condenser can be represented as a series AC resistance.

is mainly caused by the non-linear characteristic of the tube. These circuit elements may be resistors, condensers, and inductances including audio transformers.

In a resistance-coupled circuit, the input circuit employed is similar to that shown in Fig. 1. Note that the tube has a capacity across the grid resistor which may be represented by  $C_{gk}$ . Usually this tube capacity is not of much importance in radio set amplifiers. The blocking capacity C is extremely important in determining the low-frequency response of the stage. Also the grid resistor  $R_g$  is important in this respect since the two are effectively in series as shown in Fig. 2. The capacity C can be thought of as an AC resistance in series with  $R_g$ . Unless this AC resistance is low in comparison to  $R_g$ , it is obvious that there will be a voltage drop across the condenser C, since the two are in series to ground.

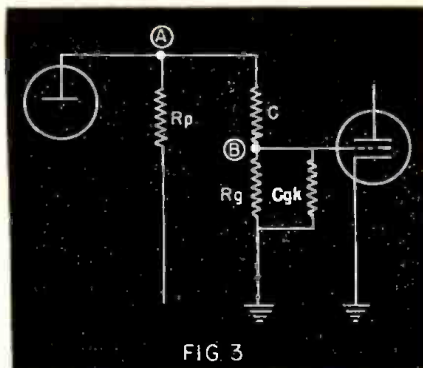


FIG. 3

Tube capacity at high frequencies becomes a shunt AC resistance.

### AC resistance of coupling condenser

Since the AC resistance of this condenser varies inversely with frequency, it follows that the voltage drop across it is inversely proportional to the frequency. The voltage drop will be least at high frequencies and greatest at low frequencies. If the condenser is made sufficiently large so that at the lowest frequency to be passed by the radio set, the AC resistance of the condenser is very small in comparison to the resistance  $R_g$ , then there will be no appreciable loss of low frequencies due to voltage drop across the condenser.

Since it is the ratio of the two resistances that counts, if a small condenser is used, a large grid resistor must be employed. If it is essential that a low value of grid resistance be employed, then the condenser must be

made larger. (The maximum value of grid resistor that can be used depends on the type of tube, whether fixed or self bias is employed, and other conditions usually of less importance.)

### Tube shunt capacities

Another condition which may occur is when the tube capacity  $C_{gk}$  is large and a high value of grid resistor is employed. At high frequencies the AC resistance of  $C_{gk}$  may be low enough to act as a shunt across the resistor  $R_g$ . This means that the parallel impedance of the two may be appreciably less than the value of  $R_g$  alone. As was pointed out in the case for low frequencies, the voltage fed to the grid of the amplifier tube is dependent upon the ratio of the AC resistance of the coupling condenser and series resistance to ground. If the parallel impedance of  $R_g$  and  $C_{gk}$  is reduced appreciably at high frequencies, then the high frequency response of the stage is reduced. The circuit for this case is shown in Fig. 3.

If  $R_g$  is of a low enough value so that  $C_{gk}$  has negligible shunting effect at the highest frequencies to be reproduced, then there will be no discrimination against the higher frequencies.

It is interesting to note, that for best low-frequency reproduction and a given value of C, a high ohmage grid resistor may be desirable; while to eliminate the effect of the tube shunt capacity, a low value of grid resistor may be desirable.

Another way to state the relation-

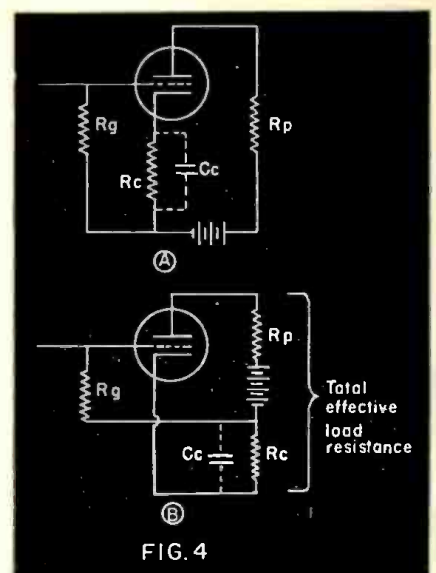


FIG. 4

"B" is a rearrangement of "A" to show how feedback to the grid exists when the cathode by-pass condenser is not large enough.

# NEW push-button TESTING

FOR 1939 SERVICING



Mutual  
Conductance  
Per Cent Scale

Rotating  
Chart Shows  
Correct Buttons  
To Push

## DYNAMIC MUTUAL CONDUCTANCE

Tube Tester and Volt-Ohm-Milliammeter

This new Triplet model incorporates two revolutionary advancements in tube tester design. First, Push-button control gives a new order of simplification. The buttons are clearly marked on chart at base. Just rotate the chart to the tube to be tested—then the button to push is indicated in line under each row of push buttons. What could be simpler!

The second revolutionary improvement is the arrangement of the measuring circuit of the dynamic mutual conductance test for amplifiers and power tubes. The tube tested not only shows G<sub>MD</sub> or  $\mu$ AD but the percentage of  $\mu$  to the 100% Good Condition is also indicated. In critical sets this permits the service dealer to pick his tubes with confidence. . . . Blades and rec-

orders are tested for emission according to the latest approved engineering standards. Gas and Ballast tube tests included.

Rotate chart to Volt-Ohm-Milliammeter settings—push button for D.C. scales: 0-10-50-250-500-1000 Volts at 1000 Ohms per Volt; 0-10-50-250 M.A.; 2 Ohms—500 Ohms—300,000 Ohms—1 $\frac{1}{2}$  Megohms—3 Megohms; 0-10-50-250-500-1000 A.C. Volts at 400 Ohms per Volt; decibel chart furnished to 42 db's. (Ohmmeter in line powered and provision is made for using batteries if desired.) Uses plug-in type rectifier, simplifying replacement in case of unintentional damage.

Installed in attractive, ornamental case with lustrous finish. Removable cover. For portable or counter use . . . sliding panel.

Model 1616  
**\$73.34**  
Dealer Price

ON DISPLAY AT THE  
PARTS SHOW  
OR SEE IT AT YOUR  
JOBBER'S

### MODEL 1615

● Dynamic Mutual Conductance Tube Tester only with Push-Button testing. Same tube tester circuit and push-button panel as Model 1616, but for tube testing only. Complete with all necessary accessories.

Dealer Price .....\$63.34

### MODEL 1610

● Emission Type Tube Tester with Push-Button testing. Has new R.M.A. approved circuit with every essential for dependable emission test on all type tubes. Testing greatly simplified by Triplet push-button testing. Installed in metal case with removable cover, of compact size; complete with all necessary accessories. An accepted test for practically all tubes.

Dealer Price .....\$39.00

### MODEL 1611

● Emission Type Tube Tester with Push-Button Testing and Volt-Ohm-Milliammeter. Similar to Model 1610 above described except Volt - Ohm - Milliammeter added. Ranges similar to those of Model 1616. Dealer Price.....\$49.50



Model  
1611

# TRIPLET

Precision

## ELECTRICAL INSTRUMENTS

THE TRIPLET ELEC. INSTRUMENT CO.  
196 Harmon Dr., Bluffton, Ohio

Please send me more information on

Model 1616  Model 1615  
 Model 1610  Model 1611

Name.....

Address.....

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

ship is, that the grid resistor should be low enough so that the tube shunt capacities do not reduce the high frequency response, and the coupling condenser C should be large enough so that the desired bass frequencies are passed.

### Simple test

The test for proper relationship of coupling condensers and resistors in a resistance coupled stage is quite simple. If it is suspected that the values are not proper, an audio frequency oscillator having a range from 50 to 10,000 cycles can be connected to point A. If the output of the amplifier stage is not constant over the desired range of frequencies, try connecting the oscillator to point B. If the output of the amplifier then becomes flat, the frequency discrimination lies in the input circuit coupling network. (A similar test can be made in transformer-coupled stages by connecting the oscillator output to first the primary and then the secondary of the audio transformer.)

If frequency discrimination still persists even when the oscillator is connected to point B, it follows that it is caused by circuits other than the input. (If the output of the audio oscillator does not remain constant with changes in frequency, a copper oxide meter can be connected across the output of the oscillator and the output control manipulated to maintain constant output.)

Other sources of discrimination are cathode circuit degeneration and that

caused by the output transformer or coupling network. Cathode type degeneration is usually caused by too small a bypass condenser across the cathode resistor and makes itself known through a reduction in the bass response of the amplifier stage, because part of the output voltage feeds back to the grid circuit and cancels part of the input voltage, as shown in Fig. 4. If the bass response comes up to normal when the cathode bypass condenser is increased in size, it follows that its original size was too small.

Of course, when taking the frequency characteristics of any radio set amplifier, the frequency characteristic of the speaker should be taken into account. A six-inch unit will not reproduce 70 cycles and to attempt to do so is a waste of time and materials. Likewise a selective superhet receiver will not pass 6,000 cycles in its I.F. system and to try for such audio response is unwise.

### DYNAMIC VS. GAIN TESTING

Since numerous radiomen have inquired as to what the difference is between *dynamic radio testing* and *stage-by-stage\** or *gain-testing\*\**, RADIO TODAY'S Service Editor, Vinton K. Ulrich, explains it as follows.

Dynamic radio testing is based on the idea that for proper operation, the radio set must operate properly for all conditions imposed by the broadcasting signal. The set must reproduce all the notes or frequencies that it could when the set was new, and must de-

liver adequate output with a minimum of distortion. Also the set must have essentially equal or better sensitivity and selectivity it had when it left the factory.

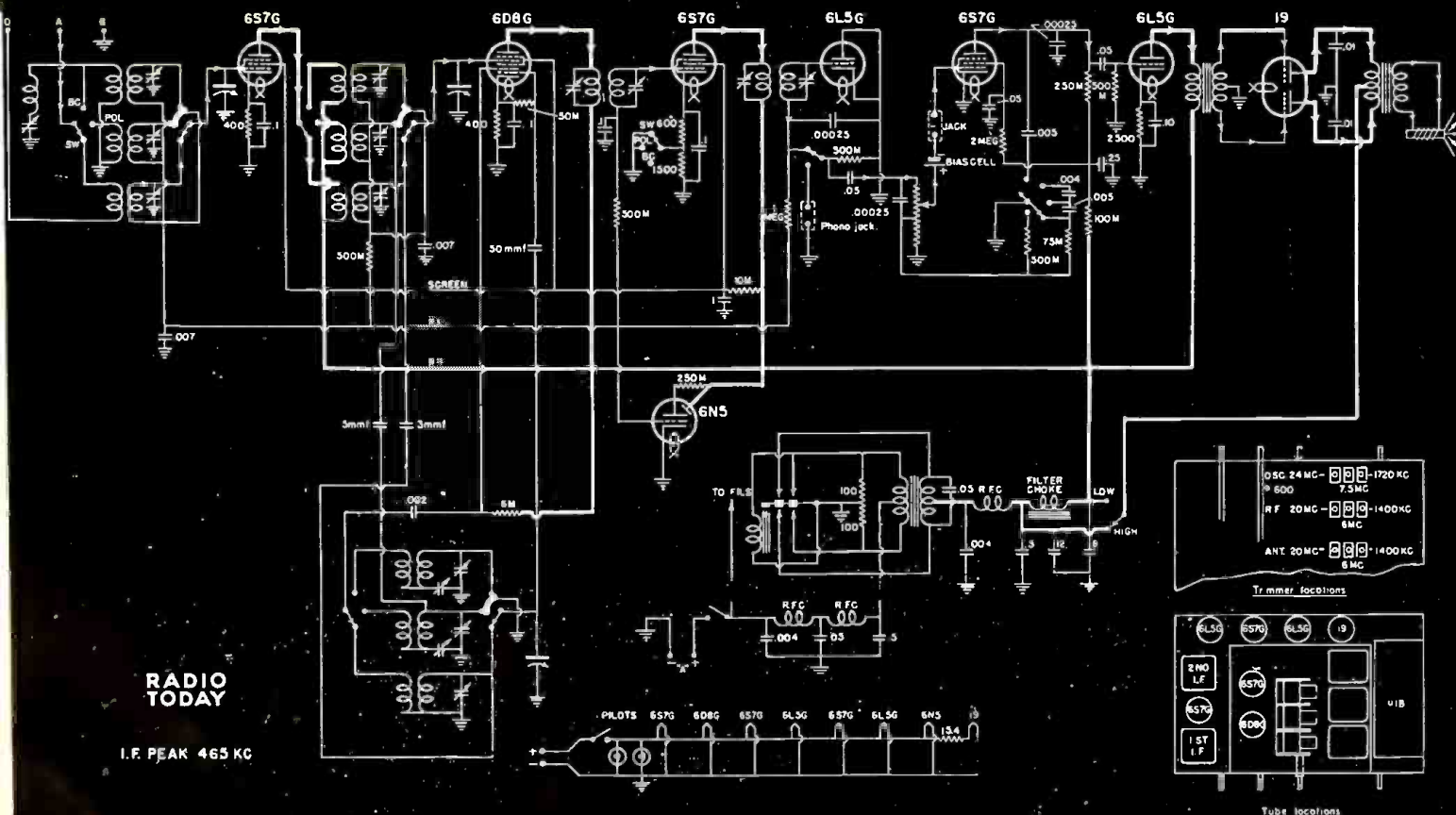
Dynamic testing differs from stage-by-stage or gain-testing in that in addition to locating the stage where the trouble lies, it will show the serviceman what part or element of the stage is defective. Mere sensitivity testing just tells the serviceman that there is not sufficient gain in the stage. It does not take into account such factors as distortion, overloading, power handling capability, and a host of other factors important to proper operation of the set.

As stated by Rider in March, 1937, sensitivity testing will localize the defects to a single stage. From then on the conventional testing methods are used. In dynamic testing, the application of a definite procedure of testing will show in just what part of the circuit the trouble lies. Distortion caused by an improper load impedance will show itself as such and not merely as distortion from causes unknown, etc.

The test procedure as developed will show how to use existing test equipment, how to make circuit connections, how to interpret various results such as cathode ray images and various audible signals. A detailed step-by-step procedure is being developed for the radio serviceman using both the scope (visual) and audible analysis.

\*Philo Serviceman.  
\*\*Why Sensitivity Testing, Advantages of Gain-Per-Stage Measurements in Localizing Trouble, by John F. Rider, in Successful Servicing, March, 1937.

## SENTINEL-ERLA Model 88BE



## LOUIS-SCHMELING TITLE BOUT BROADCAST JUNE 22

Radio listener interest for June will reach a peak on the 22nd at 10 p.m. EDST, when NBC broadcasts a blow-by-blow account of the world's championship fight between Joe Louis and Max Schmeling.

The bout will be aired over one of the most extensive webs ever hooked up for a sport event. To radio stores it means a choice spot for extra sales of personal sets, and a chance for special promotions on tube replacements.

Some manufacturers, notably Hygrade Sylvania, have already made special "fight" display material available to dealers and servicemen.

## DETROLA CONVENTION JUNE 27-28

First annual "National Jobber-Distributor" meeting to be held by Detrola is set for June 27 and 28 at the Ft. Shelby Hotel, Detroit, Mich.

Sales plans and merchandising features of the new 1939 line will be introduced by sales manager J. J. Davin. Also planned is a "dramatic Pee Wee demonstration," to be staged by Ed McCarthy, New York and New England division representative for Detrola.

## NEW BOOKLETS

The RCA-Victor Record Catalog has been improved and enlarged in a recent re-issue. It contains 80 additional pages, new record listings, new classifications, a 4-page pronunciation table, new features on record-playing equipment, etc.

Samson Safe-flex rubber-bladed fans are featured in a new booklet released by Samson United Corp., Rochester, N. Y. Complete merchandising set-up and all fan specifications are included.

"The Importance of Good Hearing" is the title of a feature booklet issued by Western Electric Co., an elaborate 24-page discussion of the ortho-technic model Audiphone.

Ideas and profit suggestions for merchandising the Kisco Cool-CIRCLE-Ator table are presented in a new photo-manual booklet released by the Kisco Co., 4414 W. Papin St. St., Louis, Mo.

Free amplifier catalog, No. 600-C has been released by Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago. Six models with outputs ranging from 8 to 60 watts are shown. The catalog contains technical data, general information, illustrations and prices of speaker and portable cases, etc. Available either from the jobber or the factory.

Radio Today's cover photo this issue is by Walter Engel. Corkscrew picture on page 18 is by Charles Phelps Cushing.

★ Stancor's new Service Guide No. 125, a 32-page manual, is now being issued by jobbers or from Standard Transformer Corp., 1500 N. Halsted St., Chicago. It contains listings of over 2,800 sets, with transformers and chokes to service them; it gives the tube set up on all receivers listed and other miscellaneous information.

★ "Bakelite Laminated" is the subject of a new booklet available free from Bakelite Corp., 247 Park Ave., New York City. The 48-page publication has illustrated material on the individual physical, electrical and mechanical properties of laminated sheets, tubes and rods.

★ Forthcoming from Raytheon Mfg. Co., 144 Willow St., Waltham, Mass., is a new bulletin, D148-71-F, on automatic voltage regulators. It includes specific applications and tells how to select the regulators for general use, and contains full information on electrical characteristics, dimensions, stock ratings, and prices. Copies will be mailed free on request.

★ The 96-page set of supplement sheets for Alfred A. Ghirardi's Radio Field Service Data Book carries a new and revised list of intermediate peak frequencies of all superhets made in the U. S. today. This includes 272 makes and 11,500 different models.

★ "How Radio Stations Use Instantaneous Recordings to Make Money, Sell Time, and Promote Operating Efficiency" is the title of a new booklet released by Presto Recording Corp., 139 W. 19th St., New York City.

★ "Oscillograph-Wobbulator Model 77—Your Key to Successful Servicing" is described and illustrated in a new folder issued by Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.

★ The new engineering bulletin No. 38, a 28-page booklet giving complete information on flexible shafts for remote control, is available from S. S. White Dental Mfg. Co., Industrial Division, 10 E. 40th St., New York City.

★ A standard specification data folder on loudspeakers, 66 models of them, (of which 28 are permanent magnet types) has been released by the Magnavox Co., Ft. Wayne, Ind. It is in tabular form and includes two new heavy duty speakers. Copies will be sent to those asking for folder R17.

★ Copies of the new RCA TT-3 Transmitting Tube Manual covering air-cooled types are now available from distributors or by sending 25c to the Commercial Engineering Section, RCA Radiotron Division, RCA Mfg. Co., Inc., Harrison, N. J.

★ American Screw Co., Providence, R. I., has issued a bulletin on "a new method of fastening that gives every worker in the electrical industry a third hand." The Phillips recessed-head screw is featured.

# BEWARE of IMITATIONS

There is only ONE



POPULAR throughout America for its outstanding construction and quality, our SUPERIOR Phonograph Needle is being imitated. Though the imitation is similar in shape, it obviously lacks the fine polish and reproducing quality of our product. Be sure you sell SUPERIOR RECOTON because . . .

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We invite comparison . . . send at once for samples and prices

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Whenever you are asked to look at tricky circulation comparisons, remember this:

. . . a straight-forward, side-by-side comparison will show that RADIO TODAY has:

**22,000** GUARANTEED (ABC)

**15,681** PAID, as of March, 1938

93% of the total circulation goes to buying power groups.

Greatest increase in paid subscriptions.

Highest percentage of subscription renewals.

Lowest rate per thousand readers.

Largest and most experienced editorial staff—under the direction of Dr. O. H. Caldwell, former Federal Radio Commissioner.

# RADIO TODAY

STRIP  
DOWN!

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DOWN!

THE  
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brings:

STRONGER SIGNALS  
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with

AN ECONOMY OF  
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NO overhead or un-  
sightly guy wires  
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Constructed of tubular  
steel which telescopes  
to 6-foot length, Pre-  
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mits erection to any height up to 24 feet.  
Complete, ready to install with 4-foot ground  
post and insulator unit. Just the thing for  
sightly, efficient antenna erection.

Illustration shows ground type mounted with  
RCA Antenna Coupling Unit for use with  
RCA Magic Wave Antenna. Also available  
in roof type.

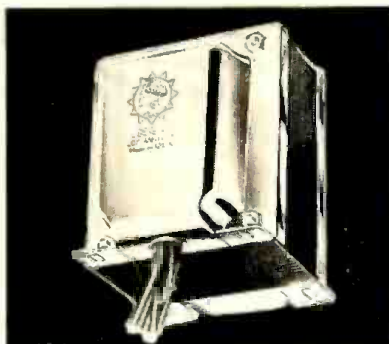
Ask your jobber or write today for prices  
and complete details.

**Premax Products**

Division Chisholm-Ryder Co., Inc.

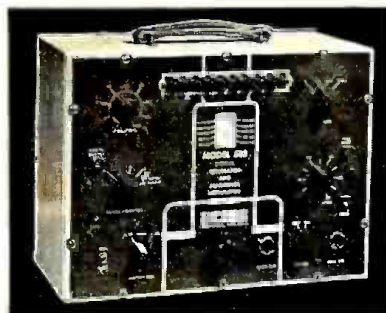
3846 Highland Avenue Niagara Falls, N. Y.

MORE NEW THINGS



**Inca Climatite transformers**

★ Radio transformers for use in regions with extremely high humidity. Low weight, small size. Impregnating compound is an excellent conductor of heat as well as having resistance to moisture. Available in both audio and power types. Inca Mfg. Div., Phelps Dodge Copper Products Corp., 2375 E. 27th St., Los Angeles, Calif.—RADIO TODAY.



**Push-button signal generator**

★ Radio service oscillator having push-button control of 5 I.F. frequencies which are used in 90 per cent of all the sets. Five r.f. frequencies take care of broadcast band alignment. Air type trimmers and permeability-tuned iron-core coils provide freedom from drift. On manual tuning, oscillator covers 85 to 15,000 KC on fundamentals. Electronic frequency modulator included. Model 582 A—net \$66.95. Supreme Instruments Corp., Greenwood, Miss.—RADIO TODAY.



**Spark plug suppressors**

★ Molded bakelite carbon spark suppressors for reducing ignition interference. Model S19 is a 5000 ohm unit which fits onto stud on top of plug. Type T20 is a 10,000 ohm unit for use at the distributor. List 30 cents for either type. Continental Carbon Co., 13900 Lorain Ave., Cleveland, Ohio—RADIO TODAY.

**Stromberg crystal pick-up**

★ Replacement type of crystal pick-up for use with Stromberg models 140-P, 145-P, 145-SP, 160-P combinations. Changeover is simple. Complete with base, arm, crystal unit, and 3-prong plug. Instructions included. Stromberg-Carlson Telephone Mfg. Co., 100 Carlson Rd., Rochester, N. Y.—RADIO TODAY.

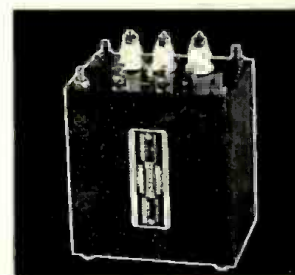


**A & B battery eliminator**

★ AC operated power supply for 2-volt farm radio sets. Fully filtered 2-volt filament and B power supplies. Meter for adjusting filament voltage. Can be used with any set—hum-free operation. Draws only 30 watts with a 7-tube set. Tapped B eliminator supplies all commonly used voltages. Electro-Products Labs., 166 E. Erie St., Chicago, Ill.—RADIO TODAY.

**Push-button auto radios**

★ Two push-button auto radio models have been added to the RCA line. Model 9M1 is a 5-tube superhet listing at \$24.95. 9M2 is a 6-tube set with a 3-gang condenser and stage of r.f.—list \$29.95. Station set-up is easy and does not require any tools. RCA Mfg. Co., Cooper St., Camden, N. J.—RADIO TODAY.



**Low-cost power transformers**

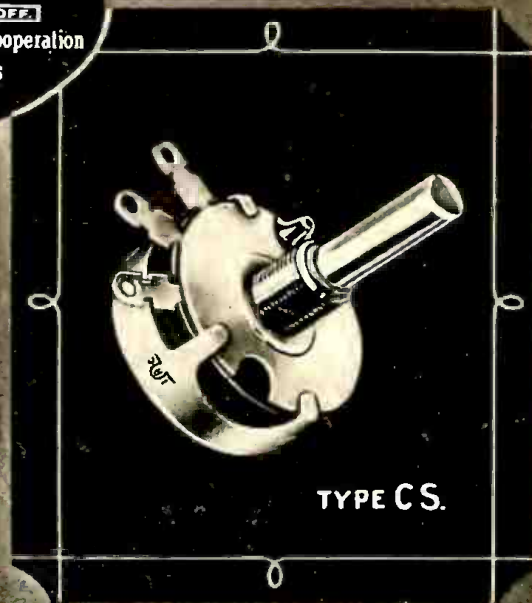
★ Line of filament and plate transformers for radio and electronic fields. Ratings up to 200 V. A. Combination plate and filament transformers for the latest tubes. Filament transformers also available. Filter reactors have double winding which can be connected in series or parallel. Top or sub-panel mounting. Ferranti Electric Co., 30 Rockefeller Plaza, New York, N. Y.—RADIO TODAY.



WHAT IS AN

"*Expensive*"

VOLUME CONTROL?...



TYPE CS.

The first cost of all controls is just about the same—but don't be fooled! There's a big difference in the ultimate cost to you that only time can tell.

When a replacement control you have installed "goes noisy" you get the blame. Whatever may happen, it is almost certain that your loss of good will and prestige is out of all proportion to the cost of any control.

Service records show that most control troubles arise at one point . . . the sliding contact between center terminal and rotor arm. The IRC Type "CS" Control removes this trouble spot once and for all by replacing the "collector ring" with a positive connection . . . a silver plated spiral spring rigidly attached at each end. Because the IRC Control is quiet and *stays quiet*, it actually saves you money.

Compare its performance with ordinary units and convince yourself that it is by far the *least expensive* control to use. It represents an investment that will pay greater dividends the longer you use it!



**THE SILENT SPIRAL CONNECTOR**  
Another development pioneered and perfected by IRC.

**INTERNATIONAL RESISTANCE COMPANY**

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In Canada, 187 Duchess Street, Toronto, Ontario

MAKERS OF RESISTANCE UNITS OF MORE TYPES, IN MORE SHAPES, FOR MORE APPLICATIONS THAN ANY OTHER MANUFACTURER IN THE WORLD

# SERVICING NEW SETS

## TUNING EYE TROUBLES

When the tuning eye closes or overlaps, almost without exception, this is due to variations in characteristics of the 6E5 tube, and is corrected by selection of a suitable tube, advises Stromberg-Carlson.

First of all, make sure that the 6E5 tube is not "soft" or "gassy," causing a blue glow in the lens of the tube which can be seen by looking across the tube in a dim light.

Some "hard" tubes are also unsuitable. Any tube drawing in excess of 5 mils plate current in the receiver circuit (as measured by a set analyzer, not a tube analyzer) should not be used. The percentage of such tubes is rapidly being reduced by the tube manufacturers.

Occasionally the 6E5 tube may be suitable and the difficulty caused by excessive plate current in the 6K7 tube used in the I.F. stage.

If the shadow on the target of the 6E5 tube does not reduce on nearby signals

- (a) Check the aerial and ground connections for open lead-in, insufficient pick-up, high resistance joints, etc.

- (b) Check sensitivity control knob if there is one and increase sensitivity.
- (c) Check for a faulty tube in the R.F. system, causing low AVC voltage.
- (d) Check for a grounded cathode bias resistor at R.F. or I.F. socket.

## A LETTER TO SERVICE CUSTOMERS

Too rarely does the radio serviceman take his customer into his confidence and write him fully explaining the difficulties in finding trouble in a modern radio set. Clark Radio of Granville, Ohio, calling itself "Ohio's largest radio shop," has prepared a form letter which it sends to customers who have had repair work done. This letter covers a wide range of cases and contains questions which aid in tracing troubles which may appear later. Here is the letter:

Dear Customer:

Intermittent radio trouble is the meanest type to repair as a rule, especially that type that cuts out only occasionally. Often an intermittent radio that has been chronic at the home,

works perfectly here at the shop, possibly due to jar in transit, temperature or humidity changes, etc. Repairing a set of this type often necessitates a certain amount of "hide and go seek" labor, coupled with considerable patience on our part as well as that of the customer.

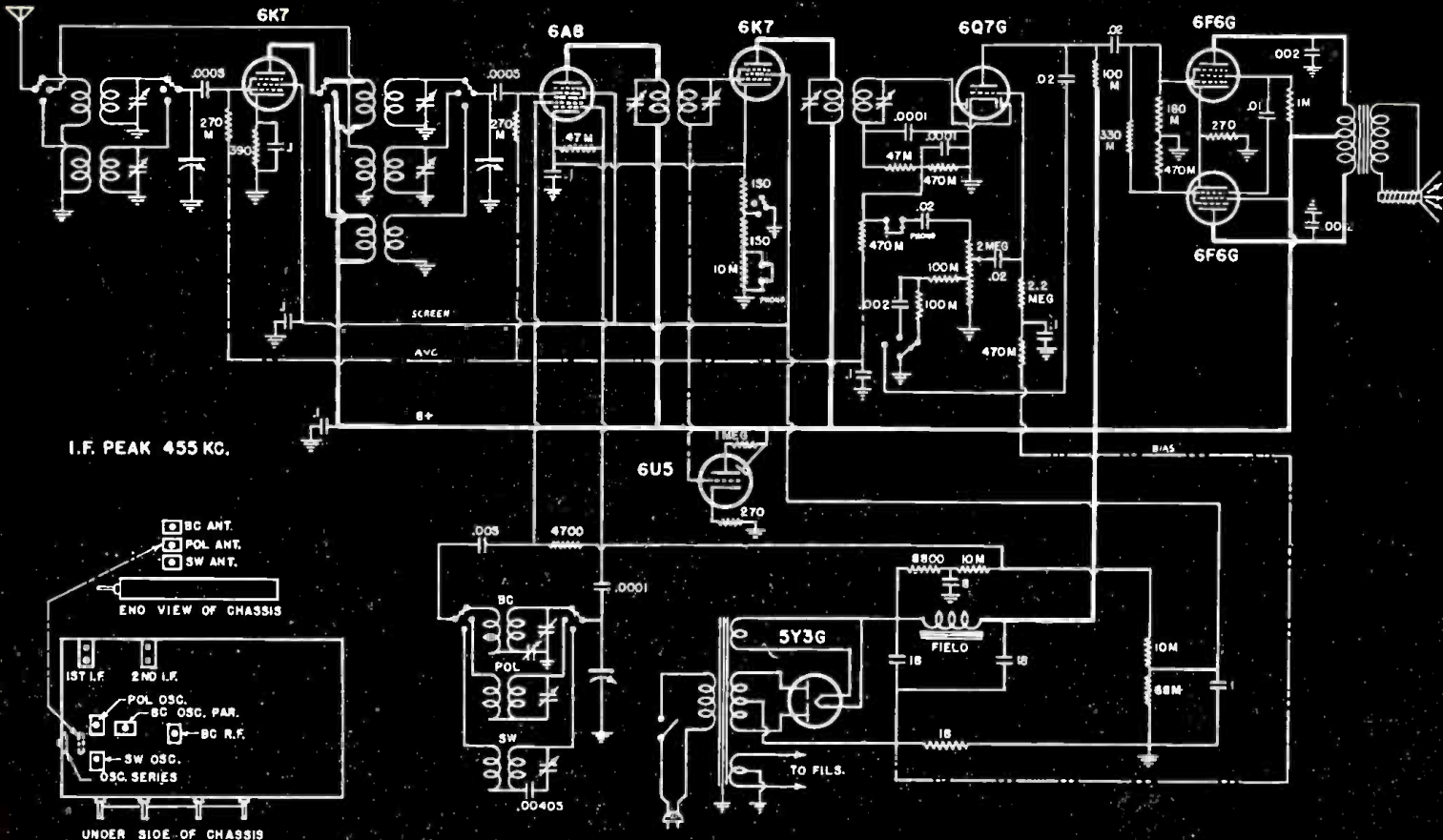
When a set of this type fails to develop trouble here at the shop after a duration test run, we usually replace certain parts that we are suspicious of and after another test run, if no trouble has shown itself, we return the set to the customer. Of course, in this procedure we are not *sure* we have corrected the trouble, and must enlist your aid in detecting any further trouble as it would be practically impossible for us to operate and monitor each intermittent case for more than a few hours.

Your set has operated without showing any trouble here at the shop for \_\_\_\_\_ hours. If it gives any trouble after being returned please call us immediately and aid us by answering the following questions as fully as possible:

- Does set cut out periodically?
- Does reception fade out or snap off?
- Does adjusting dial or volume control agitate trouble?
- Does turning off or on a light in the home affect it?
- Is the fading accompanied by a whistle, screech, hum, or distortion from the loudspeaker?

(To page 48)

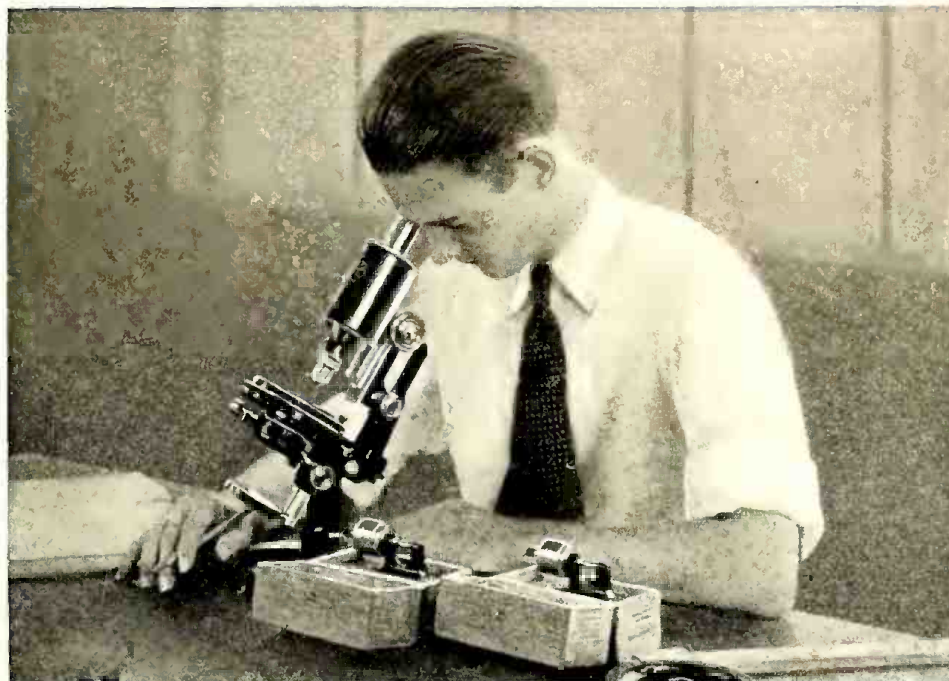
## WESTINGHOUSE Models WR-228 & WR-328





# Quality

B E G I N S H E R E



It is Sylvania's firm belief that a radio tube can be only as good as the materials put into it.

That is why, at the Sylvania factory, quality begins here—under this inspector's microscope. Every element to be used in making Sylvania tubes is subjected to rigid examination . . . must be tested and pronounced "okay" before acceptance from sources of supply.

Quality counts—so sell Sylvania's. They'll build customer goodwill and bigger, steadier profits for your business. Hygrade Sylvania Corp., Emporium, Pa. Cable HYSYLVANIA, N. Y. Also makers of famous Hygrade Lamp Bulbs.

# S Y L V A N I A

SET-TESTED RADIO TUBES



SEE US AT 204-06 AMPERE AVENUE, NATIONAL RADIO TRADE SHOW, HOTEL STEVENS, CHICAGO

# DON'T MISS SEEING THE NEW PRESTO

## CONSOLE MODEL RECORDING PHONOGRAPH

## ON DISPLAY FOR THE FIRST TIME

at the

**NATIONAL  
TRADE SHOW  
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*Also the complete  
line of Presto equipment  
and discs for commercial  
and home recording.*

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CORPORATION**

137 W. 19th ST., NEW YORK, N. Y.

*World's Largest  
Manufacturers of  
Instantaneous Sound  
Recording Equipment*

## SERVICING

Have the aerial and ground connections been checked?

Is trouble more noticeable during windy weather?

Do you notice a change in brilliancy of the pilot light during the trouble?

Do you notice a dimming of any of the tube heaters concurrent with the fading?

Your indulgence and patience in this case will be appreciated and we will strive to do all within our power to bring you enjoyable radio service.

Very truly yours,

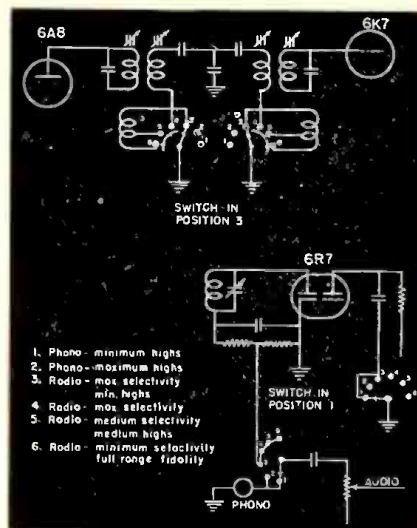
CLARK RADIO.

### RCA HI-FIDELITY SET

Designed primarily for high-fidelity reception from local stations, the RCA HF-1 has no short wave or manual tuning arrangements. Station selection is provided for by 8 push buttons which operate condenser trimmers in the antenna and link circuits and inductance trimmers in the oscillator circuit.

Chief variation in the set is found in the fidelity control and its associated circuits which are reproduced on this page.

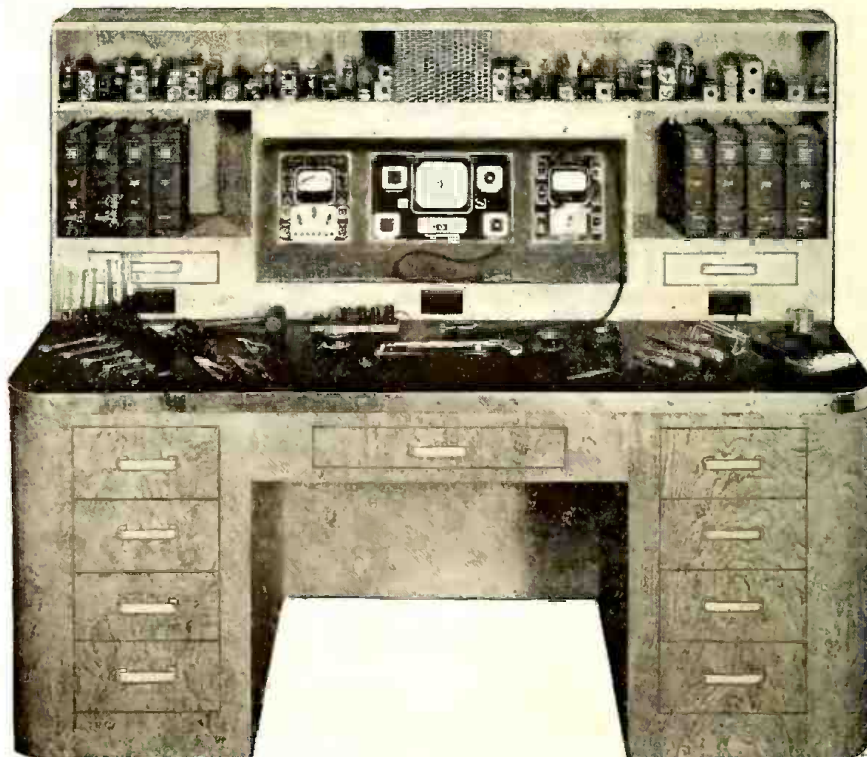
So as to provide sufficient selectivity for adverse receiving conditions, a selectivity control is provided for in the I.F. circuit. This same control also has two positions for phonograph reproduction. Position 1 illustrated in audio circuit gives minimum high frequencies since a .01 condenser is con-



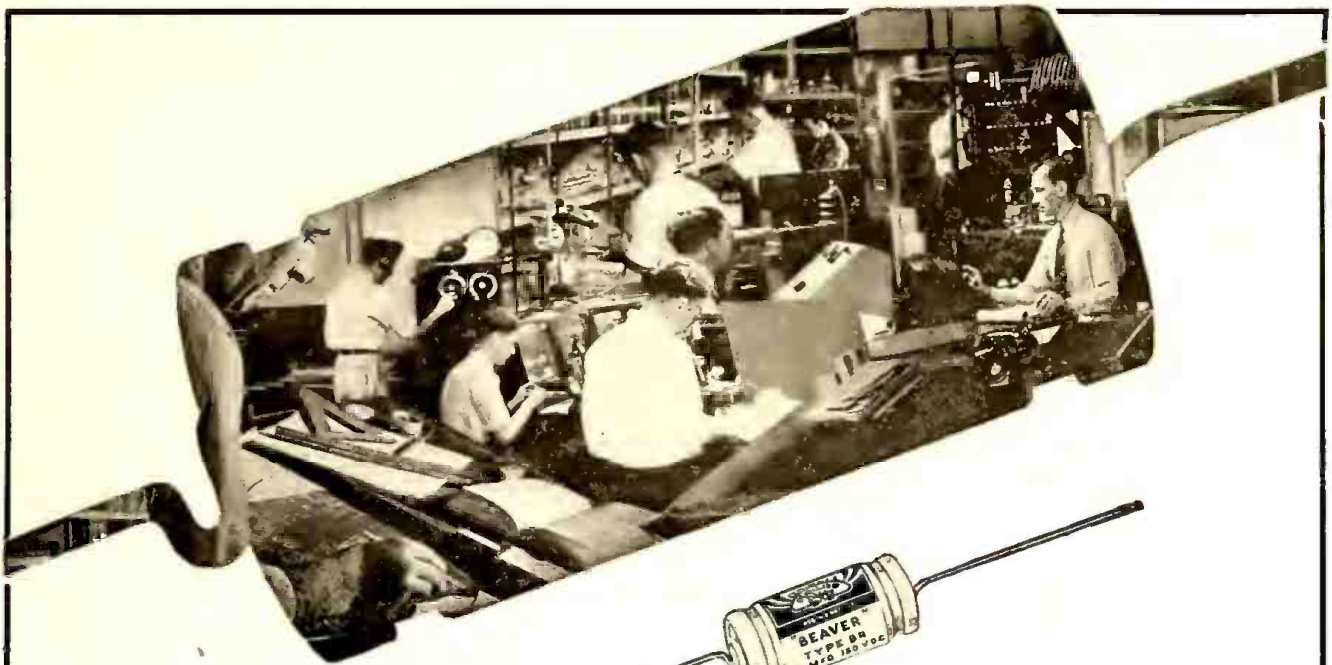
Circuits of the fidelity control in the RCA-Victor HF-1 high-fidelity set.

nected from the plate of the first audio amplifier to ground. Position 2 disconnects this condenser for phonograph reproduction, thereby giving maximum high frequency response.

In positions 3 to 6, inclusive, the receiver is connected for radio operation. The I.F. switches are drawn in position 3 which gives maximum selectivity. Note that the coils which provide band-pass action are shorted to ground. Also the audio circuit switch connects a .01 condenser from the plate of the first audio tube to ground, decreasing the high-frequency response. This is similar to position 1 for phonograph operation. (Note that the audio switch is drawn in position



This service bench, designed and equipped by Weston, will be awarded as first prize in Weston's contest, which is open to all servicemen. Details on page 58.



## behind the condenser *you buy . . .*

Special vent: allows for normal dissipation of harmless, odorless electrolytic vapor; safety under all operating conditions.

Hi - formation process: affords higher voltage breakdown.

Super-purity cellulose separator: extra long life.

Hi-purity aluminum foil: better D. C. leakage recovery.

Rigid chemical control: uniform performance.

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**B**EHIND the Cornell-Dubilier capacitor you buy are "shadowed" the vast resources of the largest organization of its kind in the world—the Cornell-Dubilier Electric Corporation. Its engineering experience, skill and ingenuity are concentrated on the building of dependable capacitors—and capacitors alone.

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"Dwarf . Tiger"  
Tubular Paper  
Capacitors Compact, moisture-proof, non-inductive condensers that are the finest and most universally used tubulars available.



**TYPE TLA.** NEW high voltage filter capacitors impregnated and filled with DYKANOL (chlorinated diphenyl), a stable chemical compound that will not give off free chlorine regardless of voltage stress or temperature.

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1022 Hamilton Boulevard, South Plainfield, New Jersey

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5. Enables servicemen to make *quick, practical estimates in the home.*
6. Has longer life as a useful test instrument.
7. Is remarkable in its ease of operation.
8. Is priced within the reach of every forward-going serviceman.

The *Rider Chanalyst* is, without question, one of the most important and far-reaching service developments of the last ten years. The amazing results obtained through its use will make it an indispensable instrument to every progressive serviceman.

# The RIDER Chanalyst

# SERVICING

1, not 3.) In positions 3 to 6 the audio switch connects the diode load to the audio volume control, while in 1 and 2, the phono jack is connected to the volume control.

In position 4, the I.F. switch still shorts the closely-coupled coils to ground providing maximum selectivity. However, the audio by-pass condenser is removed from the circuit, so that the only high-frequency attenuation is caused by the I.F. circuits.

Medium selectivity is provided by position No. 5. Note that only the bottom half of the band-pass coil is shorted to ground. Since a greater amount of side-bands are passed, the high frequency response of the set is increased slightly.

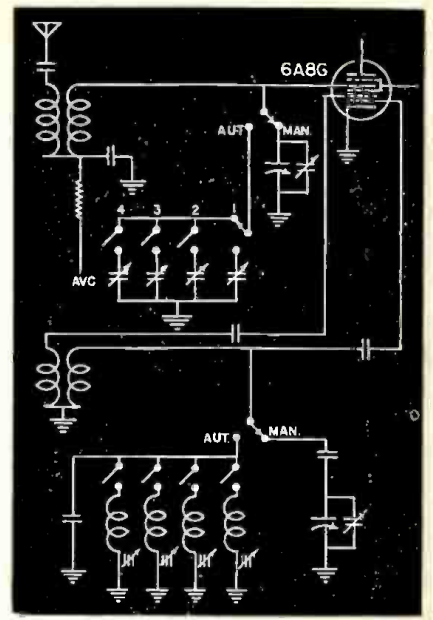
Maximum highs are provided in position 6. Note that the full section of the band-pass coil is used to provide maximum coupling with the other circuits. In this position the selectivity is at a minimum and a maximum band-pass action is obtained, giving the maximum high-frequency response.

The mechanical arrangement of the 6-position switch has been altered to permit a more understandable circuit portrayal. Otherwise and electrically the circuit is identical with that used in the set.

## ZENITH PUSH-BUTTON TUNING

In the current line of Zenith auto radio sets two types of push-button tuning are employed. In the lower-priced sets using a 2-gang condenser, a combination of condenser and inductance trimmers are used. Since the set mounts on the steering post, no remote controls are needed. Transfer from manual to automatic tuning is accomplished by pulling out the tuning knob which operates the change-over switch.

The circuit for this set (Model 5-M-294, chassis 5530) is shown in the ac-



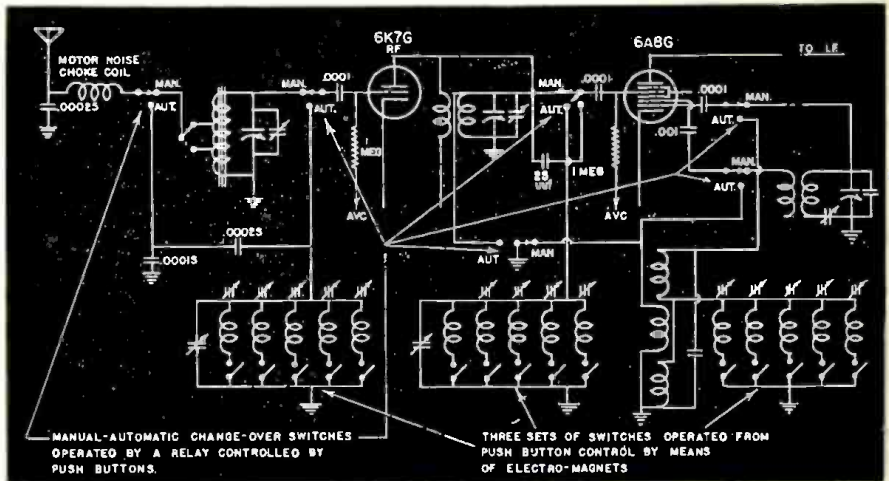
In the Zenith 5M294, changeover to automatic is accomplished by pulling out the manual knob.

companying diagram. Provision is made for automatic tuning of four stations. In the automatic position, the tuning condenser is disconnected and a set of trimmer condensers shunted across the antenna coil. A series of trimmer inductances and a fixed condenser are shunted across the oscillator coil.

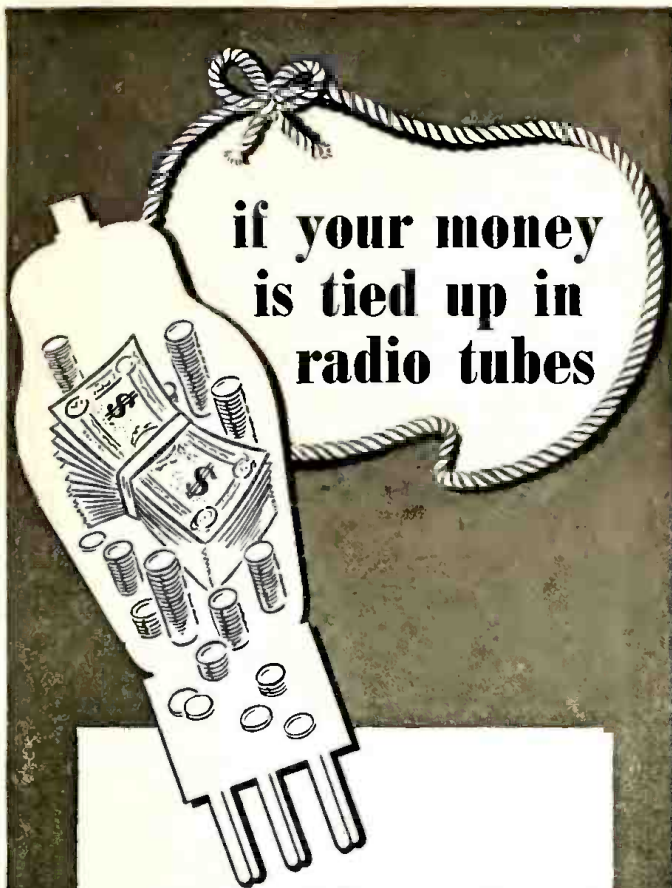
Note the use of a double-throw switch for position 1 in the antenna circuit. Since position 1 is the high-frequency end of the band, provision is made to disconnect the balance of the circuits in order to reduce the stray capacity to a minimum. This is done by the double-throw switch, which connects trimmer No. 1 into the circuit and disconnects the rest of the switches.

The oscillator circuit is the usual one used with trimmer type inductances. A fixed condenser is used to tune the circuit in conjunction with the variable trimmer inductances.

In the more expensive 6-M-295 set (chassis 5650) a more elaborate sys-



Three sets of iron-core trimmers are tuned by a single control, thus simplifying station set-up



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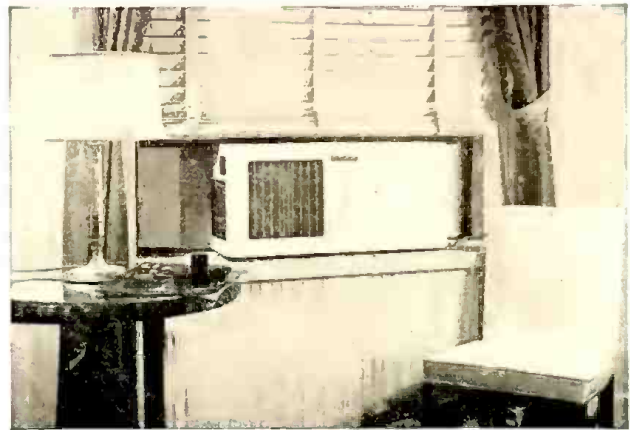
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**PLEASANTAIRE**

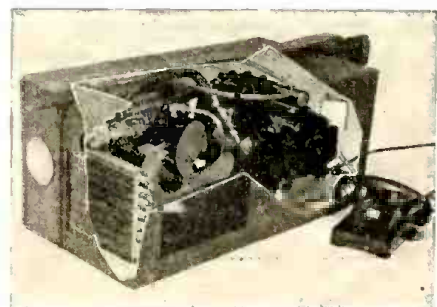
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The addition of a neon short test and provision for separate checks on all elements including ballast tubes brings the popular Readrite Tube Tester right up to the minute. This circuit is well known for its thorough reliability and ease of operation.

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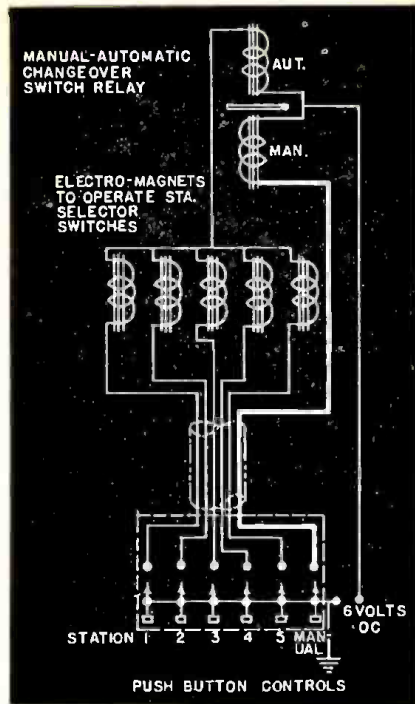
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Please send me more information on  
 Model 432     Other Tube Testers

Name .....

Address .....

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



Remote control system and change-over relay in Zenith auto radio.

tem of automatic tuning is employed. The set employs a 3-gang condenser for manual tuning—and on automatic tuning it employs three tuned stages using trimmer inductances. Each set of three trimmer inductances is tuned by a single adjustment which simplifies station set up.

The push buttons are remotely located from the chassis and electro-magnets are used to operate the push-button switches. Also a relay is used to change over automatically from manual to automatic tuning.

The station selecting circuits are shown in an accompanying diagram. Three sets of trimmer inductances are used in place of the usual coils in the set. The change-over switches have been relocated in RADIO TODAY's circuit so that the operation may be more easily understood. A switch automatically cuts out the usual antenna coil and substitutes the trimmer arrangement of coils. In the 1st detector circuit, the usual coil is likewise cut out of the circuit and trimmer inductances switched in. The grid end of the "manual" coil is grounded for automatic operation.

In the oscillator circuit, the usual coil and condenser system is disconnected and the special trimmer oscillator circuit used. In the manual position, part of the oscillator coil circuit is grounded.

Trimmer type condensers are shunted across both the antenna and r.f. trimmer coils. These trimmers are aligned for maximum output at about 1000 to 1100 KC on button No. 2. This adjustment resonates the antenna to the automatic tuning unit.

The remote push-button control circuit controls a series of electro-magnets which operate the station selector switches in the trimmer inductance

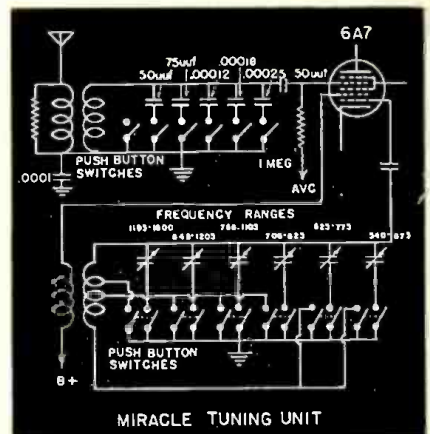
unit. Five stations and a manual button are provided. The wiring of this unit is shown herewith. When any of the stations are selected by the push buttons, the return circuit goes through the automatic winding on the change-over relay.

When the manual button is pressed, the manual winding on the relay is energized and the relay returns the circuits in the set to manual operation. The tuning condenser then functions as usual.

**EMERSON MIRACLE TUNING**

In the Emerson receivers employing Miracle push-button tuning only a single trimmer adjustment is required for each of the six stations. This feature is obtained through the use of fixed-tune circuits in the antenna stage of the set.

The accompanying circuit is taken from the AY-194 and AY-195 models which have both manual and automatic tuning. Change-over from manual to automatic is accomplished by the wave-band switch. For simplicity, the manual circuit and other non-essential circuit elements have been omitted.



In the antenna circuit a series of fixed condensers are used to tune the antenna coil to the mid-point of the range for the corresponding push button. Note that no condenser is used on the highest frequency push button. The coil is resonant by virtue of the distributed capacity of the coil and stray capacity of the circuit wiring.

Double-pole switches are employed in the oscillator circuit, to connect the trimmer condensers and short out various portions of the oscillator coil. The two low-frequency positions employ the entire winding of the oscillator coil. The high-frequency button uses only a small part of the oscillator winding, the balance being shorted to ground from the second tap. The three medium-frequency positions short out only the bottom portion of the coil, being connected to the first tap.

The actual mechanical arrangement of the station selector switches varies from that shown in the accompanying diagram. However, electrically the circuit is the same.

## KEY TO RADIO PARTS CITY

(From page 20)

**General Industries Co.**—Allen W. Fritzsche, Homer Stephens, H. E. Moon—record changers.  
Booth 209 Henry St.

**General Transformer Corp.**—Nathan Goldman, Henry Shafer, Gerry Cole, Fred Carner, Dan Bittan, R. M. Campion, Ben Smith, J. M. Cartwright, J. K. Heinemann, E. C. Edwards—replacement transformers, sound amplifier kits, transmitter kits, including "Pee Wee"; amateur transformers and chokes.  
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**E. I. Guthman & Co., Inc.**—B. J. Funk, E. I. Guthman, S. H. Rothschild, W. C. Jones, I. L. Glerum, R. Morris, J. Elliott, E. Janeczko, J. B. Rubin, M. Hess, E. Plank, H. Lucke, J. Komidor, C. Sweet—textile covered and Litz wire, padder and trimmer condensers, radio cabinets, coil winding machinery, antenna and R.F. coils, I.F. transformers and chokes, condenser banks for automatic and push button tuning.  
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**Halicrafters, Inc.**—W. J. Halligan, R. W. Durst, K. W. Miles, L. S. Toogood, H. S. Hartley, J. J. Frenndreis—complete line of communications receivers and transmitters... Booth 107-109 Bell St.

**Hammarlund Mfg. Co., Inc.**—L. A. Hammarlund, W. W. Jablon, A. E. Stevens, L. G. Cushing—variable condensers, coils, I.F. transformers, trimming condensers, coil forms and shields, Super-Pro receivers.  
Booth 207 Steinmetz Ave.

**Hickok Electrical Instrument Co.**—L. C. McCarthy, Robert Williams, Walter A. Weiss, J. R. Barnhard radio service equipment and meters... Booth 208 Henry St.

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**Hygrade Sylvania Corp.**—C. W. Shaw, H. P. Gilpin, Paul S. Ellison, A. L. Milk, R. P. Almy, A. R. Oliver, H. C. L. Johnson, H. G. Kronenwetter, Ralph S. Merkle, M. F. Balcom, R. M. Wise, W. A. Coogan, V. M. Graham, Walter R. Jones—set-tested radio tubes and Model Service Shop.  
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**Hytron Corp.**—B. A. Coffin, Fred F. Sylvester, G. J. Hallam, R. S. Briggs—radio tubes.  
Booth 109 Edison St.

**Indiana Steel Products Co.**—A. D. Plamondon, Jr., George Klein, C. A. Maynard, R. A. Smith, Philip Smith—permanent magnets.  
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(To next page)



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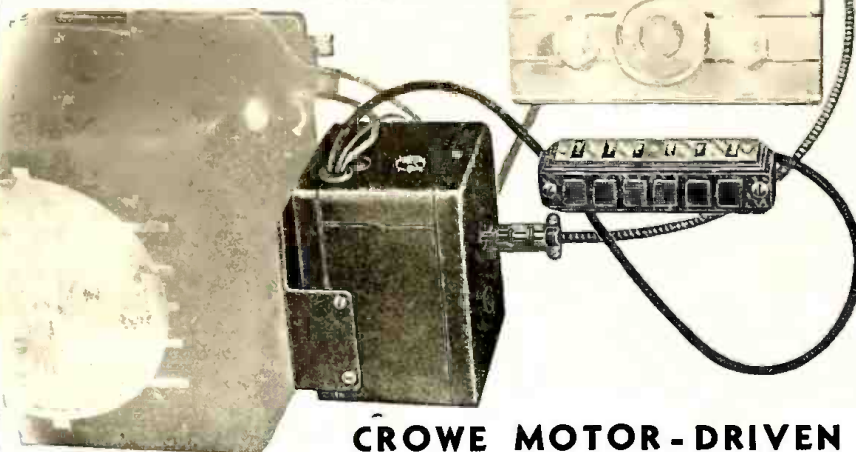
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## CROWE MOTOR-DRIVEN STATION SELECTOR FOR AUTO RADIOS

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The CROSELECTOR is set or re-set for any six stations in just a couple of minutes—without tools or equipment of any kind. Present remote control is used for setting and for tuning in-between stations.

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Universal mounting bracket and unique shaft adapters (on the motor unit) are quickly matched to most popular radios. CROSELECTOR can be changed to another radio and first set restored to original operating condition whenever desired.

**OTHER FEATURES:** Change from automatic to manual tuning without disturbing station settings and without a "manual" switch button. CROSELECTOR "turns" directly to the station—never across the dial and back again. Controlled speed prevents damage to tuner or radio. No damage if several buttons are pushed at once.



**PUSH A BUTTON—THERE'S YOUR STATION!**

Selector switch can be placed on instrument panel, under panel or on steering column. Duplicate selector switch can be installed in rear of car, if desired.

Maximum drain only 5 amperes for 3 seconds while actually tuning. No current consumption thereafter. Ask for Folder.

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**Jefferson Electric Co.**—R. J. Horstmann, C. P. Kob, A. A. Flick, Jr., G. W. Ziegler, R. A. Hoagland—radio transformers and chokes.  
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Mr. Albert Stevens, president of the C.I.S.E. and President of T.C.A., will be at the Stevens, Room 2218-A, June 1-11, to greet members and discuss "sound" merchandising.

**CLARION INSTITUTE OF SOUND ENGINEERS**  
69 WOOSTER STREET, NEW YORK CITY





Here's the "special" which brought jobbers from the Tulsa, Okla., area to the Parts Show. It was sponsored by J. P. Kay of Kay Sales, arrived Monday, June 6.

**Meissner Mfg. Co.**—Walter Marsh, E. Rinke, J. J. O'Callaghan, J. Maxon, G. H. Timmings, G. V. Rocky—coil kits, IF and RF coils, amateur equipment, push button systems, remote controls.  
Booth 210 Coulomb St.

**Million Radio & Television Laboratories**—John W. Million, Jr., and M. Perni—radio service test instruments and sound equipment.  
Booth 215 Faraday Ave.

**The Muter Co.**—Leslie F. Muter, J. R. Scanlan, F. B. Stevens, A. A. Dailey, K. E. Rollefson—relays; Spirashields; Thermotrols; plug-in, Candohm and Zipohm resistors; push button, selector and jack spring assembly switches; ceramic, paper and interference filter condensers; resistance bridges; decade boxes.....Booth 205 Bell St.

**National Co., Inc.**—James Millen and staff—communication equipment.  
Booth 211 Ampere St.

**National Union Radio Corp.**—H. H. Kunkler, R. H. Van Dusen, G. E. DeNike, J. J. Clune, V. Hamilton—radio receiving tubes, electrolytic and paper condensers, television type tubes (Videotrons and Monotrons), radio panel lamps, exciter lamps, photo electric cells.  
Booth 205-207 Hertz Ave.

**Ohmite Mfg. Co.**—Ralph M. Hill, Roy Laird, Gordon Gray—resistors and rheostats.  
Booth 207 Franklin Ave.

**Operadio Mfg. Co.**—H. A. Wilson, L. A. King, R. W. Bliss, Frank Hagaman—public address, inter-

communicating and paging equipment; public address speakers and radio replacement speakers.  
Booth 218 Hertz Ave.

**Oxford-Tartak Radio Corp.**—P. H. Tartak and J. S. Gartner—two new series of replacement speakers, complete, regular line of speakers for PA and inter-office communicating systems.  
Booth 210 Faraday Ave.

**Par-Metal Products Corp.**—A. A. Parmet, Oren H. Smith—cabinet relay racks, panels, chassis, complete metal accessories for amateur radio.....Booth 204 Bell St.

**Park Metalware Co.**—F. B. Farrington, H. A. Roes, John O. Olsen, J. V. Costello, J. E. Talbert, Hansen & Wetz—Xcelite screwdrivers, nut drivers and pliers.  
Booth 210 Marconi Blvd.

**Parris-Dunn Corp.**—F. E. Brown, Diego Fernandez, C. L. Parris, W. G. Dunn—Hy-Tower 6-volt wind-driven battery charger.  
Booth 108 Marconi Blvd.

**Pauley-James Corp.**—H. M. Pauley, S. F. James, H. A. Olsen, J. V. Park—auto radio vibrators, DC to AC inverters.  
Booth 205 Ampere St.

**Philmore Mfg. Co., Inc.**—Cary Granat complete line of microphones, battery and AC-DC kits and sets, crystal receiving sets, parts.  
Booth 214 Henry St.

**Pioneer Gen-E-Motor Corp.**—D. E. Bright, R. D. Wright, Ben Golder, W. F. Beck, E. J. Decker—dynamos, rotary converters, gas-electric plants.  
Booth 203 Hertz St.

**Precision Apparatus Corp.**—M. Mentzer and P. W. Mack—radio test equipment...Booth 209 Ampere St.

**Presto Recording Corp.**—R. C. Powell—commercial sound instantaneous recording equipment, blank recording discs and accessories.  
Booth 213 Faraday St.

(To next page)



## LIVE-RUBBER MOLDED Condensers

• For years AEROVOX engineers have sought higher leakage resistance and breakdown voltage in paper condensers for critical r.f. functions. Phenolic resin molded units were tried and rejected as far back as 1930. Likewise other jacketing means. But now—Eureka! It's the live-rubber molded paper condenser—88 series.

### Check these features..

- ✓ Selected paper section molded in live rubber. Moisture cannot penetrate. Casing fits snugly around pigtail leads.
- ✓ No moisture released during vulcanizing process. Unit cannot absorb moisture during production.
- ✓ Molding done at temperature below that of vacuum impregnation cycle of section. Section cannot be impaired.
- ✓ No excessive pressure during molding, as contrasted with phenolic resin molding. Section remains unchanged.
- ✓ Tests indicate insulation resistance and breakdown voltage far exceeding phenolic resin molded units.
- ✓ Available in capacities up to .25 mfd. in 200-volt, .1 in 400-volt, .05 in 600-volt, and .01 in 1000-volt.

### Ask for them . . .

Look us up at 206 Coulomb St., Radio Parts Show. Or ask your jobber to show you these rubber-molded condensers and other new items. Literature on request.



A GOOD NAME  
GOES A LONG WAY

Tie in with Ken-Rad. Share the prestige of Ken-Rad's Good Name. It means better business and more complete customer satisfaction.  
KEN-RAD TUBE & LAMP CORP.  
OWENSBORO, KY.

KEN-RAD

DEPENDABLE RADIO TUBES

## KEY TO RADIO PARTS CITY

- Quam-Nichols Co.**—J. P. Quam, H. A. Staniland, Elinore Heppner, R. E. Breuer, M. E. Schechter, Carl A. Stone, Ivan B. Picard—loudspeakers. . . . . Booth 210 Bell St.
- RCA Mfg. Co., Inc.**—J. A. Milling, D. Y. Smith, E. C. Hughes, Jr.—parts, test equipment, transmitting tubes, receiving tubes, Cunningham receiving tubes.  
Booth 101-103 Marconi Blvd.
- Radiart Corp.**—L. K. Wildberg, B. Thomas, M. J. Shapiro, K. C. Burcaw, Neal Bear—vibrators, vibrator checkers, Vipower, new Shaverpak, aerials.  
Booth 105 Ampere St.
- Radio Mfg. Engineers**—R. M. Planck and E. G. Shalkhauser—communication sets, frequency expanders, preselectors, parts.  
Booth 208 Marconi Blvd.
- Radiotechnic Laboratories** — H. P. Manly and J. M. Haggard—test equipment.  
Booth 212 Faraday Ave.
- Radio Today**—O. H. Caldwell, M. Clements, M. E. Herring, Wm. P. Woodall, N. B. Lavers.  
Booth 111 Ampere St.
- Raytheon Production Corp.**—Earl S. Dietrich, E. S. Riedel, Ralph Haines and field salesmen—tubes for receiving and amateur sets.  
Booth 207 Henry Ave.
- Readrite Meter Works**—R. L. Triplett, N. A. Triplett, A. R. Baker, F. E. Wenger—radio testers and meters. Booth 215 Steinmetz Ave.
- John F. Rider**, at the show in person—trouble-shooter's manuals, auto radio manual, volumes on alignment, servicing, etc.  
Booth 105 Marconi Blvd.
- The Rola Co.**—Lee Golder, Jno. F. Church, Milton C. Snyder—complete line of loudspeakers, dynamic and permanent magnet type.  
Booth 212 Coulomb St.
- Shakeproof Lock Washer Co.**—J. M. Gribbie, Drew Head, Gordon Lindquist, Frank Dority, O. J. Poupitch—lock washers, thread-cutting screws, locking and plain terminals, radio gears, spring washers, special stampings, testing equipment.  
Booth 218 Franklin Ave.
- Shure Bros.**—J. B. Albert, Ralph P. Glover, S. N. Shure, E. L. Berman—microphones, phonograph pickups, other acoustic devices.  
Booth 201-203 Bell St.
- McMurdo Silver Corp.**—McMurdo Silver, Edwin Dillon, Robert Campbell, James Novy—radio receivers, phonographs, amplifiers.  
Booth 203 Ampere St.
- Simpson Electric Co.**—Ray R. Simpson, W. A. O'Brien, H. A. Bernreuter, George H. Koch—radio service equipment and panel meters.  
Booth 214 Coulomb St.
- Solar Mfg. Corp.**—Arthur Moss, W. C. Harter, J. I. Cornell, P. Gotthold, Al. Prosdociimi—wet and dry electrolytics, paper capacitors, mica capacitors, trimmers, condenser analyzers and other condenser items. . . . . Booth 202 Bell St.
- Sprague Products Co.**—Irving J. Kahan and Harry Kalker—condensers and interference filters.  
Booth 208 Hertz Ave.
- Standard Transformer Corp.**—Jerome J. Kahn, E. E. Gramer, C. L. Pugh, Conrad Roeschke, Louis Gamache, Harold Krefft—transformers and packs. . . . . Booth 206-208 Bell St.
- Star Machine Manufacturers, Inc.**—I. B. Finkel and Edward Fish—Star auto radio controls, custom-matched escutcheons for all cars.  
Booth 211 Marconi Blvd.
- Supreme Instruments Corp.**—D. N. Dulweber, Samuel C. Milbourne, F. Fausett, H. Shotwell—radio testing instruments.  
Booth 212-214 Hertz Ave.

# AMPLIFIERS

By THORDARSON

*Built by Audio Experts for Audio Experts*

*The Amplifier  
of "Tomorrow"  
in*

- PERFORMANCE
- APPEARANCE

See Your Jobber or  
Write Factory for  
Catalog No. 600-C

THORDARSON ELECTRIC MFG. CO.  
*Amplifier Division*  
500 W. HURON ST. CHICAGO, ILL.



**Technical Appliance Corp.**—T. Lundahl, H. H. Brown, A. H. Bruning, L. A. Baumann—antenna systems, master antenna systems and kits, line filters, set couplers and wave traps. . . . . Booth 211B Bell St.

**Thordarson Electric Mfg. Co.**—C. P. Cushway, W. S. Hartford, J. Kleker—transformers, amplifiers, transmitters, etc.  
Booth 112-114 Coulomb St.

**Triad Mfg. Co., Inc.**—George Coby, H. H. Steinle, Ed Singer—radio tubes. . Booth 217B Franklin Ave.

**Trimm Radio Mfg. Co.**—Charles A. Bottorff, Don C. Wallace, Paul A. Bottorff, Howard F. Smith—headphones. . . Booth 217 Faraday Ave.

**Triplett Electrical Instrument Co.**—R. L. Triplett, N. A. Triplett, A. R. Baker, F. E. Wenger—radio servicing equipment and electrical measuring instruments.  
Booth 213-215 Henry Ave.

**Triumph Mfg. Co.**—J. J. McCarthy, J. P. Kennedy, E. J. Doyle, Phil Hoffman—radio testing equipment and associated apparatus.  
Booth 106 Watt Ave.

**Tung-Sol Lamp Works, Inc.**—E. J. Counts, Harold Haskew, Jas. Phelps, J. B. Secrist, L. E. Cotson, Irving Einhorn, Robert S. MacArthur, P. R. Dawson, C. P. Harders, A. M. Schuster, D. L. Lindborg, Z. V. Thompson, Folsom Co., J. H. Blinn Co., C. D. Belt, J. N. Hoover, Guy A. Austin, H. F. Bersche, A. A. Berman, John W. Davis, Z. S. Myers, R. H. Brown, R. H. Howig, Chas. Silvey, David M. Lee, E. T. Lombard, G. A. Bodem, A. F. Hellert, V. B. Level, W. R. Ohlsen, W. L. Roberts, H. J. Casey—radio tubes.  
Booth 110-112 Marconi Blvd.

**The Turner Co.**—R. L. Thompson, B. W. Dew, H. W. Johnson—crystal and dynamic microphones.  
Booth 117 Marconi Blvd.

**United Sound Engineering Co.**—H. M. Richardson, R. E. Jones, L. J. Burton, R. Von De Linde, Allan J. Hanson, C. Sands—public address and intercommunication equipment, school sound systems.  
Booth 218 Henry Ave.

**United Transformer Corp.**—S. L. Baraf, I. A. Mitchell, F. R. Ellinger, A. H. Baier, R. C. James, Jr., H. E. Walton, Harry Gerber, C. R. Strassner, M. E. Foster, W. T. McGary, James Millar, H. Segar, J. W. Van De Grift, J. E. Nestell—transformers, reactors, voltage regulators, transmitter kits.  
Booth 200 Steinmetz Ave.

**Utah Radio Products Co.**—Oden F. Jester, G. H. Beasley, R. M. Karet and Harry J. Scheel—speakers, amateur kits, vibrators, tuning units, volume controls, relays, test equipment, transformers.  
Booth 113-115 Marconi Blvd.

**Vulcan Electric Co.**—Jasper Marsh,

Dwight Marsh, F. E. Merriam, J. L. Brothers, H. Tom Collins, A. J. Bayus—electric and mercury electric soldering irons, wax melting pots, solder melting pots  
Booth 104A Watt Ave.

**Ward Leonard Electric Co.**—Arthur A. Berard, Frank Beede, Kline Gray, Ray Vonasch—resistors, rheostats, relays, line voltage reducers. . . . . Booth 113 Bell St.

**The Ward Products Corp.**—H. R. Wiesenberger, R. N. Wiesenberger, and various territorial representatives—aerials.  
Booth 215-217 Hertz Ave.

**Earl Webber Co.**—Earl N. Webber, R. M. Krueger, A. Kraatz, G. Reinecke—tube testers, oscillators, radio service laboratory, vibrator testers, test speakers, vibrator analyzer.  
Booth 210 Steinmetz Ave.

**Webster-Chicago**—John Erwood, F. J. Wessner, M. B. Patterson, Ray Carson, H. B. Segar, G. W. Sipe, M. K. Smith, R. M. Gray, E. Carlson, S. Egert, L. W. Maynard, B. J. Fitzner, W. S. Trinkle, H. W. Groetzinger, W. A. Hendrickson, J. J. McBride—sound equipment. . . Booth 202 Marconi Blvd.

**Webster Electric Co. (Racine)**—S. A. Loeb, P. G. Crewe, A. C. Kleckner, Henry G. Kobick, R. Ferda, R. H. Campbell, F. Williamson, W. H. Johnson, V. Daniels, N. Reeve—intercommunication systems, Teletalk, public address systems, sound equipment, crystal pickups, Symphotone, school equipment.  
Booth 214-216 Franklin Ave.

**Weston Electrical Instrument Corp.**—Paul Westburg, Alvin Thielke, Carl Miller, Carl Ketel, Herbert Raschke, O. J. Morelock, V. E. Jenkins—complete line of tube checkers, oscillators, analyzers, vacuum tube voltmeters, volt-ohm-meters, capacity meters, and announcement of company's 50th anniversary.  
Booth 109-111 Marconi Blvd.

**Wirt Co.**—Paul G. Duryea, R. F. Taylor, Mark Thackaberry—resistors, suppressors, switches, carbon resistors, wire wound resistors, voltage regulators.  
Booth 209 Faraday Ave.

**Wincharger Corp.**—M. M. Lasensky, W. F. Herron, A. A. Stewart—Winchargers.  
Booth 203-205 Marconi Blvd.

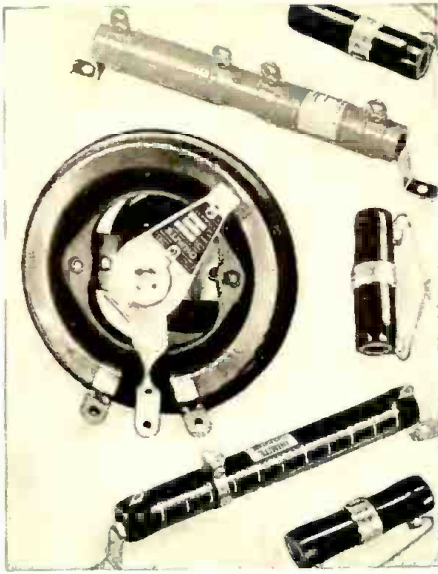
**Zenith Radio Corp.**—H. W. Blakeslee and R. F. Miller—radios and replacement parts.  
Booth 109 Ampere St.

The booth of the *Radio Servicemen of America*, at 110 Ampere St., at the Parts Show will be built around a geographical interpretation of the growth and strength of RSA, according to announcements from the Chicago chapter. RSA also says, "for fun, we'll have trick devices, real brain-busting ideas, and specimens of true and ridiculed antiquity and novelty."

Don't  
**MISS RADIART**  
at the Show  
SEE the NEW  
**VIBRATOR UNIPAK**  
Hi-frequency VIBRATORS  
SUPERIOR brand VIBRATORS

If I miss you at  
105 Ampere Street  
send for Bulletins  
on new Radiart lines

**SEE RADIART'S**  
NEW Low-priced  
Single-mount COWL  
and Special HINGE  
**AERIALS**



**BROWN DEVILS . . .** the famous Ohmite wire-wound replacement resistors. Extra-Sturdy construction and permanent Ohmite vitreous enamel coating insure long, trouble-free service. 10 and 20 watt sizes. Resistance values 1 to 100,000 ohms.

**DIVIDOHMS . . .** the handy Ohmite vitreous - enameled adjustable resistors that solve most any power resistor problem in a pinch. Ratings from 10 to 200 watts, resistances through 100,000 ohms.

**RHEOSTATS . . .** Ohmite all-porcelain vitreous - enameled rheostats — for smooth, safe, close-control of motor speed, filament voltage, lamp dimming, etc. Wide range of resistance values in ratings from 25 to 1,000 watts.

**R. F. and POWER LINE CHOKES . . .** for transmitter and receiver R. F. circuits, interference elimination, etc.

Fixed Resistors, 1% Accurate Precision Resistors and other Ohmite products also available from your Jobber.

Write for Free Copy of  
New Ohmite Catalog 17.

Visit the Ohmite Booth, National Radio Parts Trade Show, Chicago, June 8-11.

**OHMITE MANUFACTURING CO.**  
4847 W. Flourney Ave., Chicago, U.S.A.

**OHMITE**

RHEOSTATS RESISTORS TAP SWITCHES

## PARTS SHOW FLASHES

A Model Radio Service Shop, a replica of the original one built by *Hygrade Sylvania Corp.* at their Emporium, Pa., plant, will be featured at the company's booth at 204-206 Ampere St. at the Parts Show. Designed to meet the modernization needs of service shops of medium size, the Model Shop accents economy, compactness, neatness, modern styling, and everyday efficiency. Working plans and detailed descriptions will be available at the booth.

A special breakfast for representatives and staff officers will be held by *Webster Electric Co.*, Racine, Wis., at the Stevens Hotel June 9, for a huddle on new products, plans, policies, etc. Among the guests will be Webster representatives *Norman B. Neely*, Southern California; *J. J. Backer*, Seattle; *J. Y. Schoonmaker*, Dallas; *J. P. Kay*, Tulsa; *N. B. Delavan*, Des Moines; *Blair H. Parker*, New England; *Frank A. Baumgarten*, Pittsburgh; *J. B. Higgins*, Detroit; *Murphy & Cota*, Atlanta; *J. A. Wherry*, New Orleans; *Martin Friedman*, Philadelphia; *W. T. Croysdill*, Buffalo; *L. C. Kohn*, Omaha; *C. G. Curry*, Indianapolis; *L. H. Mingins*, New York; *Arthur Rocke*, L. A. DeBarros and *J. E. Nestell*.

*W. Keene Jackson*, general sales manager of *International Radio Corp.*, has established *Kadette* headquarters at Suite 2205, Stevens Hotel, during the Parts Show, June 8-11. Several territorial representatives for *Kadette* will assist Mr. Jackson at the display. The new *Glide Shaver*, an electric razor just brought out by *International* to sell at \$7.50, will be introduced to dealers.

*Howard Radio Co.*'s line of home receivers will be shown during the parts show at the Hotel Blackstone, with *C. B. Shapiro*, *Joseph F. Riley*, *H. C. Briggs* and others on hand. Official distributors' luncheon and sales meeting will be held June 9.

*James R. Fouch*, president of *Universal Microphone Co.*, Inglewood, Cal., will preview new model microphones and recorders exclusively to his factory representatives in Room 2200 at the Stevens Hotel during the Parts Show. Information and details will be furnished jobbers through usual trade channels.

*Monarch Mfg. Co.*, 3341 Belmont Ave., Chicago, is presenting for the benefit of visiting radio men, a new type of test instrument, Model 18F, which is also suitable for use in the factory alignment of radio sets.

Chicago radio guests during the Parts Show are invited by president *J. G. Mann* of *Consolidated Wire & Associated Corp.* to visit the plant at Peoria and Harrison Streets, to look over the company's big line of radio specialties, including antenna wire, aeri-als, etc.

Special event beginning June 6 and now in progress at the Blackstone Hotel in Chicago is a general sales meeting of U. S. representatives of the *Thordarson Electric Mfg. Co.*, 500 W. Huron St., Chicago. Sales manager *C. P. Cushway* outlines plans and programs for the firm's big Fall campaign; new amplifiers are introduced and demonstrated. Throughout the Show period in Chicago, extra *Thordarson* representatives will be on hand to greet visiting jobbers.

President *Henry C. Forster* of *Radio Speakers, Inc.*, 1338 S. Michigan Ave., Chicago, has announced that the firm's new line of electro-dynamic and permanent magnet dynamic speakers will be presented to the trade during the show period.

Details of an "unusual distributor plan" will be revealed in connection with the "open house" display of the new *Sonora* line, to be held at the Blackstone Hotel June 8-11, according to *Sonora* president *Joe Gerl*.

Dedicated to "consistent increases in sales of Rider Manuals and Radio Books," publisher *John F. Rider* has moved to new and larger offices at 404 Fourth Ave., New York, N. Y. Mr. Rider will soon announce "an instrument, and a book, with which servicemen can quickly solve one of the most baffling servicing problems."

*Federal Sales Co.*, Chicago, have doubled their display space at the company's showrooms at 24-26 S. Jefferson St. Head man *Joseph M. Levine* has dedicated the expansion to better presentation of *Federal's* radio hardware merchandise, and to prompt handling of all inquiries.

## 25 PRIZES FOR SERVICEMEN

In a special "50th Anniversary Contest," the *Weston Electrical Instrument Corp.* offers to servicemen 25 prizes with a value over \$1,000. The Newark, N. J., firm will make the announcement at the Radio Parts Show in Chicago, will close the contest Sept. 1 and will announce the awards Oct. 1.

First prize is a complete serviceman's test bench, pictured on page 48, including a high-sensitivity analyzer, socket selector set, tube checker, all-wave a.a.c. oscillator, set of *Rider's* manuals, and a set of service tools and replacement tubes. Second prize is a combination high-sensitivity analyzer and tube-checker unit. Other prizes include analyzers, tube checkers, oscillators and servicing accessories.

Prizes will be given for the most practical and interesting answer to the question, "How modern test equipment helped me to solve a difficult servicing problem." Decisions of the judges will be based on "the usefulness and interest of an actual incident or 'true story' based on everyday servicing experience."

The competition is open to all active servicemen, except those connected with *Weston*. Entries should be submitted on special blanks available from jobbers, *Weston* representatives, or from *Weston* headquarters in Newark, N. J.

## NEW PHILCO DIRECTORS

Two new members of the board of directors and a new vice-president, have just been named by Philco Radio & Television Corporation, announces Larry E. Gubb, president.

William H. Grimditch, who has been in charge of the Engineering Department, has been made vice-president in charge of engineering, and a director. Thomas A. Kennally, sales manager, also has been chosen a member of the board.

The full Philco board now consists of President Larry E. Gubb; Vice-President Sayre M. Ramsdell, William H. Grimditch, and Russell L. Heberling; John Ballantyne, treasurer; H. S. McDaniel, secretary; C. E. Carpenter and Thomas A. Kennally.

## RADIO GOLF PARTY

Some 50 guests went to a lively radio golf party held May 24 at the Sound View Golf Club, Long Island, N. Y. Foursomes were made up at lunch, and after an afternoon of pleasant golfing, the guests sat down to dinner and were awarded a series of important prizes. The party plans were made by "Vic" Mucher of Clarostat, chairman of the Arrangements Committee.

Guests included A. E. Ackeroyd, Leon Adelman, Pete Bercoe, R. E. Beuer, Bert Clough, Paul Ellison, W. P. Germaine, Walter W. Jablon, R. W. Judkins, Robert McKeown, Ed Metzcar, William Naumberg, William Osler, Henry Pope, John F. Rider, Sam Rut-

tenberg, R. M. Ryan, H. C. Seaman, Roy Schenck, J. C. Stagg, A. E. Stevens, Karl R. Tallau, Kenneth Tibbits, Paul Weil, Mr. Weiss and others.

## TORTURE TESTS

At the Wincharger plant in Sioux City, Iowa, unusual tests are being conducted in which wind chargers are put through extreme "torture tests." A powerful blower, driven by a gasoline motor, creates a 60 mile per hour gale and matters of vibration, over-speed, propeller materials, wind pressure, etc., are carefully checked. The Winchargers are placed 6 feet from the blower in the full sweep of the artificial wind and their performance noted in detail. John Albers, who, with Gerhart Albers, is co-inventor of Winchargers, states that the principal object of the torture is to make accelerated tests.

## RSA DIRECTORS MEET

The Radio Servicemen of America in the past three weeks has affiliated with the national organization local groups in Alton, Ill.; Staten Island, N. Y.; Holyoke, Mass.; Fremont, Ohio, and Lansing, Mich.

Regional setups in several sections of the country are in the process of formation and will be completed in the near future.

The first Board of Directors meeting of the RSA will be held in conjunction with the first RSA Convention at the Hotel Stevens, in Chicago, June 8-11.

New Bedford—New Bedford Chapter announces with regret the death of Mr. F. Fiske, who was President of the Chapter and had been connected with the service industry since the first days of broadcasting. The Chapter has voted to discontinue temporarily the weekly lectures of its new training course, pending the return of Mr. A. C. W. Saunders.

Lansing—Lansing Chapter held its first meeting in May. Second and fourth Tuesdays of each month were selected as regular meeting dates. These meetings to be held at 8:00 p.m. at the E. Michigan Av. Fire Station Club Rooms until further notice. Mr. Joe Cole, the District Director, was present, as was Mr. Frank Anderton, the Secretary of the Detroit Chapter. These two men went very thoroughly into the purposes of the aims and ideals of the RSA.

Detroit—Detroit Chapter has held a series of closed meetings at which time the by-laws were thoroughly thrashed out and a final set adopted. A copy has been sent to the national office for perusal and comment. We feel that these by-laws will form a permanent frame-work upon which the Detroit Chapter can be built to the greatest heights in its existence.

Freeport—The Chapter has made arrangements with Mr. F. W. Whitlock to teach them AFC, AVC, ASC, etc. We have felt for some time that a knowledge of alternating current theory would be very helpful in understanding newer developments in

(To next page)

# TAKE SALES and MAKE PROFITS with the BRUSH "HUSHATONE"

THE BRUSH "Hushatone," the pillow speaker that appeals to the desire for comfort and carries a price that encourages a volume of business, is sure to increase your sales and make you profits. Simple to attach to any radio, the Hushatone is ideal for home use — in bed, on a couch or comfortable chair. It is a natural for hospitals and sanitariums, bringing untold comfort and convenience to the bedridden. Clip the coupon below for more information on this sure way to more sales and bigger profits.



The **BRUSH**  
**DEVELOPMENT COMPANY**  
3313 PERKINS AVE., CLEVELAND, OHIO

Please send as soon as possible complete information about the Brush "Hushatone" (pillow speaker).

Name .....

Dealer .....

Street .....

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

# RSA CHAPTERS

new sets. The first class met Monday, May 9, and plans were made to meet twice monthly thereafter.

**Jamestown**—At a meeting held May 17th a report on results of cash policy which has been put into effect by all dealers and servicemen shows that it is working out very well and is a great improvement over old credit methods. General discussion on proper prices to charge for auto radio installations resulted in a minimum charge of \$3.50 for dealers be established. Meeting dates of the Chapter have been changed to the first Monday of every month through the summer.

**New York**—The Chapters in the New York region, namely, Westchester, Newark, N. J., and the Metropolitan N. Y. Chapter, are collaborating on a projected show program for the early fall. Details will be announced in the near future.

**Duluth**—The Duluth Chapter attended the Minneapolis Radio Dealers' Convention in a body. A fine time was reported by all. In the early fall we plan to hold a get-together of our own at which time speakers as well as a well rounded program of entertainment will be provided. Further details will be announced.

**Alton**—The Alton (Ill.) Chapter voted to affiliate with the RSA and join with other groups of servicemen

throughout the country to improve the business and technical efficiency of its members. Officers are: Chairman, Robert W. Clayton; Secretary-Treasurer, R. L. Foster.

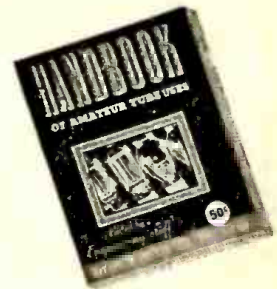
**Fremont**—Under the leadership of John Mutschler, the Fremont, Ohio, Chapter was formed. This chapter has in its membership area several towns in and around Fremont. Interesting technical lectures as well as business meetings are planned for the near future. Meetings will be held the second and fourth Mondays of each month.

**Steubenville**—Steubenville (Ohio) Chapter voted to affiliate with the RSA at their last meeting. This chapter is under the leadership of Chairman R. P. Harris, Secretary Edward Zysko and Treasurer J. B. Stringer.

**St. Paul**—The St. Paul Chapter voted some time ago to affiliate with the RSA and final details of the affiliation were carried out at a meeting held Thursday, May 26th. This chapter is under the leadership of President W. T. Moffitt, Secretary Paul J. Biehler. Mr. Irv Polsky, who was present at the original formation meeting of the RSA in Chicago, is an active member.

**W. F. Seeman**, widely known as "Bill" and as a representative for *Ohmite*, *Solar*, and other electrical and radio lines, has moved to new quarters at 523 Ellicott Square, Buffalo, N. Y.

# HANDBOOK OF AMATEUR TUBES



Publication of a brand new collection of data for radio amateurs has been announced by Raytheon Production Corp. Technical information on modern transmitter design is featured, emphasizing the selection and the most advantageous use of tubes. Included in the book is a special temperature color chart, which permits the amateur to tell when his tube is being properly operated, by comparing the color of the plate of his tubes with the chart and reading the temperature. Modulation, output, impedance and L/C ratio, grid driving power, ratings, tube classifications and characteristics are treated in detail, with appropriate curves to illustrate. "Handbook of Amateur Tube Uses" is available from Raytheon distributors at 50c.

# ULTRAWATT



CONTINENTAL CARBON presents a new type of wire wound resistor—superior in design, stable in performance, and particularly suited to radio and amplifier service. The highest quality materials are used in these fully guaranteed ULTRAWATT resistors.



A ceramic tube uniformly wound with wire of practically zero temperature coefficient and insulated with a dense covering of heat resistant cement provides a resistor of permanent value. W20, 20-watt capacity, in values of 5 to 50,000 ohms, plus or minus 5% at a list price of 65c. W10, 10 watts, 1 to 25,000 ohms, 5% tolerance, list price of 40c. W5, 5 watts, 1 to 10,000 ohms, 5% tolerance, list price of 30c.

For r-f and lower power circuits, specify CONTINENTAL CARBON bakelite or ceramic insulated resistors in 1/2, 1, or 3-watt capacity in any tolerance from 2% up. Ask for Bulletin 104C.

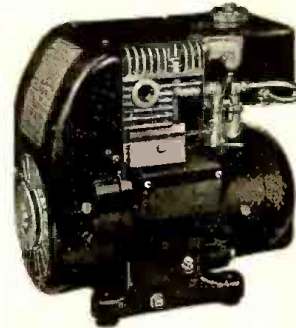
## CONTINENTAL CARBON Inc.

13910 LORAIN AVENUE

CLEVELAND, OHIO, U. S. A.

CANADIAN PLANT—TORONTO, ONTARIO

# Complete Electric Plants



## NEW 1938 MODELS

SIZES  
375 to 5000 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 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**  
592 ROYALSTON AVENUE, MINNEAPOLIS, MINN.

# SALES AID

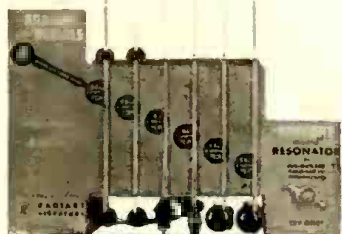
## DECAL FEATURES TUBES



A freshly designed window decalomania featuring "set tested tubes" has been released by Hygrade Sylvania Corp. It is available in two forms; one says "authorized dealer" and goes to retailers, the other is for jobbers only. The item is presented as an important year-round salesman, and as a lively form of dealer identification.

The new decal is one of a series of free dealer helps available from Sylvania. Other promotional items include tube guarantee counter signs, window displays, outside metal flange signs, dummy tube cartons for display, etc.

## FOR HINGE AND COWL AERIALS



A display of auto aerials, which is also a "one-of-a-kind" stock of hinge and cowl models, is being presented by the Radiart Corp., Shaw Ave. at 133rd St., Cleveland, Ohio. The company's matching resonator is also shown against the brightly painted background. The display, No. D-5, is available without charge.

The new General Electric slide film called "Scoop," in which E. H. Vogel appears with the new GE line, has a series of pictures produced in process color. The striking slides are believed by the producers, AudiVision, Inc., 285 Madison Ave., New York City, to be a "first" for the industry. The other two GE films are "How to Win Sales," by Dale Carnegie, and "Let George Do It," by R. C. Borden.

# "TOKFONE"

The Biggest Buy in Communication Systems



TOKFONE, Jr.  
Master Station

THE 1939 SENSATION!  
NOTHING CAN TOUCH  
IT! LOW PRICE—FAST  
MOVING. IT SELLS BE-  
CAUSE IT PERFORMS!



TOKFONE, Jr.  
Remote Station

## "TOKFONE" JUNIOR

Consisting of Master,  
Remote Station and  
50 ft. of wire.

**\$10<sup>75</sup>**  
NET

## YOU CAN CRASH this FERTILE MARKET with TOKFONE

If you're in a position to "CASH-IN" with FAST MOVING-LOW PRICED intercommunication systems then you owe it to yourself to get in touch with REGAL—NOW! NOTE THESE FACTS: OTHER TOKFONE SYSTEMS—adaptable to meet all requirements—from 2 to 40 stations—beautifully hand-rubbed cabinets—NO PREFERENCES—NO TRICKS—No Makeshifts—All New Merchandise—Special Units if Necessary—Manufactured in our own factory. We also Manufacture P.A. Equipment in the following sizes: 6, 12, 15, 30, 60 Watt—Amplifiers—Parts used are: Aerovox-Thordarson—I.R.C.—Parmet-Rola—ClaroStat-Eby and Holyoke—Nothing but the best.

Send for Catalog Showing Complete Line.

## REGAL AMPLIFIER MANUFACTURING CORP.

14 WEST 17th STREET

Cable address  
"Ramcoamp"

NEW YORK CITY

# PEP·PUNCH·PRICE



# ...but do you know

## CINAUDAGRAPH SPEAKERS

cost no more . . .

CINAUDAGRAPH offers you today the biggest money's worth in the permanent magnet speaker field. In workmanship, in high frequency tested performance and now in price, you can't beat Cinaudagraph.

ENJOY THEIR EXTRA VALUE  
at no extra cost!

You know well the superior quality Cinaudagraph builds into its speaker units; you know the painstaking exactness of Cinaudagraph engineers. Indeed, this is common knowledge to the radio industry today. But—and here is news—do you know that Cinaudagraph speakers are now competitively priced . . . that you can specify these superb quality instruments on your jobs at no extra cost?

Cinaudagraph P.M.'s are available in a complete range from 5 to 18 inches—new line of electro-dynamics from 5 to 10 inches. Visit with us at the National Parts Show in Chicago, Booth 214 Faraday Avenue, and demonstration room No. 502-A at the Stevens Hotel.



CINAUDAGRAPH  
PERMANENT  
MAGNET  
SPEAKERS

# CINAUDAGRAPH CORPORATION

SPEAKER DIVISION  
STAMFORD, CONNECTICUT

# BOGEN SOUND SYSTEMS

Maintaining Leadership and Reputation  
"ALWAYS FIRST WITH THE LATEST"

## WIRELESS REMOTE CONTROL!

(TWO CHANNEL)

**Sound Men** — Don't miss this amazing new development. Perfect remote control of volume by WIRELESS on any Bogen Amplifier.

## Another Bogen Exclusive! SELECTIVE WIRELESS INTERCOMMUNICATION!

• UP TO 10 MASTER STATIONS •

Any station can call any other station *privately* or page them all at once.

See and hear this equipment demonstrated in Rooms 556-557-560, Hotel Stevens, or Booth 206, Steinmetz Avenue, National Radio Trade Show.

For those not attending Show  
Complete literature available  
WRITE

**DAVID BOGEN CO., Inc.**  
663 BROADWAY NEW YORK CITY

# DISTRIBUTORS

## GETTING THE MONEY "IN"

(From page 16)

any cash discount on the tenth of the month following purchase, these accounts will be due net after that date and become overdue on the twentieth of the same month. If any account sold on these regular terms is not settled by the tenth day of the second month following purchase, it shall be reported (without option on the part of the member) to the secretary of the group, and the name shall be reported to all members of the group and shall remain on the monthly consolidated report until all accounts so reported shall be settled in full.

For example: October purchases will be due for usual cash discount on or before November 10, and thereafter will be due on a net basis and become overdue on the 20th of November. If these October purchases are not paid in full before the tenth of December, the member or members of the group to whom the indebtedness is owing will advise the secretary, who will report such unpaid accounts to the members for their information. Accounts appearing on the monthly consolidated report will not be entitled to purchase, except for cash, from any member of the group until the overdue accounts have been paid and until sufficient time has elapsed to permit the secretary to receive and distribute reports of such payments.

In order not to work a hardship on anyone and to enable all dealers to better their condition and to improve their manner of payment, the members of the group are prepared to attempt to arrange terms on any old balances that now exist, so that current accounts may be kept open and the old balances gradually reduced.



A flying jobber is J. W. Shackelford, radio department manager of Baird Hardware Co., Gainesville, Fla., distributors for Fada and Sentinel. Plane is a Taylor Cub.

Ben Gross, of Gross Sales, Inc., New York and New England distributors for Stromberg-Carlson, was one of the executives to take part in an official conference at Rochester, N. Y., on plans for introducing the firm's new line. Mr. Gross registered special enthusiasm for the design, the price range and the multiple features of the new models, and pointed out that *Labyrinth* radios will now be available at the lowest prices ever offered on that merchandise.

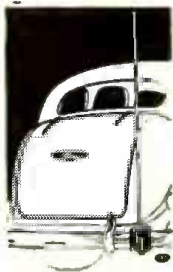
Robert T. Anderson, service man for the Harrisburg Standard Electric Corp., Harrisburg, Ill., Crosley distributor, has been selected for the annual Paley Award for "hams." The award is made each year by CBS president William S. Paley, for the "most outstanding public service." Mr. Anderson was cited for his work in connection with the evacuation of the residents of Shawneetown, Ill., during the 1937 flood. Formal presentation of the award will be made early in July, at CBS studios in New York.

Roscoe E. Magee Co., London, Ky., are now a strictly wholesale firm, covering eastern and central Kentucky, western Virginia and eastern Tennessee. They are distributors for Thorndarson, Meissner, Tobe Deutschmann, Clarostat and Burgess.

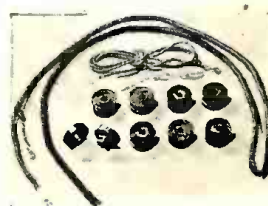
## JFD 1938 AUTO RADIO ANTENNAS

### 15 MOST POPULAR TYPES

Double grip all rubber covered running board antennas . . . Cowl antennas . . . Four different topers — fit all cars . . . Door hinge antennas . . . Bumper antennas . . . Special insulators for Oldsmobile and Buick cars.



BUICK INSULATORS



J. F. D. OLDSMOBILE INSULATORS



Ask  
for Our  
Complete  
Catalog



**J. F. D. Manufacturing Company**  
4111 Ft. Hamilton Pkwy.  
Brooklyn, N. Y.  
Export Dept.  
116 Broad St., New York  
U. S. A.  
Cable: ICARAD, N. Y.







Important diners at the RCA jobbers convention, Atlantic City. From left, Tom Joyce, advertising manager; jobber guests Hyman Shapiro, Newburgh, N. Y.; W. E. O'Connor, Washington, D. C.; and John Wyatt of Richmond, Va.

Wilkinson Bros., the Dallas, Tex., distributors formerly located at 2501 Commerce St., are moving into a big new building of their own at 2406-08 Ross Ave. The new quarters are twice the size of the old store, and feature all modern facilities for servicing all branches of radio, such as servicemen, dealers, broadcasting stations, PA engineers, industrial labs and radio amateurs. Elliott Wilkinson says that "it means a new obligation to our customers." Staff includes R. E. Gray, Mrs. Ruby Holcombrink, L. H. Wilkinson, Mrs. Billye Chrisman, C. G. Engelhart, R. S. Benton, Jr., Noel McKey, S. Allen Baker, A. C. Marder, Jack Whitaker, Frank Fox and Paul Gates.

New and larger quarters have been occupied by the Illinois Condenser Co. at 1160 N. Howe St., Chicago. According to execs J. J. Kurland and J. K. Kurland, the expansion program will include the building of a complete line of types of service condensers, an exclusive jobber retail business, and "better-engineered quality products at lower prices."

Group of 15 sales representatives on the Johnson Space Cooler and on the Briggs refrigerator met recently at Galesburg, Ill., for a two-day conference with factory execs. Purpose was to acquaint the field force with the capabilities of the Cooler, to outline promotion plans, etc. It was announced that to meet the orders on the product, plans have been made to double production. Johnson executives at the meeting included C. A. Thom-

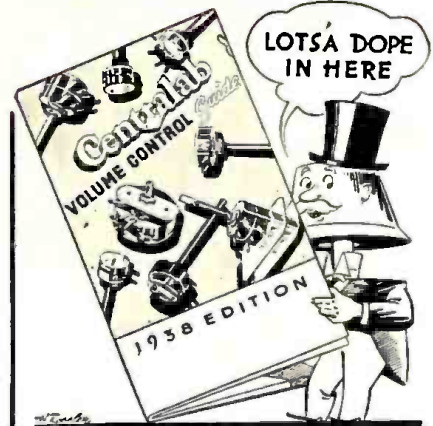
son, J. E. Armes, J. F. Furry, S. F. Briggs and P. A. Tanner.

C. R. Rogers Co., the Philco distributors of Pittsburgh, Pa., have wound up a "Traveling Deluxe to the Wilds of Canada" contest for dealers, their wives, sales managers and retail salesmen. The guests will have a special scenic trip with stops at Niagara Falls, the Land of Lakes, Wilds of Canada, and at Huntsville and at Toronto, Canada. C. F. Gaylor and J. W. Rondel made the plans, complete with golf, swimming, boating, dinners, parties, etc.

Over 100 jobbers have taken on the James Vibrapower units, according to news from Pauley-James Corp., makers of auto radio vibrators at 4619 Ravenswood Ave., Chicago. Sales effort was started Mar. 15. Added to the James line are 12 new types; the total is now 20. Zinc container models are now produced with removable bases, designed for speed and convenience for servicemen.

Brown Supply Co., St. Louis, Mo., will now distribute Stromberg Carlson sound equipment; last winter the St. Louis jobber firm became a distributor for the SC line of radios. Kenneth Gillespie is sales engineer of the company, Fred Wiebe is vice-president.

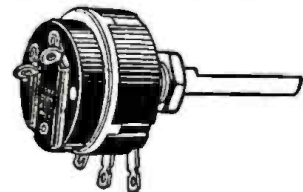
C. M. Wilson, formerly sales manager for the General Electric radio sales division, Bridgeport, Conn., is now the GE district appliance sales manager in New England, with headquarters in Boston. He succeeds M. B. Connolly, who resigned.



## Ask Your Jobber for the NEW CENTRALAB Volume Control Guide

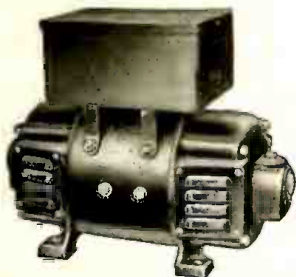
Again . . . the servicemen's most popular guide . . . now available . . . bigger and better than ever.

Lists 10,000 models! . . . 240 pages . . . more than 400 types of radios . . . complete line of midget Radiohm Replacements . . . Also a complete listing of all other Centralab products: switches, resistors, sound projection controls, and the new Centralab wire-wound Radiohm.



FREE: At your jobber . . . or send 10c. to cover handling and mailing to Centralab

## Janette Rotary Converters



### FOR CONVERTING D.C. TO A.C.

● 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 ●

WHY EXPERIMENT—INSIST ON A JANETTE

ASK FOR BULLETIN 13-1

**Janette Manufacturing Company**  
556-558 West Monroe Street Chicago, Ill. U. S. A.

Meet Centralab at the  
National Radio Parts  
Trade Show  
Chicago - June 8-11

**Centralab**

**Milwaukee, Wis.**  
Division of Globe Union, Inc.

# TALK OF THE TRADE

John F. Ditzell, sales manager for Stewart-Warner radios and refrigerators, in a feature address to the SW distributors convention May 31, declared that his company expects a radio volume "above the general level of business." He pointed out that, to most people, radios have become a necessity and many obsolete sets will be replaced regardless of economic conditions. He said that fewer models, lower prices, and "gadgetless" design were being featured in 1939 SW policies because "necessitous shopping means close appraisal of value."

Electrical Appliance Dealers Association of Brooklyn, N. Y., held its sixth annual dinner-dance and entertainment May 25 with some 1,000 guests on hand. Plans for the affair were made by Sam Klein, James J. Schmeer, Max J. Zimmer, Percy Peters, Albert Bernhard and A. H. Grafenstadt. The evening included a 14-act floor show.

H. A. Pope, credit manager of National Union Radio Corp., has been elected to a three-year term as a trustee of the New Jersey Creditmen's Association.

Wincharger antenna towers made

their first appearance in the television industry recently when one of the outfits was installed at the experimental building of the Hahn-McPherson Industrial Design Laboratories, Hatboro, Pa. The tower is used for a television type antenna, as well as for wind indicating and recording apparatus.

Three headquarters groups from General Electric are now on tour of 43 principal cities, holding distributor meetings, and each featuring radio "scoops," which include keyboard touch tuning, program pre-selector, and the "beam-scope." Dealer meetings will follow in each area, following manager E. H. Vogel's promise of early deliveries.

Schedule of the first group, headed by P. F. Hadlock, A. A. Brandt and C. H. Bell, runs from May 24 to June 10. The second group is headed by E. H. Vogel, C. T. Wandres and R. M. Hoey, and operates from May 24 to June 15. Leaders of the third group are H. R. Shaw, J. Wood, E. N. Sampson and R. J. Meigs, active May 24 to June 11.

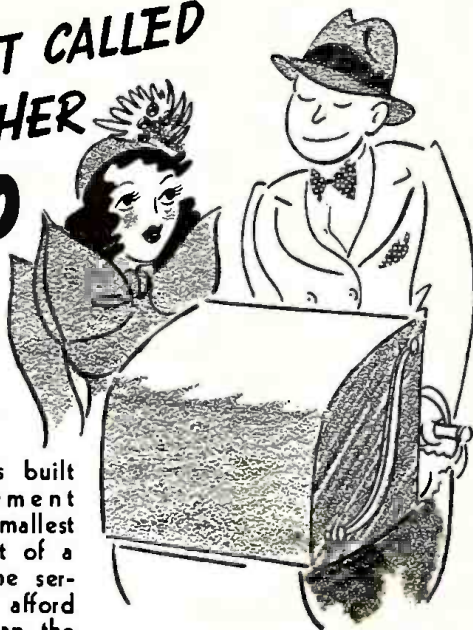
Vice-president and Development Engineer E. L. Barrett of Utah Radio



Benjamin Ginsburg, of Smith-Benny Sales Co., NYC. The firm is going to town as eastern representatives for the Steem-Electric iron. "Benny" has 20 some years of radio experience.

Products Co., Chicago, is now on a tour of Europe accompanied by Sywan Ginsburg of 57 A Blvd. Botanique, Brussels, Belgium, Utah's European export manager. The tour is made to introduce several new Utah products, including the motor driven push button tuning unit.

HE FIRST CALLED  
TO FIX HER  
RADIO



SHE liked his work so called him back again and again. That is how a permanent business is built up. Replacement parts are the smallest part of the cost of a service call. The service men can't afford to use other than the most dependable. That is why Ward Leonard is enjoying ever increasing demand.

**WARD LEONARD ELECTRIC CO.**  
40 SOUTH STREET, MOUNT VERNON, N. Y.

Please send me Price List Bulletin 507A.

Name .....  
Address .....  
City..... State.....  
Jobber's Name .....

**FIRST**  
**DUMONT**  
ELECTROLYTIC  
CONDENSER  
700  
CAP. 8 MFD.  
W.V. 525  
P.V. 700  
DWT. NO. RE. 1960A  
OTHER PATS. PEND.  
SELF HEALING  
LONG LIFE  
**AGAIN!**  
An Amazing Improvement  
in Electrolytic Condensers

**FREE**  
10 Tubulars  
with every  
kit of 10  
popular elec-  
trolytics.

DUMONT engineers produced and patented the world's first electrolytic condenser in common use today. Same engineers, after five years research now produce FIRST SUPER HIGH VOLTAGE Electrolytic. Reheals if overloaded or punctured. This patented feature is found only in DUMONT Condensers. Used by U. S. Government—a real test of quality. Used in highest priced radio receivers, yet sold at very attractive price. Try some today and be convinced. FULLY GUARANTEED for 1 YEAR.

Manufactured by

**DUMONT ELECTRIC CO., Inc.**  
514-516 Broadway, New York  
WRITE FOR CATALOGUE  
AND NAME OF NEAREST JOBBER

WORLD'S  
LEADING  
MANUFACTURERS OF  
PRECISION  
CONDENSERS



A new business and a woman at the head of it—Carolina Radio Supply, Greenville, S. C., opened by Miss Emma Flinkingshelt. Also shown are counter man R. W. Hines and outside salesman E. L. Bell. Besides parts lines, the firm will handle Fada radios and Sylvania tubes exclusively.

R. E. Kane, whose notable career as a merchandising executive began in 1919, has been named by *Galvin Mfg. Corp.*, makers of *Motorola* car and home sets, as eastern manager for home receivers covering the states of New York, Pennsylvania, Delaware, Maryland, Virginia and New Jersey. Mr. Kane's early experience was with *Sherman Clay & Co.*, San Francisco; he later became an RCA executive and was once in charge of that firm's radio sales in an area covering 27 states. For the past two years he has been central division manager for Grunow; his affiliation with *Motorola* began June 1. *Murray Yeomans* continues as *Motorola's* auto radio division manager in the eastern area.

Employees of *Standard Transformer Corp.*, Chicago, 223 of them, have recently become eligible to life insurance amounts ranging from \$500 to \$3,000, as a result of a group policy plan for which the firm assumed the entire expense.

Tube sales manager L. W. Teegarden of *RCA Victor* has announced a nationwide contest for radio tube dealers, prizes to be awarded for the 50 most accurate answers to the question, "How much money has been spent to advertise the name *RCA Victor* in the last ten years?"

W. H. Saladin, proprietor of the *Saladin Music & Gift Store* at 128 E. Main St., Santa Maria, Calif., will build a \$35,000 business building at 700 S. Broadway, that city, and will move his store to that address. When the structure is completed, in about 3 months, space will also be rented to six other merchants.

*Arcturus Radio Tube Co.*, Newark, N. J., has been given an Award of Merit for achieving a perfect safety record, by the New Jersey State Labor Dept. The award covers the year 1937, and is a source of special pride for *Arcturus* officials because "recent developments have kept the plant running at its highest speed for a number of years past."

Downtown salesrooms for the *Universal Microphone Co.*, Inglewood, Cal., have been opened at 1005 Beaux Arts Bldg., Los Angeles, with factory representative S. E. Shapiro in charge.

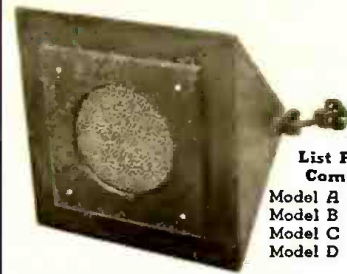
President L. K. Marshall of *Raytheon Mfg. Co.*, Newton, Mass., has been named executive voting representative of his company in the radio apparatus and electronic tubes section of the National Electrical Manufacturers' Association.

Commander Eugene F. McDonald, president of *Zenith*, recently entertained members of the Gridiron Club of Washington aboard his yacht "Mizpah" on a 4-hour trip down the Potomac. Other guests included Judge E. O. Sykes, Commander T. A. M. Craven and Col. Thad H. Brown, all of the FCC; Col. Charles H. March, of the Federal Trade Commission; Representative Bert Snell, House Republican Leader of New York; Gutzon Borglum, sculptor; Maj. Gen. Holcomb, Commandant, U. S. Marine Corps; Bond Geddes, vice-president, Radio Manufacturers' Association, and E. H. Beck, managing editor, *Chicago Tribune*.

*Kenyon Transformer Co., Inc.*, 840 Barry St., N. Y. C., recently appointed two new representatives for the Pacific Coast territory. E. P. Demarest, *Sylvania Pacific Co.*, 1127 Venice Blvd., Los Angeles, Calif., will cover the entire state of California, while George D. Morris, 307 Wall St., Seattle, Wash., will cover the states of Washington, Oregon, Montana, Idaho and Southern British Columbia.

During the second period for which *Stromberg-Carlson's* sales manager, George A. Scoville, took over sales direction for the firm, 10 SC sales representatives and their wives were notified that they had won "mystery" prizes. They are: Mr. and Mrs. A. C. Barg, Chicago; Mr. and Mrs. J. A. Frye, Detroit; Mr. and Mrs. S. H. Manson, Rochester, N. Y.; Mr. and Mrs. J. S. Mills, New York; Mr. and Mrs. R. G. Bookless, San Francisco; Mr. and Mrs. Lawrence Loveless, Bath, N. Y.; Mr. and Mrs. L. H. McMillan, Chicago; Mr. Carl Erickson, Boston; Mr. and Mrs. J. E. McCauley, Pittsburgh, and Mr. and Mrs. F. G. Cook, New Haven, Conn.

*Caspar Radio Co.*, Homestead, Pa., whose store was recently destroyed by fire, now occupy new quarters at 601 E. 8th St.



List Prices Complete  
Model A \$25.00  
Model B \$40.00  
Model C \$75.00  
Model D \$175.00

FIDELITY! TONE RANGE! DISTORTIONLESS POWER! BEAUTY OF DESIGN and EASE OF INSTALLATION! IT'S ALL THERE IN A VIBRALOC . . .

Studio or Stadium coverage with the same reproducer . . . "If you're doubtful . . . we've got the proof . . . just write."

Patented Acoustical features incorporated in the new VIBRALOC REPRODUCER reveal, for the first time, brilliant definition in tone blending at any volume level. The usual beam or searchlight effect is not present in the VIBRALOC method of sound distribution, resulting in freedom from reflection distortion and other acoustical troubles.

Locking mechanical vibrations at the source of audio sound distribution eliminates disturbance of the original wave form, permitting movement, into free space, minus pressure re-shaping or the effects of resistance to coil movement.

Introductory Samples, Model A, \$9.50 net. Cash with order or deposit required.

**JOBBERS!! DEALERS!!**

Exclusive Territories Available! Catalogs & Proposition Upon Request.



Boost PROFITS with this  
New WARD AERIAL



Here's a money-maker for you! WARD'S new Model 5XX, a 3-section telescopic side-cowl aerial, sells for only \$2.95 complete with 36" approved Low Loss Shielded Cable and insulated lower bolt assembly, and still makes you a handsome profit on every sale! Made of Admiralty metal. Rust-proof. Easily installed.

Write today for free catalog and complete details on the WARD line of low-priced, fast-selling car aeriels.

See us at the Chicago Show,  
215-217 Hertz Avenue

The WARD PRODUCTS Corp.  
WARD BUILDING CLEVELAND, OHIO

The advancement of *Roy Neusch* to the position of general sales manager of the *Clarion Institute of Sound Engineers* has been announced by *Hubert*



Roy Neusch, of Clarion Institute of Sound Engineers.

*L. Shortt*, president of the *Transformer Corp. of America*, 69 Wooster St., New York City. Mr. Neusch has been with TCA since the firm began, and has had long experience in the sound re-enforcement field. President Shortt reports increased national interest in the C.I.S.E., and mentions increased production facilities to meet the demands of the Institute's members.

The new export sales manager for *Utah Radio Products Co.* is *Harry J. Scheel*, according to news from sales manager *Oden Jester*. Mr. Scheel was formerly export manager for *Grigsby-Grunow*, where he hiked the foreign business to over one million dollars annually. Addition of an export sales department under his direction at Utah will identify the firm with improved service to buyers abroad.

The Radio, Refrigeration, Sporting Goods and Electrical Appliances Division of the joint Campaign of the United Palestine Appeal and Joint Distribution Committee has announced an industry entertainment and dance to be held at the Hotel Astor June 21. According to tentative plans, the committees are as follows: Arrangements, *Max Kassofer*, chairman, *Jules Smith* and *D. W. May*. Tickets: *Louis Sack*, chairman, *Harry Stein* and *Sam Saltzman*. Manufacturers' Division: *Perry Saffler*, chairman, *Harvey Tullo*, *Henry Halpern*. Jobbers Division: *Ben Gross*, chairman, *B. D. Colen*, *Hal Sheer*, *Irving Sarnoff* and *Mr. Olstein*. General Dealers: Brooklyn and Queens, *Louis Le Winter*; Manhattan, *Louis Titefsky*; Bronx, *Jack Shanek* and *Jack Messinger*; Westchester and White Plains, *Ray Kline* and *Mr. Mazur*. Sporting Goods Dealers: *Henry Model*.

# Servicemen!

## \$75 WORTH OF MATERIAL AND SERVICE FREE!

Give *YOU* a monthly Advanced Extension Course on the current developments in radio servicing. **THIS INFORMATION IS AVAILABLE ONLY TO RSA MEMBERS!**

Give *YOU* monthly Advertising and Business Promotion ideas to increase your business and make it *more profitable*.

Include *YOU* as a "REGISTERED AND QUALIFIED SERVICEMAN" in the big advertising and publicity campaign going on in newspapers and being broadcast over the air!

Give *YOU* a subscription to "The Radio Serviceman"—the Association's monthly magazine.

Give *YOU* a Certificate of Merit to hang in your shop.

Give *YOU* a pocket card of credentials.

Give *YOU* our big expert technical staff as a department in your service business. We will give you the *right* answer to your "impossible" service problems.

Give *YOU* (if you belong to a local servicemen's club) access to our National Speakers' Bureau—famous speakers for our meetings.

Give *YOU* advance technical information on new circuits.

## \$75 Worth of Material and Service Free

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# NEW BOOKLETS

"Electrolytic Capacitors," a full size book on the theory, construction, characteristics and applications of all types of electrolytic capacitors has been written by Paul McKnight Deeley, chief engineer of Cornell-Dubilier Electric Corp.'s electrolytic division. Detailed data is presented for both radio and electrical men. The volume is available from the company's headquarters at South Plainfield, N. J., for \$3.

A new Parts List has been issued by Emerson Radio & Phonograph Corp., 111 Eighth Ave., New York, N. Y. Numbers and prices for all parts for all Emerson models released prior to May 1st, 1938, are given in booklet form.

A catalog made up exclusively of cameras and photographic supplies has been published by Wholesale Radio Service Co., Inc. It contains material for veteran fans, dope for beginners, data on picture-taking procedure, etc., and is available free from any of the company's seven offices.

Eastern Mike Stand Co., 56 Christopher Ave., Brooklyn, N. Y., have released two catalog sheets covering their line of microphone stands and accessories. One shows and describes various types of floor and table stands, and is intended for wall mounting in the sound room. Noiseless operation, non-dropping mike rods and adjustable pressure chuck locks are featured. The other catalog is a 4-page standard release for the jobber's file.

Pioneer Gen-E-Motor Corp., 466 W. Superior St., Chicago, has issued two new booklets. One is titled "Pincor Silver Brand Dynamotors" ("B" Power Supply Equipment for Sound Systems, Police Units, Air Craft, Marine and Broadcast Service) and includes data sheets for each of the major types of units. These sheets give performance characteristics, capacities, ratings, etc., and are described as a "first" for helpful completeness. The other booklet gives the dope on "Gold Crown Heavy Duty Power Plants," for farms, homes, rural business, resorts, construction work, boats, and industrial needs.

First issue of the "Weston Pointer," illustrated journal to be released frequently from Weston Electrical Instruments Corp., 614 Frelinghuysen Ave., Newark, N. J., appeared recently with features on new developments and technical aid for radio servicemen. It will be sent free to active radio men and will include an "idea box" to which servicemen are invited to contribute.

"Hammarlund Short Wave Manual," the 1938 edition, with 32 pages, is being released by the company from 424 W. 33rd St., New York, N. Y., for 10c. It features new receivers, transmitters and associated equipment; it carries short wave station lists and tuning hints for amateurs. Profusely illustrated.

New literature released by Thor-darson Electric Mfg. Co., 500 W. Huron, Chicago, includes (1) an amplifier catalog illustrating 6 models, (2) the complete catalog of radio amplifier transformers, chokes, etc., (3) a bulletin with complete descriptions of foundation units, and (4) the Radio Servicing Guide.

Catalog No. 14, on the subjects of automatic stampings, wire forms, dies, cadmium plating, nickel plating and hot tinning, is being re-issued by Zierick Mfg. Corp., 385 Gerard Ave., New York, N. Y., with two supplementary sheets added. These describe new items.

New literature on the mobile public address system No. 172 is available from Operadio Mfg. Co., St. Charles, Ill.

## NATIONAL UNION RADIO TUBE MANUAL

\* The National Union Quick Reference Radio Tube Manual is designed to supply the radio set engineer with the characteristics of all types of tubes in tabular form.

Grouped by function, rather than numerical-alphabetical sequence, all the tubes used for a certain function are found in one section. At the beginning of each section there is a generalized discussion pertaining to use of the tubes in that section.

Tubes are listed in the following classifications: Rectifiers, triode voltage amplifiers, pentode voltage amplifiers, power amplifiers, frequency converters, duplex tubes, tuning indicators. An eighth section is titled, "Design Consideration," and is illustrated by charts.

Book has 169 pages, is paper covered and has spiral binding. Price \$1. Published by National Union Radio Corp., 57 State St., Newark, N. J.—RADIO TODAY.


## TELEVISION: A STRUGGLE FOR POWER

By FRANK WALDROP and JOSEPH BORKIN

The purpose of this writing is to tell the story of the control of radio, and to associate it with both the appearance and the control of television. The book would like to be sensational, and carries such statements as "on the surface the radio business is a raucous, gaudy haggler's bazaar," and "it is a curious fact that not one of the clear channels is dedicated exclusively to cultural or educational pursuits."

For its detailed information on radio patents, corporate interests, and the politics of communication in this country, the book is arresting. The authors say that television "threatens to swallow whole industries" and that it appears to be a business "that cannot function except in monopoly." These conclusions give the writers a swell chance to debunk, to warn, and to present little-known items. They do it rather sharply, too.—William Morrow & Co., 386 Fourth Ave., New York City. \$2.75.

**Now is the Time to Install the New "MULTICOUPLER" ANTENNA SYSTEM**



Live wire radio men are getting into the new field of installing master aerials during the dull season.

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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.

## PHILCO ADDS AIR-CONDITIONING

In introducing the new Cool-wave unit, Larry E. Gubb, president of Philco Radio & Television Corporation, declared: "Air-conditioning for almost everyone is the giant American industry of the near future. It will be the center of the next big business upturn.

"Our whole American business growth is based upon the creation of greater comfort for the individual, and air-conditioning will very soon become a necessary comfort, instead of a desirable convenience, in the average American home."

"Because of this, Philco has entered the air-conditioning field," Gubb continued. "Like radio, air-conditioning is strictly a twentieth-century development—and like radio, air-conditioning will soon become a requisite for the average home.

"The men and women who have enjoyed the comfort of an evening in an air-conditioned theatre are no longer content to return to swelter in hot bedrooms. The man who lunches in an air-conditioned restaurant now looks with dread at the thought of returning for the rest of the day to a hot, humid office.

"These people all know that air-conditioning is the solution—providing they can get it in an uncomplicated, small-sized form for their private use."

Philco, Gubb stated, has met that need with Cool-wave. This new air-conditioner requires only one electrical connection and no water supply piping. No complicated installation is needed, and placed in an individual room, the Cool-wave unit is guaranteed to give all the coolness of the melting of three-quarters of a ton of ice.

The Cool-wave unit is capable of wringing more than one full quart of water per hour out of room-air overloaded with humidity, while continuously pouring fresh air into the room.

The Cool-wave unit is approved by Philco engineers, distributed by Philco and will be sold exclusively by Philco

dealers throughout the country and in Canada. It is manufactured expressly for Philco by the York Ice Machinery Company, which has set up huge departments in its plants for the exclusive construction of Cool-wave air-conditioners.

## INTRODUCING THE TELEVISION CORP. OF AMERICA

Following the television experimentation of Communication Systems, Inc., the firm has now incorporated under the name Television Corp. of America, with offices at 130 W. 56th St., New York City. The company attracted wide attention recently by marketing television receivers for \$125, \$195, and \$250, and now creates another stir in the industry by placing its sets in the biggest department stores in the New York metropolitan area and in Boston for public demonstrations.

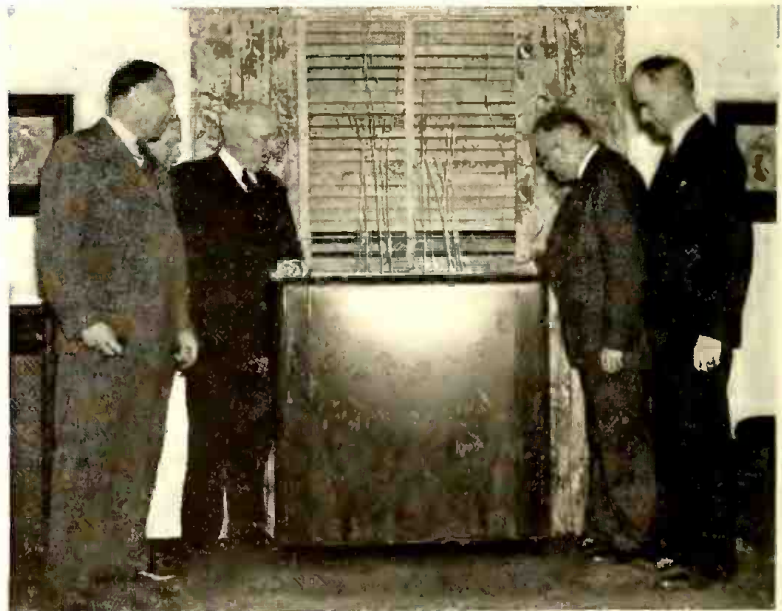
TCA president is S. M. Saltzman. C. H. Sterenfeld is vice-president in charge of sales; Louis W. Parker, chief engineer; E. Nathenson, director of advertising and publicity.

Although the firm has announced that the television sets will be sold only in areas where satisfactory television signals can be picked up, TCA offices have already been flooded with orders for the instruments.

A new radio retail outfit to be organized in Los Angeles is the *Platt Radio Stores*, with a board of directors including *O. J. Kenny, V. E. Fay* and *J. R. Lineburg*.

California dealer *David E. Urner*, 1925 Eye St., Bakersfield, is offering a new Emerson radio for \$1 to the buyers of new refrigerators or other major appliances.

*Arthur A. Brisch*, 2338 Highland Ave., Los Angeles, has obtained a certificate to conduct business under the firm name of *Best Radio-Electrical Co.*, 2613 W. Washington Blvd., Los Angeles.



At Chicago, 800 Philco distributors and guests enthusiastically greeted "Cool-wave", here shown with President Gubb, Sayre Ramsdell, and York officials. The walnut-finished steel cabinet occupies 4 sq. ft. of floor space.

# 30% TO 50% MORE ELECTRIC POWER



NEW MODEL '39

## WINCHARGER

6 VOLT-DELUXE

*New* PROPELLER:

*15% to 25% more efficient*

*New* GENERATOR:

*15% to 25% more powerful*

*New* OUTPUT:

*30% to 50% more power*

Like every other successful product, Winchargers are imitated. *But there is only one Genuine Wincharger.* It alone has the famous air-brake governor, developed and patented by the Albers Brothers, founders of the Wincharger Corporation. You can distinguish the *genuine* Wincharger by the air-brake governor on the propeller. It is the *one* Wincharger that has proved its dependability all over the world. Year in and year out, genuine Winchargers furnish electricity to more than half a million farm folks in over 100 different countries.

NEW 32-Volt



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1000 Watt

A more powerful Giant 32-volt Wincharger for heavier light and power loads. Operates refrigerator, water system, larger motors, washer, ironer, radio and other power appliances. Protected territories for aggressive dealers. For full information write: Agency Department, Wincharger Corporation, Sioux City, Iowa.

This new 1939 Six-Volt Wincharger has all the proved dependable features of the world-famous Model '37 PLUS an improved 15% to 25% more powerful generator PLUS a 15% to 25% more efficient propeller. It actually generates 30% to 50% more electricity which means extra current for more hours of radio operation and more lights. *But that's not all!* The new Model '39 starts charging in a 7½ to 8 mile breeze—one mile per hour lower wind velocity than any other previous model. And there are many OTHER PLUS FEATURES including an enclosed *weather-protected* collector ring with double *carbon* brushes—new sturdier 4-legged tower—simpler tower construction for easier installation—and large tower feet for easier mounting. The most powerful, thoroughly dependable radio wind-charger ever built!

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# 17 MILES

# UP...

## IN THE STRATOSPHERE

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### Forecast for the

### U. S. Weather Bureau



EVERY dawn the U. S. Weather Bureau at Boston sends a RAYTHEON tube seventeen miles up into outer space, through all the layers of earthly atmosphere—faithfully reporting pressure and temperature all the way up!

The data supplied by that RAYTHEON tube warns ships at sea of impending storms, governs the operations of the great airlines—and tells your wife that it will rain at her picnic!

RAYTHEONS were chosen by the Government for this exacting work for the same reasons that so many of the Navies of the world use them—their uniformity, ruggedness and dependability!

And those are the same reasons why thousands of servicemen use RAYTHEON tubes for replacements in quality radio receivers—to enjoy greater permanent tube profits!



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