

# RADIO

*and  
Television*

# RETAILING

APRIL • 1939

## ALL ABOUT TELEVISION

What It Means to the Radio Dealer  
Where Stations Are Proposed  
How It May Be Sold  
Pictures of New Video Equipment  
Manufacturer Merchandising Plans  
Practical Installation Problems

## ARE NEW RADIOS GOOD ENOUGH

## MORE ABOUT SOUND LICENSES and PERMITS

## RECORD and COMBINATION SELLING

## MODERNIZE TESTERS TO MAKE MONEY

## Preview of NEW PRODUCTS

## Business BAROMETER

## On the NEWSFRONT

The Month's CIRCUITS  
and other important features

Signs of Spring Are Broken Down Antennas — Time for Checkup

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for AUTO RADIO and BATTERY OPERATED HOUSEHOLD RECEIVERS

Millions in use . . .  
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Name of Set	Model Number	Correct Mallory Model	Price
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Aeromobile	1.6, 26, 27, 28, 30	293	2.35
Aeromobile	401	293	2.35
Aeromobile	1.6	292	2.35
Aladdin	New Manufacturers-Ward & Co.	294	2.35
Almate	New United Motor Service	294	2.35
All-American	400	292	2.35
Allied Radio Corp. (Radio)	PN515, PN516, PN517, PN518, PN519, PN520, PN521, PN522, PN523, PN524, PN525, PN526, PN527, PN528, PN529, PN530, PN531, PN532, PN533, PN534, PN535, PN536, PN537, PN538, PN539, PN540, PN541, PN542, PN543, PN544, PN545, PN546, PN547, PN548, PN549, PN550, PN551, PN552, PN553, PN554, PN555, PN556, PN557, PN558, PN559, PN560, PN561, PN562, PN563, PN564, PN565, PN566, PN567, PN568, PN569, PN570, PN571, PN572, PN573, PN574, PN575, PN576, PN577, PN578, PN579, PN580, PN581, PN582, PN583, PN584, PN585, PN586, PN587, PN588, PN589, PN590, PN591, PN592, PN593, PN594, PN595, PN596, PN597, PN598, PN599, PN600, PN601, PN602, PN603, PN604, PN605, PN606, PN607, PN608, PN609, PN610, PN611, PN612, PN613, PN614, PN615, PN616, PN617, PN618, PN619, PN620, PN621, PN622, PN623, PN624, PN625, PN626, PN627, PN628, PN629, PN630, PN631, PN632, PN633, PN634, PN635, PN636, PN637, PN638, PN639, PN640, PN641, PN642, PN643, PN644, PN645, PN646, PN647, PN648, PN649, PN650, PN651, PN652, PN653, PN654, PN655, PN656, PN657, PN658, PN659, PN660, PN661, PN662, PN663, PN664, PN665, PN666, PN667, PN668, PN669, PN670, PN671, PN672, PN673, PN674, PN675, PN676, PN677, PN678, PN679, PN680, PN681, PN682, PN683, PN684, PN685, PN686, PN687, PN688, PN689, PN690, PN691, PN692, PN693, PN694, PN695, PN696, PN697, PN698, PN699, PN700, PN701, PN702, PN703, PN704, PN705, PN706, PN707, PN708, PN709, PN710, PN711, PN712, PN713, PN714, PN715, PN716, PN717, PN718, PN719, PN720, PN721, PN722, PN723, PN724, PN725, PN726, PN727, PN728, PN729, PN730, PN731, PN732, PN733, PN734, PN735, PN736, PN737, PN738, PN739, PN740, PN741, PN742, PN743, PN744, PN745, PN746, PN747, PN748, PN749, PN750, PN751, PN752, PN753, PN754, PN755, PN756, PN757, PN758, PN759, PN760, PN761, PN762, PN763, PN764, PN765, PN766, PN767, PN768, PN769, PN770, PN771, PN772, PN773, PN774, PN775, PN776, PN777, PN778, PN779, PN780, PN781, PN782, PN783, PN784, PN785, PN786, PN787, PN788, PN789, PN790, PN791, PN792, PN793, PN794, PN795, PN796, PN797, PN798, PN799, PN800, PN801, PN802, PN803, PN804, PN805, PN806, PN807, PN808, PN809, PN810, PN811, PN812, PN813, PN814, PN815, PN816, PN817, PN818, PN819, PN820, PN821, PN822, PN823, PN824, PN825, PN826, PN827, PN828, PN829, PN830, PN831, PN832, PN833, PN834, PN835, PN836, PN837, PN838, PN839, PN840, PN841, PN842, PN843, PN844, PN845, PN846, PN847, PN848, PN849, PN850, PN851, PN852, PN853, PN854, PN855, PN856, PN857, PN858, PN859, PN860, PN861, PN862, PN863, PN864, PN865, PN866, PN867, PN868, PN869, PN870, PN871, PN872, PN873, PN874, PN875, PN876, PN877, PN878, PN879, PN880, PN881, PN882, PN883, PN884, PN885, PN886, PN887, PN888, PN889, PN890, PN891, PN892, PN893, PN894, PN895, PN896, PN897, PN898, PN899, PN900, PN901, PN902, PN903, PN904, PN905, PN906, PN907, PN908, PN909, PN910, PN911, PN912, PN913, PN914, PN915, PN916, PN917, PN918, PN919, PN920, PN921, PN922, PN923, PN924, PN925, PN926, PN927, PN928, PN929, PN930, PN931, PN932, PN933, PN934, PN935, PN936, PN937, PN938, PN939, PN940, PN941, PN942, PN943, PN944, PN945, PN946, PN947, PN948, PN949, PN950, PN951, PN952, PN953, PN954, PN955, PN956, PN957, PN958, PN959, PN960, PN961, PN962, PN963, PN964, PN965, PN966, PN967, PN968, PN969, PN970, PN971, PN972, PN973, PN974, PN975, PN976, PN977, PN978, PN979, PN980, PN981, PN982, PN983, PN984, PN985, PN986, PN987, PN988, PN989, PN990, PN991, PN992, PN993, PN994, PN995, PN996, PN997, PN998, PN999, PN1000		

MARCH 1, 1939

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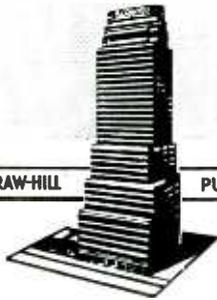
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APRIL 1939



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"My! what sales technique!"



**You Ought  
to Know**

**What's in a wire  
—before you use it**

*From the Belden Catalog*

For line matching or auto transformers between antenna and receiver.

Number	Length in Feet	Description	Frequency (Kilocycles)	Surge Impedance (Ohms)	Power Factor (Per Cent)	Maximum Capacity per Ft. Between Condr. and Shield	Capacity Between Conductors
8206	50' spool	16 stranded 1/32" rubber, over-all tinned copper shield	100	33.0	2.0	64.5 mmf	
8206	250' spool	16 stranded 1/32" rubber, over-all tinned copper shield	1500	33.5	1.78	63.0 mmf	
			10000	33.8	1.52	62.0 mmf	
8207	250' spool	16 stranded 4/64" rubber, over-all tinned copper shield	100	68.9	2.88	57.5 mmf	
			1500	70.0	2.44	55.0 mmf	
			10000	73.2	2.12	50.5 mmf	

*Put-up Construction Performance*

*Wire for radio* is a highly specialized product. Like a medical cure, it should only be used by experts—who know all of its characteristics. The Belden Catalog gives you, the radio specialist, this information clearly and honestly. Belden products live up to these standards—to do justice to your service work.

**You Ought  
to Know**

**What's in this  
complete  
wiring  
line**



Clear Channel  
All-Wave Antenna Systems

•  
Power Line Filters

•  
Broadcast Aerial Kits

•  
Aerial Wire

•  
Arresters, Lead-in Strips,  
Ground Clamps

•  
All-Rubber Lead-in Wire

•  
Transmission Line Cables

•  
Coaxial Cables

•  
Microphone Cable  
Shielded  
Rubber Sheathed

•  
Shielded Multiple Conductor Cable

•  
Glazed Cotton Multiple  
Conductor Cable

•  
Rubber Sheathed Multiple  
Conductor Cable

Communicating System Cables

•  
Armored Speaker Cable

•  
All-Rubber Lamp Cord

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Hook-up Wire

•  
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•  
Replacement Wires for Test Prods

•  
Litz Wire

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Terminals

•  
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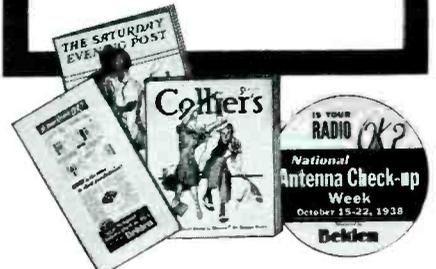
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Head Phone Cords

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A-C—D-C Resistance Cords

•  
Auto-Radio Wires and Cables

**You Ought  
to Know**

**What's behind  
the line  
to help you sell**



Remember National Antenna Check-up Week?

Remember the posters, the buttons, and the big national advertising program to sell set owners on all kinds of radio service—by radio servicemen?

It was sponsored by Belden, of course. Belden's National Advertising continues with a regular schedule during 1939. It will help you sell better wiring jobs and profitable antenna installations.

Belden Manufacturing Company,  
4697 West Van Buren Street, Chicago, Ill.

**DON'T GO HAYWIRE—GO**

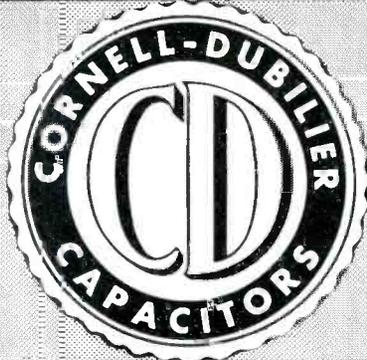
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**The Radio  
Wiring Line**

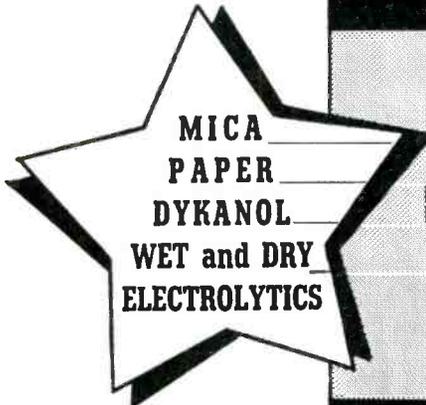
for **RADIO**

**CAPACITY RANGE**

- .000001 to 1 mfd.
- .0001 to 10 mfd.
- .05 to 100 mfd.
- 2 to 5000 mfd.



for **VIDEO**



**VOLTAGE RANGE**

- 300 v. to 100,000 v.
- 200 v. to 1,000 v.
- 600 v. to 150,000 v.
- 25 v. to 600 v.

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Mica, Paper, Dykanol, Wet and Dry Electrolytics in any capacity and voltage combinations

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Standardized sizes, shapes, designs to meet every Radio and Electrical Requirement. Cat. No. 165 available on request.

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**CORNELL-DUBILIER ELECTRIC CORPORATION**

**1019 HAMILTON BOULEVARD • SOUTH PLAINFIELD NEW JERSEY**



Philo T. Farnsworth, Pioneer in Television and Founder of Farnsworth Television and Radio Corporation.

# THE MOST *SIGNIFICANT* NAME IN TELEVISION!

# FARNSWORTH

*The only organization which has devoted its entire attention to ELECTRONIC TELEVISION RESEARCH and DEVELOPMENT over a period of 13 YEARS.*

- 1922 — Farnsworth conceives the basic principles of modern Electronic Television.
- 1926 — Farnsworth laboratories for developing Electronic Television established. (October)
- 1927 — Farnsworth transmits a wholly Electronic Television picture.
- 1928 — Farnsworth transmits motion pictures by Electronic means.
- 1929 — Farnsworth Television Incorporated is formed. (March)
- 1934 — Farnsworth gives general public demonstration of Electronic Television at Franklin Institute in Philadelphia. (August)
- 1938 — Farnsworth Television & Radio Corporation formed, succeeding Farnsworth Television Incorporated. (December)
- 1939 — Farnsworth acquires factories to manufacture television transmitters, receivers and allied products. (March)

**TODAY**, with the advantage of 13 years of unrivaled research and development, Farnsworth enters the field of manufacturing, prepared to create a position in the new industry commensurate with its leadership in research.

Organization is rapidly nearing completion at the Farnsworth factories in Fort Wayne and Marion, Indiana, for production of television transmitters and receivers, radio sets, radio-phonograph and other allied products.

**FURTHER ANNOUNCEMENTS** will be made which will be of vital interest to forward-looking **DISTRIBUTORS and DEALERS.**

## FARNSWORTH TELEVISION & RADIO CORPORATION

**3700 Pontiac Street Extended  
FORT WAYNE, INDIANA**

# Dependable Both...

**UNITED STATES  
LIGHTHOUSE  
SERVICE**

## **RAYTHEON RADIO TUBES**

The beacon light is always flashing from the lighthouse—that is the basic tradition of the Service. The captains of windjammers and luxury liners know they can *depend* upon these warnings.

For that reason the U. S. Lighthouse Service takes no chances. Its gear and equipment is all tested and retested, time after time, to *prove* that it will uphold the reputation of the Service. Nothing but the best can get inside a lighthouse!

For that reason, we are proud that RAYTHEON is the tube you will find in communications receivers the Service depends upon!

That same quality and dependability are the reasons why the better servicemen—those who are in business to stay—feature RAYTHEONS in their service work. *And they cost no more than the second-best tube!*

RAYTHEON PRODUCTION CORPORATION  
Newton, Mass. • New York • Chicago • San Francisco • Atlanta



**"WORLD'S LARGEST EXCLUSIVE RADIO TUBE MANUFACTURERS!"**

# 1-2-3 DEPENDABILITY

**S**YLVANIA RADIO TUBES occupy a prominent place on the shelves of thousands of modern radio stores and service shops throughout the United States.

The reason? 3-way dependabil-

ity! Today's progressive retailers know what the name "Sylvania" signifies: a dependable company . . . that manufactures a dependable product . . . that sells at a dependable profit.

HERE'S THE PROOF: —————>



**1. COMPANY DEPENDABILITY:** Sylvania's owners are actively engaged in the company's management! Sylvania does business in 121 countries! Sylvania maintains one of the industry's largest and finest engineering staffs!



**2. PRODUCT DEPENDABILITY:** Every Sylvania tube is the result of scientific design and development! All Sylvania materials are critically analyzed before use! Experienced engineers supervise every step of Sylvania manufacture!

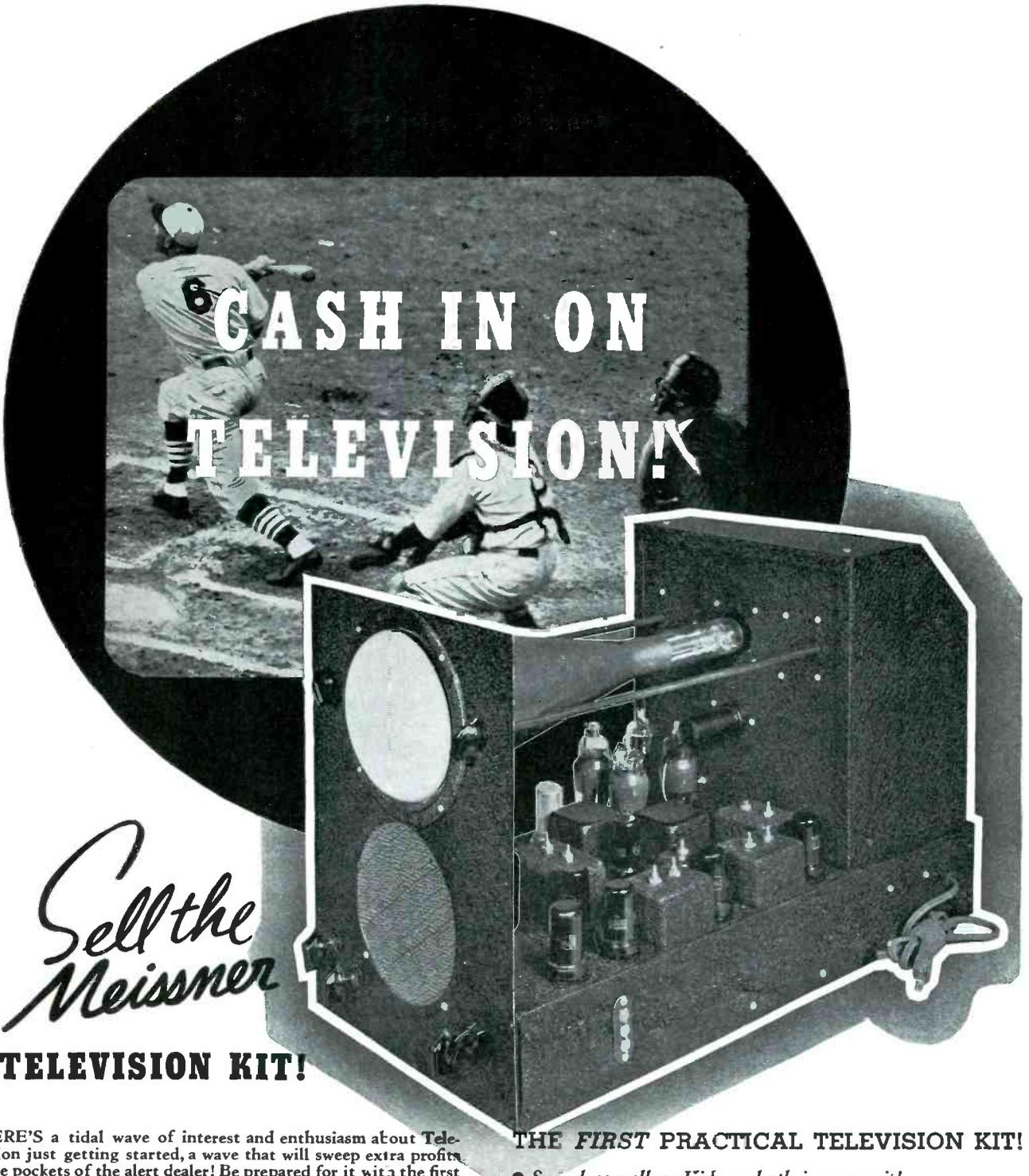
**3. PROFIT DEPENDABILITY:** Sylvania is one of the world's largest-selling tube lines! Sylvania policies tend to establish freedom from price cutting! And Sylvania's complete line means no lost sales!

## SELL SYLVANIA

SET-TESTED RADIO TUBES

• D E P E N D A B L E A L L W A Y S •

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



**CASH IN ON  
TELEVISION!**

*Sell the  
Meissner*

**TELEVISION KIT!**

**T**HERE'S a tidal wave of interest and enthusiasm about Television just getting started, a wave that will sweep extra profits into the pockets of the alert dealer! Be prepared for it with the first practical *Television Kit*—designed and offered by MEISSNER! For years Meissner has worked with Television, just to be prepared when Real Television arrived. It's **HERE NOW**—and the MEISSNER Television Kit is Ready for your rapidly growing Television market, with Meissner quality at a moderate price! Be prepared for the Television market! See it at your parts jobber or mail the coupon today for complete information and dealer prices!

**THE FIRST PRACTICAL TELEVISION KIT!**

- *Sound as well as Video—both in one unit!*
- *New SHOCK PROOF Design! ● 5-inch tube!*
- *Walnut Cabinet available at slight additional cost.*
- *Meissner Quality at a price any one can afford to pay!*

**SEE YOUR PARTS JOBBER OR WRITE**

**FOR COMPLETE DETAILS**

DEPT. R-4  
MT. CARMEL,  
ILLINOIS

*Meissner*

**MAIL COUPON!**

MEISSNER MFG. CO., Dept. R-4 Mt. Carmel, Ill.  
Please rush me complete information on Television Kits with dealer prices.

Name.....  
Address.....  
City..... State.....

**A F A M O U S N A M E F O R T W O D E C A D E S**

# PHILCO

*will present on May 15th,  
to a Convention of its Distributors,  
a complete New Line of*

## **TELEVISION RECEIVERS**

**P**HILCO has announced Television. Since February 16th, Philco dealers and their friends at various key centers of the country have witnessed demonstrations of the mobile television transmitter and television receivers developed by Philco. These instruments are the result of many years of pioneer research in the field of television which has been conducted in the vast Philco laboratories.

Philco television receivers have been sufficiently advanced for practical demonstrations since 1936. At that time, over two thousand Philco dealers and distributors had the opportunity to view in Philadelphia a television picture whose superiority was even then widely acclaimed in the press. Much progress has been made since that time. The results being demonstrated throughout the country today are evidence of the fact that Philco still remains at the forefront of television research.

But, the television receivers which will be announced to Philco distributors at their convention on May 15th will be news to them, news to the trade and news to the world. We refer to them as a *new line* in relation to those which are on demonstration today, and which represent the limit of achievement thus far announced in the industry. **THEY WILL BE NEW IN PERFORMANCE, NEW IN APPEARANCE AND WILL PRESENT A DEFINITE ADVANCE IN THE ART OF TELEVISION.**

In television research, Philco has given evidence of the same characteristics which have made it the leader in the scientific progress of radio. The art of television today bears the definite impress of Philco engineering. Philco believes in television as an industry . . . and *as a*

The present Philco television receiver and mobile broadcasting transmitter were first exhibited to Philco distributors at Palm Beach, Florida on February 16th. Since then, demonstrations have been held through Philco Distributors for dealers and their friends in New York, Philadelphia, Baltimore, Washington, Boston, Pittsburgh, Cleveland, Detroit and Chicago. The demonstrations are continuing now and will shortly be held in Milwaukee, Minneapolis, St. Paul and many other key points in the United States.

*BUSINESS for the radio dealers of America.*

Philco focuses its attention on the fact that the radio dealer will be the medium through which television will reach the consumer. For that reason, the dealer must be the first to see, know and understand it. And because television can become a true source of profit to the dealer only with the spread of broadcasting to the large centers of population, Philco feels that the best way to promote action toward that end is to bring television to those cities . . . to create a desire for television service among the civic leaders of those communities by allowing them to see it *locally* in actual operation.

That's why Philco is showing television to the radio dealers in the key centers of America today. That's why Philco distributors, assembled in Convention on May 15th, will be the first to see Philco's new line and new developments in television.

**PHILCO RADIO & TELEVISION CORPORATION**

# The RADIO MONTH

APRIL

1939

**New Horizon** With this issue radio's oldest trade publication adopts a new name, signifies its intent to serve all branches of the industry on the broader front which engineering effort and skill have created.

Television is wholly and undisputedly an offspring of the radio industry. It was conceived in the brains of radio engineers, has been nurtured with radio money, is being born into the commercial world under the careful guidance of some of radio's most outstanding talent. It can live and thrive only if radio men, radio money and radio merchandisers help it grow and prosper.

We, as a publication, had no part in bringing television into being but, with its commercial birth a *fait accompli* and—knowing its parents—our duty is plain, for no offspring of our great industry should be treated like a waif or allowed to shift for itself. We must contribute, guide, caution, criticize or praise as we have done with radio and as occasion demands.

All that we expect to do, but in so doing we shall not sacrifice one whit of what has been our constant editorial objective, namely: To promote better merchandising methods, more effective selling, greater opportunity for profit in the retailing of radio sets and allied products.

Future issues of this publication will champion the interests of radio retailers, as have those of the past. All news and views from the television front, from now on featured, will be *plus value*, not carried at the expense of radio.

This policy was adopted, after a nationwide canvass disclosed that 92% of our readers wish us to keep them fully informed on all that happens in connection with television and, recognizing that our first responsibility is to our readers, that is exactly what RADIO and Television RETAILING proposes to do.

**Tube Turmoil** The tube industry is suffering from a bad case of free-dealitis. If you know how to play for position, you can get anything from a poodle dog to a trip around the world—provided that you buy—and pay for—enough tubes to cover the overhead—all in the interest of selling tubes.

Everybody concerned, from manufacturers down to servicemen, know that the situation is decidedly bad. Everybody knows that something must be done. Everybody wants the other fellow to make the first move.

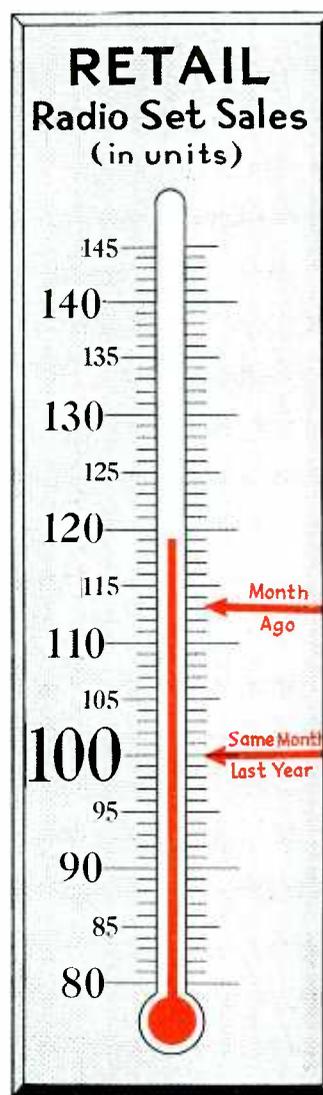
Manufacturers are groping for a solution, have engaged eminent specialists to diagnose the disease, concoct a cure. Distributors have made a survey, contributed suggested new schedules but can't all agree. Servicemen want high list prices, long discounts, so that they don't have to do a selling job for themselves, but can cover a multitude of what are purely service jobs with the list price of replacement tubes.

It's a bad situation all-around and one that must be corrected.

In an early issue RADIO and Television RETAILING will project some plans, that may reasonably be expected to improve conditions materially, if adopted.

**Keeping Pace** Allowing for differences in selling seasons, the 19% increase in set sales over last year's March, as shown by our Sales Barometer, compares very favorably with other sales records that reach us as we go to press.

Furniture sales at retail were 10% above 1938 for the first 3 months of this year. The Penny chain of more than 1500 stores chalked up a 9.9% gain over last year's March;



MARCH SALES

Business Barometer

**D**EALER'S reports of radio set sales during March push our barometer to 119, or 6 points higher than it stood in the previous month, February, and 19% above the same month of 1938.

This remarkable increase in unit sales gains greater significance because in many territories the dollar sales volume of dealers shows that more of the higher priced table models, some consoles, are being sold.

Public buying in the larger cities still seems responsive to special loss-leader or traffic-building promotions of small or midget lines and such events have brought remarkable increases in unit sales but without correspondingly boosting dollar volume.

However, in smaller cities, dealers who have a well-established trade apparently are bending every effort to get larger value per unit sold and are reporting that this is less difficult when trade-ins or installment terms are involved in the deal.

In the Southeastern states set sales continue to run well ahead of last year with Alabama leading the parade. Mid-Western dealers register few spectacular increases over last year, and the dollar value per sale reflects that much of the business is midget sets.

On the Pacific Coast California leads in showing an upswing that averages better than 20% in units while radio dealers in Oregon and Washington are holding about even with last year.

G. C. Murphy's chain topped 1938 by 8.2%.

With the height of their retail selling season at hand, all the General Motors units, including Chevrolet, Oldsmobile, Pontiac, Buick and Cadillac during March sold 42% more cars to consumers than in the same month of last year; Ford *retail* sales were up 56% and sales of Lincoln Zephyr cars in March were 23% above a year ago.

In small towns and rural areas, sales of general merchandise were in February 10.5% higher than last year.

## More Diversification

At the recent meeting of Crosley Corporation stockholders, Lewis M., brother of indefatigable Powel Jr., forecast the early announcement of a Crosley automobile.

To outsiders that may seem like the ultimate in an aggressive expansion that has reared radio, refrigeration, ranges, washing machines and other major appliances.

Actually it is a case of Powel Jr. finally returning to his first love—automobiles.

Not so long ago we visited with him. In talking old times we found that he was racing automobiles when driving racing cars was our own favorite pastime, found that we had been at some of the same races, knew the same pioneer drivers. Even then he talked about a car that he would build "some day".

Last week we were in Cincinnati. At the Crosley factory nobody knows details, for with Powel Jr. away nobody would dare to tell anything. But—we did a little gumshoe work around town and what we found out about the Crosley car's design, motor, probable price range, makes us feel justified in saying, "He's got something there".

**Social Static** Out in Walsenburg, Col., the wise city fathers recently enacted an ordinance which prohibits the operation of electrical contrivances that cause interference with radio reception.

Now its police department reports that complaints of such interference generally come from grudge-bearers, neighbors who want to settle old

scores, often from family members of same household where interference originates. Officers are called upon to referee family and neighborhood quarrels, find orderly enforcement difficult.

That is no more than could be expected. Interference from appliances in the hands of actual users merely *is the effect*, cannot be easily corrected. The real *cause* is complete lack, improper or poorly designed shielding or filtering of those devices by their respective manufacturers.

Until manufacturers realize that it is in their own interest to prevent their products from being spotted as a nuisance, radio and television fans will have to suffer.

**Mixed Blessing** Introduction of new tube types having radically different bases, others employing conventional sockets but new element-to-pin schemes, and still others using filaments operating at unusually high voltages complicate the business of testing in retail stores. Because replacement of existing testers, or at least renovation of such equipment, will be required, equipment makers are apt to find 1939 a surprisingly profitable year.

Dealers and servicemen who might be inclined to view the new bottles with disfavor because of the unavoidable outlay for additional testing have our sympathy, but it must be admitted that certain, if not all, of the new tube types are distinctly in the interest of the ultimate consumer, particularly when efficiency at high frequencies is considered.

Furthermore those new tubes may rate as a blessing in disguise, if the industry will use their advent as a foundation upon which to build a more sensible, more profitable policy of tube selling.

**Express** The tempo of all business is speed, and today more than ever before—true to the old adage—the devil or the sheriff generally catches the hindmost, who disregard the obvious.

It has been our experience that when speed in delivery is needed, there is nothing quite equal to "EX-

PRESS" for certain types of shipments.

Hence, in the interest of speed for radio shipments, we insert this "plug" to report that new schedules announced by the Railway Express Agency and effective April 15th provide for *rate reductions* for all distances on shipments of 21 pounds or under, also on packages up to 50 pounds for shorter distances, while slight increases are taken on the rest.

**Radio of Age** Academically radio will reach maturity next September with the establishment of a Department of Radio in the Washington Square College of New York University.

According to Chancellor Harry Woodburn Chase this will make C C N Y "the first liberal arts institution in the country to offer a four-year radio major leading to the Bachelor of Arts Degree".

It is stated that the courses in radio start in the students' first year, expand throughout the four years, will include orientation in writing for, speaking on the radio, the elements of radio, television, and facsimile engineering, radio advertising, educational uses and the legal relations of radio.

We welcome this signal recognition of our industry, particularly since C C N Y labels it as an "infant giant" among industries, and—infants rarely receive recognition from colleges.

Oldtimers now will have to look to their laurels, for four years hence there will be diploma-bedecked AB's ready to compete, and in these days of specialization that is no idle threat.



EDITOR

# IT'S READY FOR YOU.



## THE *New* REPLACEMENT PARTS *Catalog*

Now, you can get the *complete* new Utah catalog. 32 pages of illustrations and descriptions of Utah SPEAKERS—VIBRATORS—TRANSFORMERS and UTAH-CARTER PARTS, *just off the press*.  
The new Utah catalog is packed with important

information, from cover to cover. *Every* active radio dealer, serviceman and jobber should have a copy.  
It may cost you time and money to be without it—don't take the chance. Mail the coupon *today* for your **FREE** copy.

**UTAH RADIO PRODUCTS CO.**  
CHICAGO, ILL.

CABLE ADDRESS: **UTARADIO—CHICAGO**

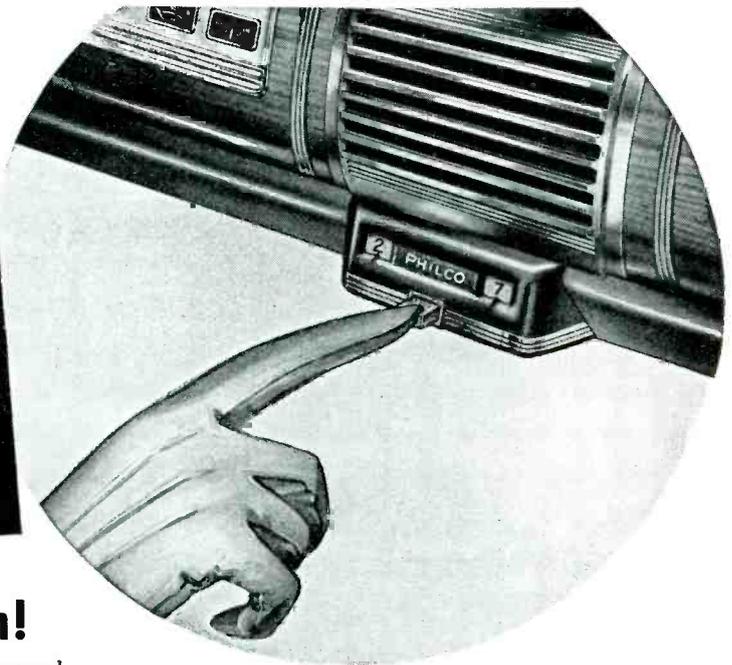
Utah Radio Products Co., 816 Orleans St., Chicago, Ill.  
Please send me without obligation a copy of the new Utah catalog.

Name.....  
Address.....  
City..... State.....

# PHILCO *creates* a new kind of AUTO RADIO!

Again Philco leads in radio progress.  
Engineers develop New Convenience  
in Auto Radio Tuning.

**ONE** Push-  
Button Tunes  
**5** Stations!



## New Sales-Making Invention!

At last, the perfect way to tune a radio in a car! Instead of several push-buttons, you *tune in five favorite stations with just a single button!* Each time you push the button, a new program comes in *instantly* . . . and you choose the one you want to hear. Not even a glance at the dial. Quick, simple, effortless. No fumbling, no groping. The easiest, most convenient auto radio tuning ever invented!

Here's your opportunity to put pep, punch, novelty—and dollars into your auto radio sales. Feature the new Philco Model 933 with this sensational new invention. It's a perfect "step-up" weapon to increase your unit sale and boost your auto radio profits. Get full details from your Philco distributor today—*write, wire or phone!*

PHILCO  
AUTO RADIO  
MODEL 933

**\$39<sup>95</sup>**

Single Push-Button Tuning for 5 stations. Regular dial tuning of all stations. 6 newly-invented Loktal tubes. Powerful Superheterodyne. Electro-Dynamic Speaker. Automatic Volume Control. Bass Compensation. Tone Control. Full-Wave Vibrator. Choice of 3 speakers, for built-in speaker grilles, for under dash mounting, for Chevrolet cars.

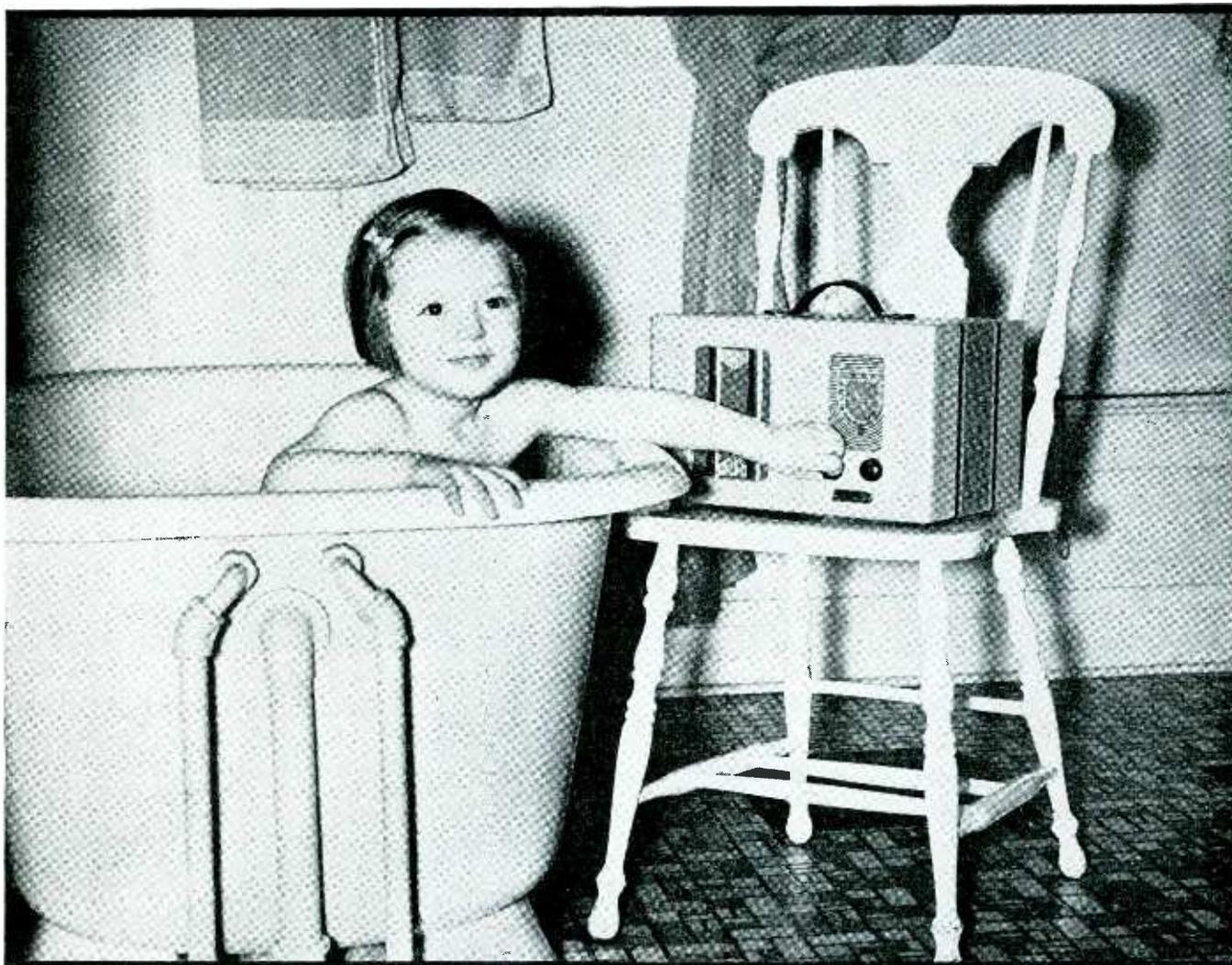
Other New Auto Radios—\$29.95 to \$69.95



# PHILCO ALL YEAR 'ROUND

# RADIO *and Television* RETAILING

APRIL, 1939



## SONGS + SUDS + SAFETY

**T**O RADIO *and Television* RETAILING'S reporter, Marshall Field's A. O. Casey expressed surprise at the unexpectedly large number of new battery-operated portables already going over counters in metropolitan Chicago, where power lines abound.

Sleuthing among early buyers our man found:

That, in addition to clicking instantly with (1) sun-worshippers planning to tote such sets up to the mountains or down to the seashore this summer, the merchandise appealed (2) to shock-wary parents as a super-safe plaything for children; attracted some automobilists willing to sacrifice the ultimate in performance provided by built-in specialties for flexibility of use and (4) interested many prospects for second-sets who appreciated extreme portability permitted by the absence external antennas and power cords.

Clearly, here is a new receiver type which need not necessarily be sold just to lovers of the great outdoors.

**SURE, MANDY, GO AHEAD AND MOVE IT**

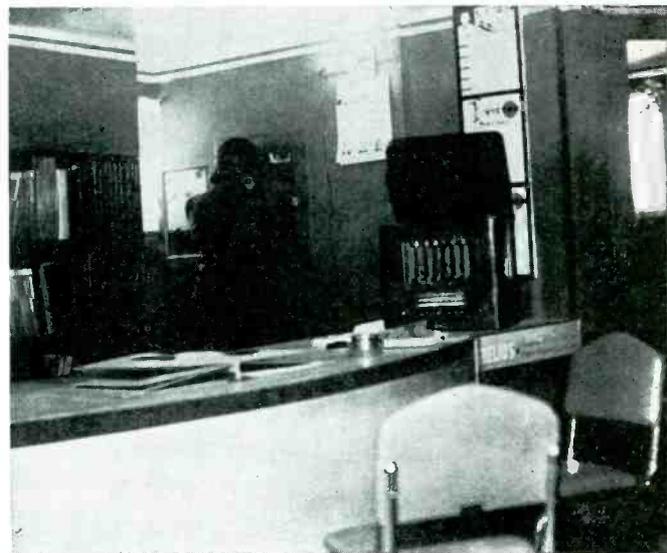
Spring cleaning holds no terrors when the radio is of the new, antennaless type. No wires to pull off

of moulding or water pipes. Just pull the line plug and go ahead with the dustcloth



**WELL DRESSED RECORD CORNER**

Here's a typical department layout using A. Bitter Construction Company cabinets. Neat, compact and efficient, it takes up little room (*left*)



**COUNTERGIRL SERVES TWO AUDITION ROOMS**

Record stock is centrally located in Clayton, Missouri's "As You Like It" shop (*above and left*). Girl at counter places discs on machines in adjacent soundproofed rooms through windows



### THREE MEN

#### ON A VACUUM TUBE

Hit of an Akron hotspot is this electronic orchestra. Mainstay is Hammond organ (two remote speakers). Trumpet mike and guitar contact unit play through organ amplifier. Auxiliary guitar amplifier helps players coordinate, sound like 10-piece band. Installation by Olson Brothers



### BRONCHO BUCKS SELF SERVICE

A Peacotonia, Illinois Rodeo inspired D. H. Thompson's window. (left) Horse's legs pivot freely. Rider attached to horse and arm to body by light springs. Whole actuated by solenoid-plunger motor through sign flasher. Chassis, cards complete story (above, closeup)

### SPORTSMEN

#### CRY FOR THEM

To sailors, mountain climbers, other lovers of the great outdoors attending the National Sportsmen's Show, New York's Terminal Radio exhibited six battery portables, a compact ship-to-ship-or-shore phone transmitter. Over 250,000 stopped, looked, listened. Many placed orders on the spot



**I**N an article featured in the March issue, the first two pages of which are reproduced here, the Editors made nine major points:

1. THAT the trade is becoming skeptical about the performance of many new models.
2. THAT this attitude among retailers is not conducive to successful selling.
3. THAT while there are uses for which cheap radios may be practical, economically sound, too many low priced sets are sold where better sets would be in both the public and industry interest.
4. THAT dealers and distributors thus share responsibility with manufacturers for lowering of prestige among consumers.
5. THAT one way to help the dealer "sell up" is for the manufacturer to "build up".
6. THAT there are modern features which should be included in all new radios, regardless of price.
7. THAT the consumer's dollar ought to buy a good measure of both visual and quality features in any new set.
8. THAT the manufacturer should stop cutting corners where such shortcuts jeopardize tomorrow's business.
9. THAT the entire industry must cooperate to wipe out any impression created by any new products that much new radio merchandise lacks quality.

*We have received many letters in response to this editorial urging the industry to build and more aggressively sell better merchandise. Some approve, some laud our effort but think it inadequate to stem a rising tide and some consider it economically impractical.*

*Continuing the policy adopted in the first article and avoiding individual identification, which might conceivably defeat the very purpose of this series by initiating internecidal squabbling not conducive to cooperative effort, we print pertinent paragraphs from as many of these letters as space in this issue permits. Least laudatory correspondence is deliberately placed first to give our severest critics an immediate "day in court". Small, indented type throughout the text is ours:*

**Says All Make Money . . .** Although I do not for a moment believe that any intelligent manufacturer, distributor or dealer will pay much attention to such misstatements as you have made, I feel that I may as well tell you that when you say no one makes money on low-priced sets you are exhibiting a lack of knowledge of economic fact and of merchandising experience which, to say the least, is startling in one who essays from month to month to tell an industry what it is all about.

We have made and are making quite a lot of money on the total volume of such set sales. Our distributors have made and are making money on those sets. Our dealers have made and are making money on them—and are making much more money on their over-all operations because of them than they could possibly have made without them.

As a matter of information, and in the hope that no further disservice will be done to those who have placed confidence in your publication, the promotion of one new model has already proved to be the greatest and most constructive business stimulant given to radio distributors and dealers. . . . Hundreds of dealers

## Are NEW RADIOS GOOD ENOUGH ?

One way to help the dealer sell up is for the manufacturer to build up

**A**CROSS the Editor's desk with significant frequency come letters from the trade like the following:

"I have just lost another sale through no fault of my own. A man came into the store and said that if I could demonstrate a new radio that would pick up less code interference than his six year old receiver he would buy it. I workably took a \$75 set to his home and, much to my consternation, it not only failed to reduce the interference but actually was bothered more. Furthermore, while I naturally did not admit it at the time, I agree with the man that the tone quality of his old set was at least as good as that of the new one."

The trade is becoming skeptical about the performance of many new models. Admitting that some are easier to tune and cover more wavelengths, the average dealer is not too certain that actual reproduction on local broadcast stations to which most people now listen is all it should be.

This attitude among retailers is not conducive to successful selling. Should it be communicated to the consumer, the inevitable result would be a reduction in vital replacement business. For while features that make a radio easier to operate and adjust with striking eye-appeal undoubtedly create initial interest in a new set to a much greater degree than that which industry so loosely terms "quality"—the latter is assumed by the replacement prospect and its omission is apt to throw a monkey-wrench at a sale during comparative demonstrations.

### Expensiveness Vs. Future

"Several questions asked by the trade include such obviously cynical ones as these:

"Is the omission of TRF stages from most of today's superheterodynes a step forward, or backward?"

"Is the almost universal use of single multi-element tubes rather than easier push-pull triodes desirable?"

"Is the market best served by speakers with small baffles plus tone compensation systems which disfigure the case, or by sets equipped with adequate baffles in the first place?"

"Is the manufacturer justified in skimping the parts factory of parts in order to further compress either the size of the set or the price?"

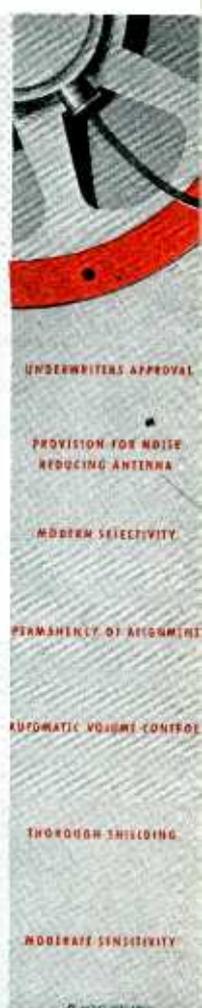
Less technical, but still in the same questioning vein, are letters such as this:

"Is the semi-modernistic cabinet style in which most new radios are encased really what the average woman wants or are they too attractive?"

### Difficult Line to Draw

To the trade it appears that some recent design trends are justified, if for no other reason than temporary economic necessity. It is also felt, judging from our mail, that the manufacturer may be justified in any effort which through actual volume production savings, employment of new circuits, tubes and components puts radio within reach of more people. However the feeling is growing that it may be neither in the public's ultimate interest nor that of the manufacturer to cut prices still further by omitting things which his own engineers undoubtedly tell him belong in any modern model. Shrewd dealers observe that such practice might be considered "selling one's birthright for a mess of pottage."

Just where to draw the line of demarcation is a serious question which involves more than just the manufacturer. There are features whose omission may perhaps be economically justified when satisfying low income bracket demand or when designing models specifically for auxiliary use. Other fea-



# Answers IMPORTANT

LETTERS from readers . . . laudatory, month's editorial titled:

all over the U.S. are not only selling the new model in huge quantities, at a profit, but they are also definitely testifying that this promotion is being instrumental in bringing thousands of new and old customers into their stores who would not otherwise have been attracted and who are buying models in every price bracket, providing extra revenue at a time when most other radio promotion is at a low ebb. . . .

It seems to me that in these days, when all of us in this great industry should be working cooperatively and constructively toward the common goal of better business, of increased employment and improved conditions generally, any destructive propaganda or loose talk, especially if it is based on ignorance or inspired merely by selfish motives, should be most peremptorily censured. I feel certain that the implication in your printed article that the radio business has a "none too



# to an QUESTION

lukewarm and cold . . . about last  
"Are New Radios Good Enough?"

savory reputation" will be resented by all of your readers; and certainly by all advertisers and associates who have an interest and pride in their industry. . . . SET MANUFACTURER

If everybody makes money on your leader we are sincerely glad. While the second statement could be paradoxical, if this set not only sells in "huge quantities" but, simultaneously, actually facilitates movement of better models rather than merely supplanting them, we offer congratulations.

We are certainly in complete agreement with your statement that "all of us in this great industry should be working cooperatively and constructively toward the common goal of better business" and feel that our March article was a definite contribution in that direction.

While we naturally consider ourselves part of the radio business and would resent any unjust implication concerning its character by an outsider we still feel that our reference to its reputation was a justified expedient, for by waving reputation under the industry's nose we hope to improve it . . . for selfish reasons, if you consider them such.

Reaffirmed are statements made in March to the effect that it is not a question of size and not a question of price. The point we shall continue to hammer home is, rather, that all new radios of any kind must meet certain minimum performance requirements if they are to avoid jeopardizing tomorrow's market, if not today's.

**Thinks Task Almost Hopeless . . .** I think yours is a very commendable campaign to increase the average level of home radio performance. Frankly, however, I think that unless some very specific plan is adopted by the Radio Manufacturers Association all such efforts will prove futile.

It seems to me that if the radio manufacturers generally are seriously interested in attempting to increase prices and build relatively better merchandise the task is one of educating the public to understand something of what is required to make a good quality receiver. As long as the public knows practically nothing of these requirements and since it is possible to build an exceedingly cheap receiver which will "get" the programs after a fashion just so long will we be confronted with our present problems.

The following idea is one which could very well be laughed out of existence and I personally doubt whether it could be put over but at least it does have the merit of providing for some definite action. Let the RMA build up a very generous co-operative advertising fund which could be allocated among members roughly in proportion to their volume. Then begin a very aggressive advertising drive to sell an RMA seal of approval to the American public and to acquaint the public with a set of minimum standards. . . . Naturally, such an idea has a certain Utopian aspect and if put into practice might seriously disturb the people who have bought sets over the past several years which do not measure up. . . . SET MANUFACTURER

We agree that accomplishment of the objective selected is to a certain extent Utopian but cannot permit ourselves to think it hopeless. We consider this editorial agitation for improvement at some revenue risk to ourselves one of the obligatory functions of a progressive trade paper and if we are occasionally laughed at it will be nice to know that we have company.

**Rueful Admission . . .** We happen to be one of those outfits that will shortly have a very inexpensive set and we expect to push it aggressively. But we are thinking along the same lines as you have outlined in your article and much prefer to point our future plans in the upward direction.

It seems to us that every word of that article is so well chosen and has such perfect application to the present low price problem of the industry that it is just bound to influence those who are privileged to read it. . . . SET MANUFACTURER

Your letter is very gratifying. It convinces us more than any other that we should continue along these lines to a fare-thee-well for if we can get enough men in the industry to even wish for improvement action will ultimately come. It naturally can't happen overnight. Rome wasn't built in a day.

**Bids Us Watch Our Head . . .** It is very unfortunate that the set manufacturers are in an apparent race to reduce the list prices to a basis that cannot be profitable for any of them nor any other member of the industry. However, I personally feel that if I were in the position of a set manufacturer today I would likewise be forced to meet this competition as the only means of remaining in the business. This same theory follows completely through the parts business too and will undoubtedly lead to a rather discouraging future unless the industry can be convinced of its folly.

I do not believe that you or I as individuals can put our respective necks out in condemnation of this situation without literally cutting our own heads off, as I believe that most manufacturers feel the necessity of

## TECHNICALITIES to THINK About

- In what new radio types should t.r.f. stages be included?
- When are push-pull output tubes advisable?
- Can there be a minimum tone standard?
- Are component part safety factors in new sets great enough?
- Are present cabinet styles best for the average room?
- Should there be some minimum selectivity standard?
- Are all sets sufficiently well ventilated?
- Do most radios hold their alignment well enough?
- Is final factory inspection sufficiently critical?
- Does packing for shipment usually avoid damage?
- Are too many sets bothered by images from strong locals?
- Would design for easier servicing directly or indirectly aid sales?
- Is the time right for inclusion of electrical noise-limiters?
- Should there be a maximum hum-level standard?
- Should all radios have built-in line fuses?
- What sets should have provision for noise-reducing antennas?

keeping pace on price to preserve their positions. Your editorial will certainly be very helpful in awakening the proper consideration that should be given to the matter and I am equally hopeful that it may be productive of results. . . . . PARTS MANUFACTURER

Any game worth the candle entails some risk. We'll take our chances in a good cause, particularly when industry leaders like yourself think it may be productive of mutually beneficial results.

**Will Help Pull . . .** We are whole-heartedly in accord with your views and will do our share to pull the industry out of the mire in which it finds itself.

I hope that you have sent this article to some of the real offenders and will perhaps get them started on the right track. . . . . SET MANUFACTURER

The implication here that a particular few are responsible for conditions is not a reflection of anything appearing in the March article, in the actual text or "between the lines". We said then and we repeat here that responsibility must be shared by manufacturers, distributors and dealers. And we meant it.

All dealers and distributors who read the paper have the story between the covers of the March copy. All manufacturers received preprints.

**Supply-Demand Proponent . . .** The general price situation does not disturb me as much today as it did during the earlier years of my association with the industry. Generally speaking, I take a complacent attitude, whereas ten or twelve years ago I suffered a temporary high blood pressure condition when I heard of drastic reductions.

This is partly due to the fact that I have at the present time a one year old radio that is very inexpensive and I am more satisfied with it than any set I have ever owned. By virtue of the fact that this value is already firmly established in the minds of the public I can see no hope that the quality level can be increased as a result of educational propaganda and I come to the conclusion that such propaganda in the past has never accomplished the desired results.

In conclusion, my existing thought on quality im-

provements in the industry is that they will only come from natural causes and operation of the Law of Supply and Demand. . . . . TUBE MANUFACTURER

There is a lot in what you say about the final efficacy of the Law of Supply and Demand. On the other hand, we feel that it is occasionally desirable to give that Law a good, stiff nudge.

**He's Unhappy Too . . .** From the comments I have heard recently throughout the industry I do not believe there is any manufacturer who enjoys making poor radios. Certainly the legitimate profit all the way along the line from the parts manufacturer to the radio dealer has completely disappeared. . . .

Your proposed campaign to influence the entire industry to sell up rather than down will certainly meet with applause from every quarter.

PARTS MANUFACTURER

Of course manufacturers do not enjoy making poor equipment. Existing conditions are primarily a result of severe economic pressure and a very natural desire to beat competition. We're simply urging the entire industry to apply brakes in the common interest.

**Asks Dealer Support . . .** The industry at the present time has reached an all-time low in quality, merchandising methods and in profits. I do not mean to say that the public is receiving more radio than it should for the amount of money expended. I do believe, however, that the public can receive much more radio than it now receives at only a small additional investment, which in turn would result in its paying for a great deal more radio proportionately than it is now purchasing at the so-called bargain list prices. . . .

To accomplish this, a sounder merchandising program must be undertaken by the manufacturer. However, the manufacturer cannot do this without the dealer's support. . . . If we are going to get to the point where better radio sets are to be delivered, giving the public still more dollar value, it can only be done if it has the hearty support and endorsement of the retailer. Every retailer can tell you that he can come pretty near selling any type of radio he wants to. If that is so then the retailer has the greatest weapon in his possession. . . .

What we need is action, aggressive action that will accomplish a general improvement in every branch of our industry. No manufacturer can deal single-handed with the issues involved. If an improvement is sincerely desired all must do their share.

We are ready to do ours!. SET MANUFACTURER

**Suggests Proving Ground . . .** While temporarily production of skimmed sets is helping the parts people because the demand for replacement items for new sets has increased tremendously such radios create in the public mind the idea that all new equipment is poorly manufactured and cannot be expected to give service for any considerable length of time. This is, of course, due to manufacturers continuously saving a penny here and a penny there by using parts and materials that are not quite good enough to stand up the way they should.

Car manufacturers got into this same rut a great many years ago and out of it sprang the proving ground idea, plus real attempts to produce merchandise that would stand up and yet permit price reductions.

TEST EQUIPMENT MANUFACTURER

**Wants The Cure . . .** I wish to compliment you on your clear analysis of the present situation. The

only thing you might have added is further information on how to cure the trouble.

First logical step seemed to be to make the entire industry vividly conscious of the situation. Two possible courses of action were nevertheless toyed with in the March article. Modifications of these, and other possible solutions are found in many of these initial responses from the field.

**Requires Industry Cooperation . . .** Your editorial is indeed timely as the present trend of manufacturing is certainly destructive. Your parallel of the automobile industry is indeed striking. Let us hope that your editorial endeavor will have a tendency to bring to the fore the great damage inherent in the present trend although, as you point out, it is an industry problem and not an individual one.

SOUND EQUIPMENT MANUFACTURER

**Liked Car Analogy . . .** Certainly the automobile manufacturers could build motor car models equivalent to the radio industry's worst efforts but they have sense enough to know that the entire industry would suffer if anyone started it.

Unfortunately, radio manufacturers are not blessed with that much horsesense. . . SET MANUFACTURER

**More Than a Moses . . .** I believe that the manufacturers themselves are responsible for the present condition in the radio trade. The public is willing to pay a reasonable price for radios, and I believe that they would be willing to pay more if they had a radio which would reproduce a broadcast with true fidelity and without distortion.

Judging from the sound of some of these new sets I would say that they are detrimental to the interests of the radio industry. I would like to see some tangible improvement in the quality of new radios. It matters not whether they be of the console or the table type. . .

Naturally, we are thinking of the speaker field, and if you are familiar with the conditions in the speaker field you know what I mean in saying that it requires more than a Moses to lead us out of the wilderness.

SPEAKER MANUFACTURER

**Deplores "Tin-Ear" Sets . . .** It seems to me that our public, radio-minded as it is, is ready today to spend some real money for sets capable of doing full justice to the programs coming over the air. I do believe that it would be a good time now, with television about to make its debut, to promote high-fidelity reception and to show the public what it is missing as a result of the "tin-ear" sets now so prevalent.

PARTS MANUFACTURER

**Thinks of Children . . .** Since, according to our own investigation, the principal stumbling block has been the lack of critical perception among broadcast listeners, as influenced and determined many times by aberrations of the human ear, we're advocating that radio dealers supplement their tone comparisons with visual demonstrations of improved quality. . . .

The customer should be made to realize that even though inferior sets may sound good enough for him they may not sound good enough to his guests or be good enough for his children, whom naturally he would like to educate to higher standards of musical appreciation than his own.

TEST EQUIPMENT MANUFACTURER

**Says Superior Minds Muddle . . .** Because of the magnitude of this industry it is a sincere shame to think about the manner in which the "superior minds" have muddled this business.

We may be wrong, but we still believe in this industry and have hopes for its future. . . . Your article will have good results in the right direction, we are sure, as we firmly believe that there are still a few sane-minded people remaining in the industry that will heed your warning. . . . SET MANUFACTURER

We certainly believe in the industry's future too. And we feel also that a Pollyanna attitude toward its obvious faults on our part would postpone ultimate improved profits.

**Says "Stay With It" . . .** I found your article very enlightening. I honestly believe that continual pounding by the trade-papers and the R.M.A. on the question will eventually bear fruit.

SET MANUFACTURER

**Predicts Allies . . .** I have just now gotten around to reading the article and I wish to warmly congratulate you upon your "Good Radio" stand. Keep up the fight. I am sure everybody concerned is with you.

COMMUNICATIONS SET MANUFACTURER

**Blames Consumer Judgment . . .** When answering the question "Are New Radios Good Enough?" one must remember that he gets what he pays for. Naturally the cheapest set available today cannot compare with the old radio that set the customer back \$300. There are plenty of real good radios to select from today but you must be willing to pay for good quality. . . . DEALER

Maybe some sets today do not compare with older and much more expensive radios. But is the public really aware of this or has over-enthusiastic promotion led the public to believe in many instances that design improvements pass along to the buyer virtually "something for nothing?" That's our point.

Of course there are plenty of real good radios on the market. We're not so sure that the average man in the street realizes it.

**Visualizes Sword . . .** May I first congratulate you and thank you for taking up the sword in a thankless undertaking, thankless for the lack of appreciation and common-sense so prevalent in our industry. . . .

You are certain to be severely reprimanded. For in every walk of life today wolves cry "baa-baa" without even bothering to don sheep's clothing and any effort to unmask them is met with vilification and abuse. You just barely intimated that there were wolves in the radio industry and you will quickly receive kick-backs . . . from the wolves! . . .

We can very readily associate practices of some in this industry with those used by political leaders. Both rise and become known through the aid of the people. When power and recognition are attained they stay on top only by vicious plundering and justify deprecations as being for the good of all, neglecting to explain that "all" means themselves exclusively.

I am filled with distress when I realize that there is a very close association between the printing of news and the paid advertisements of those who offer for sale and that the sword hangs over that Editor who steps on the toes of the purchasers of space. DEALER

Few dealers, distributors or manufacturers are wholly blameless. We reiterate, using one of your own apt words, that "wolves" are numerous and found in many branches of business.

We'll take our chances about the sword.

(Continued on page 71)

SINCE the writer's discussion of permits and licenses for sound work (*February, page 28*) there has been a veritable avalanche of letters from readers about specific situations.

Most of these queries have concerned the musical copyright muddle. It has been virtually impossible to answer all letters individually and as many inquiries concern identical situations the writer will endeavor to clarify here situations most commonly reported by readers.

#### **ASCAP and AFM**

Perhaps the greatest misunderstanding exists concerning the various owners and controllers of a musical composition. For the sake of illustration, the current hit selection "Umbrella Man," is utilized herewith to show the ownership of typical musical selections.

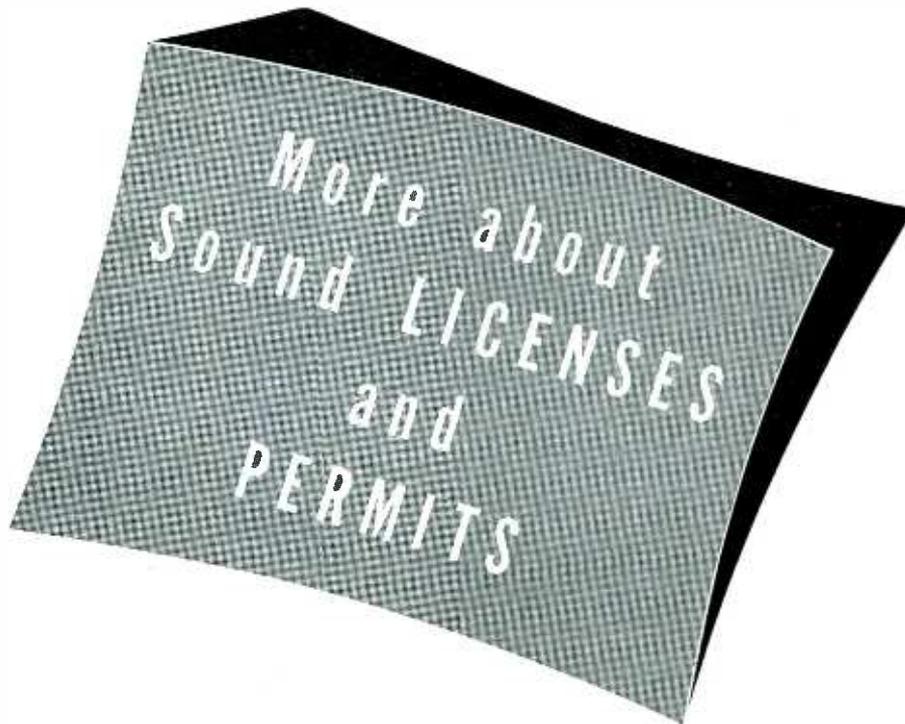
- (a) "Umbrella Man," was written by James Cavanaugh, Larry Stock and Vincent Rose.
- (b) The composers then sold this selection to Harms, Inc., a New York music publishing house.
- (c) Harms, Inc., published this selection in the form of sheet music and made it available to record companies.
- (d) Brunswick (Vocalion disc No. 4561) engaged The Champagne Music of Lawrence Welk to record it.

The owners, Messrs. Cavanaugh, Stock and Rose, sold their composition to Harms, Inc., who copyrighted it and simultaneously registered the composition with the ASCAP (American Society of Composers, Authors and Publishers.)

Brunswick owns a musical copyright on the record orchestra, arrangement, etc. Lawrence Welk leased his arrangement to the record company by recording for a royalty compensation, or salary, or both.

The following organizations thus entered the picture:

The ASCAP by virtue of Messrs. Cavanaugh, Stock and Rose and Harms, Inc. membership, was empowered with the right to collect music royalties as they saw fit.



**By  
ROBERT S. NASH**

The AFM (American Federation of Musicians), of which Lawrence Welk and his orchestra are members, supervises the use of its members by the recording and transcription companies. In a recent agreement between the major record companies and the AFM it was agreed that the record company would not license the use of copyrighted recordings for any use other than non-commercial, in homes.

At the present time the ASCAP and AFM are licensing many sound operators who sell large rental programs of recorded music. This is a vast field and it will take considerable time to supervise it fully. Eventually all users of records for commercial purposes will come under the jurisdiction of the ASCAP, barring injunctions by state courts.

As mentioned previously, the AFM is lenient about small occasions where the use of recorded music would not compete with a live AFM orchestra. The Federation's interest is mainly in seeing that its members continue working in establishments that can easily support a live, union orchestra.

#### **"Tax-Free" Music**

A large number of readers asked for a list of "public domain" or

"tax-free" music. Such a list is too large to cope with here. A partial list was published in the March 1938, article "Songs for Sound Trucks." This was a general list of suitable music for practically any occasion and should suffice for most rental work.

Statutory music copyright is limited to a total of 56 years, including the original 28 year copyright and a renewal of 28 years. It has been estimated that some 80% of all published music to date is free from copyright restrictions.

However, on old records arrangements are frequently still protected by copyright, even extended each time the number is re-recorded in a similar style.

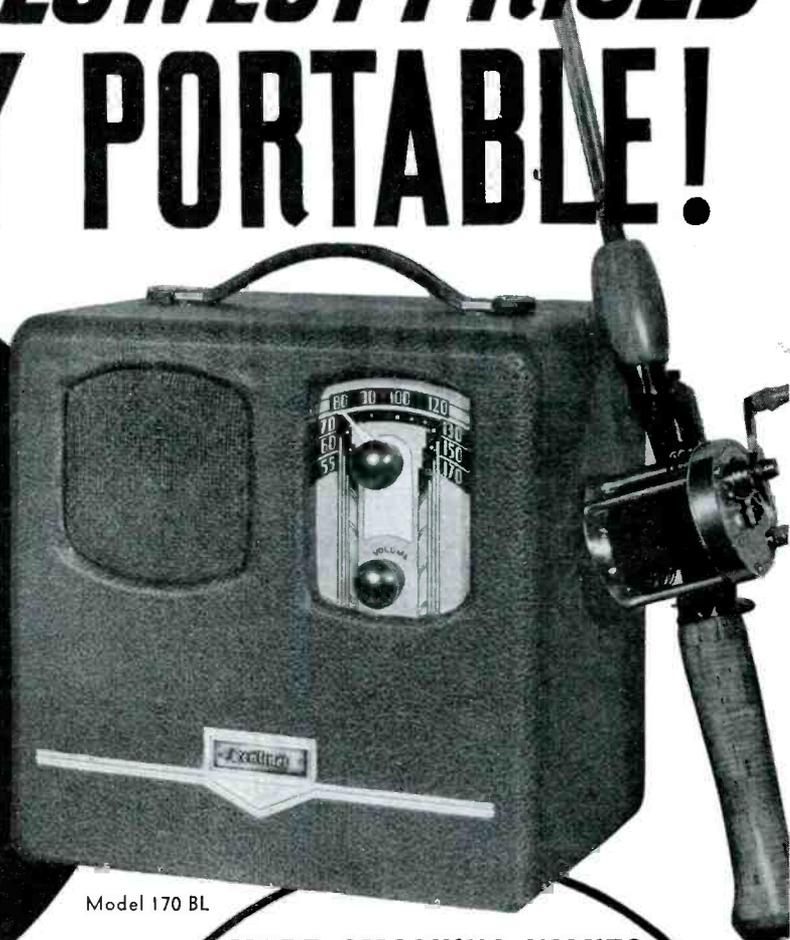
Today, in radio, a big campaign is afoot for tax-free music. The broadcasters maintain that almost any music played over the radio can be a success, pointing to the acceptance of tax-free music by many station owners as an example. However, it is predicted here that tax-free music will soon cease to be free from tax when numbers become big current hits.

In music the only reason that a song becomes a "hit" is "public acceptance." This can be readily understood by taking any selection with a good melody and comparing it with a hit of today. The former may be a better song from a musical standpoint but the latter attained

*(Continued on page 81)*

# AMERICA'S *LOWEST-PRICED* BATTERY PORTABLE!

**\$14.95**  
**COMPLETE**  
**WITH BATTERIES**  
**and a REAL PROFIT**  
**FOR YOU!**



Model 170 BL

The sensation of the radio industry! A handsome shark-grained, leatherette case housing a sensitive, full-toned, real performing radio. Built-in aerial and self-contained batteries. Weighs only 10 pounds complete. No wonder dealers cannot keep them in stock!

See your SENTINEL JOBBER or mail coupon today!

SENTINEL—The largest makers of battery receivers—have the only complete line of Battery Portables. A model for every purse and purpose. AND A REAL PROFIT FOR YOU! Wire for details!

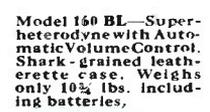
## MORE SMASHING VALUES IN SENTINEL PORTABLES!



Model 180 XL—Combination AC-DC and Battery Operated Portable. Superheterodyne chassis with Automatic Volume Control. Covered with smart striped air-plane cloth.



Model 178 BL—A Superheterodyne with Automatic Volume Control in smartly striped air-plane cloth covered case. Weighs only 14½ lbs. including batteries.



Model 160 BL—Superheterodyne with Automatic Volume Control. Shark-grained leatherette case. Weighs only 10½ lbs. including batteries.



Model 181 BLCB—A combination spring-wound phonograph and superheterodyne radio with AVC. Plays 10 inch records.



# Sentinel



**MAIL THIS COUPON!**  
Sentinel Radio Corporation  
Dept. R-4, 2222 Diversey Pkwy.,  
Chicago

Please rush me details of Sentinel Portable Line.

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

**"WORLD'S LARGEST BUILDERS OF BATTERY RADIOS"**



# 6 STEPS to a SALE\*

**1** SYSTEMATIC TELEPHONING—Ten per cent of all business originates here. Mrs. Schiedler regularly calls people in the store's neighborhood, using a 'phone book as her master list. She merely invites these people to visit the shop and look at new radios, carefully card-indexes their replies.

**2** MAIL FOLLOW-UP—Where telephone replies indicate interest the prospect (in this instance Mrs. Bob Young) next receives manufacturers' literature bearing the store imprint, remembers the firm name from the earlier 'phone call. People with sets four years or more old receive several mailings a year

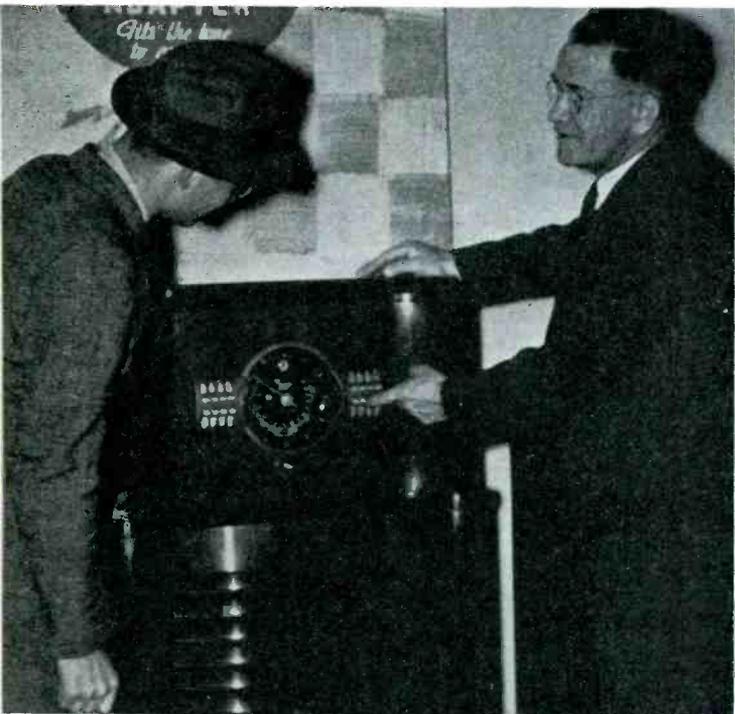


*\* Pictorially illustrating the systematic technique of Mr. and Mrs. Harry Shiedler, Gerke's Music House*

(PHOTOS BY NAOMI SWETT GRAY)

**3 AHA! A NIBBLE**—First sign of life is generally a casual store call by the man (Bob Young) of the family. Ninety per cent of all sales follow this course. Preliminary fencing relative to the prospect's taste and ability to pay occurs. The next step must be taken quickly to avoid competition

**4 QUICK HOME CALL**—Harry Schiedler next day rings the prospect's doorbell, is usually received cordially because his store is now known. He concentrates on the business of inducing Mrs. Young to permit a home demonstration, makes it clear that he is willing to take a chance and that she need not buy



**5 THE DEMONSTRATION**—Aiming high, Schiedler always installs a better set than the one the prospect thinks necessary, installs a good outdoor antenna at his own risk with the understanding that it will be paid for if the set is purchased. Mr. and Mrs. Young are instructed on tuning and Schiedler leaves

**6 ON THE DOTTED LINE**—A few evenings later, after Mr. and Mrs. Young would miss the new set, Schiedler calls back, signs them up. A stickler for efficiency, he will keep in touch with them, keep them satisfied, secure the names of friends in the market to whom he can sell with low promotional expense

# The RSA Works for YOU, Mr. Serviceman!

↓ ↓ ↓

**MAIL THIS COUPON!**

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

Gentlemen:

I hereby make application for membership in the Radio Servicemen of America.

Name .....

Mailing Address .....

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

I am enclosing \$4.00 for Dues and Initiation.  
(Does not include Local Chapter Dues where Local Chapters are organized.)

RR-439

★ Yes... the RSA is Yours! It's run by and for its members—uncontrolled by any outside interests. You elect your representatives (all responsible officers are bonded)—and they work for your benefit!

Here is what RSA gives you: ★ Advanced Circuit Notes for Members each month. ★ Technical Help on Service Problems. ★ Access to its National Speakers Bureau. ★ Advanced Service Course to Members at slight cost. ★ A Monthly RSA Publication. ★ Annual Convention. ★ And many other benefits now being planned.

Take advantage of RSA activities. Send the Coupon Today—and be "in" with your fellow servicemen.

National Yearly Dues . . . \$3.00

Initiation Fee . . . . . \$1.00



↑ ↑ ↑

*Let's Grow Together in 1939!*

**RADIO SERVICEMEN OF AMERICA, INC.**

Joe Marty, Jr., Executive Secretary      ★      304 S. Dearborn Street, Chicago



"GOLD CROWN"—HEAVY DUTY Power Plant. Available as follows: 32 or 110 volts D. C., also 110 and 220 volts A. C., 600, 1000, 1500 watts and up. Electric starting; air or water cooled.

"BLUE DIAMOND"—COMBINATION A. C. & D. C. Power Plant. All new "2-in-1" electric plant supplying 300 watts, 110 volts A. C., 60 cycles; also 200 watts, 6 volts D. C.; 250 watts, 12 volts D. C. or 325 watts, 32 volts D. C. Electric starting.

**PIONEER GEN-E-MOTOR CORPORATION**  
Dept. R-1D, 466 W. Superior Street, Chicago, Ill.

Please send me literature, price sheets and other information about the New "PINCOR" GOLD CROWN and BLUE DIAMOND Power Plants.

Name .....

Address .....

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

**CONVERT ANY SET TO AUTOMATIC TUNING**

WITH THE  
**New KADETTE**  
Tune Master

Containing 5 Tubes  
**WIRELESS CONTROL**

A wireless remote control that provides push button tuning and automatic volume control for any type receiver. A complete modernizing unit for new and older radios. Increases sharpness of tuning and aids sensitivity. Operates from any A.C.-D.C. circuit. No changes or adjustments to radio required. Does not affect independent operation of set, or interfere with neighborhood radios.

Territories open for Jobbers and Distributors  
WRITE FOR DESCRIPTIVE CIRCULAR  
Sole Distributors in U. S. A.

**\$10**  
LIST PRICE **\$25**

An exceptional profit opportunity for dealers at us advertised in Saturday Eve. Post. November 5, 1938 issue.

**Post Merchandise Corp.** 34 West 17th St., New York City  
Cable Address: POSTMERCH



NEW POPULAR ALBUMS—Colorful, inexpensive, perennial, they give business still another lift

## RECORDS *in* REVIEW

SHOP windows dressed with phonograph records are not an uncommon sight these days. In fact, the black platters peep out from among radios, refrigerators, waffle irons, toasters, washing machines, and the hundred other appliances merchandisers of electrical goods place before the eyes of passers-by.

This is natural, for today's demand for recorded music exceeds any since electrical recording began, but, unless dealers make the most of their opportunities, complaints concerning slow-moving discs are not going to cease. It's easy to put in an initial inventory prescribed by the distributor—after that the special technic of record retailing simply must be acquired.

In too many cases, where records have been stocked in an experimental manner, the displays are too haphazard, too carelessly arranged, too much of an afterthought on the part of window dressers. And facilities for demonstrating the fine quality of present-day recordings have not been provided.

### **Combinations Deserve A Break**

Don't depend entirely upon record players and portables for demonstration. It is good business to have at least one large reproducer, which may be a phono-radio com-

*New popular albums . . . Broadcast boosts . . . Combination sell-up tip . . . Display stunts*

*By*

**RICHARD GILBERT**

bination, on hand. Among your record customers you'll find a surprising number who react to quality. And if you make a point of using a large instrument for demonstrating records some of your customers will evince an interest in the instrument itself, all of which leads to higher unit sales.

No high pressure salesmanship is needed; you've introduced your customer to a better instrument than he has at home, and he's listening to music he has asked for himself. Furthermore, the record sounds better on the larger model. Frequently people comment on this. That's your lead.

If you're one of the several thousand new record accounts that have mushroomed everywhere, make your displays and advertising count from the very beginning. Make your store known as "Recorded Music Head-

quarters" in your locality. You'll be a big jump ahead of possible competition. Don't just drop a few Victor, Bluebird, Brunswick, Vocalion, or Decca discs in front of the toasters, table radios, heaters, and vacuum cleaners in your window—where the sun's rays and heat from other illumination will soon warp them—and let it go at that. Use the display material supplied by the manufacturers and, above all, make use of the attractive albums which accompany many records. These, with their brilliant coloring, striking typography and photographic inserts, are better silent salesmen than the uninteresting discs themselves—and they don't warp and become unsaleable.

### **Group Idea Clicking**

The idea of collecting five or a half-dozen discs of similar music in an album is a swell one, particularly in the case of the lower-priced labels. Decca has a popular series of Strauss waltzes, South American tangos, Hawaiian serenades, Spanish guitar music, Victor Herbert gems, Sousa marches, children's games and stories, Hebrew prayers, swing classics, and other stable selections. Victor begins a similar series with a Bluebird album of ten pieces—such

*(Continued on page 81)*

# MODERNIZE TO MAKE MONEY

**A**LTHOUGH service presents a unique and practically priceless opportunity to get into homes where sale of additional equipment may be effected with a minimum of effort and promotional cost, a survey just concluded in the middle Atlantic states indicates that only 24 per cent of the radio dealers contacted in that area have adequately modernized repair departments.

To determine the average profit potentiality of modernization, we analyzed the records of dealers who modernized during 1938, comparing their profit and loss statements for that year with their 1937 returns. The average comparative statements which resulted give support to the contention that a modern service department builds sales, not only on service itself, but on radios and tubes, thereby increasing net profits.

### Aggressive "Guinea Pigs"

The average net profit on Statement "B" may seem large to some, but the dealers surveyed promoted their service departments more vigorously after modernization. Surveyed dealers were, in other words, the most aggressive in their districts.

The average investment in modernization was \$325, including instruments, tools, benches, manuals, wiring and illumination. The average increase in net profit was \$2,265, or seven times the average cost of modernization.

Dealers serving as "guinea pigs" for this research did from \$8,000 to \$50,000 annual sales, net profit running as low as 2 per cent before and as high as 18 per cent after modernization, stock turning from three to eight times. The average stock-turn after modernization was six. Free service, which was included in overhead expenses, averaged four per cent before and two per cent after modernization.

Overhead dropped four per cent after modernization, although in dollars and cents it increased. After modernization, dealers were

Survey shows service, set, tube profits increased 8.2% when dealers snapped up repair shops, purchased new test instruments, publicized the improvement

By FRED MERISH

apparently able to make their servicemen's time more productive. Unproductive time averaged 40 per cent before modernization, less than 20 per cent after.

### New Instruments Save Time

Modern instruments save time in many ways. Dealers informed us that one big advantage of modern instruments is their adaptability in making immediate estimates in the home or shop with accuracy. This is a business-builder and eliminates a loss hazard. With obsolete or

inadequate equipment, estimates were often too high or too low, bad for business either way.

### Must Be Publicized

Formerly the radio service department was generally hidden in the back of the store. The trend is now toward placing an eye-appealing service department where it can be seen by store traffic and be a selling aid. Eighty-five per cent of the dealers who modernized placed their service benches where

(Continued on page 82)

## BEFORE modernizing

(STATEMENT "A")

Sale of radios.....	14,000.....	79.5%
Sale of tubes.....	950.....	5.3%
Sale of parts, service and repairs.....	2,650.....	15.2%
<b>TOTAL SALES.....</b>	<b>17,600.....</b>	<b>100.0%</b>
Cost of parts, tubes, radios.....	9,441	
Cost of labor on service and repairs.....	936.....	58.9%
<b>GROSS MARGIN.....</b>	<b>7,223.....</b>	<b>41.1%</b>
Overhead expenses.....	6,512.....	37.0%
<b>NET PROFIT.....</b>	<b>711.....</b>	<b>4.1%</b>

## AFTER modernizing

(STATEMENT "B")

Sale of radios.....	17,800.....	73.2%
Sale of tubes.....	2,100.....	8.7%
Sale of parts, service and repairs.....	4,400.....	18.1%
<b>TOTAL SALES.....</b>	<b>24,300.....</b>	<b>100.0%</b>
Cost of parts, tubes, radios.....	12,057	
Cost of labor on service and repairs.....	1,248.....	54.7%
<b>GROSS MARGIN.....</b>	<b>10,995.....</b>	<b>45.3%</b>
Overhead expenses.....	8,019.....	33.0%
<b>NET PROFIT.....</b>	<b>2,976.....</b>	<b>12.3%</b>

## A NEW BELL 15 WATT MOBILE SYSTEM

Here's the 15 watt combination Mobile System you've been wanting! For 6 volt D. C. or 110 volt A. C. operation . . . easy conversion! Built by Bell, it sets a new pace in quality and performance for moderate-sized mobile equipment. Although priced right down at "rock bottom," it includes such important features as improved tone compensation, inverse feed-back, 10-inch auditorium-type P. M. speakers, a high impedance type microphone, and beam power output tubes. New excellence of tone . . . fidelity of reproduction . . . and smartness of design have been achieved in this compact, widely adaptable system. Ideal for use at fairgrounds,

concessions, arenas, carnivals, on sound trucks, and for countless other uses! Write for details today.

**THE MOST COMPLETE LINE ON THE MARKET**

**BELL**

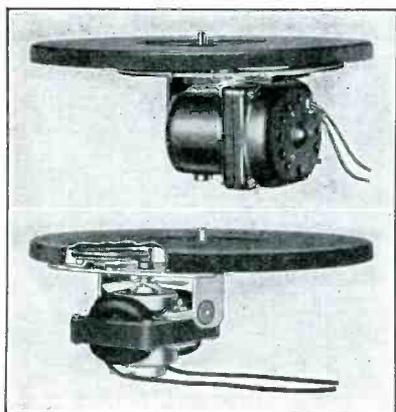
**SOUND SYSTEMS INC.** 1185 ESSEX AVE. COLUMBUS, OHIO  
Export Dept. 5716 Euclid Ave., Cleveland, Ohio



The attractive maroon and gray cabinet of this M-15 Mobile System spells sales appeal. And only two screws need be removed for access in servicing!

### THE 570 . . . A MASTERPIECE IN AMPLIFIER CONSTRUCTION

A powerful 70 watt amplifier of exceptional tone fidelity and superb reproduction that meets the most exacting permanent installation requirements. Improved electronic treble and bass boosts and volume compressor end feed-back difficulties. Automatic volume expansion adds improved, "third dimension" tone quality. Five input channels provide for electronically mixing four mikes and phono pickup; illuminated control panel, master gain control, beam power output tubes, tap impedance switch—and very attractive price—make this a real buy. Write for further information.



### Announcing TWO New "Even-Speed" Phono-Motors

Alliance is now ready with two new "Even-Speed" Phonograph Motors—Models 60 and 70. Model 60, illustrated above (top), is Alliance's finest phono-motor with many new and exclusive features for greater dependability and better performance. Model 70 is a quality-built, friction drive motor at a sensational price. Write today for complete specifications and prices.

**ALLIANCE MFG. CO. ALLIANCE, OHIO**

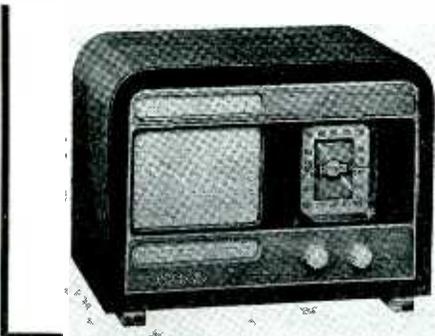


**NOW IS THE SEASON** to sell this NEW WILCOX-GAY PORTABLE ELECTRICAL PHONOGRAPH *that is also a wireless record player*. Just the thing for graduation or wedding gifts—a needed item for every vacation trip, ideal for summer porch, for rumpus room, for school.

Plays records by remote control through any good console radio with concert quality or as a self contained portable electrically amplified phonograph, will give pleasing performance—crystal pickup, self starting constant speed motor, volume control, beautifully covered portable case with record space.

Dealers and distributors write for information on how to make your business profitable this spring and summer.

**WILCOX-GAY CORPORATION**  
CHARLOTTE MICHIGAN U.S.A.

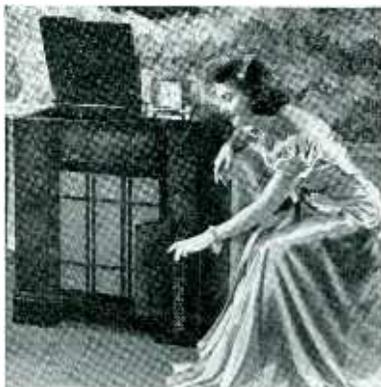


RCA—Model BT-40, "Little Nipper" for battery operation. Tuning range is 540-1720 k.c. List \$14.95.

# Preview of

## RCA

**COMBINATION**—Housed in an Eighteenth Century style cabinet Model U-26 has a divided cover which permits access to either phono or radio alone. This 8 tube superhet has gentle action automatic record changer for 10 or 12 in. records, 12 in. record album shelves in front with hidden doors, 12 in. electro-dynamic speaker, feather touch crystal pickup, true-tracking tone arm, automatic needle cup, constant speed motor, spring mounted motor board, rubber-mounted motor, temperature compensated circuits, automatic volume control, automatic bass compensation, dial tuning push-buttons.



RCA Manufacturing Co.  
Camden, N. J.

## CROSLEY

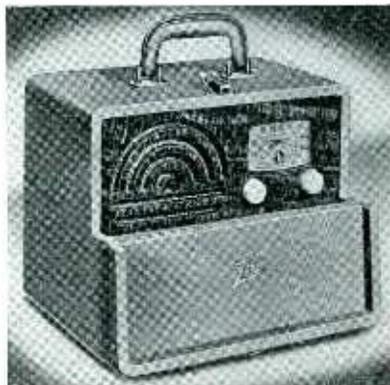
The Crosley Corp.  
Cincinnati, Ohio

**AUTO RADIO**—Model A-259 superhet with five working tubes, full automatic volume control, automatic five push-button electric tuning, illuminated call letters on the non-glare, edge-lighted slide-rule type dial. Extra large knob-tuning controls for quick manipulation even when using gloves. Electro-dynamic speaker, 4 watts output. Cabinet complete in one piece, fits any car. List \$19.99. The manufacturer also adds to his auto radio line with Model A-169 listing at \$24.95 and with chromium-plated antennas equipped with shielded lead-ins, plug-in type listing from \$1.25 to \$2.95.



## ZENITH

Zenith Radio Corp.  
6001 Dickens Ave., Chicago, Ill.

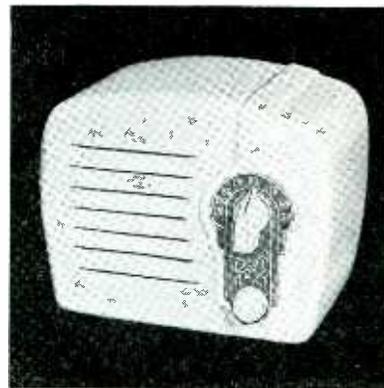


**PORTABLES**—A line of portable battery radios of which Model 4K400L, illustrated, is an example, are equipped with Wavemagnet, come equipped with hinged cover, permit choice in finish which ranges from grey, brown, black airplane cloth to oyster white rawhide or top grain cowhide. Of 1 1/2 volt construction 4 tube superhet, covering 540 to 1650 kc., have self-contained battery pack, weigh 15 lbs., have 5 1/2 in. speaker. Range in price from \$29.95 to \$44.95.

## ARVINET

Noblitt-Sparks Industries, Inc.  
Columbus, Ind.

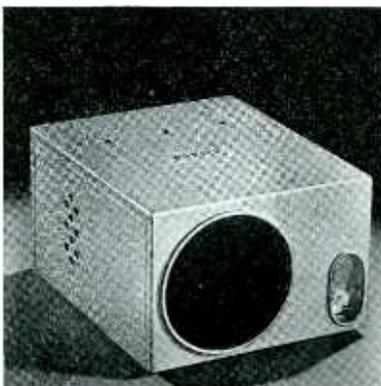
**MODEL 40A**—A.c.-d.c. miniature radio with two new type double purpose tubes, four in. electro-dynamic speaker, full volume control and two-gang tuning condenser. Band coverage 540 to 1750 kc., unbreakable cabinet in ivory or walnut enamel. Size 6 1/2 in. wide, 5 1/8 in. high, 3 1/8 in. deep. List, with aerial, \$6.95 f.o.b. Columbus, Ind.



## SONORA

Sonora Radio and Television Corp.  
2626 Washington Blvd., Chicago, Ill.

**AUTO RADIO**—"Teeny-Weeny" superhet with full acting automatic volume control, inclined angle peephole dial, "thumb-wheel" tuning control, electro-dynamic speaker. Mounting bracket permits installation in any of 4 convenient positions, on car steering column or along edge of dash panel. Any type aerial can be used. Contained in steel case finished to harmonize with any car interior in a size of 6 7/8 by 7 1/2 by 4 1/2 in., weighs 9 lbs.



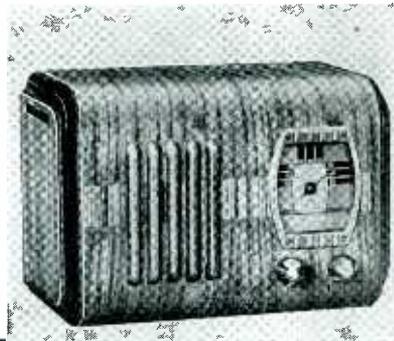
## MAJESTIC

Majestic Radio and Television Corp.  
2600 W. 50th St., Chicago, Ill.



**PORTABLE**—Completely self-contained portable, housed in luggage type case with covering of weather-proof aeroplane cloth complete with carrying handle. Four tubes, 5 in. electro-dynamic speaker, slide rule dial, automatic volume control, built-in antenna, battery drain of 1/4 amp., B battery drain 12 milliamp., size of carrying case 10 3/4 in. x 12 x 9 in.

# New Products



**SPARTON—Model 510DG**—Cased in a cabinet of Guiana with decorative Zebra wood inlay. Five Tube, a.c.-d.c. superhet with a.v.c., 4 in. electro dynamic speaker, 1700 kc. to 525 kc., new bantam type tubes. \$17.95.

The Sparks-Withington Co.  
Jackson, Mich.

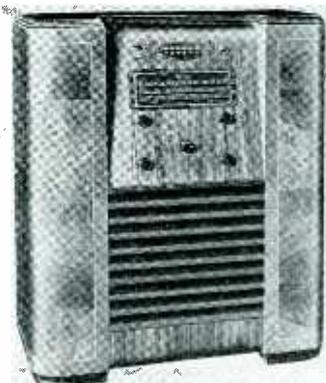
## ADMIRAL

Continental Radio and Tel. Corp.  
3830 Courtland St., Chicago, Ill.

**MODEL 104-4A**—A 4 tube superhet, A8 battery pack, employs 1½ v. tubes covers one band, police calls and standard American broadcasts from 535 to 1730 kc. Full automatic volume control, heavy duty 6 in. permanent magnet type speaker, manual tuning, slide rule dial. Walnut cabinet with wrap-around front panel and contrasting woods. Minimum drain from single pack which lasts almost a year.



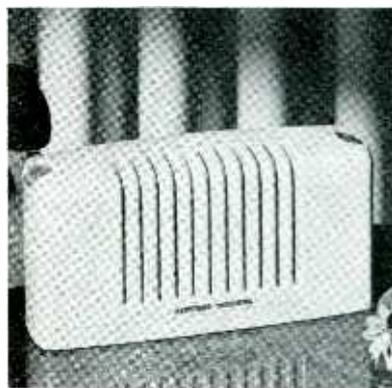
## SPARTON



**MODEL 1160**—Eleven-tube all-wave superhet tunes regular broadcast band, also American and foreign short wave broadcasts, police, airplane, amateur and ships. Combines conventional tuning and six push button automatic electric tuning. Ten in. electro dynamic speaker with acoustic baffle. Parallel pentode output. Full vision dial, continuous tone control, automatic volume control, automatic frequency control, American Walnut cabinet with sloping panel.

## STEWART-WARNER

Stewart-Warner Corp.  
1826 Diversey Parkway, Chicago, Ill.



**TABLE MODEL—"Air Pal"** midget table model radio is virtually an overcoat-pocket size with its width of 9, height of 4¾, depth of 3 in. An ac.d.c. superhet with built-in antenna, full dynamic speaker, the set is finished in walnut and ivory with recessed coral control knobs.

## FADA

Fada Radio and Electric Co.  
30 Thomson Ave., Long Island City, N. Y.

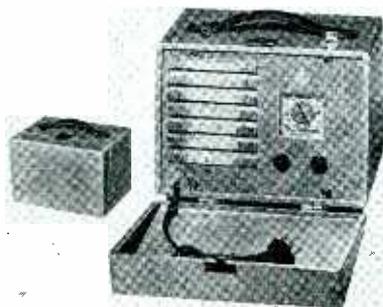


**MODEL F55W**—Five tube superhet in walnut bakelite, listing at \$9.95, also available in ivory at \$12.95 list.

## EMERSON

Emerson Radio and Phonograph Corp.  
111 Eighth Ave., New York, N. Y.

**MODEL CM-266**—Portable, self-contained loop antenna receiver. A 5 tube a.c.-d.c. superhet with a tuning range from 540 to 1600 kc., covering standard American broadcast band. Features "Miracle Tone Chamber," electro dynamic speaker, automatic volume control, full-vision dial, beam power tube, acoustically constructed cabinet. List. \$17.95.



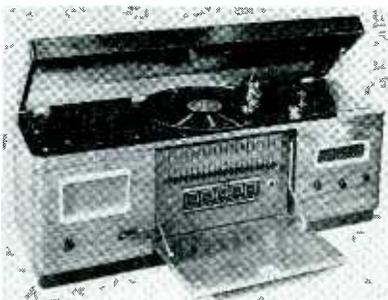
**MODEL PD-49**—De Luxe portable self-powered radio, furnished in genuine leather at \$34.95.

# PREVIEW OF NEW PRODUCTS

## BELL SOUND

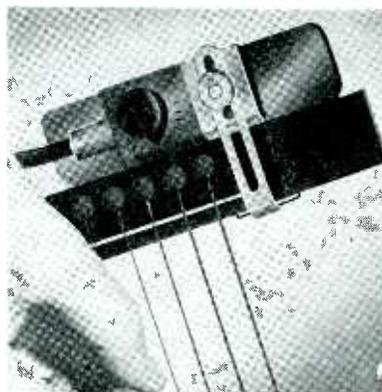
Radio and talk-back system provides radio, phonograph or voice amplification as well as intercommunication with as many as forty outlying stations. Desk type, mounted in walnut finished cabinet, embodies 8 in. audible monitor, 25 watt amplifier with base and treble compensation, radio tuner and phonograph turntable. Outlets are controlled by new key type individual switches and master switch for emergency use. Unit can be furnished with any type of phonograph equipment, including record changer or 16 in. transcription turntable.

Bell Sound Systems, Inc.  
1183 Essex Ave., Columbus, Ohio



## AMPERITE

Amperite Company  
561 Broadway, New York, N. Y.



**MICROPHONE** — Kontak unit with hand volume control, model KKH allows adjustment of volume at the instrument. Any number up to five of these units can be connected in parallel. Volume of any instrument variable without affecting that of other instruments. Can be operated into any standard amplifier, electrical guitar amplifier and most radio sets. Gives full tone when used with stringed instruments such as violin, guitar, piano, etc. List \$18.00.

## JENSEN

Jensen Radio Manufacturing Co.  
6601 South Laramie Ave., Chicago, Ill.



**SPEAKERS**—A line of 18 in. auditorium speakers are of the direct radiator type. Available in four types to meet different response requirements. Model BR-18 peri-dynamic enclosure is provided for all the new 18 in. PM speakers, thus making available four models of peri-dynamic reproducers with bass reflex.

## AMERICAN

American Microphone Co., Inc.  
1915 S. Western Ave., Los Angeles, Calif.

**AMERICAN**—D6, D6T dynamic microphones. For general public address including stage sound reinforcement, both permanent and portable installations. Suitable for playground and athletic field direction, police and amateur broadcasting and recording. D6 supplied with output impedance of 50 ohms, D6T with impedance of 38,000 ohms (to grid). For long lines, low impedance is recommended. Output impedances of 200 and 500 ohms obtainable on order. D6, list \$25.00.



## UNIVERSITY

University Laboratories  
195 Chrystie St., New York, N. Y.

**SPEAKER PROJECTOR** — Radial Cone speaker projector, Model R.C.P., a cone projector horn which gives uniform coverage in all directions, i.e. 360 degrees horizontal coverage. Designed to mount flat on "sound truck" with complete rubber gasket ring to prevent scratching. Made of heavy gauge spun aluminum with a 1 in. reinforcing bead on each section of the projector. Designed to accommodate all types of 10 and 12 in. cone speakers, maximum diameter 30 in., overall height 14 in., net weight (less speaker) 5 lbs.



## SHURE

Shure Brothers  
225 W. Huron St., Chicago, Ill.



**MICROPHONE**—Dynamic microphones in a choice of true uni-directional or conventional semi-directional pickup characteristics. Model 50 "Rocket" is intended for public address, remote broadcasting, recording call systems, etc., is wide range with semi-directional pickup characteristics. Model 55 "Unidyne," illustrated, is cardioid type uni-directional moving coil dynamic for broadcast, recording, public address and similar applications. List, including 25 ft. cable with microphone plug attached \$42.50 and \$45.00, depending on impedance desired.

## CLARION

Transformer Corp. of America  
69 Wooster St., New York, N. Y.

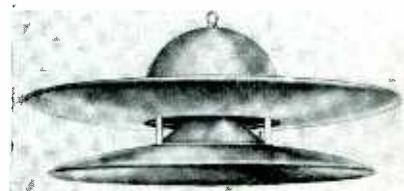


**AMPLIFIER** — A 1939 line of streamline amplifiers and sound systems includes amplifiers which range in wattage from 5 to 100 watts, feature beam power tubes, inverse feed-back, multi-mike channel inputs, built-in high and low tone equalizers. Optional remote control, v.i. output meter, Model A-50-R, illustrated, lists at \$63.40 complete, less tubes. Output impedances, 2, 4, 8, 16, 250 and 500 ohms. Four input channels, high-low tone control, provision for remote control.

## ATLAS

Atlas Sound Corp.  
1447 Thirty-Ninth St., Brooklyn, N. Y.

**BAFFLE** — "Chandelier" model has been developed to project sound evenly over a 360 degree radius. The mike can be placed in the dead spot directly under the speaker when minimum acoustic feed-back is experienced. Since sound originates from a source close to the microphone, illusion created is desirable. Model L-360 for 12 in. cones.



# TELEVISION

WHAT IT MEANS TO THE DEALER

**T**HERE cannot be any doubt about it—April 30, 1939, will go down into history as one of the most important dates in industry.

In fact, a hundred years from now April 30th, 1939 probably will be one of just two dates generally remembered in connection with radio history—the other being December 12, 1901, the day on which Marconi succeeded in spanning the Atlantic Ocean with radio waves.

The latter achievement was the foundation upon which has been built the great industry called RADIO—entertainment, manufacturing, communications, with all their ramifications. Now it is about to add another ramification—*television*—to its already prodigious progeny.

It is fitting that an industry which lives and thrives on the mysteries and marvels of a still-to-be-defined phenomenon of nature—electricity—should treat the industrial world of today to a man-made phenomena, namely a definitely pre-fixed birthday that will mark the commercial birth of a new and allied industry, sound the starting gun of a new competitive race over a new and still uncharted course.

That it will be an exciting race, a gruelling contest, is a foregone conclusion. But neither its length nor latitude can be definitely foretold, nor can anyone today estimate the exact extent of the technical, financial and commercial hurdles that have to be cleared before the new industry achieves a satisfactory degree of soundness and stability.

Any attempt to forecast or predict the ultimate future of television would be ill-advised and futile at this state of the art, but we, who are "in" on

*Actual  
1939  
Images*



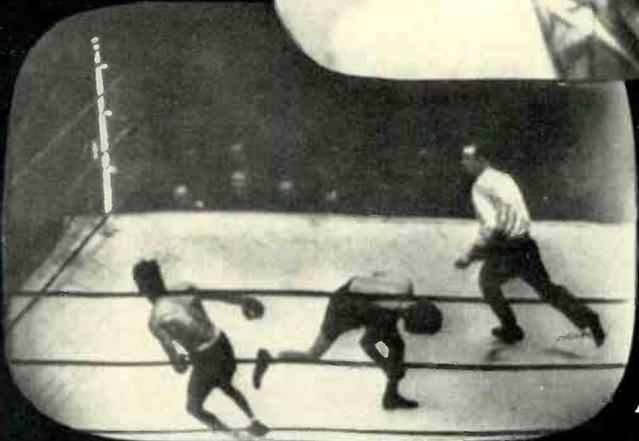
*World's Fair*



*Movie Queen*



*Prominent  
Radioman*



*Fight Photo*

the birth, surely may be pardoned if we follow the ancient custom of engaging in a bit of timely speculation, based on present knowledge, as to how the new baby is going to look, how it is going to thrive, what it is going to be like when it grows up.

It is in such spirit that **RADIO and Television RETAILING** presents this special insert on the subject of television.

The editors realize fully that the birth of commercial television on April 30th can bring immediate commercial advantages and profit to few of the many retailers, that its territorial penetration will grow slowly, that vast areas and millions of people may not for many years be within practical receiving range of television broadcasts.

But—the very existence of those highly important, definitely known limitations of the television art as of 1939 imposes the duty upon us to provide radio merchants everywhere with an accurate, unbiased, factual report of what is happening now, what may be expected to happen, how certain elements may combine to shape the future of radio and television.

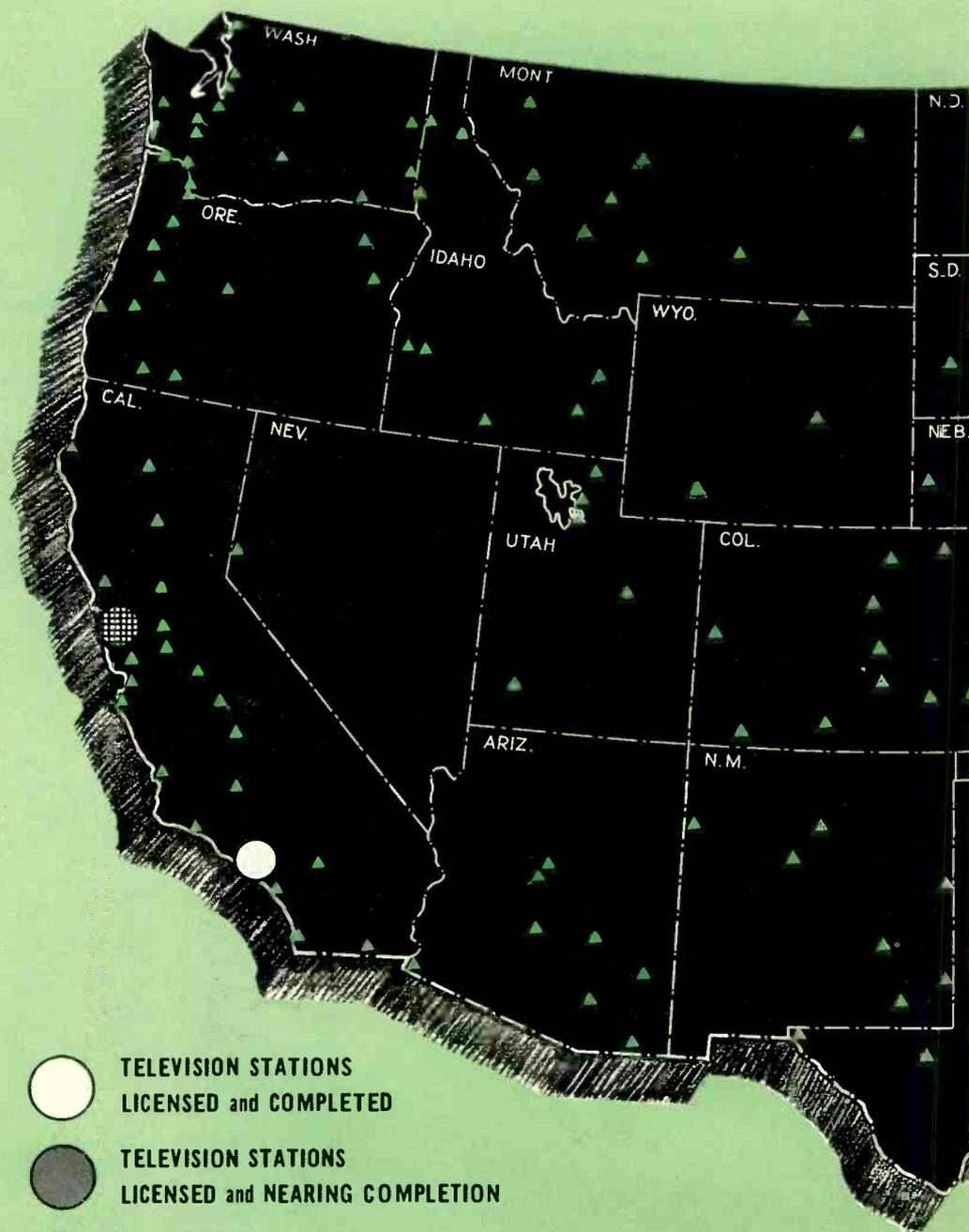
The material contained in this insert was designed to provide dealers everywhere with what they should, and in fact must know about television, regardless of whether they continue to sell radios and combinations exclusively because they are in the vast non-television territory of the United States or are located within those limited areas where television broadcasts are about to be inaugurated and so may expect to sell television receivers as well.

If the reading of this insert helps dealers in television broadcast areas to start the selling and servicing of video receivers on a sound, sane, practical basis and at the same time aids all dealers in both television and non-television territory to sell more and better **RADIO** receiving sets, its purposes will have been achieved.

O. FRED ROST

**T**HE most important single factor that all the retailers of radio sets in all of the United States should immediately realize is that the arrival of commercial television brings real cause for rejoicing.

No longer is television one of those mysterious creatures of science that was known to reside in the laboratories, that would at frequent intervals incite newspaper reporters to break out into columns of conjecture, that all too often caused promoters to smack their lips at its potentials for speculative profit and, what



-  **TELEVISION STATIONS LICENSED and COMPLETED**
-  **TELEVISION STATIONS LICENSED and NEARING COMPLETION**
-  **TELEVISION STATIONS LICENSED**
-  **TELEVISION STATION LICENSES APPLIED FOR**

**REGULAR RADIO STATIONS**

is more important, that has periodically constituted a restraining influence among the radio-minded public and seriously retarded the sales of radio sets because of its very uncertainty.

On April 30th television will drop that mantle of mystery, and with it the tendency to exert those strange influences that the vagueness of public knowledge made possible.

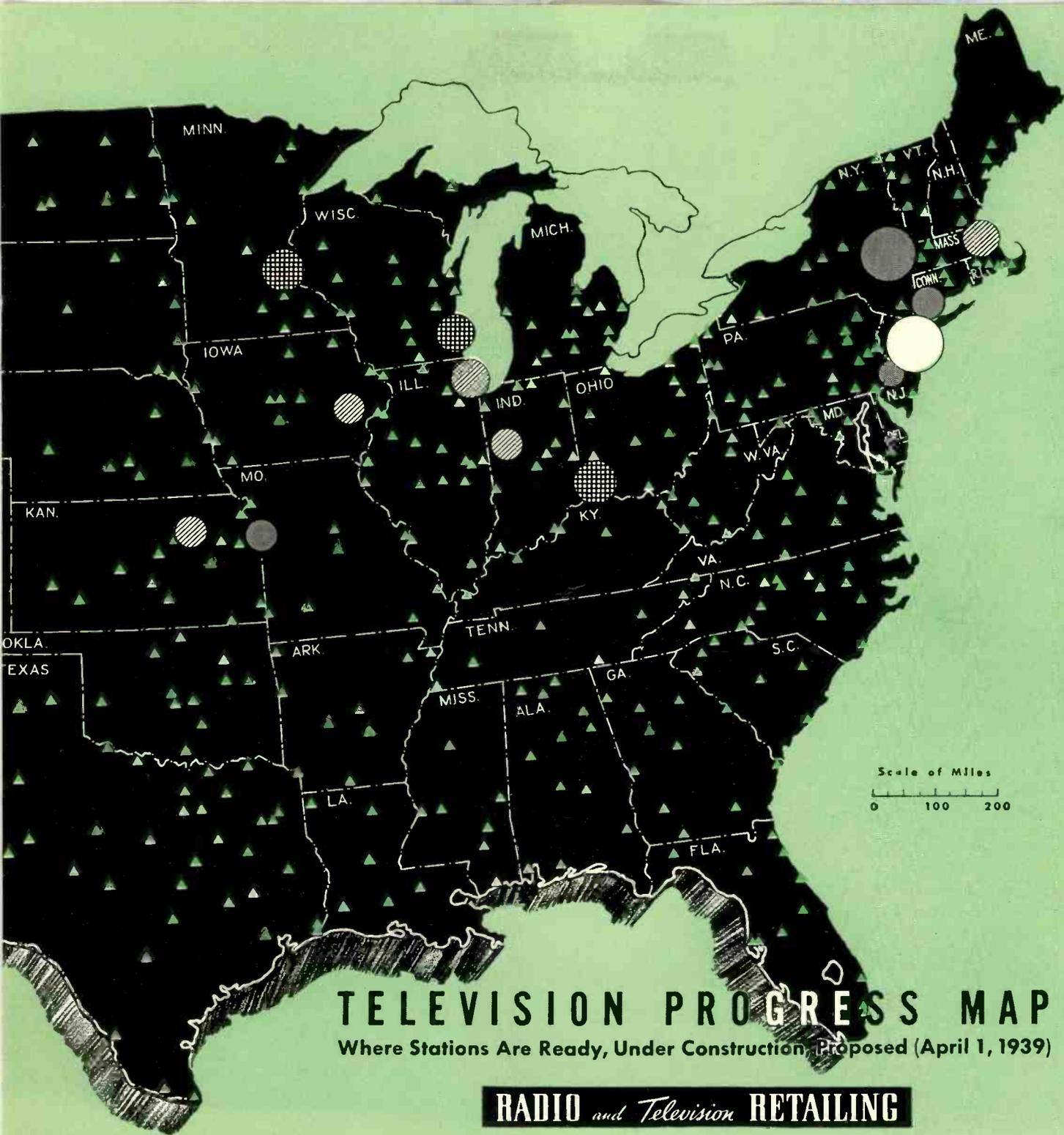
From now on, television will be *in the open*, where the public can see how it works, can see what it will and will not do, can appraise its capacity, its state of perfection and its virtues. From now on, television will have to take its place with radio, phonographs, movies, as media of entertainment, and Mr. and Mrs. Consumer are going to be the final judges of its actual worth.

Thus the question of what the arrival

of television means to the radio dealer at this writing must still remain a matter of conjecture because first the public must have a chance to react—then the radio industry, and particularly the radio dealer, will be able to record such consumer reactions.

Certain it is that the current interest in television cannot be underestimated and it will be further stimulated nationally by the exhibits at the two world's fairs.

Obviously, sales of complete television receivers will be confined to territory that is within range of video broadcasts. Dealers who operate in such areas must expect to make some definite and indispensable investments if they wish to compete in this field. Demonstrating rooms must be installed and properly furnished, special aerials erected, steps taken to re-



## TELEVISION PROGRESS MAP

Where Stations Are Ready, Under Construction, Proposed (April 1, 1939)

### RADIO and Television RETAILING

duce or, if possible, eliminate outside interference. Sales and service personnel must make a thorough study, probably take a course of training.

The chances for making a profit on television sales depend on the dealer's location, equipment, aggressiveness and managerial ability.

In the New York area, where television programs will be initially available in wider variety and for longer periods than anywhere else, it should be possible for the wide-awake dealer to earn a profit even on his first year's operations, because here there is the greatest concentration of potential buyers.

In other territories, the dealer's opportunities for selling television sets will depend upon the length and character of available video programs, and on the number of people who are able or will-

ing to invest in a receiver, the usefulness of which can be measured definitely by the number of hours of broadcasting that occurs within its range.

In order that radio dealers, *no matter where located*, may appraise the immediate prospects for television broadcasts in their own neighborhood, the editors present herewith the first *television progress map*.

On this map is shown the present status of the entire United States from the standpoint of television broadcasts—based on up-to-the-minute reports from the Federal Communications Commission and manufacturers of transmitting equipment.

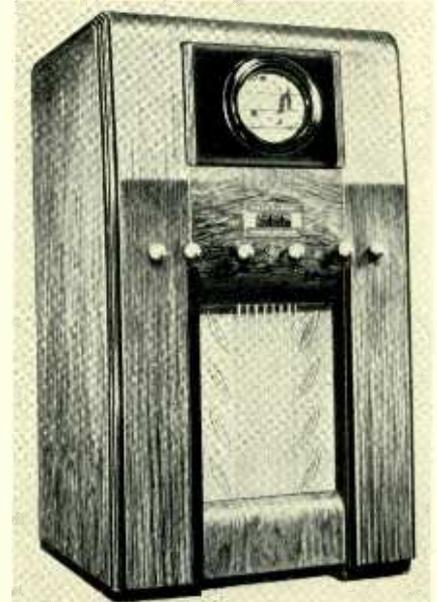
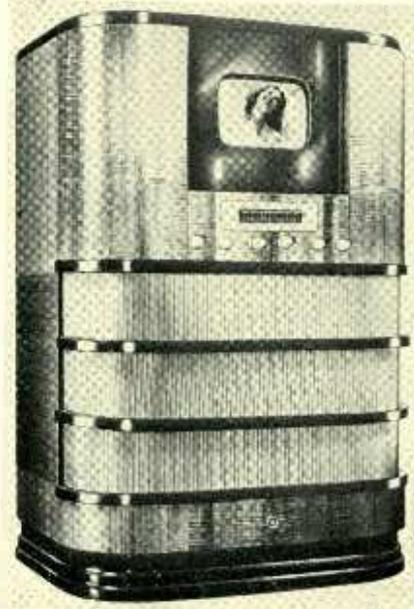
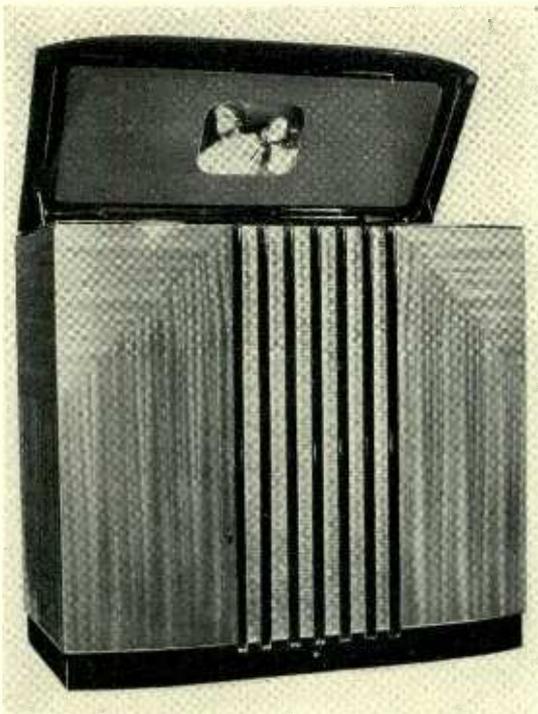
Careful study of this map will make it apparent that opportunities for selling television receivers in 1939 are confined to those radio dealers who are

located in certain clearly defined, and, from the standpoint of size, decidedly limited areas. In all the rest of the United States, radio dealers will serve themselves and the whole industry to greatest advantage if they continue to concentrate their sales effort on radio sets.

However, if such sales effort is to produce the maximum of sales and profits, every radio dealer must keep himself completely and constantly informed as to current progress and development in the television field, so that he will be able to talk to his customers with authority when the subject of television is mentioned.

Knowing all about television is the only way to sell television receivers. And from now on it will also be *the surest way of selling radio sets*.

# What Manufacturers



## GENERAL ELECTRIC

**F**OLLOWING intensive investigation and, within the last 4 weeks, personal contacts at many of the important plants; after discussing with many executives proposed designs, merchandising plans, installation and service problems and after seeing television equipment actually on production lines, tested and sent to the shipping room, the Editors of *RADIO and Television RETAILING* present the following picture of what manufacturers are doing with and about the subject as this issue closes:

**5 MODELS . . . GENERAL ELECTRIC**—In offering the largest number of television receiver models so far actually announced this company's officials demonstrate faith in immediate sales prospects.

Price of the smallest GE receiver, using a 5-inch cathode-ray tube, will be about \$250, considered by Bridgeport to be in the popular price bracket for initial fully assembled video units complete with sound converters. The costliest set in the line, including a 12-inch cathode-ray tube, allwave radio and many refinements, will classify as a super de-luxe model, listing near \$1,000. In between the two models described are three more, varying in chassis design and cabinet style and price.

A line of antennas and other necessary accessories will also be offered.

Sales and service policies, when finally announced, will reflect the results of exhaustive studies made by company officials in England. Qualified dealers in television service areas are currently being asked to fill out questionnaires covering some of the important sales and service angles. Instruction courses are in progress. Sets are now on the production line.

**4 MODELS . . . RCA VICTOR**—Offered under this firm's trademark will be four models destined and priced to meet varying requirements and pocketbooks.

Smallest set planned so far is a table type, uses a 5-inch cathode-ray tube with a white screen picture surface of approximately 3½ by 4½ inches. 16 other operating tubes, is designed to be used in conjunction with radio sets capable of receiving the ultra high frequency television soundtrack. Two intermediate models have almost identical specifications, use 24 tubes in addition to the cathode-ray, include complete allwave radios equipped with 12-inch speakers. One model provides for direct viewing of the end of the 5-inch cathode-ray while the other is arranged for indirect (mirror) viewing of a 9-inch tube. Highest price model so far has

36 tubes exclusive of the cathode-ray, 8 of which are part of the allwave sound chassis equipped with a 12-inch high-fidelity speaker, phonograph jack. This latter model uses a 12-inch cathode-ray tube with a white screen, giving a picture 7½ by 9½ inches indirectly viewed by means of a mirror.

Marketing plans are primarily designed to build initial customer satisfaction and long-term goodwill. Dealers are to be very carefully selected and trained. Special courses will be provided through RCA Institute. Sets already on the production line and in sufficient quantity to meet expected demand.

**2 to 4 MODELS . . . PHILCO**—Market surveys still in progress will determine the number of sets ultimately to be offered coincidentally with the beginning of regular programs.

Having had its own licensed television transmitting station for several years, technical details of receiver design and construction are complete and production has been scheduled to meet early demand.

Dealers, installation and servicemen will receive special training from the firm's own television engineers.

**4 MODELS . . . WESTINGHOUSE**—Full details of a television receiver line made by this firm are to be an-

# are Doing

nounced shortly. It is at present known only that one table model will be offered, equipped for video reception and designed to be used in conjunction with the buyer's own radio (if the radio will tune in ultra high frequency television soundtracks) for sound. Understood to be contemplated are three console models, using cathode-ray tubes up to 12-inches in size.

Prices have not been fixed but will, according to company officials, be competitive. All Westinghouse receivers will be listed by the Underwriters' Laboratories.

**2 to 4 MODELS . . . STROMBERG-CARLSON**—Two outstanding models are already in production and will be ready for the market when broadcasting in the New York area starts on regular schedule.

One of these, for the popular-priced market, will have a table-type cabinet, using a 5-inch tube, containing a soundtrack receiver complete with speaker but omitting the regular broadcast radio band. The larger of the two will

be of the console type, using a 12-inch tube, complete allwave receiver and a Carpinchoe speaker with acoustic Labyrinth.

**2 MODELS . . . ANDREA**—Making a completely assembled and wired table model giving direct vision from the business end of a 5-inch tube. Has a 6½ inch special type loudspeaker, lists at \$189.50. Soundtrack tuner and speaker included.

The same set offered in "kit" form, lists for \$79.95 less tubes.

A console model for both sight and sound, using a 12-inch tube is also in the works, and may be expected on the market shortly. Still another model nearing production includes a phonograph pickup, motor and automatic record-changer.

**2 MODELS . . . DuMONT**—Despite the fact that this pioneering company has developed a system of television transmission which in some details differs from the so-called RMA Standard, two receiver models now being offered



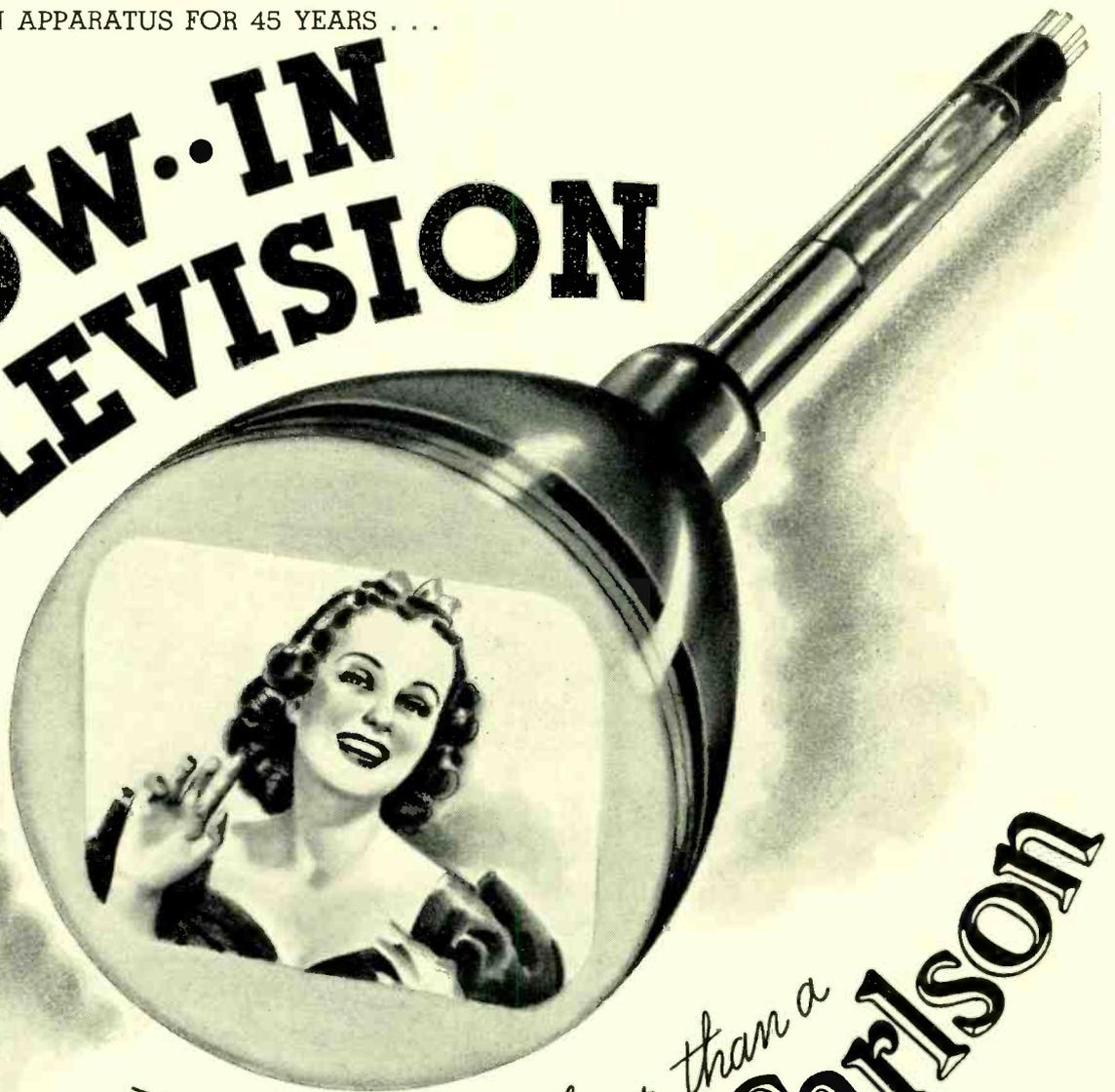
STEWART WARNER

R. C. A. VICTOR



STROMBERG-CARLSON HAS BEEN MANUFACTURING HIGH GRADE VOICE TRANSMISSION AND RECEPTION APPARATUS FOR 45 YEARS . . .

**NOW..IN  
TELEVISION**



*—There is nothing finer than a*  
**Stromberg-Carlson**

**S**INCE 1894, Stromberg-Carlson has been preeminent in the manufacture of telephone and radio apparatus. Today, Stromberg-Carlson is proud to announce its new Television Receivers . . . engineered to the same high standards, tested to the same exacting requirements, and merchandised with the same respect for dealer profits for which Stromberg-Carlson is well known.

Stromberg-Carlson Dealers will have a real Television selling feature in the Labyrinth, for the size and number of parts in a console type Television Receiver necessitate a roomy cabinet, so big that, without the Labyrinth, booming sound vibrations spoil tone and rattle delicately adjusted components. Showings of the actual Stromberg-Carlson models are now being scheduled.

STROMBERG-CARLSON TELEPHONE MFG. CO., 100 CARLSON ROAD, ROCHESTER, N. Y.



## AMERICAN TELEVISION CORPORATION

are built to receive transmissions following that Standard, as initially planned by stations now built or under construction.

A table model provides an image approximately 8 by 10 inches overall, direct. A console, more elaborate and imposing in appearance, is of similar electrical design.

**2 to 4 MODELS . . . CROSLY**—While details cannot at this time be obtained company management says it will offer a full line of television receivers.

**2 MODELS . . . PILOT**—Two models of the same general electrical design use a 9-inch tube and 20 additional receiving tubes in a high-definition circuit. One of these sets lists at \$250, the other at \$295.

A larger model on the drawing-boards will use 24-tubes, employing a 12-inch cathode-ray type, showing image in mirror. Will list at about \$425.

**2 MODELS . . . STEWART-WARNER**—Details concerning one model available at this time indicate that it is a console, using a 12-inch tube, containing a complete, high-fidelity broadcast receiver as well as television soundtrack.

Image will appear in a mirror.

**MAJESTIC**—This firm has just taken out Number 1 license under DuMont patents to make television receivers. To announce models, specifications and prices sometime in May.

**1 MODEL . . . MEISSNER**—This company offers at \$125 net to amateurs and experimenters a complete television kit ready for assembly and wiring. Includes panel, chassis, speaker, 16 small tubes and one 5-inch cathode-ray, all necessary parts.

Wooden cabinet to be offered extra. Special discounts and engineering service will be available to established, qualified distributors.

**ZENITH**—Operating a television transmitter licensed by FCC. Has built and is experimenting with various types of receiving sets. An announcement of the company's policy with respect to television is momentarily expected from the management.

**AMERICAN TELEVISION CORPORATION**—Making three consoles. One includes video and audio equipment but does not tune in sound other than television soundtracks. Another duplicates the above performance but, in addition, has a bandswitch permitting regular radio reception on the broadcast and one shortwave band as well as television ultra high frequency soundtracks. Still another uses a remotely operated cathode-ray tube complete in

a separate and semi-portable housing, called "Kinet" and similar in principle to radio's remotely operated speakers.

A table model is also to be offered but changes in cabinet design are being made at this writing.

The following concerns have also advised that they expect to have television receivers in the near future but cannot supply details by presstime: **FARNSWORTH, HALLICRAFTERS.**

### Parts Makers

Many standard radio parts are and will always be used in television receivers so a list of manufacturers interested in the new field would virtually constitute a "who's who" of component makers.

Certain special parts are, however, needed. Following is a list of companies reporting plans to produce these up to the time this issue closed:

**ALDEN PRODUCTS**—Already producing a diversified line of connectors for cathode-ray tubes, sockets and plugs of all kinds specially insulated to handle the high voltages associated with television. Paying special attention to "interlock" types guarding against accidental shock. Making coaxial cables plus connector plugs for same. New items to be developed as requirements arise.

Already shipping parts to manufacturers and volume users at special net prices. Will sell radio parts jobbers at discounts comparable with those offered on radio items.

**AMERICAN PHENOLIC**—Making coaxial cables of several types for tele-camera, television receiver lead-ins. Also high-frequency sockets, insulators, specially insulated for television use. Within next 30 days will have sockets

### A N D R E A



for cathode-ray tubes and special television connectors. Has been aiding manufacturers seeking transmission line advice for past 8 months.

Discounts off list to regular Amphe-nol distributors will be the same as on radio parts.

**CROWE NAME PLATE**—Modifying certain radio items to meet specifications of television equipment makers. No stock items contemplated immediately.

**HALLDORSEN**—Advises that it is already making a 1500 volt, 10 ma. transformer with 2.1 and 1.75 amp., 2.5 volt filament windings, also an 800 volt, 150 ma. type with a 3 amp., 5 volt and a 5.4 amp. 6.3 volt filament windings. Design for televisor using 5-inch cathode-ray tube.

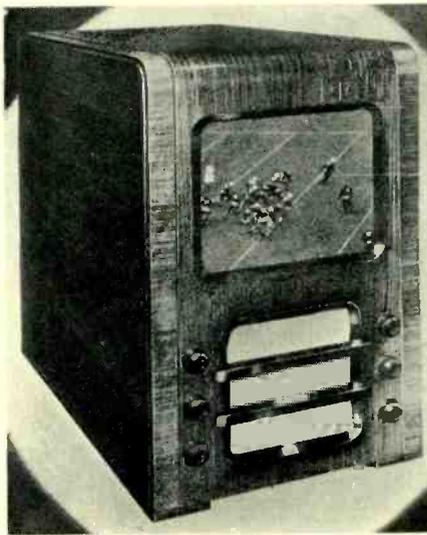
Sells to radio manufacturers, replacement parts jobbers, at usual discounts.

**INTERNATIONAL RESISTANCE**—Making IRC resistors in special high-frequency types, high-voltage bleeders required in television equipment, high-frequency power resistor units of unique design for television transmitters, metallized and wire-wound controls with high-voltage and low-current characteristics.

Selling direct to manufacturers through sales agents and factory contact and through radio jobbers and leaders along conventional and established lines.

**KENYON**—Aside from regular transformer line, making two yokes, one a focussing type and the other for deflection, for cathode-ray tubes. Stock already built up.

Prices based on list and discount



DUMONT

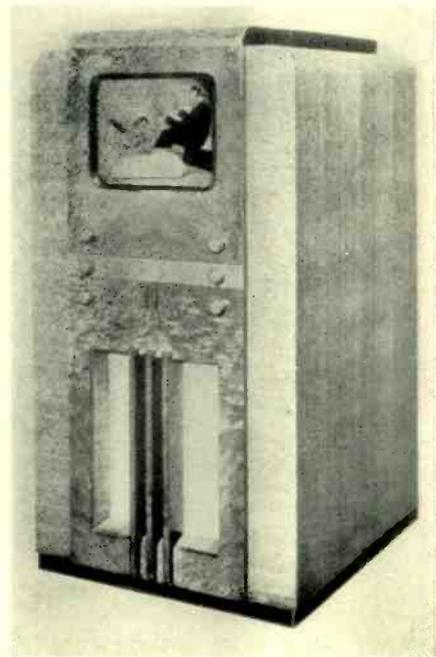
system comparable to that used on radio components. Selling through representatives, jobbers, dealers.

**LENZ**—Ready with a line of special wires and cables for construction, maintenance and installation of television receivers.

**MALLORY-YAXLEY**—Supplying parts to television receiver manufacturers' specifications. Wholesale division will have replacement types when demand is created.

**MICAMOLD**—Making special fixed condensers for manufacturers. Says condenser line for television experimenters will be released when requirements of market are better-known.

Expects to follow present radio distribution plan and discount system when the time arrives.



**SPRAGUE**—Ready with oil-impregnated and oil-filled high-voltage condensers for television, inductive and non-inductive wire-wound power resistors for same purpose. Already selling manufacturers and can ship parts jobbers on usual discount schedule. Has catalogs and engineering information for distribution on limited basis to responsible members of the trade.

### Antennas, Testers, Tubes

Here again it is necessary to point out that many items originally made for use in the radio field may be used in television so that most manufacturers will have a "finger in the pie." Specific television items mentioned in response to our mail request, received in time for inclusion, follow:

**BRACH**—Already promoting \$9.50 list "Tel-A" antenna system. Working on designs for combined allwave, noise-reducing and television (ultra high frequency) type. Says will have coaxial cables within 4 months if demand warrants.

Special net prices to manufacturers. Regular discounts to jobbers. Engineering and technical information planned but not quite ready for distribution in booklet form.

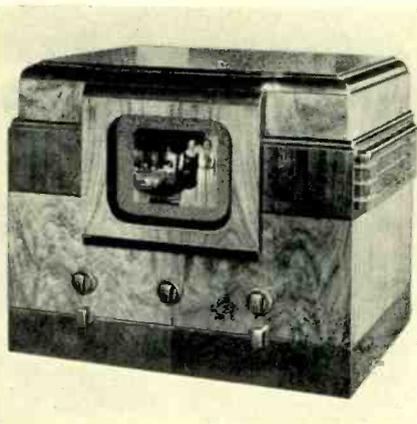
**CONSOLIDATED WIRE**—Designing "various products for the television field which should be ready within the next 30 to 45 days."

**RADIART**—Will definitely make a television receiving antenna but is uncertain about date of release to trade.

**TACO**—Making two television receiving antennas, one a directional "beam"

(Continued on page 47)

### WESTINGHOUSE



**SOLAR**—Tells the Editors that a special line of paper, electrolytic and mica capacitors made to television standards are ready.

Selling direct to television receiver manufacturers at present but will shortly release line to trade through regular radio parts jobbers. Discounts expected to be the same as on radio parts.





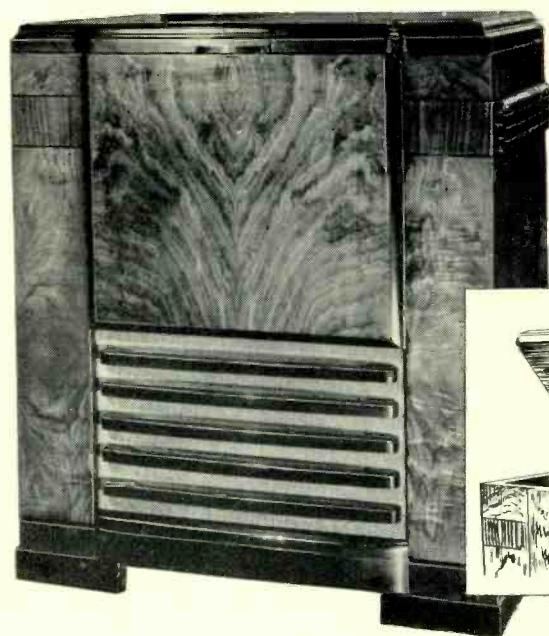
The fundamental idea of television was first recorded in 1873. Yet here is one of the first announcements of *marketable* television receivers. In 66 years uncounted millions of dollars and the tireless efforts of American genius have been expended to make new horizons practical over the electrical waves.

Westinghouse Electric Supply Company enters the marketing of television sets conservatively. We are more

concerned to have each single customer a permanent friend of television than we are to seek volume sales and broad dealer coverage. Therefore, initial televisions will be limited in quantity and found only at responsible retailers.

The first four models bearing the Westinghouse name stand in the forefront of the industry today and represent quality in every particular. Here they are—

#### 4 HIGH QUALITY TELEVISION SETS

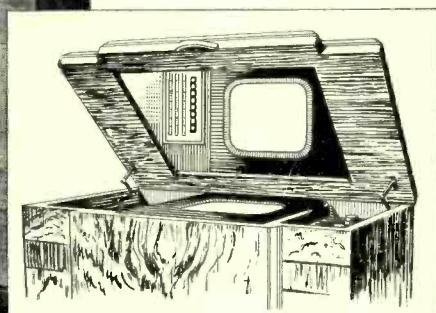


**WRT-703**—De Luxe Televisor, at left. An indirect-viewing console. Mirror in lid reflects television picture from 12" kinescope. Model includes Westinghouse 12-tube, 3-wave-band, 8-push-button radio receiver.

**WRT-702**—Direct-viewing Console Televisor. Casts pictures directly to front of cabinet from 9" kinescope. Includes 12-tube radio, as above.

**WRT-701**—Direct-viewing Console Televisor with 5" kinescope. Includes 8-tube, 3-band radio receiver. Otherwise similar to WRT-703.

**WRT-700**—Model below with 5" kinescope is table model *attachment* for operation with radioreceiver. Broadcast is viewed from WRT-700 and heard from radio receiver.



*These Authorized Distributors in Metropolitan New York Area Offer Complete Sales and Service Information*

**TIMES APPLIANCE CO.**  
333 W. 52nd St., N. Y. City

**R. H. McMANN, INC.**  
12 Warren St., N. Y. City

**WESTINGHOUSE ELECTRIC SUPPLY CO.**  
49 Liberty St., Newark, N. J.

*Merchandise Headquarters—Westinghouse Television—150 Varick Street—New York City*

# Westinghouse TELEVISION

# Practical Installation Problems

By

C. A. NUEBLING

Undoubtedly there are many servicemen with the fatalistic opinion that television will always be "Greek" to them. Anticipation of April 30, when television will officially be placed on the market, has most servicemen really worried. However, such should not be the case.

In reality, television naturally will require additional study on the part of the serviceman; but only to a slightly greater extent than new radio circuits have in the past. Anyone with a good radio background can, with a little effort, become a successful television servicer.

CONSIDERING television problems in their proper order, installation is of immediate importance. Sets to be made by various manufacturers are basically similar. Except for a few external controls, all adjustments are made at the factory. Setting of these external controls can best be made by watching an image on the screen and following procedure outlined in the instruction booklets. Thus the receiver itself should offer no serious problem during installation.

## The Antenna

Simple, but far more important than normally realized, the antenna of a television receiver requires special care on installation. The half-wave horizontal type has been adopted almost universally as a standard receiving antenna. Fig. 1 illustrates this type. For installations remote from the transmitting station a unidirectional or "beam" type has been devised to provide more signal pickup. Fig. 2 shows this.

Since all horizontal antennas are

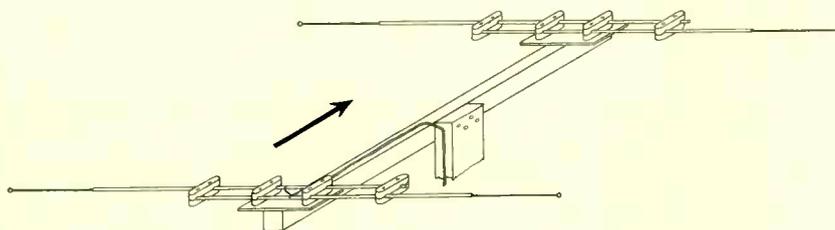


Fig. 2. Unidirectional "beam" antenna desirable in low signal areas. Front rods serve as antenna, back rods as reflector. Direction of reception is indicated by arrow

Fig. 4. Double images appear on the screen when the reflected signals are not considered in an installation. By moving the receiving antenna position to the left or right, reflections will be minimized when the correct position is found

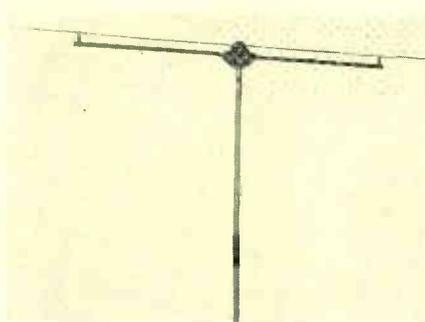
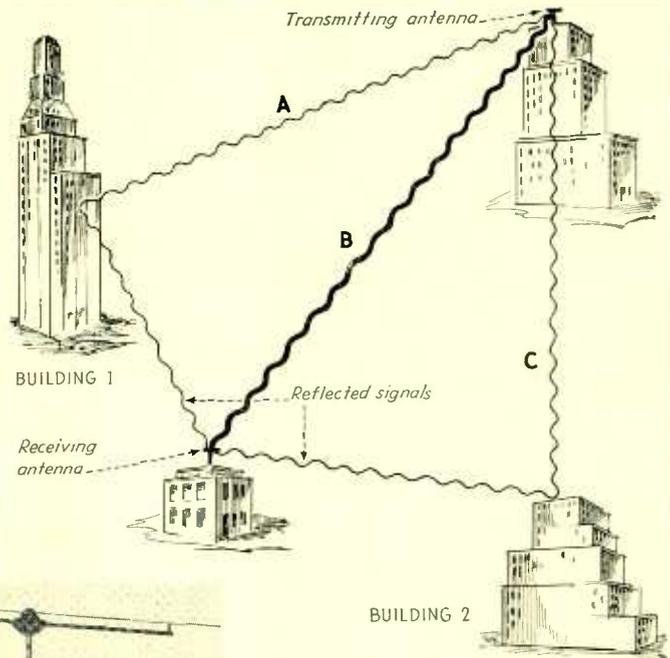


Fig. 1. Typical half wave horizontal doublet antenna useful for television reception. Maximum pickup results when either broadside is facing the transmitting antenna

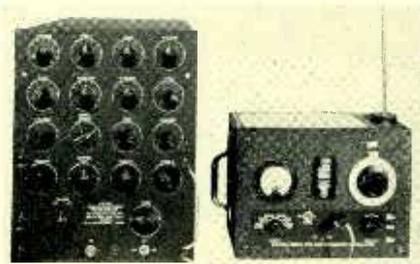


Fig. 5. High frequency signal generator (right) and Phasmajector (Monoscope)

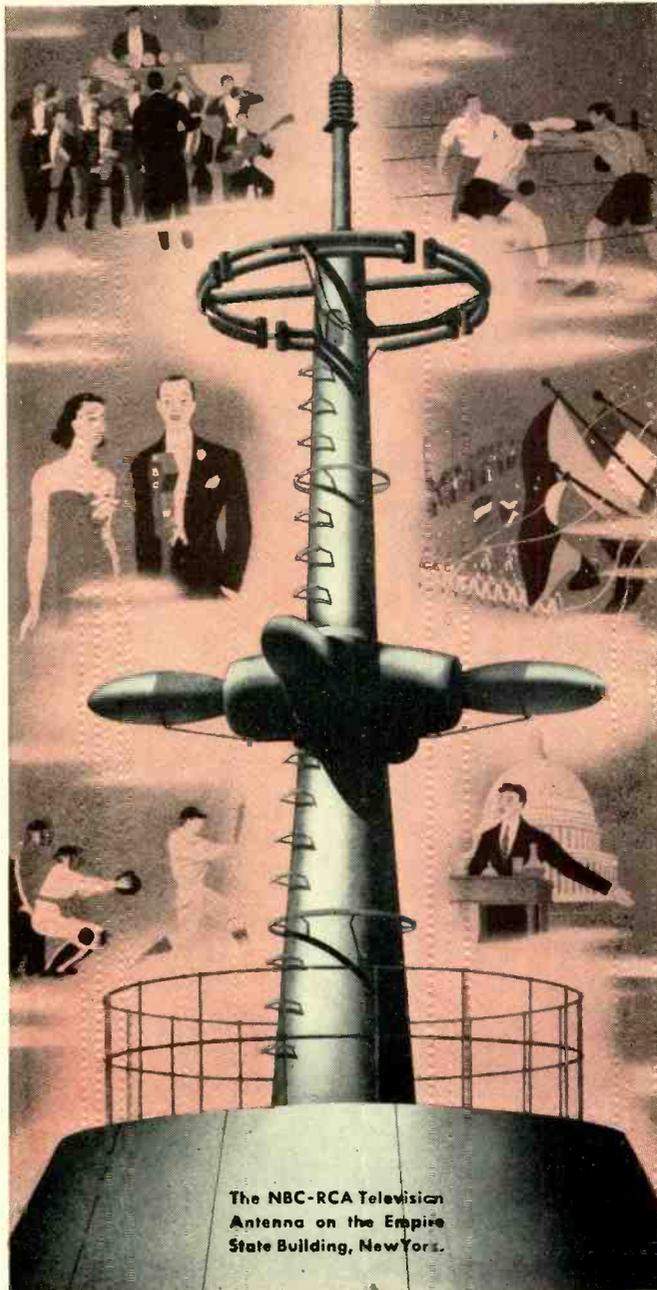


Fig. 3. A good antenna installation. Mounted in the clear and securely fastened by expansion bolts. Twisted-pair feeder is used

directional it is important that they are erected with the broadside of the antenna in the direction of the transmitting station. In other words, the antenna must run at right angles to the path of the signals from the transmitter. A typical installation can be seen in Fig. 3.

Of paramount importance, the exact position of the antenna must be determined by experiment. Normally, the strongest signal will flow in direct line  
(Continued on page 47)

# The Radio Corporation of America Tells *What TELEVISION will mean to you!*



RCA TELEVISION will be introduced this month in the New York metropolitan area. Television programs, broadcast from the lofty NBC mast at the top of the Empire State Building, will cover an area approximately fifty miles in all directions from that building. Programs from NBC television studios will be sent out initially for an hour at a time, twice a week. In addition, there will be pick-ups of news events, sporting events, interviews with visiting celebrities, and other programs of wide interest.

### *How Television will be received!*

To provide for the reception of television programs, RCA Laboratories have developed several receiving sets which are now ready for you to sell. These instruments, built by RCA Victor, which you will see on ensuing pages include two of the three models for reception of television pictures and sound, as well as regular radio programs. There is also an attachment for present radio sets. This latter provides for seeing television pictures, while the sound is heard through the radio itself. The pictures seen on these various models will differ only in size.

### *Television—A new opportunity for dealers*

RCA believes that as television grows it will offer dealers an ever expanding opportunity for profits. You, who are in a position to cash in on its present development, will find that television goes hand in hand with your radio business.

*In Radio and Television—It's RCA All the Way*



## **Radio Corporation of America**

**RADIO CITY, NEW YORK**

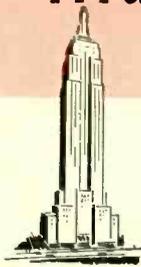
RCA MFG. CO., INC. • RADIOMARINE CORP. OF AMERICA • NATIONAL BROADCASTING CO. • R.C.A. COMMUNICATIONS, INC. • RCA INSTITUTES, INC.

# A New Industry is Born as RCA and NBC Present

# TELEVISION

Television Broadcasting Begins on April 30 in New York Area

...and *RCA Victor* Television Receivers are Ready!



Years of patient effort in RCA Laboratories . . . millions spent on research . . . now convert a fantastic dream into a splendid reality.

April 30th marks the birth of a new industry—television. On that day radio will take on another dimension. Sight will join with sound to bring the public a wealth of new experiences.

Television is something everyone wants. Those living in the New York metropolitan area can have it right now. No prediction can be made as to how soon it will be available throughout the country, but RCA is bending every effort to meet the nationwide desire as soon as possible.

The development of television by RCA and its various subsidiary companies is an example of RCA's policy of always looking ahead. About ten years ago, RCA established experimental television station W2XBS. Shortly thereafter, television research laboratories were set up in Camden, N. J., so that all of the resources of RCA in transmission, broadcasting,

reception and sound reproduction could be applied to this new art.

Out of this RCA television research came the Iconoscope, the "eye" of television, and the Kinescope, the "screen." These are the bases of RCA electronic television, and have been made available to the entire industry. RCA has also spent more than two million dollars in practical field tests of television in New York alone over the past three years. Thus, RCA and its various subsidiary companies have been and are engaged in every phase of television—research, engineering, manufacturing, installation, broadcasting and service. This experience is unmatched. This is an important sales feature that RCA Victor dealers should remember and use in selling current and future merchandise.

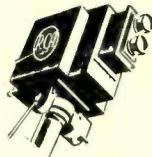
RCA Victor "look ahead"

planning did not stop at the scientific development of television. It covered the sales end—your end—of the picture, too. As a result, RCA Victor Television Receivers not only perform with sales-compelling perfection but are priced lower than might be expected. In addition, RCA also looked ahead in the development of the RCA Victor Television Attachment for use with present radios, which offers you an opportunity for volume profits when television reaches your city.



The ability of RCA Victor to look ahead has been demonstrated before. The long chain of improvements in RCA Victrolas and in recording processes . . . the ceaseless promotion of RCA Victrolas . . . the introduction of the Record Player . . . the formation of the Victor Record Society—all are examples of RCA Victor "look ahead" planning that has meant profits for dealers.

And now RCA Victor opens a new era of profits for you. Look ahead yourself. Start now to grow with RCA Victor Television!



## FACTS YOUR CUSTOMERS WILL WANT TO KNOW ABOUT TELEVISION!

1. *How many television stations are now in operation?* In the near future indications point to the operation of three stations in the New York area. Also one at Schenectady, N. Y., and one at Los Angeles, Calif. 2. *Can a radio receiver be used to reproduce television sound?* Yes, most new RCA Victor sets are designed so that they can be connected to an RCA Victor Television Attachment. 3. *What is the cost of operating a television receiver?* At the average price for electricity about 1 cent an hour. 4. *How do television pictures compare in quality with a home movie?* An RCA Victor television picture com-

pares favorably. 5. *How many hours a day will television programs be available?* In New York, NBC, in addition to two one-hour studio programs per week, starting April 30, will provide special pick-ups of sport events, visiting celebrities, etc. 6. *Will television take the place of radio?* No. You will continue to enjoy your radio just as before. Radio reception is an integral part of RCA Victor Television Receivers, or if you select an RCA Victor Television Attachment your present radio will continue to bring you radio programs as usual.



RCA Victor Television Receiver Model TRK-12. Largest RCA Victor console, this instrument reproduces a picture 7 $\frac{3}{8}$ " by 9 $\frac{3}{4}$ " in size. It features indirect viewing through mirror, has 36 tubes not including kinescope, offers a choice of 5 television channels, and has many other important points that will help make this instrument profitable for you.

RCA Victor Model TRK-9 (not illustrated) is similar to Model TRK-12, except that it is direct viewing and uses a 9" Kinescope.

RCA Victor Television Receivers are the only ones backed by a \$2,000,000 field test.



RCA Victor Television Model TRK-5 is the lowest priced console in this new line. Will reproduce a picture 3 $\frac{3}{8}$ " by 4 $\frac{1}{2}$ " in size, using direct method of viewing. It has 24 tubes exclusive of the kinescope and offers choice of 5 television channels. Among its many other excellent features is a 12" loudspeaker, a standard 3-band radio receiver with 8 tubes, and push-button tuning. Not only does it provide excellent performance—but its cabinet is one of unusual beauty. Backed by \$2,000,000 field test. In radio and television—it's RCA All the Way. Your customers can buy RCA Victor Television Receivers on C.I.T. easy payment plan. For finer radio and television performance—RCA Victor Radio Tubes.



RCA Victor Model TT-5 Television Attachment, a sensational instrument that provides television *sight*—while the *sound* is heard through radio loudspeaker. It is attached to radio by simply plugging it into television jack, an important part of RCA Victor models for the past two years. (Same jack as used for Victrola Attachment.) This television attachment reproduces a picture 3 $\frac{3}{8}$ " by 4 $\frac{1}{2}$ " in size. Other important features include direct viewing of picture, 16 tubes plus kinescope, and 5 television channels. Backed by \$2,000,000 field test.

Trademarks "RCA Victor," "Victrola," "Victor," Reg. U. S. Pat. Off. by RCA Manufacturing Company, Inc.



# RCA Victor TELEVISION RECEIVERS

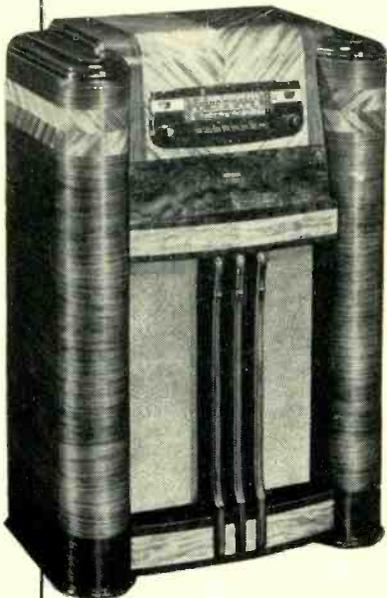
RCA Manufacturing Company, Inc., Camden, New Jersey • A Service of the Radio Corporation of America

# New RCA Victor Radios and Victrolas

## NEW RCA VICTOR RADIOS

On these pages are presented two of the new RCA Victor Radios — and three new Victrolas — all designed for use with television

RCA Victor's new sales policy discards the old method of an *annual* introduction of new radios and Victrolas . . . eliminates usual big push and dealer loading and assures you A YEAR 'ROUND MERCHANDISING, SALES AND ADVERTISING PROGRAM THAT WILL BRING YOU NEW MERCHANDISE VALUES, NEW SALES AND ADVERTISING PROGRAMS EVERY MONTH OF THE YEAR! That's why now—more than ever—it will pay you to push RCA Victor!



DESIGNED FOR USE WITH TELEVISION! Model 98K2...an 8-tube, 3-band instrument with Electric Tuning, Magic Eye, RCA Victor Metal Tubes, Plug-in for Victrola or Television Attachment, and many other features. Only **\$89<sup>95</sup>\***

DESIGNED FOR USE WITH TELEVISION! Little Nipper Model 9TX31...New edge-lighted dial, Plug-in for Victrola or Television Attachment, new low drain RCA Victor Tubes, powerful superheterodyne circuit, built-in antenna, AC-DC operation, electro-dynamic speaker, only **\$9<sup>95</sup>\***



For finer radio performance—RCA Victor radio tubes. \*All prices f.o.b. Camden, N. J., subject to change without notice. Trademarks "RCA Victor," "Victrola," "Victor," "Magic Eye," Registered U. S. Patent Office by RCA Manufacturing Company, Inc.

Don't let the arrival of television worry you over your radio and Victrola business. "Look ahead" planning by RCA Victor enables you to offer television as an extra attraction in new radio and Victrola models

ON THE TWO PRECEDING PAGES RCA Victor has announced its first television receiving models. One of these, the Television Attachment, is designed to operate with the new RCA Victor Radios and Victrolas. As a result, your customers will not hesitate to buy these new instruments now. Because they can add television to them at low cost when telecasts are available in your locality. How? It's easy! The Television Attachment illustrated on the preceding pages can be readily attached to these new models—and presto—! A telecast may be received. The picture appears on the Television Attachment . . . the sound comes from the radio's loudspeaker.

"Look ahead" planning by RCA Victor enables you to offer the amazing Television Jack in these new instruments. It is planning that reflects RCA Victor's constant efforts to make more money for you. Planning that really "looked ahead" when the new models were merely blueprints many months ago. Planning that now makes the advent of television *profitable* for you.

The Television Jack is a great sales feature—will help your RCA Victor sales. Feature it!

## New RCA Victor Money Maker!

New RCA Victor Auto Radio Model M-70 will pep up your Spring and Summer sales! Fits any car—regardless of make, model or year . . . may be easily transferred from one car to another—and is loaded with sales features which include push-button and manual tuning, **\$44<sup>95</sup>\*** 8" speaker, 7 RCA Victor Tubes, and many others. Requires no special plates. Only



# RCA Victor RADIOS AND

RCA Manufacturing Co., Inc., Camden, N. J.

# Designed for Use with Television!

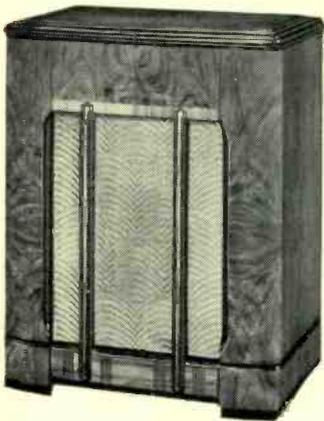
A Double

## *RCA Victrola* Attraction!

1. Designed for use with Television
2. Powerful new promotion

One of the greatest values in RCA Victor history, yet this RCA Victrola Model U-123 is offered you at full dealer discount! Ordinarily you wouldn't be able to offer such an active model until June . . . but RCA Victor's new sales policy brings it to you now. This means many added weeks of selling.

Here's a promotion that promises even more profits than resulted from last year's sensational sales. Get behind it . . . and push the other great RCA Victrolas featured here, too. They also are designed, styled and priced to make this your big RCA Victrola year.



DESIGNED FOR USE WITH TELEVISION! RCA Victrola Model U-121. An outstanding instrument with Feather-touch Crystal Pick-up, True-Tracking Tone Arm, RCA Victor Electric Tuning, and many other features. A value that creates a real sensation at the amazingly low price of only **\$79<sup>95</sup>\***



DESIGNED FOR USE WITH TELEVISION! RCA Victrola Model U-129. A glorious instrument in superb cabinet of modified modern design. Offers such outstanding features as Gentle Action Automatic Record Changer, Crystal Pick-up with Top-loading Needle Socket. Has a 10-tube, 3-band radio with Electric Tuning. . . . . **\$185\***

RCA VICTROLA MODEL U-123

**\$129<sup>95</sup>\***

You can offer your customers  
3 Savings on  
The Greatest Value in History!

- 1 All-Time Low Price for RCA Victrola with Automatic Record Changer.
- 2 Bonus of \$17.50 in Victor or Bluebird Records plus benefits of Victor Record Society membership and subscription to Victor Record Review.
- 3 Extra Liberal Trade-in.

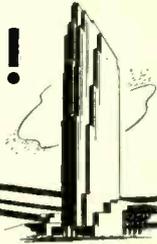
RCA Victrola Model U-123. Has Gentle Action Automatic Record Changer for 10" and 12" records, Feather-touch Crystal Pick-up, New Top-loading Needle Socket. Radio has RCA Victor Electric Tuning . . . Push a Button—there's your station... 12" Dynamic Speaker . . . and many other features.

# *Victrolas*

A Service of the Radio Corporation of America

# RCA VICTOR RADIO TUBES

Engineered and  
Made by the Same  
Organization that  
Brings Television  
to America!



Your customers will have confidence  
in these tubes that come from Radio  
and Television Headquarters!

Here's a radio tube sales story that will bring you extra  
RCA Victor Tube business! Tell it to your customers  
—and they'll buy!

RCA Victor Radio Tubes are made by the same men  
who now bring television to America. To create today's  
television, RCA tube engineers had to conceive and  
build the complicated tubes that are the basis of the art.  
It took years of research, sound thinking and skillful  
engineering to do this. But it was done. And this same  
research, thought and skill is applied to the manufac-  
ture of every tube bearing the RCA Victor name. As a  
result, your customers will accept the idea that they will  
naturally get better quality, finer performance, when  
they use RCA Victor Tubes in their radio.

Tell this story. It will pay you.



You are cordially invited to visit  
the RCA Building at the New York  
World's Fair

Trademark "RCA Victor" Reg. U. S. Pat. Off. by  
RCA Manufacturing Company, Inc.



## RCA Victor RADIO TUBES

RCA MANUFACTURING CO., INC., CAMDEN, N. J. • A Service of the Radio Corp. of America

**WHAT MANUFACTURERS ARE DOING** (Continued from page 38)

using two elements. Cataloged at \$7.50 for the simplest, \$5.25 extra for the added reflector. Comes with 60 feet of transmission line, mounting mast of impregnated wood.

Standard discounts through radio jobbers.

**WARD PRODUCTS**—Planning to make a television receiving antenna shortly for sale to manufacturers and distributors.

**TRIPLETT** — Studying television needs and will have equipment required as soon as demand warrants.

**RADIO CITY PRODUCTS**—Makes flexible Model 411 Supertester designed with television as well as radio in mind. Working on special test oscillator, vacuum-tube voltmeter, vacuum-tube ohmmeter instruments useful in television testing and expects these ready about June 1.

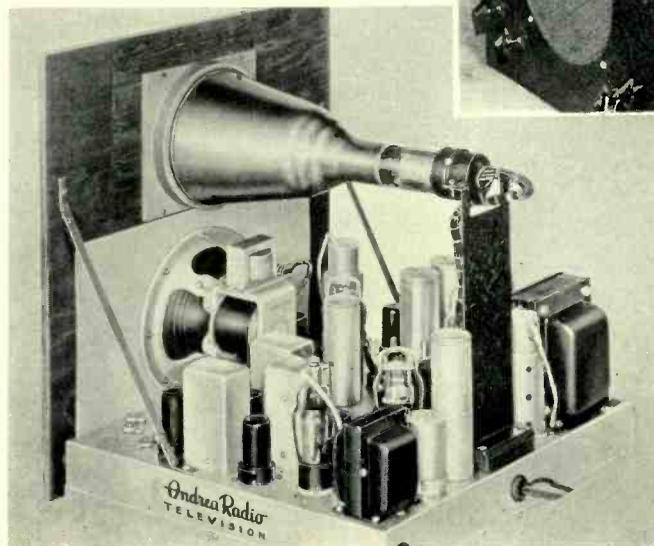
Will sell through radio parts distributors and radio servicemen.

**CLOUGH-BREngle**—Says special television testing devices will be ready in the fall of 1939. Regular radio distribution methods and discounts probable.

**TRIUMPH**—Working on new instru-

ments to be ready, if possible, by June in time for Parts Show exhibit.

Instruments for television will go to trade through usual jobbing channels at normal radio test equipment discounts.



Above  
**MEISSNER**

"Kit"

Left

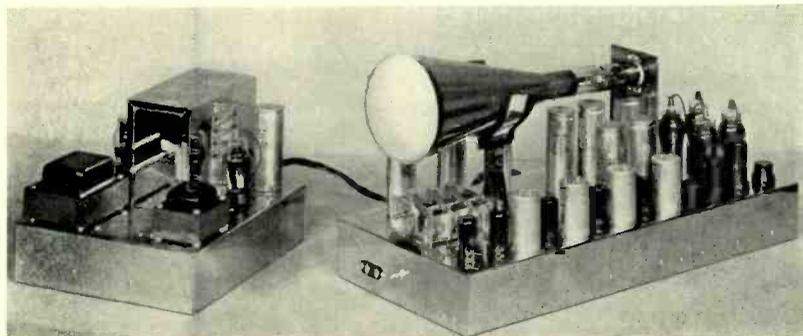
**ANDREA**

"Kit"

Below

**GAROD**

"Kit"



**WESTON**—Making and ready to ship model 787 ultra high frequency signal generator with unique tuning unit design particularly useful for television

work. Also recommends 669 vacuum tube voltmeter and 772 super sensitive analyzer with "Televerter" for extending voltage range to 5,000.

**ARCTURUS**—Can furnish, immediate delivery, television tube types 2Y2, 5X3, 6AD5G and 6R6G, all at \$2.25.

**HYGRADE-SYLVANIA** — Supplying 3-inch and 5-inch cathode-ray tubes through regular radio trade channels, quoting net prices. Full data available through factory.

**RAYTHEON PRODUCTION**—Now in production on cathode-ray tubes, special rectifier and amplifier types. Will supply trade through established distribution channels.

**INSTALLATION PROBLEMS** (Continued from page 40)

from the transmitting antenna. However, in many cases signals are simultaneously reflected from nearby buildings or other obstructions and appear at the receiving antenna either weaker or stronger than the direct signal. Since they usually are out of phase (due to the longer path of travel) with the direct signal, they appear on the screen as double images displaced either side of the main image. They may be more properly called "echo signals," or "ghost" images.

To remedy this it becomes necessary to move the antenna position, a little at a time, while someone watches the screen. A position will be found where the double images will disappear or become very weak. It should seldom be necessary to change the antenna position more than a quarter-wave. (Approximately 5 feet for present frequencies).

Action of reflected signals is shown

in Fig. 4. In this instance both A and C are reflected signals. Signal B is the direct signal and will always be stronger than reflections when the transmitting antenna is in line of sight. When the transmitting antenna is shielded by an obstruction, reflected signals may be stronger. To overcome reflections in the case of Fig. 4, move the whole receiving antenna system to the right or left, attempting to find a null point in the reflection.

Conventional radio antennas and single wire feeder systems are about as useful for television as a fur-lined vacuum tube. Ultra-high frequencies demand a low-loss and noise-free connecting link between the antenna and receiver. A good grade of twisted pair, properly matched to antenna and receiver is generally satisfactory for lengths up to 150 feet. If feeder lengths much greater than this are necessary, or in low signal areas, a

concentric feeder should probably be used. One manufacturer is experimenting with a booster r.f. amplifier inserted at the antenna to increase the signal sufficiently to overcome feeder losses. This might be desirable in certain locations.

One point that is best left unanswered is the position of the receiver in the home. Electrically it makes little difference where the receiver is placed providing the feeder isn't lengthened considerably.

**Test Equipment**

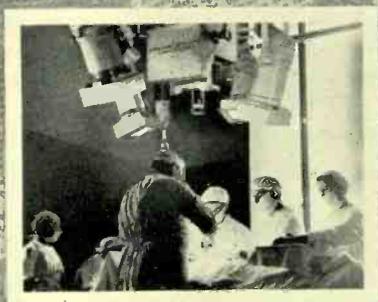
For the many television installations no test equipment will be necessary. The alignment of r.f. circuits will usually be sufficiently permanent to hold over a long period. This is partially due to the fact that most

(Continued on page 48)

# It's Your Turn TO TAKE A CLAIM.



**- IN THE MOST PROFITABLE OUTLOOK  
IN RADIO HISTORY**



CROSS-COUNTRY HEADLINES PROCLAIM THE TRIUMPH OF TELEVISION AS APPLIED BY ENGINEERS OF THE AMERICAN TELEVISION CORPORATION TO SCIENTIFIC EDUCATION AND VISUAL MERCHANDISING.

IMAGINE! SURGEONS PERFORM A DELICATE OPERATION AS STUDENT DOCTORS LOOK ON IN ANOTHER BUILDING 500 FEET AWAY!

ONE OF THE NATION'S LARGEST DEPARTMENT STORES SHOWS THRILLED CROWDS ITS WARES BY TELEVISIONING THEM FROM A CENTRAL STUDIO!

BOTH SYSTEMS ARE ATC ACHIEVEMENTS. BOTH TESTS PROVE TO THE WORLD THAT TELEVISION IS READY FOR THE MOVE. 1939 IS TELEVISION'S YEAR—YOUR YEAR!

ATC NOW PRESENTS VIDEOR, THE MASTER SIGHT-AND-SOUND RECEIVER FOR HOME USE, THAT DREW THOUSANDS OF NEW YORKERS TO SHOWROOMS OF TOP-NOTCH DEPARTMENT STORES FOR THEIR FIRST LOOK AT TELEVISION. FOUR MODELS.

AS AN ADDED FEATURE ATC ANNOUNCES ITS KINET, REMARKABLE PORTABLE TELEVISION EXTENSION, THAT MAKES THE PICTURE VISIBLE AT ANY DISTANCE IN THE HOME AWAY FROM THE MASTER CONSOLE ITSELF.



ALL THE WORLD'S A STAGE FOR

## VIDEOR

A MIRACLE IN TELEVISION

DETAILS  
PRICES AND  
FACTS  
ABOUT  
TELEVISION  
ON REQUEST

**American Television Corporation**  
130 WEST 56<sup>TH</sup> STREET NEW YORK, N. Y.

## INSTALLATION PROBLEMS

(Continued from page 47)

circuits have a broad band-width, and any slight drift is proportionally small.

Occasionally it will be necessary to delve into the circuits in order to locate a breakdown. No attempt will be made here to list common headaches since even meager field experience is lacking at present. However, test equipment for checking all circuits is either on the market already, or in production.

For aligning r.f. circuits, a signal generator tuning from approximately 30 to 150 mc. will be essential. One such instrument is shown at the right

### DANGER-HIGH VOLTAGE

Manufacturers of television receivers have endeavored to make danger from shock to the public and serviceman as remote as possible. Little or no danger can approach the user. However, the serviceman should exercise extreme caution when protecting cabinet and covers are removed.

Receivers use up to 5000 volts, the lethal power of which should be unquestioned. Do not attempt to remove a chassis from its cabinet without thoroughly reading the instruction pamphlet first. It will seldom be necessary to service with the chassis exposed and high voltage applied. When it becomes necessary to do so, always keep one hand in your pocket, eliminating danger of shocks from hand to hand, which are most dangerous since the circuit flows through the heart area. *Form Good Safety Habits early.*

of Fig. 5. Along with this, naturally, would go a wobulator for checking band-width of tuned circuits.

Another extremely useful item of television test equipment is a monoscope (Fig. 5 left). It consists of a special cathode ray tube with a test image printed on the screen end, along with associated equipment to produce a source of v.f. (video frequency) test voltage. This is used to test and align video circuits in the same manner as a signal generator is used on r.f. circuits. It does this by supplying, when used with or without a signal generator, a standard test pattern on the screen of the receiver.

Another valuable test instrument is an oscillograph with wide band amplifiers permitting measurements up to 1 mc. Measurements higher in frequency than this can be made directly on the receiver screen.

Further television service problems and the use of new test instruments will be discussed in coming issues.

# NOW

## .. ULTRA HIGH FREQUENCY SIGNALS WHERE YOU WANT THEM

22 TO 150  
MEGACYCLES

*24 hours  
a day!*

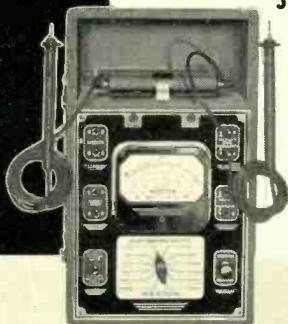
### WITH THE NEW **WESTON Television ULTRA HIGH FREQUENCY OSCILLATOR**

- Frequency—continuous range 22 to 150 megacycles—no band switching.
- All frequencies fundamental.
- High order of stability and resetability over entire range.
- Equipped for television modulation.
- Employs continuously variable inductive tuning.\*
- Equipped for use with crystals.
- Battery operated (self contained).
- Equipped with 400 cycle modulator.
- Used with portable antenna (included) or with standard output leads.
- Jack provided for external power to increase raaiation.
- Over 5700 degrees of continuous dial rotation.
- Meter equipped, for six control measurements.
- Small size, light weight, extreme portability.

\* Patents Pending



Essential for all branches of  
television, for police radio,  
aircraft, maintenance trucks, etc.

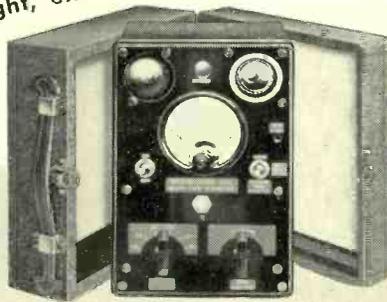


Model 772  
5000 VOLT

#### TELEVISION AND RADIO ANALYZER

Sensitivity 20,000 ohms-per-volt.  
Input impedance 100 megohms on top range.  
Specially designed low-leakage jacks.  
Breakdown voltage in accordance with AIEE  
safety standards . . . 11,000 volts.  
Current readings down to 1/2 microampere.

NOTE—present owners of 20,000 ohms-per-volt  
analyzers can bring them up-to-date with the com-  
pact WESTON 5,000 volt Televerter . . . an in-  
expensive multiplying unit which fits the carrying case.



Model 669

**VACUUM TUBE VOLTMETER**—measures  
gain in video and sound amplifying chan-  
nels—peak voltages in thyatron (saw-  
tooth) generators in oscillator circuits—  
grid potentials on cathode ray tubes—as  
well as other essential measurements in  
all sound receivers.

SEND COUPON  
FOR  
COMPLETE INFORMATION

Weston Electrical Instrument Corporation  
581 Fralighuysen Ave., Newark, N. J.  
Send bulletin describing the Model 787 Ultra High Fre-  
quency Oscillator and other WESTON Instruments.

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

# HOW *it may be* SOLD



**IN THE HOME**—When designing new demonstration salons there is an opportunity to provide an effective setting for audio as well as video receivers. Here, for example, the two must be used together when receiving pictures, might conceivably be sold together

**D**EALERS may safely assume that the television receivers to be offered by well-known concerns represent the best performance at present known to the new art.

This fact is assured under the existing system by which manufacturers who are licensed to make radio sets also have access to all that is known about television in the research laboratories of the licensing agencies. In addition, some of the larger manufacturers have been carrying on experiments in their own laboratories for several years and have made valuable contributions to the art.

Therefore thanks to the peculiar setup of the radio industry, television is launched on its commercial career with many technical "bugs" ordinarily encountered in the production of new merchandise eliminated or minimized in advance. Television products arrive on the market in a higher state of perfection than would normally be the case with so new and so highly complicated mechanism.

But, and this is an important "but", the laboratories have so far concerned themselves primarily with the *production* of practical television equipment and have supplied little or no material that would help radio dealers in *selling* the new art to an intensely interested but highly uninformed, or misinformed, public.

#### **Initial Trade Problems**

Distributors and dealers who undertake to sell television equipment at this time literally are pioneers, breaking through to new frontiers.

The care and thoroughness with which their merchandising, installation and service policies and practices are planned will be an important factor in determining the success and growth of the television industry.

Obviously, the dealer who is interested in building long-term success must be able to explain to prospective buyers all the advantages that television can offer. *And he must also explain its limitations*, for one dissatisfied user could easily spoil many sales. Dealers will thus gain more ultimate television business by *underselling* early customers and will only hurt themselves and the new art too if they launch forth on a policy of *overselling*.

To retail television receivers successfully and profitably will require substantial investment of time, energy and money. A television receiver is much more complicated than the most elaborate radio set. The dealer and his service department will have to become acquainted with high-voltage equipment (2,000 volts are used for an average 5-inch cathode-ray tube, 5,000 and even 7,000 volts on larger sizes . . . voltages not unlike those of automobile spark-plugs which have made more than one careless mechanic do a "ground loop", but much more dangerous).

The characteristics of ultra high frequency waves such as those used

in television transmission will have to be studied and understood. Interference from auto-ignition, diathermy apparatus, traffic signals etc. must be recognized quickly and as far as possible eliminated by the installation.

There are, in fact, so many important things to know and to learn that some of the well-known manufacturers may be expected to insist that those who are to sell and service and install television shall complete a regular course of study conducted by engineers and specialists in this field. In some cases such courses may be compulsory and completely at the expense of the dealer. In others manufacturers may refund the cost, or part of it, by special credits on television equipment later purchased.

We can do little more than merely touch on these general problems at this time for plans are still very much in process of formulation.

#### **Store Demonstration Probable**

A television department will require a substantial investment if the retailer wants to operate as a full-fledged dealer and earn the maximum available discount. Because they are entirely new to virtually the entire public, it is likely that few televisions will be sold without demonstration.

To equip himself for making demonstrations in his store a dealer should expect to invest at least in

a sample line of television receiver models. Then he will probably find it necessary to install a fair-sized booth or demonstration room that can be darkened without interfering with business in the rest of the store. The room should provide comfortable seating for between 8 and 12 people and correspondingly more if more than one receiver is to be demonstrated.

Before attempting store demonstration the dealer will have to determine whether his store has a satisfactory location for good demonstrations. He will have to find the best possible location for receiving antennas, decide whether they can be in "line of sight" with the local transmitters, how far back from the curb he must place them to avoid severe ignition noise pickup, how much electrical interference may be expected to influence received pictures.

Some dealers who have stores in heavily trafficked, and hence heretofore desirable, locations may find it advisable to demonstrate television elsewhere because of the noise factor. A special store, private parlor or office might suffice.

#### **Home Demonstrations Too**

There are several sales executives who believe that television sets will be most successfully sold through home demonstration. Such selling would virtually demand preliminary study or testing by the dealer of locations at which the receiver is to be used. Special attention would be given to antenna location, as in the store. Factors of interference, without the home and within, would also come in for consideration.

If a particular antenna installation seemed to offer no insurmountable obstacles the dealer would next ask the customer to execute a regular sales contract which would include the price of the television plus a specified flat charge for installing the antenna and another fee for demonstrating at home. Then, after a satisfactory demonstration, the charge for the home demonstration might be applied against the purchase price.

It is generally conceded that, because of the special antenna requirements and the fact that no two installations will ordinarily be quite alike, dealers can make sure of giving their customers the best

possible results only if the antenna and cost of installing it are considered separately from the receiver in each sale.

There is another plan under discussion by those who believe home demonstration to be the best means of producing volume sales quickly. It provides for equipping a truck with a large telescopic antenna that will reach above most of the homes or buildings found in an ordinary residential district. The truck would carry all necessary cables to permit a receiver to be taken within a home and still operated from the truck antenna. The dealer would, in this instance, collect in advance a fee for demonstrating, applying it later against the purchase and utilizing it initially as a deposit.

While this latter plan involves a substantial initial investment it obviously has the advantage that the truck, properly equipped, could serve simultaneously as a demonstrating aid and a service shop for installations and later adjustments.

#### **Variety of Selling Plans**

A survey just before presstime by *RADIO and Television RETAILING*, among manufacturers, indicates that a variety of selling plans will undoubtedly be tried.

The reason for this is that at the outset not all radio dealers will be found ready, able or willing to install a full-fledged television department. Furthermore, there are several manufacturers who feel that a permanent selling plan should evolve out of a period of merchandising experimentation. This means that dealers will have an opportunity to test out the new lines in most instances without great permanent investment.

For instance, some manufacturers or distributors may establish show and demonstration salons in central locations, much as has been done by leading makers of automobiles. Dealers would bring prospects to such showrooms, or supply them with cards of admission and identification. Then the demonstrator would carry on his sales effort, and, if successful, see to it that the dealer was later credited.

Manufacturers employing such a plan would probably have two or possibly three types of proposition for the dealer.

Type "A" dealer would be ex-

pected to establish and maintain a complete television sales department and an installation and service crew trained by or under the supervision of the manufacturer. He would buy outright, handle all customer relations, and earn the maximum discount.

Type "B" dealer would have at least one television receiver on display but would depend upon the manufacturer's showroom for demonstrations and upon the manufacturer's own crew for installations. He would however, handle the customer account thereafter. His discount would be slightly less.

Type "C" dealer would be handling the manufacturer's line of radio sets, let's say, but would not carry television receivers in stock. He would simply refer prospects to the manufacturer or distributor and, in the event of a sale, receive a nominal commission for supplying the "lead".

It is also possible that during the first season some manufacturers may prefer to handle all television installations and service themselves in order to insure the maximum of satisfaction to each buyer. Such a plan would no doubt provide that the dealer perform all functions of display, demonstration and selling. In this instance the dealer would probably get the maximum discount and manufacturer's installation and service charges would clear through the dealer and include an auxiliary profit. All accounts with customers would be handled by the retailer.

Another plan has also been proposed by those who believe that improvements may come rapidly and that, consequently, buyers may shy because of fear that some new development might obsolete initial equipment. Under this plan the consumer would be permitted to *lease* television service for a minimum of one year at a fixed monthly charge. The supplier would furnish the receiver, keep it in working order, make any necessary adjustments and provide newer equipment if developments warranted. Thus the user would be assured of protection.

There are, however, just as many who contend that present standards and practices will prevail long enough to make obsolescence of equipment no more a factor than it is when buying a 1939 model car.



# LOOK TO IN

● When the curtain rises on the New York World's Fair, April 30, General Electric makes its public debut in television. In this new art G.E. has carried on intensive research for seventeen years — since 1922. In 1926 Dr. Alexanderson presented the first television program ever produced in America in the G-E Research Laboratories at Schenectady.

During the month of May, General Electric begins the distribution of its outstanding line of television receivers in the New York market—the only market where television programs will be available at this time.

When television transmission facilities are ready to serve your market, G.E. is ready to serve you with a complete line of receivers—

backed by a unique and effective sales and merchandising program.

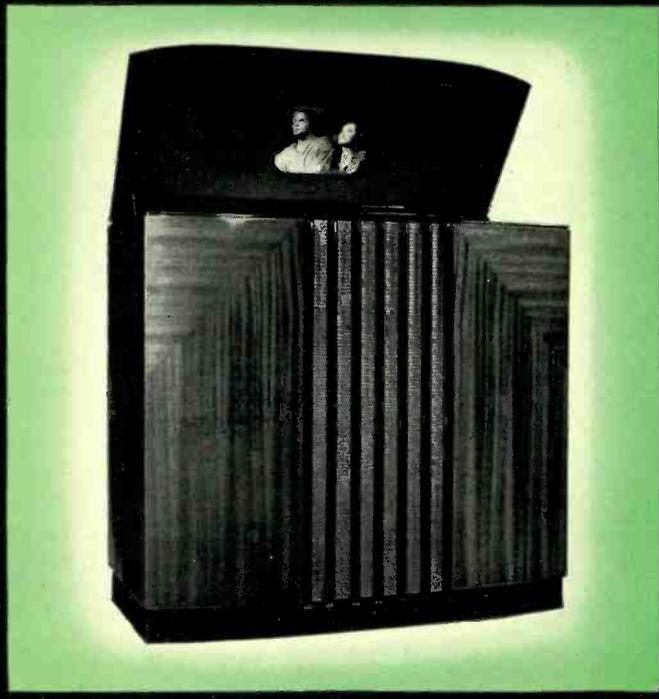
Unlike radio broadcasts, television programs cannot be sent out over network hook-ups. The effective range of a television transmitter is only forty to fifty miles. Hence, vast areas of the country must wait for years, perhaps, before television programs are available.

Even when programs are available everywhere, television will not supplant radio. It is distinctly a supplementary service. It can no more replace radio than could radio displace the theatre and motion picture.

It may even be reasonable to predict that radio sales volume may be maintained and actually increased as television is better under-

#### CONSOLE MODEL HM-275

High Definition Television Receiver and All-wave Radio. 12" Picture Tube Cabinet — height 38½" — width 42" — depth 20¾". 30 tubes (including picture tube).



#### CONSOLE MODEL HM-225

High Definition Television Receiver. 9" Picture Tube. Cabinet — height 40½" — width 28¾" — depth 17¾". 22 tubes (including picture tube).



# G-E TELEVISION!

stood by the public. Intriguing as television is, radio dealers must depend upon radio for their real profits perhaps for a long period to come.

Those dealers who can qualify to sell television sets this year will find the G-E line unsurpassed in performance, cabinet styling and dollar values.

In this new field the public will choose those products in which it has greatest confidence.

General Electric Television receivers carry the best known trademark in the entire electrical world.

And television, remember, is a product of *electrical* science. Television depends upon re-

search. General Electric maintains the largest research organization in the entire electrical world.

The G-E line of television-receivers includes five standard models, four of which are illustrated. See the General Electric Television demonstration, General Electric Building, New York World's Fair.

**IN TELEVISION  
LOOK TO G-E!**



## CONSOLE MODEL HM-185

High Definition Television Receiver. 5" Picture Tube. Cabinet—height 38"—width 23"—depth 17 $\frac{3}{4}$ ". 18 tubes (including picture tube).



## TABLE MODEL HM-171

High Definition Picture Receiver with Sound Converter. 5" Picture Tube. Cabinet—height 14 $\frac{1}{16}$ "—width 20 $\frac{3}{8}$ "—depth 18 $\frac{3}{4}$ ". 17 tubes (including picture tube).



**GENERAL  ELECTRIC**

# RADIO DEALERS!



## HAS TELEVISION SETS

ZENITH'S television transmitting station W9XZV is operating daily and is the only television transmitter licensed by the Federal Communications Commission in the whole Chicago area.

Today ZENITH'S television receivers are *loaned . . . not sold.*

## ZENITH IS READY-- BUT TELEVISION IS NOT

Even government television standards are *not yet* established.

The Federal Communications Commission, in its annual report to Congress in January this year, stated: "However, it is generally agreed that television is not ready for standardization or commercial use by the general public."

ZENITH believes it is UNFAIR to the public and KNOWS it is UNFAIR to the dealers to ask them to finance the television industry's experiments.

RADIO DEALERS have been *penalized and punished* by premature television publicity starting last Fall.

Prospects were led to believe that television would cover the country overnight.

ZENITH will not break faith with its dealers.

When ZENITH believes television is ready for general use in the store and the home . . . ZENITH will supply you with television receivers and *not before.*

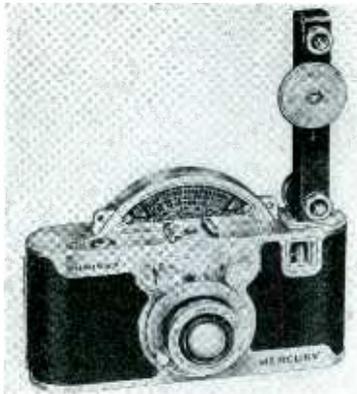
*President,*  
Zenith Radio Corporation

April 5, 1939

**UNIVEX**

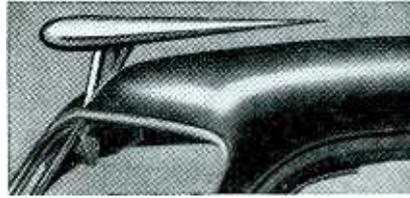
**RANGE FINDER**—Swing base range finder designed for use with Mercury, but usable on any camera having standard range finder clip. Can be folded down flat over top of camera, or used erect. Finder is of superimposed image type, readings are from 1 ft. 6 in. to infinity, with 13 graduations. Also recently added to the accessories line are a complete line of filters for the Mercury 1/1000th second candid and Univex cine camera line. Includes improved type of polarized filter and usual yellows, reds and greens.

Universal Camera Corp.  
28 W. 23rd St., New York, N. Y.



**FRANK ROSE**

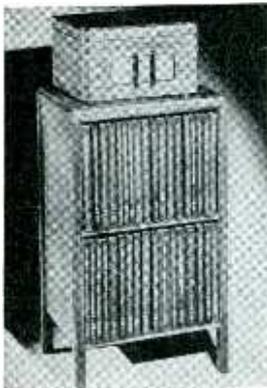
Frank Rose Mfg. Co.  
Hastings, Nebr.



**ANTENNA**—Auto Radio Antenna which combines streamlined appearance with unusually large surface, designed to develop strong signal strength without distortion from wheel or tire static, etc. Made of stainless steel with rustproof polished finish. Mounts with single bolt.

**TONK**

Tonk Mfg. Co.  
1912 N. Magnolia Ave., Chicago, Ill.



**RECORD CABINETS**—For those who own console or table model radiophono. Cabinets are walnut throughout, roll-proof shelves for loose records. Height 35½ in.; top 20½ x 15½ in. Other cabinets in various sizes in walnut and mahogany. Combination table model may be placed on top of cabinet.

**OXFORD TARTAK**

Oxford Tartak Radio Corp.  
915 W. Van Buren St., Chicago, Ill.



**SPEAKER**—"Little General" 2 in. permag speaker has all-over size of 2½ in., is designed for compact radio and sound equipment.

**EVANOIL**

Evans Products Co.  
Detroit, Mich.

**SPACE HEATER**—"Forced Aire" model features reversed forced air heating. "Synchro-float" fan (spring suspended) delivers flow of warm air across the room at floor level. Heat capacities from 30,000 to 70,000 B.t.u. making it possible for units to serve single room or average size small homes or apartments. Parts fully enclosed, service door permits ready accessibility, oversize humidifier. In summer, without heat, and with fan operating, Evanoil may be utilized for unrefrigerated summer cooling.



**AMPHENOL**—Molded sockets for bantam junior tubes such as HY113, HY115, HY125 are available molded from high dielectric black bakelite or from ultra-low-loss mica-filled bakelite. Accommodates both 5 and 6 prong tubes. Sockets extend below the chassis only 1/16 in. more than the tube prongs, mount in plain round 5/8 in. hole. Held firmly in place by retainer ring. No screws or rivets required. American Phenolic Corp., 1250 Van Buren St., Chicago, Ill.

**C-D**—Cornell Dubilier Electric Corp., South Plainfield, N. J., announces the type IF-8 All-Wave Quietone filter to replace the old CD Type IF-1 which can be used between radio receiver and power line to prevent line noises from entering set. Metal case shields unit which is equipped with binding post for ground connection. For use on 110 v. a.c. or d.c., 5 amp. maximum capacity.

**CROSLY**—"Reado" facsimile radio printer is available in kit form which the amateur can operate in connection with his own radio receiver. A development of the Finch method, the Crosley Corporation, Cincinnati, Ohio, is marketing the "Reado" printer as a finished job also, now offers it for amateurs in kit form.

**HICKOK**—Testing instruments by Hickok Electrical Instrument Co., Cleveland, Ohio, including Models No. 51-X, T 53 P, T 53 C and 5348 have been revised to test local tubes, ballast units, 50 volt tubes and pilot lamps. Also have noise tester. All of these instruments give dynamic mutual conductance readings in micromhos as well as indicating good, doubtful, replace.

**MILLER**—The J. W. Miller Company of Los Angeles, Calif., announces No. 7817 electric shaver filter which consists of two duo-lateral wound chokes of .3MH inductance and a condenser of .03 mfd. One choke is connected in series with each side of the line, and the condenser is connected across the line at the receptacle terminals providing high degree of attenuation to interference energy and doing away with need of ground connection to the filter. List \$1.50.

**OPERADIO**—Model 172 mobile public address system by Operadio Mfg. Co., St. Charles, Ill., has provision for the use of the remote controller unit, is an a.c.-d.c. combination with all controls on one dial plate. Change-over from d.c. to a.c. accomplished by adapter plug which in battery position throws the genemotor into operation, in a.c. position completes the circuit for a.c. operation. Features "Economizer Control" for conservation of battery supply by three switch control of tube filaments, battery supply of genemotor and battery supply for phono motor, making it possible to eliminate heavy drain circuits and maintain filament current when system is not in use.

**IRWIN**

Irwin Corp.  
Bridgeport, Conn.



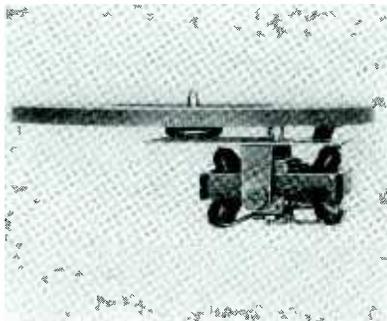
**CAMERA**—Dual Reflex camera has reflex chamber which opens automatically at snap of a button, a special eye level finder which converts it into candid type camera, construction with bakelite center, steel front and back, chrome trimmed, covered with black leatherette. Lenses are 50 mm. eyer and f 7.7 achromatic. Models R511, R512, R513 list at \$4.95, \$5.95, \$7.50 respectively.

## PREVIEW OF NEW PRODUCTS

### WEBSTER-CHICAGO

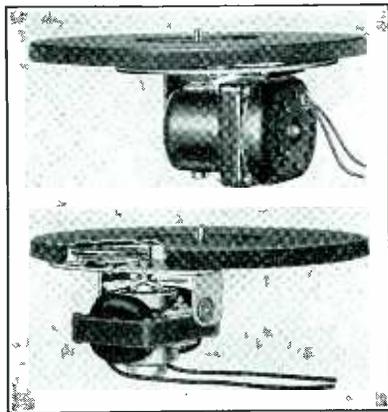
The Webster Co.  
5622 Bloomingdale Ave., Chicago, Ill.

**TURNABLE MOTORS**—Rim drive phonograph motors operate at relatively low speed, driving turntable rim through larger pulley, which means that the angle of velocity of the rim drive is much lower than it would be if the motor pulley were brought in contact with the turntable rim. This design is said to eliminate turntable vibration due to resonance. Requirements for 50 cycle equipment can be met through simple operation of changing driving wheel on motor shaft.



### ALLIANCE

Alliance Mfg. Co.  
Alliance, Ohio



**PHONO MOTORS**—Model 60 self-starting maintains constant record speed. Large bearings, ample oil reserves. Laminated Bakelite helical cut gears, forced ventilation, universal mounting plate maintaining correct turntable height with any thickness of mounting board, 8, 9, 10 in. turntable tops. Model 70 features friction rim drive, amply proportioned bearings, large oil reserves. Motor is shock mounted, has forced ventilation, 9 in. turntable.

### WESTON

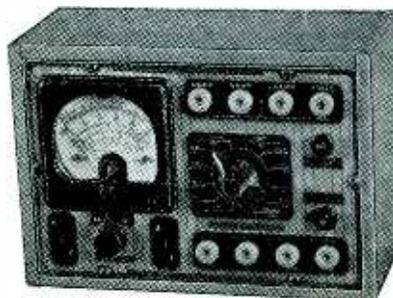
Weston Electrical Instrument Corp.  
Newark, N. J.

**TELEVERTER** — Shown mounted in analyzer case will extend the range of 200,000 ohms-per-volt analyzer to 5,000 volts. The unit, consisting of a resistor tube, two test leads, prods, and a mounting clamp. Maximum current drain is 50 microamperes, with input impedance of 100 megohms on the top range. Test leads are of the high-voltage, flexible type, withstanding breakdown test of 11,000 volts, in accordance with A.I.E.E. safety standards. Can be adapted to various analyzer models.



### RADIO CITY PRODUCTS

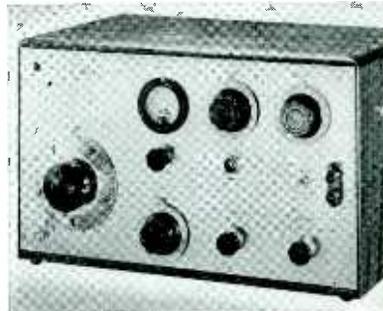
Radio City Products Corp.  
88 Park Place, New York, N. Y.



**TESTER**—Model 411 for television testing, radio servicing and general industrial use includes high voltage range of 5000 volts both a.c. and d.c. Bakelite jacks give large margin of safety. High voltage is not applied to selector switch or to general test circuits. Measurements at sensitivity of 5000 ohms per volt. High current range of 25 amp. both a.c. and d.c. Low ohmmeter range has center of scale at 5 ohms. High ohmmeter range of 4 megohms has easy reading scale.

### TELEVISO

Televiso Co.  
341 N. Pulaski Rd., Chicago, Ill.



**MICROVOLTER** — Model YD-3 standard radio frequency microvolter has an output from 100 kc. to 32 mc. calibrated from 1 volt to .1 microvolt with built-in vacuum tube voltmeter. Unit features solid walnut cabinet, engraved satin-bronze panel. Unconditionally guaranteed for 1 year. Variable modulation.

### SUPREME

Supreme Instruments Corp.  
Greenwood, Miss.

**TESTER**—Model 593 Socket Analyzer is an adapter to use with test meter to simplify work by allowing meter to be used either for socket analysis or point to point testing. In use, connect multimeter to two pin jacks provided, make necessary voltage and resistance tests between any two tube elements by pressing one button in upper row and one in lower corresponding to RMA numbered tube element. To take current measurements, press same numbered upper and lower buttons and meter is automatically cut into circuit.



### RIDER CHANALYST

Service Instruments, Inc.  
404 Fourth Ave., New York, N. Y.



**TESTER**—Offered in rack and panel assembly ready for installation with other bench equipment offers an advantage in that all jacks are out in front and immediately accessible to the serviceman. Passage of the signal is traced throughout the receiver from antenna to loudspeaker by use of the Chanalyst without interfering with normal operation of the receiver. Rack and panel is black rippled finish. Price in rack and panel is \$122.50.

### PRECISION

Precision Apparatus Co.  
821 E. New York Ave., Brooklyn, N. Y.

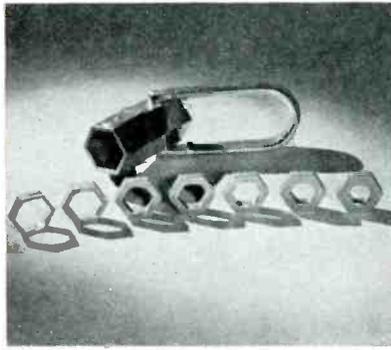


**TESTER**—Series 870 automatic push-button a.c.-d.c. multi-range tester incorporating 29 ranges including a 3,000 volt a.c.-d.c. range. All measurements, except the 3,000 volt a.c.-d.c. are obtained from two polarized tip jacks. Net price, including 3 v. battery, \$16.95.

PREVIEW OF NEW PRODUCTS

**STAR**

Star Machine Manufacturers, Inc.  
Hunts Pt. and E. Bay Ave., Bronx, N. Y.



**WRENCH**—Universal 7 in 1 socket wrench designed for use by installers of radio and car heaters. Available in 7 sizes, 3/4, 11/16, 5/8, 19/32, 1/2, and 7/16 in. Wrenches are self-contained in socket and are brought into use by pressing two spring clips, facilitating rapid change of sizes.

**GIRARD-HOPKINS**

Girard-Hopkins  
1437 23rd Ave., Oakland, Calif.

**CAPACITORS**—A new series of paper dielectric oil capacitors in 1, 2 or 4 mfd. capacities and from 600 to 7500 volts d.c. working. Made in both round and rectangular type cans for amateur, television or general use. These capacitors are physically small, in the lower price brackets and designed with a wide margin of safety.



**WARD**

Ward Products Corp.  
Cleveland, Ohio



**AUTO - AERIALS** — Anti-rattle aerials have been designed to eliminate "customer - come-back" calls by eliminating rattle in antennas which will prove a source of annoyance to the motorist and impair set performance.



**NEW MODEL AC-DC DUAL VOLTAGE**

**350 to 50000 WATT PRECISION WORKMANSHIP**

**STURDY CONTRACT LIGHT WEIGHT MORE THAN 40 TYPES IN STOCK**

COMPLETE ELECTRIC PLANTS

ONAN A.C. ELECTRIC PLANTS supply electricity to operate A.C. RADIO, SHORT WAVE TRANSMITTERS AND RECEIVERS, PUBLIC ADDRESS SYSTEMS, MOVING PICTURE PROJECTORS, SOUND TRUCK APPARATUS, ELECTRIC TOOLS, LIGHTS and ALL APPLIANCES.

THOUSANDS IN USE IN ALL PARTS OF THE WORLD

Used as **STANDBY EQUIPMENT** in Schools, Hospitals, Theatres and Public Buildings, for Emergencies caused by Power Line Failure due to Storms, Floods, and other Catastrophes. Save Property and Lives. Other Models for Farms, Camps, Homes.

Available in 110 or 220 Volt, AC—12, 32 and 110 Volt, DC—also Dual Voltage, AC-DC Types. Manual, Full-Automatic or Self-Starting. \$99 and up. Shipped **READY TO RUN.**

WRITE FOR DETAILS AND PRICES

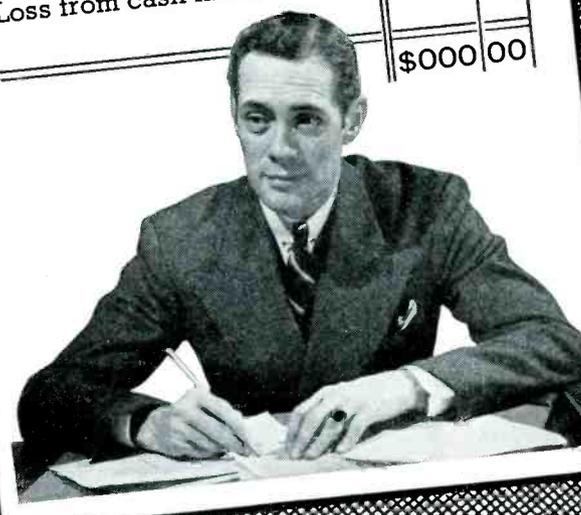
D. W. ONAN & SONS

447 ROYALSTON AVE. MINNEAPOLIS, MINN.

# YOU WANT THIS!

## DEDUCTIONS FROM PROFIT

Loss from dead stock . . . . .	\$000 00
Loss from slow turnover . . . . .	000 00
Loss from tubes sold at cost . . . . .	000 00
Loss from unfair competition . . . . .	000 00
Loss from cash investment . . . . .	000 00
	\$000 00



The factors which insure Tung-Sol dealers full profit are based on selective distribution. If, therefore, you can answer "yes" to the questions below, you are eligible for a Tung-Sol franchise and full profit.

- ☞ Is yours a representative service business?
- ☞ Is your location free from interference with already established Tung-Sol Agents?
- ☞ Can you compete in technical knowledge and service set-up?
- ☞ Can you move a reasonable tube stock every three or four months?
- ☞ Are your premises adapted to use sales-producing advertising displays to advantage?
- ☞ Will you maintain Tung-Sol established retail prices?

## TUNG-SOL RADIO TUBES

TUNG-SOL LAMP WORKS, INC., Dept. B, Radio Tube Division  
SALES OFFICES: • Atlanta • Chicago • Dallas • Denver • Detroit • Kansas City  
Los Angeles • New York • General Offices: Newark, New Jersey

# PREVIEW OF NEW PRODUCTS

## WILCOX-GAY

Wilcox-Gay Corp.  
Charlotte, Mich.

**SET**—One of seven authentic period furniture radio sets. Cabinets are genuine all walnut, all mahogany or all maple. Equipped with 5 tube superhet which is enclosed in a drawer that is drawn forward for tuning. Styles available all carry list price of \$47.95.

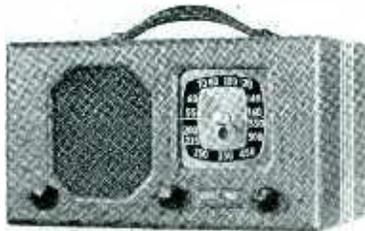


**PHONOGRAPH AND RECORD PLAYER**—Completely self contained, fully portable electric phonograph is also a remote operating wireless record player suitable for use with any radio. Has crystal pickup, self starting constant speed motor, permanent magnet dynamic speaker, cloth covered portable case.

## PORTOMATIC

Port-O-Matic Corp.  
1013 Madison Ave., New York, N. Y.

**MODEL U17-A**—Portable self-powered radio which also operates on a.c.-d.c. electric current, requires no aerial or ground and is completely self-contained. A 7 tube superhet which employs 4 tubes on battery operation in order to conserve battery life. On-off colored indicator shows battery operation and separate pilot light indicates power line operation. Model U17-A, illustrated, \$43.50 less batteries, Model U17-C covered in cowhide also available.



## ESPEY

Espey Mfg. Co., Inc.  
New York, N. Y.



**PORTABLE**—Model 942 has its own aerial, contains its own electrical supply. Operates by two tuning knobs. Superhet, employs low drain tubes, permanent magnet speaker, terminal connection for external antenna and ground if desired. Weight 12 pounds.

## IRC

International Resistance Co.  
401 N. Broad St., Philadelphia, Pa.

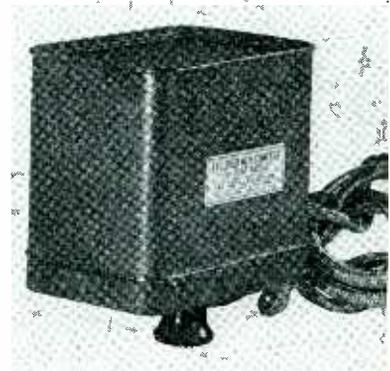


**CONTROLS**—Low power wire wound controls and rheostats are made in all needed ranges up to 10,000 ohms. They are equipped with "Silent Spiral Connector" which provides positive, continuous contact between rotor arm and end terminal. Power dissipation is 2 watts. Units are available with or without switch, and with complete assortment of shaft variations for any manufacturing or service replacement requirement. Diameter 1/4 in. by 1/8 in. depth of case.

## ABC

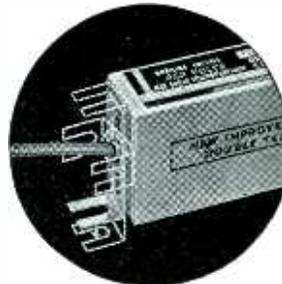
A B C Radio Laboratories  
3334 N. New Jersey St., Indianapolis, Ind.

**CONVERTER**—Model 903 shortwave converter which allows auto radios to receive police radio signals. One metal pentagrid converter tube is used to provide r.f. amplification of shortwave signal and an intermediate frequency signal of 600 kc. which is fed to the auto radio. Wavebands available from 1600 to 2500 kc. Regular broadcast reception is not affected when converter is not in use. List, \$7.95.



## SPRAGUE

Sprague Products Co.  
North Adams, Mass.

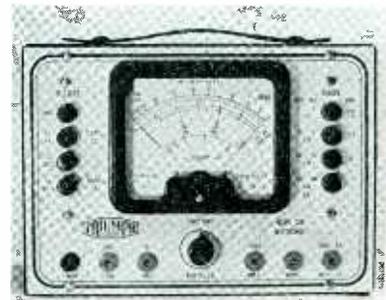


**TAB TYPE MOUNTING**—For quicker, easier mounting on any type of application, universal tab type mounting is offered on Type PTM 450-volt line of small cardboard dry electrolytic condensers. These tabs may be rotated to any position, adjusted to any desired height, or bent to any angle.

## TRIUMPH

Triumph Mfg. Co.  
4017 W. Lake St., Chicago, Ill.

**METER**—Multirange meter, model 330 has selective speed button operation, positive action, mirror scale on 4 1/2 in. meter. Thirty-two ranges include a.c. volts, d.c. volts, d.c. milliamperes, d.c. amperes, ohms, megohms and decibels. Instrument sensitivity 400 microamps, 7500 volt insulation for 3000 volt ranges, 1 per cent resistors throughout. Pre-aged calibrated rectifier, automatic overload protection on resistance ranges. D.c. isolating condenser on output ranges. Battery included. Weight 4 lbs. List \$19.95.



PREVIEW OF NEW PRODUCTS

**CONSOLIDATED**

Consolidated Wire and Assoc. Corps.  
514 S. Peoria St., Chicago, Ill.



**TESTER**— Model 9000 dynamic conductance tube tester makes provision for testing of octal and single ended tubes. Enclosed in natural finish oak case with slip hinge cover making it adaptable for counter or portable use. Features include compensation of line variation for changes between 90 and 130 volts; hot cathode shorts and leakage test, testing of all types of tubes, neon glow bulb leakage indicator, easy-reading tube chart.

**NOGGLE PRODUCTS**

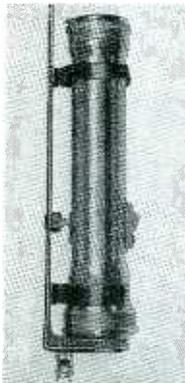
Noggle Products Co.  
Ann Arbor, Mich.

**STORAGE CONTAINER**— The Spin-A-Bin is a Lazy Susan type of container for storage of small parts in the service shop. It is a revolving assembly of welded steel bins available in unit containing 24 bins each 3x3x2 1/2 in. or in 24 bins 4x4x3 in. Double width bins can be substituted for any pair of single bins.



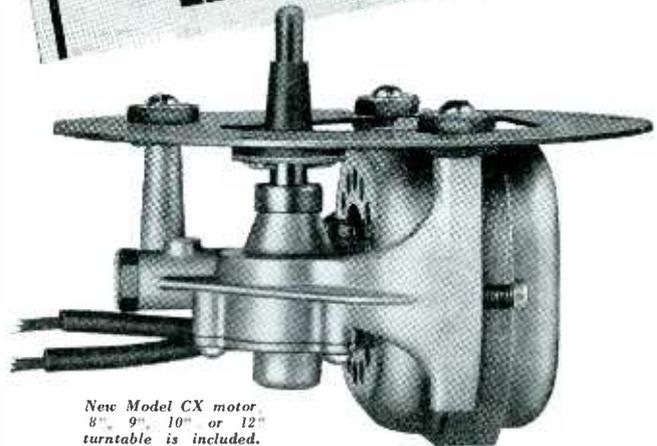
**CHARGIT**

Chargit Corp.  
Anderson, Ind.



**RECHARGEABLE FLASHLIGHT**—Assembly consists of flashlight case, battery, and charger. Battery is delivered permanently sealed, does not require refilling or any other service attention for one year or longer, so long as flashlight is deposited in charger which has been properly connected to the current supply source when light is not in use, and so long as flashlight is put into service at least once a week.

**Pick These Motors and Changers for Low-Cost Installations:**



New Model CX motor  
8", 9", 10" or 12"  
turntable is included.

**PUT** this newly-developed, light-weight, lower-cost constant speed Flyer CX Motor in your portables and table-model phonographs. Self-starting, silent, strong. Free ventilation, fan-cooled—won't overheat in enclosed, small cabinets. Helical-cut gears and large bearings. Ample oil reserve in sealed chamber. Turntable has patented drive, that provides double insulation. Ready to install when you get it.



Model "M" unit. Plays and changes eight 10-in. or seven 12-in. records.

For maximum sales of low-cost automatic changers and combinations, get General Industries motor-pickup-changer units. High fidelity reproduction, by new tangent-tracking pickup with volume control. Dependable Flyer Motor with turntable. Simple, reliable changer mechanism. Choice of several models, with price range. All ready-assembled, easy to install.

Order test samples, stating voltage and frequency of current you use; or send for free catalog sheet and price list.



**The GENERAL INDUSTRIES CO.**  
3937 Taylor St.  
Elyria, Ohio

**AMERICAN MICROPHONE CO., Inc.**  
Los Angeles, Calif.

**D6T DYNAMIC Microphone**

A Sturdy, Multi-use, Quality Microphone, with Higher Output and advantageous Directivity Characteristics.

Output level—46, usable range 30-7000 cps.  
D6T, High Imp., \$27.50 D6, Low Imp., \$25.00  
Including Cable

General catalogue describes other attractive models. Request copy

B9 Crystal List \$22.50

D7T Dynamic List \$22.50



**FORMS NEW FIRM**—W. Keene Jackson, former sales manager for the International Radio Corporation, has formed the Keene Appliance Company, locating in the First National Bank Building at Ann Arbor. He's to market a line of "Keene" radios through distributors shortly, is building a territorial sales organization, expects also to enter the electrical appliance field

## Stations Start Campaign Broadcasts

NAB-RMA year-'round promotion begins April 17. Broadcast execs invite trade to form local and regional councils. Window trims, circulars ready.

NEW YORK—To broadcasters as this issue closed, from headquarters of the NAB-RMA joint campaign to (1) Sell the American system of broadcasting and the part each broadcaster plays therein, (2) Sell the diversity and excellence of the daily American program service, (3) Increase the amount of listening and, (4) Increase the quality of home reception, went material designed to help station executives organize distributors, dealers and representatives into effective local or regional cooperative campaign councils. Included were 30-minute transcriptions telling the entire campaign objective from a trade angle, explanatory literature, pledges of manufacturer cooperation. Station execs were urged to meet members of the trade on this common ground at once.

Beginning the week of April 17 their part of a year-'round promotional project, broadcasters cooperating were transmitting special tie-in programs, inaugurating a National Radio Open House in which the public was invited to visit studios and transmitters, in groups or singly. Special invitations were in many instances to be extended to school groups, Parent-Teacher Associations, Federations of Women's Clubs, Music Clubs, Religious groups, discussion groups, Chamber of Commerce members, City

# On the Newsfront

Councilmen, State Legislators, business and professional groups.

Emphasizing the efficacy of the planned promotion of "Radio through Radio," campaign headquarters simultaneously announced that advertising and window-trim tie-in material was being made available immediately, much of it obtainable by dealers through the cooperation of manufacturer advertising departments.

Symbol dramatizing the campaign in printed matter forwarded late in March to broadcasters urged to make themselves the nucleus of the drive, was a drawing of a human ear upon which was superimposed a graph showing radio's steady upward progress as an entertainment medium and one which gives employment to upward of 345,000 people in the receiver production and distribution branches alone. Significant were paragraphs in the plan book urging broadcasters to work closely with the trade because: "What affects one, affects the other," sentiment that has long been in the minds of both groups but has rarely been so clearly articulated.

## Reps Plan Parts Show Special Leaves Grand Central June 11

NEW YORK—At the March 4 meeting of THE REPRESENTATIVES plans were completed for a Radio Industries "Special" to Chicago, where the Parts Show and RMA Convention are to be held in June.

Train leaves Grand Central the afternoon of Sunday, June 11, and will pick up a New England delegation at Albany. Perry Saftler of 53 Park Place is in

charge of reservations.

New members of the Association include: George E. Anderson, Hal F. Corry and A. L. Bertheld of Dallas; Roland Moeller of Milwaukee, Fred E. Garner of Chicago, Sidney H. Gatty of Philadelphia and Waldo F. Kelleigh of Boston.

## NRPDA Tube Survey Results

**Favors shorter discounts. Opposes "deals". Acknowledges manufacturer cooperation**

READING—From George D. Barbey, secretary of the National Radio Parts Distributors Association, comes a preliminary report (to be supplemented after further study by the Association) on a mail survey started January 6 among parts jobbers relative to replacement radio tube policies.

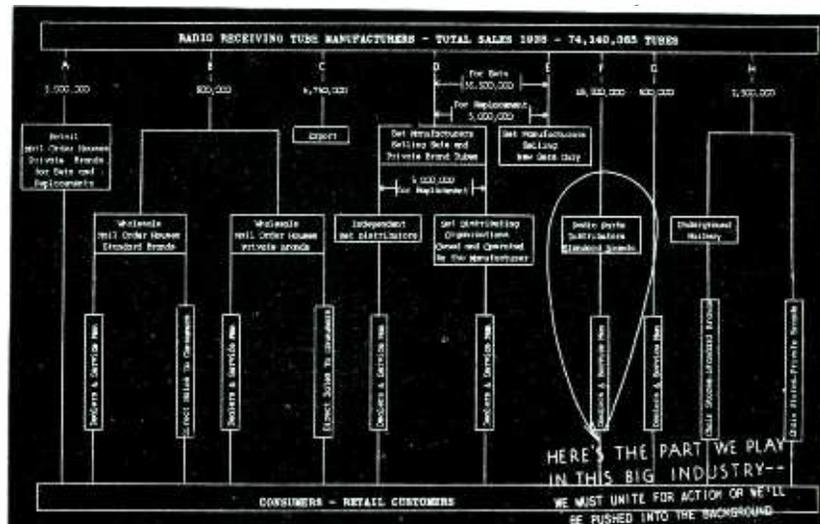
Highlights of the NRPDA's initial findings, excerpted from the report mailed March 8 simultaneously to cooperating jobbers and the press, follow:

"A majority of returns favored a lower schedule of discounts, but opinions varied greatly as to what the lower schedule should be. . . . And there were just as many opinions as to the jobber discount. . . .

"A majority of the jobbers believe that a schedule of 40 to the dealer and 50 and 10 to the jobber would be better than the present condition, but still would not make the distribution of tubes profitable. . . .

"A majority of the jobbers preferred the grouping of prices into fewer groups; three, four and five groups being favored by most. Prices ending in '9' are almost

## As the NRPDA Sees the Radio Tube Business





**EDITORS AID PHILCO-NY**—Selecting recipients of merchandise awards going to dealers who attended this distributor's late March Savoy-Plaza convention, left to right: Sales promotion manager *H. Pierson Mapes*, *RADIO and Television RETAILING's O. Fred Rost*, Comptroller *T. A. Dougherty*, *Glad Henderson*, Sales manager *Louis Schneider*, *Cy Kneller*, *Earl Lifshy* and *O. H. Caldwell*

unanimously 'out', and a big majority are opposed to 'quantity prices, free equipment deals, etc.' . . ."

Acknowledged in the report was the current effort of tube manufacturers to stabilize merchandising plans. Wrote Mr. Barbey: "The Radio Receiving Tube Manufacturers Association is really making an effort to work out a stable tube merchandising plan. They have engaged Stevenson, Jordan and Harrison, a firm of Industrial Management Engineers, to make an exhaustive survey of the tube industry, to cooperate with the NRPDA and act as an impartial clearing house for all information gathered by the manufacturers and distributors.

In his preliminary report mailed March 8 Mr. Barbey, still tabulating, did not indicate the number of returns upon which initial findings were based. It is, however, stated that 1600 parts jobbers received questionnaires. And in a bulletin prepared by the Radio Receiving Tube Manufacturers Association approximately one month earlier, on February 2, it was indicated that perusal of 370 NRPDA returns at that early date indicated that 322 had included annual replacement tube volume . . . "a pretty clear picture of the jobber business covered in the questionnaire and which indicates that the questionnaires do cover a good cross-section of those responsible for renewal distribution."

Permitted to examine NRPDA questionnaires, the RRTMA presented in its bulletin the following tabulation: relative to the 322 jobbers referred to above:

	% of Volume Jobbers	% of
Cities over 1 million population	20	7
Cities from 500,000 to 1 million	17	10
Cities from 200,000 to 500,000	21	16
Cities from 100,000 to 200,000	16	16
Cities from 50,000 to 100,000	11	13
Cities from 20,000 to 50,000	10	22
Cities under 20,000 population	5	14

While the most recent RRTMA bulletin on the subject precedes the March 8 NRPDA report by more than a month and, hence, does not include all ques-

tionnaires upon which Mr. Barbey's report was based, the following figures relative to jobber opinions about discounts in the bulletin will prove of general interest:

	As of February 2			
30% recommended count of 40%	maximum	dealer	dis-	
29% recommended count of 40-10%	maximum	dealer	dis-	
35% recommended count of 50%	maximum	dealer	dis-	
14% recommended count of less than 40%	minimum	dealer	dis-	
84% recommended count of 40%	minimum	dealer	dis-	
15% recommended count of 50-10%	maximum	jobber	dis-	
36% recommended count of 60%	maximum	jobber	dis-	
42% recommended count of 60-10%	maximum	jobber	dis-	
4% recommended count of less than 50-10%	minimum	jobber	dis-	
40% recommended count of 50-10%	minimum	jobber	dis-	
41% recommended count of 60%	minimum	jobber	dis-	
7% recommended count of 60-10%	minimum	jobber	dis-	

Additional facts will be published in these columns when received from the sources used above.



**MAJESTICMEN**—(Left to right) General Manager *Alfred Rodriguez*, Management Engineer *Harold H. Funk* and General Sales Manager *William B. E. Norrins*

## RSA Active In Many Directions

Announces Parts Show meeting plans. Adds new Chapters. Arranges television course. Elects directors.

CHICAGO—The Radio Serviceman of America, Inc., plans its annual member meeting for 7 p.m., Friday, June 16, during the National Radio Parts Trade Show here. Offered to the RSA Chapter three hundred miles or less from Chicago sending the largest percentage of its membership to the Show (Chicago Chapter excluded) is a \$10 award. \$15 will go to the best represented Chapter over three hundred miles from Chicago and \$5 to the RSA individual member coming the greatest distance.

Newest RSA Chapter is at Denver. Officers include Joe J. Mathes, Frank D. Rauber and O. J. Hurley. Chapters are also contemplated in Lewiston and Pekin, Illinois, Scranton and Toledo.

The Association's Chicago Chapter has arranged with RCA Institutes of this city for an exclusive RSA course in television servicing. Terms and provisions are being arranged to suit advanced radio servicemen.

Election of directors to serve on the RSA national board is under way, results to be announced during the annual meeting. Harold Cunningham and Felix J. Gruman of Chicago and Donald Stover of Freeport, Illinois are acting as "tellers" in the election and ballots listing nominees for the various districts have been sent to qualified members. Nominees are as follows: District 5: Paul Fassnacht, Clarence L. Swanson and George D. Wooley. District 7: C. W. Fox, R. J. Hinkle, Fred Olsen and Charles N. Snyder. District 9: Joseph A. Cole, Leonard W. Ross. District 11: Frank L. Clark, Kendrick Head and Earle F. Parker. District 13: Joseph B. Austin, Jr., C. L. Ellis and Winston B. Jones. District 15: Harry Miller, Carl A. Rauber and Allen Turkenkopf. District 17: George F. Duvall. District 19: John T. Rose, Norman W. Smith and Lawrence Swanson.



**So you can  
build with  
Confidence**

● This tiny electrolytic costs only 50 cents list. But it could cost many dollars to some serviceman, builder or manufacturer if it broke down and endangered tubes and other costly components. That's why the AEROVOX guarantee really backing every AEROVOX condenser with which it is packed, means so much to the radio trade today.

It is this sort of insurance against unwarranted failure that has built up supreme confidence in AEROVOX products. They are bought by those who simply cannot afford failures. What more could be said?

**Are you getting  
this . . .**



● AEROVOX issues this monthly bulletin of practical radio information. Subscription rate is only 50c per year.



## RMA Convention Sked

WASHINGTON — Following is the RMA's tentative June convention schedule:

*Tuesday, June 13*, Board of Directors meeting, West Ballroom of Stevens Hotel. 12:30 p.m., Membership luncheon meeting and annual business meeting with reports, North Ballroom. 2:30 p.m., Set Division, annual membership meeting, Private Dining Room 1. Same time, Tube Division, annual membership meeting, Private Dining Room 5; Parts and Accessory Division, annual membership meeting, Private Dining Room 2; Amplifier and Sound Division, annual membership meeting, Private Dining Room 3.

*Wednesday, June 14*, 10 a.m., Export committee, Private Dining Room 5. 12:15 p.m., Credit committee, luncheon meeting, Eastern and Western Divisions, business session with NCO following luncheon, Private Dining Room 1. 12:30 p.m., Luncheon meeting, new Board of Directors, election of president and other officers for year, Private Dining Room 2. 7:00 p.m., Annual Cabaret and Industry Banquet, TERRACE CASINO, MORRISON HOTEL.

*Thursday, June 15*, Radio Industries Golf Tournament, Calumet Country Club,



**DYNAMIC SHURE**—Mike maker Sid Shure (right) discusses sound problems in general and his new dynamic line in particular with distributor Bill Shuler at New Orleans

Luncheon at 12:30 p.m. and dinner at 7:30 p.m. at Clubhouse.

*Saturday, 10:00 a.m.*, Service Section, Western Division, Private Dining Room 1 at the Stevens Hotel.

## Radio On The Law Books

WASHINGTON—From the RMA's legislative committee, actively combating proposed laws detrimental to radio or radio dealers wherever it finds them,

### Experimental Facsimile Stations\*

CALL	FREQ. (Kc.)	POWER (Watts)	HOURS	LOCATION	OPERATOR
KFBK	1490	10,000	12 mid to 6 a	Sacramento	McClatchy Broadcasting
KMJ	580	1,000	12 mid to 6 a	Fresno	McClatchy Broadcasting
KSP	1460	25,000	.....	St. Paul	National Battery
WBEN	900	1,000	12 mid to 6 a	Buffalo	WBEN, Inc.
WCLE	510	500	.....	Cleveland	Cleveland Plain Dealer
WGN	720	50,000	1 a to 6 a	Chicago	WGN, Inc.
WHK	1390	1,000 (2,500?)	1 a to 6 a	Cleveland	Radio Air Service
WHO	1000	50,000	12 mid to 6 a	Des Moines	Central Broadcasting
WLW	700	50,000 (500,000?)	12 mid to 6 a	Cincinnati	Crosley Corp.
WOR	710	50,000	2 a to 6 a	Newark	Bamberger Broadcasting
WSAI	1330	5,000	.....	Cincinnati	Crosley Corp.
WSM	650	50,000	12 mid to 6 a	Nashville	National Life
W1XMX	41000	500	Unlimited	Mt. Washington	Yankee Network
W2XBF	ultra-high	1,000	3 to 4 p daily, Sat. 11 a to 12 n.	New York	W.G.H. Finch
W2XR	1614 2012 2398 23100 41000	1,000	Unlimited	Long Island City	Radio Pictures
W2XUP	86000-400000 31600 35600 38600 41000	100	Unlimited	Newark	Bamberger Broadcasting
W7XBD	1614 2398 3492.5	1,000	Unlimited	Portland, Ore.	Oregonian Publishing
W8XAN	.....	.....	.....	Jackson, Mich.	Sparks-Withington
W8XE	31600 35600 38600 41000	50,000	Unlimited	Cleveland	Radio Air Service
W8XNU	26000	200	Unlimited	Cincinnati	Crosley Corp.
W8XTY	31600 35600 38600 41000	150	Unlimited	Detroit	Evening Ass'n.
W8XUF	31600 35600 38600 41000	100	Unlimited	Jackson, Mich.	Sparks-Withington
W9XAF	41000	500	Unlimited	Milwaukee	Journal Co.
W9XAG	1614 2398 3492.5 4797.5 6425 8655	1,000	Unlimited	Milwaukee	Journal Co.
W9XSP	31600 35600 38600 41000	100	Unlimited	St. Louis	Star Times
W9XZY	31600 35600 38600 41000 2012	100	Unlimited	St. Louis	Pulitzer Publishing
	2012	250	Unlimited	Sioux City	Times Facsimile

\* Licensed, or license applications pending. Ed. Note: Above list compiled from data furnished independently by RCA and by Finch. Some discrepancies noted. Verification difficult in many instances due either to operator reticence regarding specific plans or FCC caution. Early revision certain.

comes the following last-minute report:

An effort in the Oklahoma legislature to levy a special 5 per cent "luxury" tax on radios, phonographs, electric refrigerators, radio broadcasting, jewelry, cameras and other articles has been killed.

A bill passed in Maine provides \$200 exemption for household effects, including radios, from personal property taxation, following a court ruling that radios are not household furniture.

A bill in Tennessee to reduce taxes on dealers in radios, automobiles and other lines failed to pass.

A Massachusetts bill to establish a state radio commission has been killed.

A bill in the Washington state legislature to place radio and refrigerator servicemen under the state Workmen's Compensation Law was passed and approved.

Loudspeakers on radios and victrolas operated within one mile of the corporate limits of any city or town of Wayne County would be regulated and controlled by the Wayne County Commissioners under a bill which has passed the North Carolina legislature.

### Jacobs Now Heads Belden

CHICAGO — Whipple Jacobs has been elected president of the Belden Manufacturing Company, succeeding Joseph C. Belden, who died February 17.

Mr. Jacobs has been with the company for 24 years, beginning shortly after leaving school as a factory inspector, later becoming chief inspector, purchasing agent, sales manager and then vice president. He is at present chairman of the Wire and Cable Division of N.E.M.A., a member of the Chicago Club, Indian Hill Country Club, Electric Club of Chicago and the Electrical Manufacturers Club.

### Parts Show Stretching Space

CHICAGO—Contracts for exhibit booths are pressing the management of the Radio Parts Manufacturers National Trade Show, Inc., so hard that at last report spaces of an institutional nature were being removed from the main exhibition floor to make room.

Without resorting to prohibitory rules or regulations, the management has sold exhibiting manufacturers the idea of refraining from staging meetings of their reps on Show days, a voluntary move that will make such reps available to jobbers with little time throughout the entire four days of the exhibit.

### Servicemen Plan "Info-Meet"

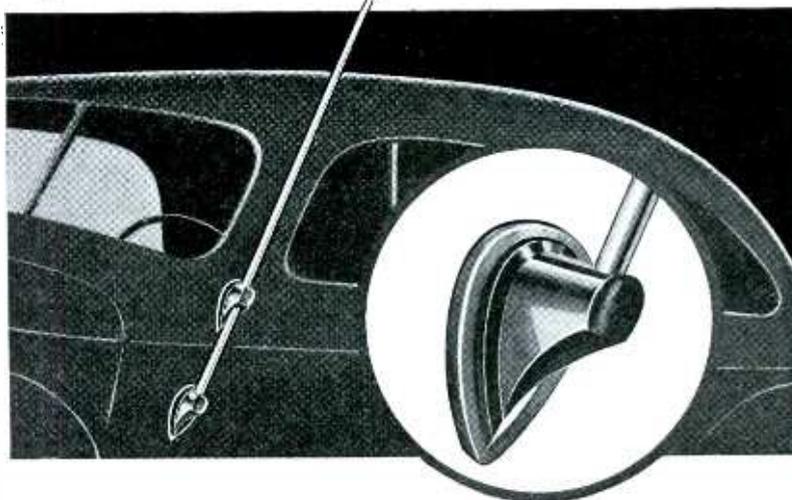
ROCHESTER—The Radio Technicians Guild of this city has completed plans to hold an "Info-Meet" (information meeting) at the Powers Hotel here Sunday, May 28, are inviting radio servicemen located within 300 miles of the city and from nearby New England points to attend.

Cities or servicemen's groups are being urged to send five-man teams to compete

*Brach  
Introduces*

## RADIO'S SMARTEST COWL AERIAL

DESIGNED FOR BEAUTY AND EFFICIENCY



### SPECIAL FEATURES

- ★ Beautiful new streamline design
- ★ Gleaming chrome plated — Admiralty Brass
- ★ Velvety smooth noiseless action—permanently lubricated
- ★ Vibrationless—exclusive anti-rattle design
- ★ Approved and recommended by leading car manufacturers

**L. S. BRACH**



**MANUFACTURING  
CORP., NEWARK, N. J.**

### SPECIAL \$55.00

Net Price—direct to dealers—f.o.b. New York City. Due to this special low price—sold on a cash with order basis—or 25% deposit with order, balance C.O.D. This offer open for dealers in the United States only.

This exact same model has been sold in New York City for \$110.00 list. It is an outstanding value for \$99.50 or \$89.50—retail list price.



#### MODEL D-6 PORTABLE AUTOMATIC RADIO-PHONOGRAPH COMBINATION

Over-all  
dimensions  
when closed:  
Width 15 in.  
Height 11½ in.  
Depth 18¾ in.  
Weight 34 lbs.

#### FEATURES:

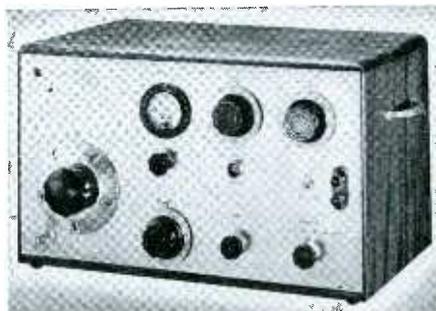
Automatic record changer—changes eight 10 inch records—repeats 12 inch record—RCA licensed Superheterodyne radio—five tubes plus one ballast tube—AC-DC operation—high fidelity crystal pickup—illuminated aeroplane dial—dual tone control—dynamic speaker—record carrying compartment—deluxe simulated brown leather case.

Here is a real chance to make some nice profits on a deluxe, quality instrument. It taps a big new market—sells fast—answers your need for something new, different and modern.

Orders will be shipped promptly in order of receipt. Send for your supply at once!

**MARCONIPHONE INC.**  
679 Madison Ave. New York, N. Y.

### EQUIPMENT for the SERVICE ENGINEER



Model VD-3 Standard Radio Frequency Microvolter, net price f.o.b. \$85.00

Range 50 Kc to 32 MC; calibrated from 1 volt to .1 microvolt with built-in vacuum tube voltmeter; variable modulation.

- Completely copper shielded
- Solid walnut cabinet
- Engraved bronze panel
- General Radio and National controls and components
- Unconditionally guaranteed for one year

Model VR-7 Signal Generator (less VTVM)—net price \$45.00 f.o.b.

Model VG-6 Vacuum Tube Voltmeter—net price \$25.00 f.o.b.

Write for booklet "Modern Standards of Measurement Technique."

### TELEVISO COMPANY

337-345 North Pulaski Road  
Chicago, Illinois

**33** individual  
SUPER RANGE  
instruments  
IN THIS ONE COMPACT  
**RCP SUPERTESTER**

AND THE PRICE  
NEWS IS JUST AS  
SENSATIONAL

only

**\$16.25**



**Look at these Advanced Features!**

5 stage, high AC-DC voltage range to 5,000 volts. High voltage not applied to selector switch nor to general test circuits. New design all bakelite body jacks. . . 3" sq. meter with movement of 200 microamperes or 5,000 ohms per volt. 3 stage, AC-DC current range to 25 amps. . . DC Milliamps 0/10/100. . . DC Microamps 0-200. . . Center of scale, of low ohm meter range, only 5 ohms with each of first ten divisions measuring 0.1 ohm. . . AC Ma. 0/500. db meter from -10 to +69 in 5 stages.

**Think of it!**

The equivalent of 33 test instruments in one! And all for a price so low that to call this Supertester "your money's worth" is mild comparison.

Model 411—**\$16.25**. Model 411B with provision for testing ballast tubes with octal bases — **\$17.95**. Model 411P with hinged cover — **\$17.95**.

**And look into these for VALUE!**

**MODEL 307 NEW DYNOPTIMUM TESTER**

—Tests All Tubes, including Loctals, OZ 4, cold cathode rectifiers, metals and glass. Tests all ballast tubes. Hot interelement short and leakage check. Hot cathode leakage test. Tests each section of rectifiers and all multi-purpose tubes.



**\$16.95.**

Model 307 complete, your cost only  
Combination portable and counter model (#307P), at the low cost of **\$18.95**.

**MODEL 800—TUBE & SET TESTER**

Has all the splendid tube testing features of RCP Model 307 (above) plus the extra service advantages of a fine Multitester. High voltage insulation, self-contained power supply, unusually long multiple scales in 3 colors. Attractive sturdy case, slip hinge cover. Money never bought a better value!



**\$27.95.**

See Your Jobber or Write for Catalog.

**RADIO CITY Products Co.**  
88 PARK PLACE NEW YORK CITY

RADIO CITY PRODUCTS CO. INC. R.R. 4  
88 PARK PLACE, NEW YORK CITY.

I am interested in your jobber set-up. Please send me complete details. . . I am interested in your testers, send me catalog. . . . .

Name . . . . .  
Firm Name . . . . .  
Address . . . . .  
City . . . . . State . . . . .



**UPPED BY IRC**—International Resistance Company's *Jesse Marsten (right)* has been made a vice-president, will continue as chief engineer. *Harry A. Ehle* becomes assistant to the president, also continues in charge of industrial sales

in a "technical quiz", five questions to be submitted for inclusion in the list by each competing team.

Registration starts at 10:30 a.m. Dinner is to be served at 6 p.m. at \$1.50 per plate, this being the only expense connected with the meeting other than travelling expenses.

**Utah Reports Sales Up**

CHICAGO—At the annual meeting of Utah Radio Products Company stockholders, held here April 4, president G. Hamilton Beasley announced that shipments of all divisions for the first quarter aggregated \$629,000 as compared with \$350,000 during the same period of 1938.

All directors were re-elected, as were all present officers except John A. Snyder, vice-president. J. W. Caswell, general manager of The Caswell-Runyan Company, a Utah subsidiary, replaced Mr. Snyder. This, we understand, does not involve a change in management but was done in order to allow Mr. Snyder more freedom in carrying on his duties as vice-president in charge of sales for Caswell-Runyan.

**Philco's Television Trek**

PHILADELPHIA — Philco's portable television transmitter, demonstrated together with receivers made by this firm, is being seen by the trade throughout the east. Schedule, part of which has been completed as we go to press, is as follows: March 29 Washington, March 31 Baltimore, April 6 Boston, April 11 Pittsburgh, April 14 Cleveland, April 18-21 Detroit, April 25-28 Chicago, May 2 Milwaukee, May 5 Minneapolis and May 9 St. Louis.

An additional itinerary, to cover western and southern areas, is planned.

**Catalog Co. to Move**

NEW YORK—United Catalog Publishers, Inc., moves on or about May 1 to 230 Fifth Avenue, larger quarters.

**Hatry & Young Moves**

HARTFORD—Hatry & Young's New Haven branch moved April 1 to 1172 Chapel Street.



**SOUTH OF KEY WEST**—These fishermen really fished. Fourth, fifth and sixth from left: *Ben Krell* of Dixie Radio Supply, *Henry Burwell*, well known rep and *Earl Dietrich* of Raytheon

## Noise For the Asking

New Tobe record re-creates common radio rackets in the flesh

CANTON, MASS.—Into the field with a noise locator and electrical recorder went men from the Tobe Deutschmann Corporation's Filterette Division, searching for typical rackets which mar radio reception and will shortly be encountered with even more annoying persistency by televisors. On a record went these typical noises, such as those caused by electric wiring defects, household appliances, electro-medical apparatus, commercial electrical devices and industrial equipment, each properly identified by an obliging voice.

For demonstrating that racket is not the fault of a receiver this 12-inch, 78 r.p.m. disc has distinct possibilities. For educational work and as an aid in actually identifying actual noises it has no counterpart. On the reverse side Tobe Deutschmann himself talks on the subject of electrical noise, avoids any semblance of a commercial continuity.

### EXTREMIST

Overhead power lines would be moved and trees on rural highways cut down to prevent interference with radio reception in automobiles, under the terms of a bill proposed to the South Carolina legislature by Representative Herbert W. Smoak.

### Broadcast Combats Noise

EAST ROCKAWAY, N. Y.—Four newspaper radio editors spoke for 15 minutes over a national network from WABC April 6 from 6:45 to 7 p.m. on the subject of man-made electrical noises hampering radio reception and soon to be important in the television field. They were Thomas Brooks, M. L. Bragdon, Leonard Carlton and Ted Rogers, for whom time was arranged by Frank Carter of this town, president of the National Association for the Prevention of Radio Interference.

### A.R.C. Hires Bates

NEW YORK—Albert Bates, a record buyer for 20 years and formerly with Wanamakers of Philadelphia, a Victor distributor in Cincinnati and, most recently, sales rep for Krich-Radisco of Newark, has been appointed manager of the American Record Corporation's New York branch.

### Sets Plus Silver

CAMDEN—Following a preliminary test sale near Nashville, Tennessee, RCA Victor is currently offering its dealers in rural areas nationally a model 94BT-1 battery radio in combination with a 51-piece set of Rogers silver at a price slightly higher than the list of the radio. Promotional material is included in the package.

## PRACTICAL Portable RADIO

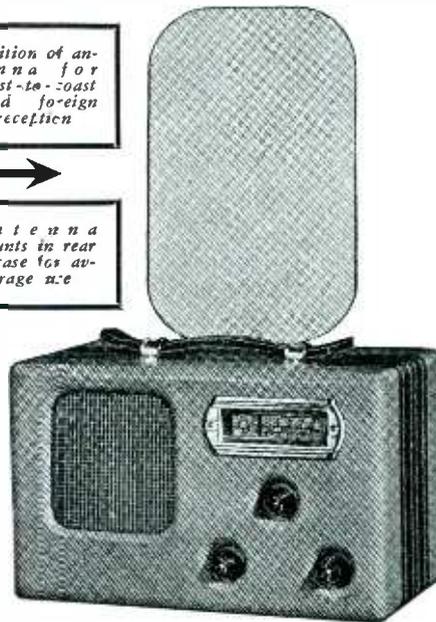
OPERATES ON 110 VOLT A.C. OR

SELF CONTAINED BATTERIES

Position of antenna for coast-to-coast and foreign reception



Antenna mounts in rear of case for average use



Licensed by R. C. A.

Territories available for distributors and dealers

**SETCHELL CARLSON, Inc.**

2233 UNIVERSITY AVE.

ST. PAUL, MINN.

Here is a *saleable* portable set—two radios in one. Can be used anywhere—on 110 volt A. C. or on Batteries (4 flashlight cells and 2 small 45 volt B's—exceptionally long battery life.)

● Frequencies covered 550 kc to 1800 kc and 6 mc to 2.2 mc.

● Foreign, aviation, police, and amateur reception

● Directional loop Antenna, adjustable for maximum signal and minimum noise

● Low cost operation

Write for complete information about PORTABLE "55" to

SEND US  
**50c**  
(IF YOU'RE GAME)

A Radiart jobber will send you a complete Radiart "Performance, Prover" Kit, including display and advertising supplies and a test device that shows the improved reception of Radiart's longer, better aerials, right on the customer's own car, through his radio. This convincing test takes only a couple of minutes.

**IT SELLS AERIALS**  
(Profitable Aerials)

**THE RADIART CORP.**  
13229 Shaw Ave., Cleveland, O.

SEND STAMPS OR COIN  
If you don't think it's worth 50c you can have your money back

## YOU CAN'T MISS! In PROFITS or TURNOVER!!

The "Talking Door" sells on sight. Every woman is a prospect whether she lives in a house or apartment. At the flip of a finger she "answers" the door—with two way conversation—from inside security and seclusion to front or rear door or both.

Costs little to operate. Consumes current only when in use. Cheaply, easily installed.



Master Unit with 50 ft. of wire and choice of either remote unit shown below.

The "Talking Door" set ready for installation comes complete with master unit (at left) 50 ft. of wire and front or back door unit. Choice of two remote models, BX3 or SP3. Shown Below.

LIST PRICE

**\$24.95**

Complete



Remote Model BX3 for installing outside the door



Remote Model SP3 for installing inside the door

**Additional Remote Units \$10.00**

Write for catalogue describing the "Talking Door" and the complete line of Tokofone Inter-Communicating systems.

**REGAL AMPLIFIER MFG. CORP.**  
14-16 West 17th St. New York, N. Y.  
Cable Address: Ramcoamp

**MAKE A**  
*Satisfied Customer*  
**WITH EVERY SALE!**

*Cinaudagraph*

**PERMANENT MAGNET AND  
ELECTRO-DYNAMIC SPEAKERS  
FOR EVERY "REPLACEMENT" AND  
"SOUND RE-ENFORCING" APPLICATION**

Cinaudagraph Speakers are available from 5" to 27". Details on request. Also circular on the New York World's Fair Cinaudagraph Speaker installation.

**CINAUDAGRAPH  
CORPORATION**  
STAMFORD, CONNECTICUT

### Facsimile Network Tried

NEW YORK—On March 11, following a conference at Cincinnati attended by Powel Crosley III, James D. Shouse, R. J. Rockwell, W. Guenther, J. R. Poppele, Carl Meyers and Fred Weber, the Mutual Facsimile Network, consisting initially of stations WOR, WLW and WGN, staged a chain transmission.

The three stations, using the Finch system, have been continuing experimental facsimile network transmissions since that time, usually alternating in sequence as they present their 30-minute programs. Frequent test transmissions at odd hours have also been noted by monitoring reporters.

### Census May Include Radio

WASHINGTON—The 1940 national census may include radio information, according to advices received here. Under discussion is a plan to determine the number of sets actually in use in American homes, possibly the number of passenger cars equipped with auto-radios, perhaps some facts and figures regarding listening habits.

Questions proposed by the RMA and NAB are similar to those included in the census of 1930 following an RMA suggestion.

### DuMont Ups Cramer, Mezger

PASSAIC—Allen B. DuMont Labs., Inc., of this city, has advanced Leonard F. Cramer to the position of General Sales Manager, G. Robert Mezger to assistant in the handling of industrial sales.

### Clip Tricks

CLEVELAND—Mueller Electric Company is sponsoring a competition in cooperation with its jobbers designed to unearth new or ingenious methods of using Mueller clips. Entry blanks are obtainable from the factory at 1583 East 31st Street.

### W-L Branch Move

PHILADELPHIA — Ward-Leonard's branch office here is now located at 1600 Arch Street, Room 329. Frank Beede is district manager, has been joined by William Miller Tompkins and Lester B. Free.

### By Appointment

NEW YORK—From Morris G. Rome, merchandise manager for the Michaels Brothers stores of this area, comes word that the firm's buying office will be closed until further notice and that salesmen may see buyers by special appointment only.

### New Rep

BUCYRUS, OHIO—Ken Le. Stiefel of Interstate Sound Laboratories is now branching out as a representative for radio and electrical lines in Ohio, Michigan, Indiana, Illinois, Kentucky, western Pennsylvania and western West Virginia.

### Sell TONK RECORD CABINETS

● No. 7801—\$7.95 RETAIL.  
Height 27½"; Top 14½"x15¾", 5-ply walnut; remainder walnut finish. Roll-proof shelf for loose records.

● Other attractive cabinets available in larger sizes, genuine walnut or mahogany throughout.

● These cabinets a natural for radio dealers.

● Write for complete descriptions and prices.

**★ TONK MFG. CO.**  
1912 N. Magnolia Ave. Chicago, Ill.

### BRUNO INTRODUCES the new revolutionary low-priced *Phonoflex* RECORDING BLANK

PHONOFLEX RECORDING BLANKS will not dehydrate—they never dry up

PHONOFLEX RECORDING BLANKS are flexible—will not break or crack

PHONOFLEX RECORDING BLANK shavings are non-inflammable

PHONOFLEX RECORDING BLANKS are light in weight

PHONOFLEX RECORDING BLANKS cut just like any other recording blanks

PHONOFLEX RECORDING BLANKS are inexpensive

Now you can stock recording blanks—that last forever and are priced for mass consumption! The Bruno Laboratories, Inc., has a profit-maker for you! Write for details today.

#### LIST PRICES.

Packed in cartons of 50

6" one face	.....20c list
6" two face	.....30c list
8" two face	.....45c list
10" two face	.....60c list
12" two face	.....75c list

Subject to Attractive Jobber Discounts

**BRUNO**  
LABORATORIES, INC.  
30 WEST 15th ST., N. Y. C.



PICTURE TUBE PICTURED—Dumont's Len Cramer looks over a wall-chart of his own design illustrating the principle of cathode-ray tube operation. Lithographed in two colors, provided with top and bottom reinforcing metal strips, it is available at 50 cents postpaid for classroom, library, shop or office use

### Hytron's "Battery Bantams"

SALEM—"Bantam" radio tubes made by the Hytron Corporation are now available in the 1.4 volt battery series. President Lloyd Coffin prophesies a healthy demand because their inherent compactness is even more valuable for portable work than in home equipment.

### First Facsimile Cartoonist

NEW YORK—Harry Bressler, one of the nation's prominent cartoonists, will do a series of cartoons to be transmitted via facsimile daily over the Finch Telecommunications Laboratories station W2XBF. The transmitter is now on the air from 3 to 4 p.m. daily, Monday through Friday, and from 11 a.m. to 12 noon on Saturday.

Extension of facsimile programs is momentarily expected, with rumor forecasting 3 hours of service per day, 7 days per week.

### Distribution News

**PARTS SUPPLEMENT**—*Stromberg-Carlson* has just issued a supplement to catalog 38-R covering all parts used in receivers of this make in the 235, 245 and 300 series. Latest prices are listed.

**ADMIRAL**—Distributors lately brought into Continental Radio & Television Corporation's fold include: The *Morey Mercantile Company* of Denver, *Charles Ilfeld Co.* of Albuquerque, *H. H. Tamm Co.* of Denver, *Teague Hardware* of Montgomery, *Oklahoma City Hardware*, *Charles B. Scott Co.* of Scranton, *Gallup Mercantile Co.* of Gallup, N. M., *Bladel Electric Sales* of Rock Island, *Chester Barriage* of Dixon, Ill.

**STEWART-WARNER** — Ivan F. Brady's *Brady Electric Corporation* of Elmira has this firm's radio line.

### HOW REPLACEMENT TUBES SELL\*

54%	19%	11%	9%	7%	
80	75	6K7G	2A5	6F7	1E5G
27	6D6	71A	6J7	1H4G	59
45	47	5W4	25L6G	2A7	81
24A	41	30	1C7G	6K5G	6N5
26	6F5	58	37	25Z6G	6R7G
6K7	6F6G	56	6H6G	83	6X5G
6F6	6A8G	6J5G	6U5	6E5	1F6
5Y3G	5Z4	5Z3	1F7G	6J5	1H6G
6H6	78	76	2A3	6J7G	2A6
6L6G	6L6	77	6V6G	6N7	2B7
42	35	6Q7G	34	1J6G	6B8
25Z5	43	1D5G	36	5Y4	6R7
6A7	6C5	5Y4G	6AC5G	6G5	6S7G
6A8		6C6	6B7	46	6X5
		39/44	6L7	1B5/25S	12A7
			6K6G	33	89
			6Q7	85	112A
			57	1A4	1D7G
			1C6	1A6	6D8G
			1F5G	5V4G	6L5G
			6F5G	25L6	6T7G
			32	38	50
			25Z6	55	79
			84/8Z4	1V	82
			5U4G	6U7G	83V
			19	12Z3	1E7G
			6C5G	25A6	5X4G
				01A	6B8G
				6N7G	X99
				25A6G	6ZY5G
				6A6	25B6G
				6L7G	31
				10	6Y6G
				53	22

\*One manufacturer's records on a half-million tubes sold as of December, 1938. Relative volume ranged from 8.86 per cent for type 80 through 1.94 per cent for type 76. .98 per cent for type 6K7C. .48 per cent for type 1A6. .19 per cent for type 6F7. .09 per cent for 1B5G to .02 per cent for type 22

**Radio's MASTER ENCYCLOPEDIA**

*The Radio Industry at your Finger tips*

REFERENCE BOOK  
•  
BUYING GUIDE  
•  
SALES CATALOG  
•  
ENCYCLOPEDIA

1939 EDITION—OVER 600 PAGES

### THE ONLY OFFICIAL EQUIPMENT MANUAL of the Radio Industry!

Compiled in cooperation with and approved by Radio Manufacturers, this authentic source book of over 600 pages is crammed full of vital, essential information that is indispensable to everyone identified with Radio and allied lines.

### GIVES THIS IMPORTANT DATA

The New 1939 Edition of Radio's Master Encyclopedia is the most comprehensive ever issued. No other book like it. Important data that you need in your business—conveniently cross-indexed for split-second reference. Thousands of illustrations, specifications and prices on every conceivable type of Equipment, Accessories, Parts; ranging from Tubes to Transmitters, and including the latest in television tubes and parts.

Contains Directory of over 1,000 Manufacturers, where located and what they make—gives index of trade names.

### WHO USES IT? ..

Universally used and accepted by Radio Jobbers and Dealers, Amateurs, Service Men, Schools, Colleges, Libraries, Governmental Agencies, Industrial Organizations, Purchasing Agents, Police Departments, Steamship Lines and many others connected in any degree or interested in Radio.

### SAVES TIME — SAVES MONEY

Radio's Master Encyclopedia is truly a complete Radio and Equipment Manual all bound under one cover, taking the place of files and files of miscellaneous catalogs and information. WHERE—WHAT—HOW MUCH, instantly at your fingertips! Thousands in everyday practical use proving invaluable and unsurpassed as a REFERENCE BOOK, SALES CATALOG or BUYING GUIDE.

### MONEY BACK GUARANTEE!

Radio's Master Encyclopedia, now in its third year, has served the industry well. That's why, with complete confidence, we are ready to send it to you on an absolute "Money Back in 5 Days" Guarantee, if you are not 100% satisfied. To save the cost of transportation, send your remittance with order—\$2.50 in U.S.A., \$3.00 Elsewhere. Or if you prefer we will ship C.O.D. plus postage charges—in either case, our "Money Back in 5 Days" is your assurance of complete satisfaction.

**UNITED CATALOG PUBLISHERS INC.**  
258 BROADWAY... NEW YORK, N. Y.



inches wide, 52 high and 28 deep. Available through company distributors or on request direct to the factory.

**TESTER DATA**—*Supreme Instruments Corporation* of Greenwood, Mississippi, has just finished printing two two-colored circulars describing its complete line of testing equipment in complete detail. Included is some interesting dope on a new signal generator and frequency generator which, among other things, can be used for accurate work as high as 60 mc.

**CAMERA SALES AIDS**—*Universal Camera Corporation* has just brought out two new "platform" counter displays providing space for mounting of actual merchandise. One for the "Mercury" camera, with detachable price tags for \$25 and \$59.50 models. The other for the "Univex" movie camera line from \$9.95 up. Attached merchandise may be theft-proofed.

**LISTENING BOOTHS**—*RCA Victor* has prepared and is supplying through its distributors six different sets of detailed plans for the construction of listening booths, stalls, stock racks and counters for dealers interested in improving record sales facilities.

**GIANT BROADSIDE**—*Detrola Corporation* of Detroit offers a giant, two-color broadside on its new line of Micromatic cameras. Pictures, describes, prices 6 models.

**RECORD LAYOUTS**—*A. Bitter Construction Company* of 27-01 Bridge Plaza North, Long Island City, N.Y., has a booklet called "Records . . . Planned Merchandising Equipment," which **RADIO and Television RETAILING** readers who wish to look over practical store arrangements, typical demonstration booths, record racks and counters, before modernizing will value.

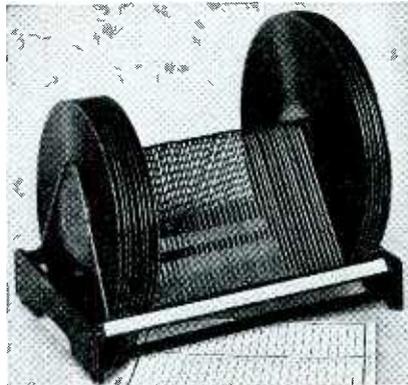
**DICTIONARY**—*Sprayberry Academy of Radio*, 2548 University Place N.W., Washington, D.C., has just published the "Sprayberry Dictionary of Radio, Television and Electronic Terms With Tables, Charts, Etc." (Price \$2) 8x5½ inches, stiff paper cover, 94 pages.

**MIKE DISPLAY**—*Amperite* has a new 2-color, 11x17 inch display featuring its Kontak microphones. Illustrated with photos showing the devices in actual use.

**GUARANTEED PLAN**—Part of a new "Guaranteed Radio Service Plan" just presented by *Hygrade-Sylvania* are special printed guarantee certificates, a radio checkup form and a four-page promotional direct-mail piece. Package containing one certificate, and one hundred each of the checkup forms and the advertising folders, costs \$1.25. 500 costs \$3.75 and 1,000 costs \$7.

**GENEMOTOR DATA**—*Carter Motor Company* of 1608 Milwaukee Ave., Chicago, has a new circular listing its entire line of genemotors and converters for general use as well as new heavy-duty power units for police shortwave radio.

## TABLES, CABINETS and RACKS for PHONOGRAPH RECORDS



Rack illustrated is 13" x 10". Fits into any small space. Holds and protects 50 records. An index card and stickers provide a simple means of selecting the record you want—in a jiffy. Is used in thousands of homes. We have a complete line of walnut and mahogany tables and cabinets, open or with doors, capacities from 120 records or 8 albums up to 375 records or 30 albums.

Write for complete catalog and discounts.

Territories Available for Live Wire Salesmen.

## SCHLOSS Brothers

MANUFACTURERS

801 E. 135th Street, New York, N. Y.

## PORTOMATIC

SCORES AGAIN WITH ANOTHER NEW RADIO SENSATION

### THE DUO-POWER PORTABLE RADIO



PLAYS ON ITS OWN SELF-CONTAINED BATTERY OR AC-DC 110 VOLT ELECTRIC CURRENT . . .

special built-in loop aerial . . . no ground . . . superheterodyne . . . excellent tone . . . fool-proof in every way . . . efficient . . . four low-drain tubes used in battery operation . . . six tubes plus one ballast tube used in electric operation . . . many other new and exclusive features.

Write for prices and literature describing the DUO-POWER and complete line of portable automatic phono-radio combinations and amplified phonographs.

## THE PORT-O-MATIC CORPORATION

"The House of Portables"

1011 Madison Ave. New York City

Cable address: Portomatic NewYork

## Repair radios expertly

This book gives the essentials of theory and technique that clarify radio troubles and help you make quick, accurate repairs.

Just Out!



## Principles and Practice of RADIO SERVICING

By H. J. HICKS

Radio Instructor, Hadley Vocational School

300 pages, 6 x 9, 212 illustrations, \$3.00

### INCLUDES CHAPTERS ON:

- selecting and using test equipment
- servicing public address systems
- getting and keeping service business

Shows how to install, test, and repair radio receivers, giving not only instructions in all the servicing procedures, but also plain treatment of the theory of electricity and radio needed for most effective approach to servicing problems. Written in excellent self-study style for servicemen who want to improve their skill and readers who want to learn this practical field from the ground up.

### 10 DAYS' EXAMINATION ON APPROVAL—SEND THIS COUPON

McGRAW-HILL BOOK CO., INC., 330 W. 42nd St., N. Y. C.

Send Hicks—Principles and Practice of Radio Servicing for 10 days' examination on approval. In 10 days I will send \$3.00, plus few cents postage, or return book postpaid. (We pay postage on orders accompanied by remittance.)

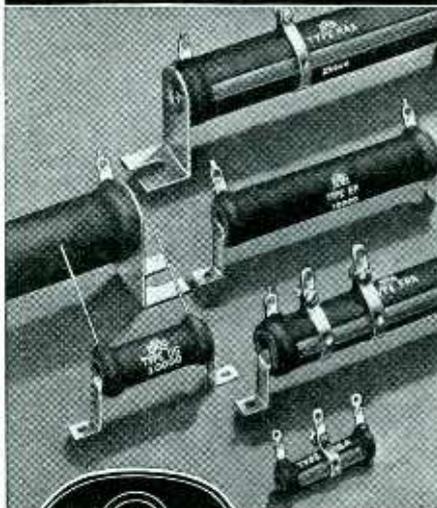
Name .....

Address ..... City and State .....

Position ..... Company ..... RR. 4-39

(Books sent on approval in U. S. and Canada only.)

# EXTRA PROTECTION!



## POWER WIRE WOUND RESISTORS (Cement Coated)

That special cement coating on IRC Power Wire Wound Resistors is just as rough and tough as it looks. It is the most durable coating yet developed. It is practically impervious to moisture and heat. It doesn't peel, chip or crack. It offers EXTRA PROTECTION against the most common causes of resistor failure. It gives you true airplane — submarine resistance dependability — at not one cent of extra cost. Its amazing superiority can be demonstrated by any test you care to name. Ask your jobber. Insist on IRC Power Wire Wounds — the only resistors having this exclusive feature.

### A 10-WATT SERVICE HINT

Hundreds of servicemen and amateurs save time and money by using these little 10-watt IRC Power Wire Wounds universally for all low wattage resistor requirements. The 10-watt adjustable (Type ABA) is especially handy. Any desired range up to the maximum of the resistor can be tapped off by moving the adjustable band. A few popular ranges equip you for literally hundreds of jobs.



## INTERNATIONAL RESISTANCE CO.

401 N. Broad Street, Philadelphia, Pa.

**JOBBER AIDS**—*Supreme Instruments Corporation* of Greenwood, Mississippi, offers jobbers large counter displays presenting five different sales messages pushing the new 504 tube and radio tester. Special "question and answer" information printed on the back of each display, a novel selling idea. Also available are clever pads called "Check-It" sheets, which list the many features of the new 503 tube tester as well as the 504 instrument. These help jobbers salesmen remember all features.

**DIAL LIGHTS, ACCESSORIES**—*Dial Light Company of America*, for whom F. Edwin Schmitt Sales Company of 136 Liberty St., New York, is national sales agent, has prepared a six page illustrated booklet picturing, pricing and describing pilot light assemblies of many varieties, indicating jewels, bushings, sockets and allied accessories.

**ALBUMS, CASES**—*Peerless Album Company* of 38-44 W. 21st Street, New York, has a new catalog sheet describing and picturing its line of record albums and record carrying cases.

**TRANSFORMER DOPE**—*Kenyon Transformer Company* of 840 Barry Street, New York, has just released a new 14-page catalog picturing, describing and pricing its "T" line of transformers. Diagrams of various amateur power supplies, circuit diagrams of speech and other audio equipment with complete constants and other technical information of general value included.

**COIL CATALOG**—Coils of all varieties, including spiderweb types for direct pickup with or without an external antenna, are described in a new catalog available from the *DX Radio Products Corporation* of 1575-79 Milwaukee Ave., Chicago.

**TESTERS**—*The Hickok Electrical Instrument Company* of 10514 Dupont Ave., Cleveland, does a thorough job of describing its 1939 test equipment in word, picture and table, in the new catalog number 10 just off the presses and ready for distribution.

**FOR KIDS**—A selection of more than 200 *Victor* and *Bluebird* records suitable for children has been compiled in a special catalog by the Camden manufacturer for distribution by its dealers.

**INDOOR BILLBOARD**—*Hotpoint's* national billboard advertising is brought right into the range showroom or display window with a brand new set-up display featuring the popular "Be Thrifty — Be Modern" headline. Requires no feet or frames.

**PARTS ET AL.**—*Hammarlund Manufacturing Company* of 424 W. 23rd St., New York, in its 1939 second edition catalog, lists many items recently added to the line, including variable condensers of improved design, transmitting foundation units and other shortwave components for both transmitting and receiving. Complete technical details, mechanical and electrical. 75 illustrations. 20 pages.

Attend the National Radio Parts Trade Show

1939 JUNE 1939

WED	THU	FRI	SAT
14	15	16	17

OPEN ONLY to Jobbers, Manufacturers, Manufacturers' Agents, and Engineers.

OPEN to Servicemen, Amateurs, Retailers, Student and others.

Stevens Hotel, Chicago

**CAPACITORS, FILTERS** — The *Tobe Deutschmann Corp.* of Canton, Mass. has two new and effective catalogs. One tells all about the firm's capacitors, including ratings, dimensions, prices. The other describes Filterettes newly designed to curb radio interference generated by a wide variety of electrical devices, covers such things as electric razors, oil-burners, diathermy apparatus, farm lighting plants, etc. On request if you mention *Radio Retailing*.



**Successful sound engineers** — don't depend on inadequate "package sound systems." Experienced sound contractors know that "Assembled-For-The-Purpose" sound systems clinch the contract . . . and pay bigger profits. Send for the new Atlas Sound 1939 spring and summer catalog . . . see for yourself why the country's leading P. A. jobbers sell and recommend Atlas Sound Equipment.

★ Send for your free catalog now!

**ATLAS SOUND CORP.**  
1454 - 39th Street Brooklyn, N. Y.

**Checks All Types Radio Receiving Tubes**

- Tests New 1.5, 35 and 50-volt Series, Octal Base Types, OZ4 and Other Gaseous Rectifiers.
- Separate Plate Tests on Diodes and Rectifiers.
- Neon Short and Leakage Tests.
- Ballast Tube Continuity Test.
- Uses Attractive Triplett Direct Reading Instrument, 3" Size. (GOOD - BAD) Scale.
- Line Voltage Adjustment.
- New Improved Low Loss Switch.
- Model 431 . . . . . \$15.90

Checks all receiving tubes . . . (No ballast or gaseous rectifier test). Tester uses dependable Readrite meter. Quarter-Oak case same as for Model 432.

- COMPLETE SHOWING • 1939-40 Meters and Testers Booth 920 — June National Radio Parts Trade Show



New Model 432

**Always Kept UP-TO-DATE**

*Readrite*  
**RANGER**

only **\$21.60\***

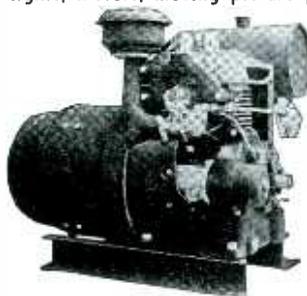
\* Complete in Quarter-Oak Case

Write for Catalog Section 420, College Dr.

**READRITE METER WORKS, Bluffton, Ohio**

**110 VOLTS AC ANYWHERE!**

With KATOLIGHT. Furnish standard 60-cycle AC for operating sound truck equipment, AC radios, transmitters, flood lights, motors, moving picture projectors, etc.



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

List prices \$50.00 and up.

**Kato Engineering Company**  
MANKATO, MINN., U.S.A.

THE *Eyes* HAVE IT!



*Solar*  
**Capacitor Analyzer**

Your eyes and the MAGIC TUBE see all know all, without a wink!

Write for Descriptive Literature



SOLAR MFG. CORP. 115-88 Broadway New York, N. Y.

The **ESPEY** Custom-built **PORTABLE**

Completely self-powered "Super" with new low-drain tubes. Built-in antenna.

Choice of Finish—Airplane luggage, Pigskin, Cowhide or Alligator\*

**PLAYS ANYWHERE — EVERYWHERE**

- No external wires of any kind.
- Powerful — superfine reception.
- Weighs only 12½ lbs.
- Weight balanced; is not end-heavy.
- Latest type batteries in new unit-pack.
- Highest quality PM speaker.

The name ESPEY is more than a guarantee of quality. It means individuality in design and finish, making every Espey receiver a truly prized personal possession. Espey sets are sold to dealers at discounts insuring a good resale profit.

\*Simulated

For complete details, write

**ESPEY MANUFACTURING CO., Inc.**  
67 IRVING PLACE NEW YORK, N. Y.

A GOOD NAME GOES A LONG WAY

The Ken-Rad name has stood for many years for the finest and most technically advanced radio tubes. Ken-Rad Radio Tubes are dependable.

KenRad Tube & Lamp Corp.  
Owensboro, Ky.

**KEN-RAD**  
DEPENDABLE RADIO TUBES

ANSWERS TO AN IMPORTANT QUESTION (Continued from page 19)

**Offers Concrete Suggestion . . .** Here is a concrete suggestion. A few years back the gas range industry had reached such price levels that its products were actually endangering human lives . . . not to mention the fact that manufacturers were being bankrupted in alarming numbers. Then the American Gas Association set up a set of required standards for "AGA" approval . . . and a laboratory to test all submitted samples. Today, a range without "AGA" approval can scarcely be sold to the trade.

More recently, a higher set of certified performance standards was set up and an aggressive campaign has been launched to popularize the "CP" range. Enough results have already been obtained to make it certain that the unit price (and quality) of the average gas

range sale will show marked improvement in 1939.

You have struck the keynote . . . the gas industry has pointed a proven "way out of the wilderness" and now it's time for the RMA to act. Let them set up minimum standards and prices for various type radios that carry an "RMA Approval Label" . . . then the competition among manufacturers will be towards offering the customer the most radio for the money in each price bracket.

Let's build up to a price instead of down to a price.  
RADIO-APPLIANCE DEALER

**Code Interference Inexcusable . . .** I agree with your story about radios of recent manufacture. Many were not up to standard. They had a lot of code

coming in on the broadcasting. Serviceman could not get it out without adding auxiliary parts that should have been in there in the first place. . .SERVICEMAN

**Limbers Up Pen . . .** This is the first time I can recall writing to an Editor, but I am so heartily in accord with your article "Are New Radios Good Enough?" that I must tell you about it. . . .

My vote is for better radios with r.f. stages, pre-selectors, iron-core transformers, really good speakers that produce tone and special circuits to help cut down local interference. . . .SERVICEMAN

**Cover Clicked With Him . . .** The cover of the March issue tells more of what is wrong with present-day radio sets than the entire copy could if used for a word-story.

Our sales are much easier closed with this cover handy. In fact they have advanced noticeably since this copy arrived. We sell a set with a 3-gang condenser, an r.f. amplifier and push-pull output. These are fundamentals for good performance. . . .DEALER

**Kindred Soul . . .** Have just finished reading and enjoying "Are New Radios Good Enough?" Felt very pleased that someone agreed with me.

RADIO ENGINEER

*Publication of letters on this subject will be continued in coming issues but the editors hereafter intend to open their columns primarily to those that get down calmly to the brass-tacks business of thinking out possible remedial measures.*

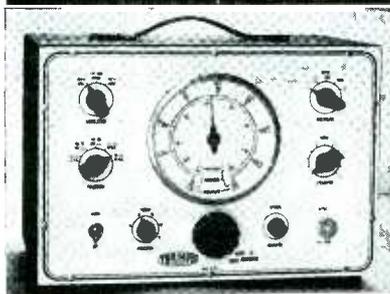
*It is our opinion that the initial article, in March, has made most dealers, distributors and manufacturers sufficiently aware of the importance of finding some solution. This present follow-up bears out the above contention and also indicates that, for the most part, readers feel with us that the job is one which must be tackled by all branches of the industry rather than any one group.*

*The next step must be development of practical plans to make all new radios good enough.*

**Smashing Records for Commercial Accuracy!**

**Triumph's Video SIGNAL GENERATOR**

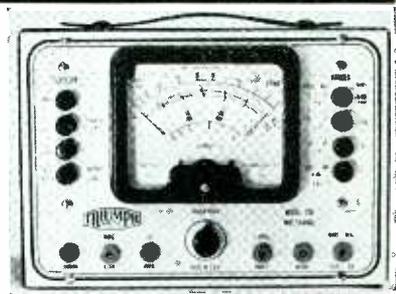
**Triumph's Speed-button 32 Range Meter**



Model 130

**Prepare for Television Service**

New video, audio, and radio circuits are to be tested! Equally important are existing circuits upon which the bulk of service work will be for years to come. Meet these problems with Triumph instruments of speed, precision, and convenience now available at the lowest prices ever offered!



Model 330

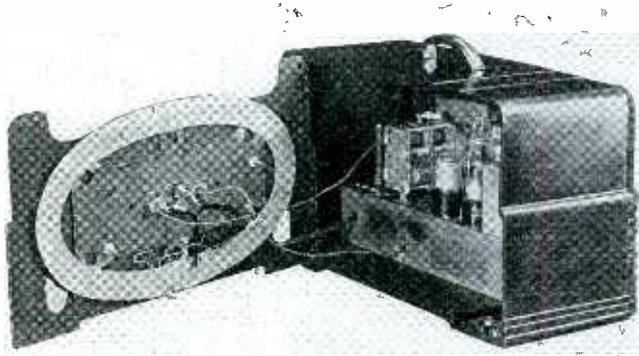
The new Triumph Model 130 Signal Generator is an ultra modern laboratory type instrument with outstanding features. A big straight-line frequency dial with a simplified dual scale and knife edge pointer covers 100 kc to 96 megacycles with an accuracy well within 1/2 of 1 percent! Includes the video frequency ranges for television. Optional control of pure sine wave 400 cycle output of 0 to 2 1/2 volts or modulation of r-f signal from 0 to 75%. Direct reading linear output control with maximum attenuation on all frequencies. Ideal for use with all types of oscillographs! Write for your free copy of Triumph Instrument Guides!  
Model 130 Signal Generator complete, list . . . \$29.95.

Triumph Model 330 Multirange Meter combines in one compact economical laboratory type instrument 32 useful ranges, speed-button range selection, and a mirror-backed scale in a big 400 microampere 4 5/8" meter. Volts, a.c. and d.c., 3, 15, 150, 600 and 3000, five current ranges from 0.6 ma. to 15 amperes d.c. 0 to 10 Megohms in 4 overlapping ranges. 13 Output and decibel ranges! Accuracy is insured on every range through elimination of parallax by alignment of the knife edged pointer with its image in the mirror-backed scale! Laboratory calibrated resistors of 1% tolerance on all ranges and a preaged rectifier assures permanent accuracy! Complete Model 330 Universal Volt-Ohm-Mil Meter, list \$19.95.

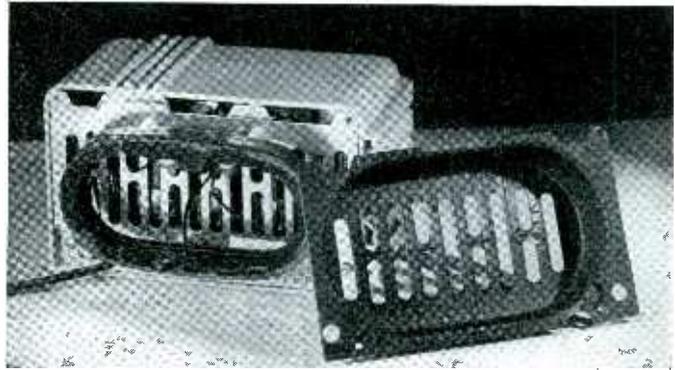
**TRIUMPH MFG. CO.**

4013 West Lake Street

Chicago, Illinois



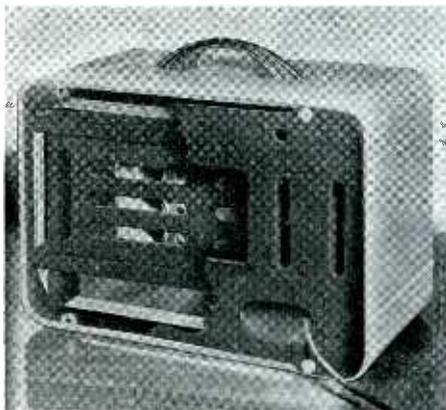
**EDGE WOUND**—High "Q" pi-type construction in Model L96 by Fada claims sensitivity and minimum space requirements.



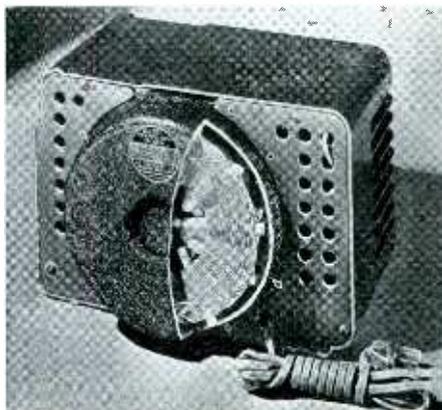
**DETROSCOPE**—Loop antenna in Detrola's Super Pee Wee model 284 is shielded from set. Insulated cover protects it from damage.

## ONE-SHOT SETS

What loop antennas look like in new ac-dc and dry cell radios



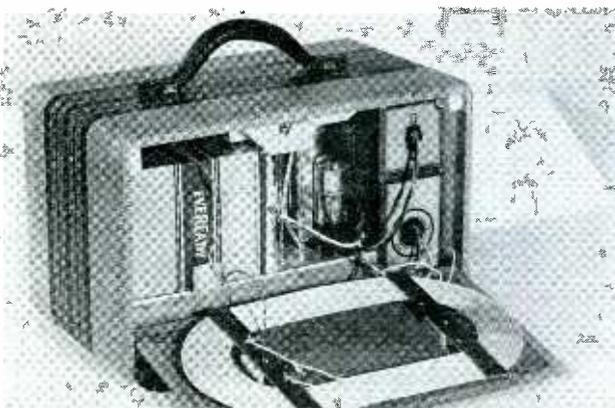
**WAVEANTENNA**—Built-in loop antenna in Sentinel's model 163 ULT form-fits the cabinet, providing maximum pickup for given cabinet size.



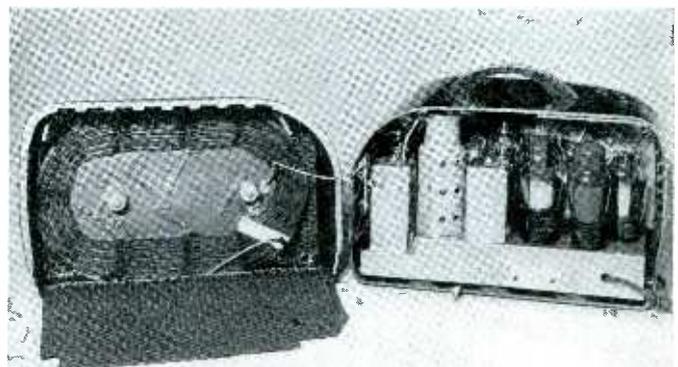
**AEROSCOPE**—Low-loss spiderweb winding method makes for good signal pickup as well as compactness in Admiral's 161-5L.

● Attracting considerable attention, especially in table models and portables, loop antennas make modern receivers truly "one shot sets" since only wall socket connection is necessary.

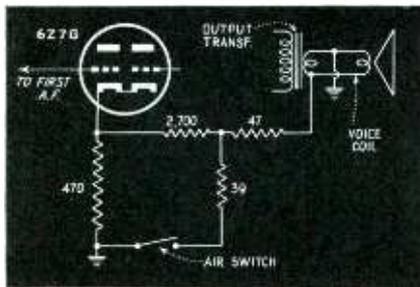
Greatly simplifying requirements for hotels, apartments and travelers, they possess a still greater virtue; discrimination against noise, by action of the directional properties of the loop.



**WIRELESS PORTABLE**—Not a "one shot set," but a true battery portable. No external antenna or power wires required on this model of Stewart-Warner's.



**WAVEMAGNET**—Faraday shield on both sides of loop in Zenith's model 6D135 gives sharp direction qualities on noise.

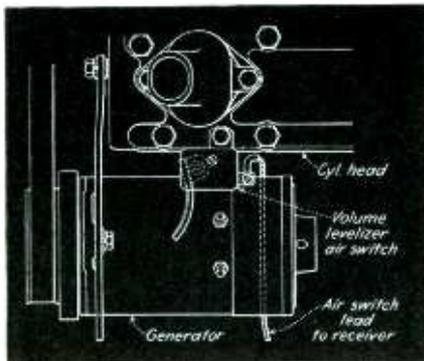


## Air Speed Volume Control

Used in the new Pontiac auto radios, a control which automatically increases volume when the speed of the car increases, also reduces volume when speed returns to normal.

Called the Levelizer, the construction and schematic are shown. Referring first to the wiring diagram, the 6Z7G serves as the second audio and phase inverter stage, in turn driving two 6V6 output tubes. Degeneration is introduced to the cathode of this tube by connection to the voice coil as shown. Thus, with the air switch open, a given amount of degeneration takes place, decreasing sensitivity of this tube and likewise improving the frequency response.

With the air switch closed, degeneration is greatly reduced and the reverse becomes true. Sensitivity increases, consequently volume goes up. At the same time the reduction of



degeneration causes an increase of high frequency audio output. This is desirable since at high speeds, car noise masks normal high frequency tones.

The second section of the 6Z7G serves as phase inverter driving the pushpull output stage.

Construction of the air switch is simple, consisting of a small paddle mounted under the engine hood. The paddle is pivoted and is free to move backward and forward. A small spring holds it in the forward position when not in action.

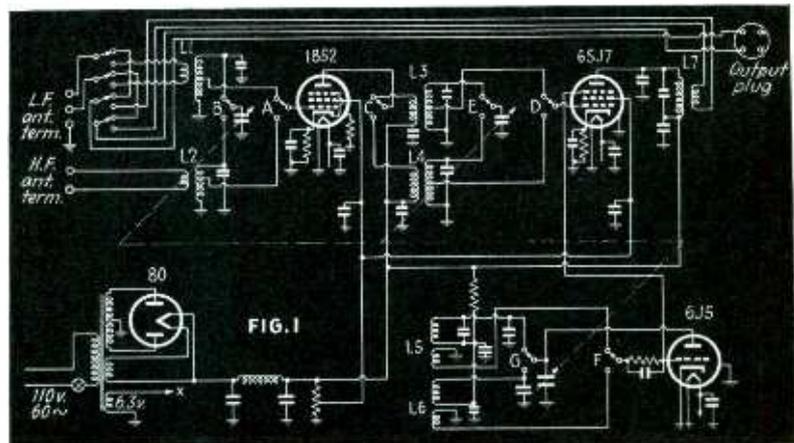
The position of the switch is such that the air stream from the car fan

hits directly against the paddle pushing it backward. In the back position the paddle closes the switch shown in the schematic. At normal speeds the air pressure against the paddle is not sufficient to move it. At higher speeds, increased fan action creates sufficient air to operate the paddle. The tension spring on the paddle may be adjusted for different operating conditions.

tion with the 6J5 oscillator converts the incoming signal to 10 mc. This is then fed into the antenna posts of any shortwave receiver.

The antenna input system is novel since two sets of terminals are provided. One is for a 56-60 mc. antenna, the other for 28-30 mc. operation. These are switched simultaneously when the band-switch is rotated. In addition, a third position of the band switch switches the lower frequency antenna directly to the standard shortwave receiver.

The r.f. amplifier circuit of Fig. 2 is



## Ultra High Converters

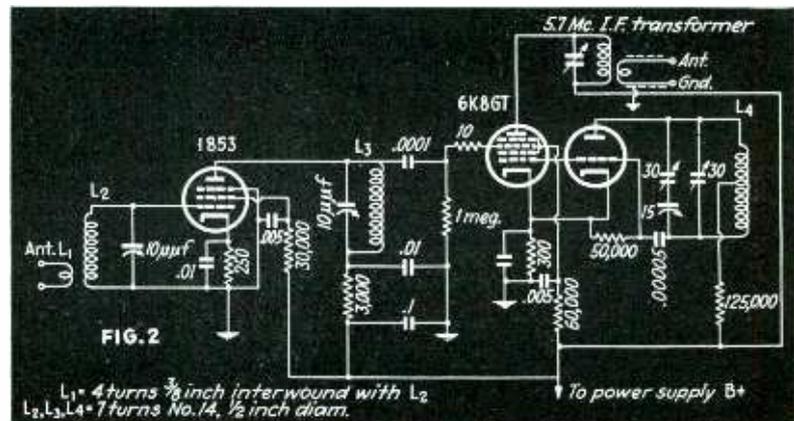
With the advent of television, facsimile, high fidelity programs and stabilized amateur transmitters, the demand for an ultra high frequency converter is great. Schematics of two types are shown here. Fig. 1, is the RME, Fig. 2, by Lafayette.

In Fig. 1 two ranges are available by selecting with a band switch. These cover 28-30 and 56-60 mc. An 1852 high gain pentode serves as r.f. preselector. This reduces images and gives additional signal gain. The 6S17 converter operating in conjunc-

similar to Fig. 1 except that both grid and plate circuits are tuned. The pentode section of the 6K8GT mixer-oscillator is connected as a grid-leak type detector giving high sensitivity. The output of this is 5.7 mc. and feeds into any receiver tuning to this frequency.

Three plug in coils are used for each range. Sizes of these are given for the ultra-high range.

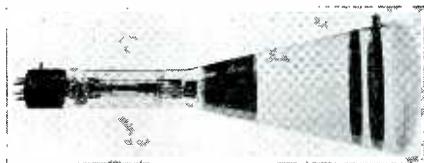
The 10 ohm resistor in series with the grid of the 6K8GT pentode serves to reduce oscillation since at these frequencies, interelectrode capacities are high and feedback greater than usual.



## Intensifier Cathode Ray Tube

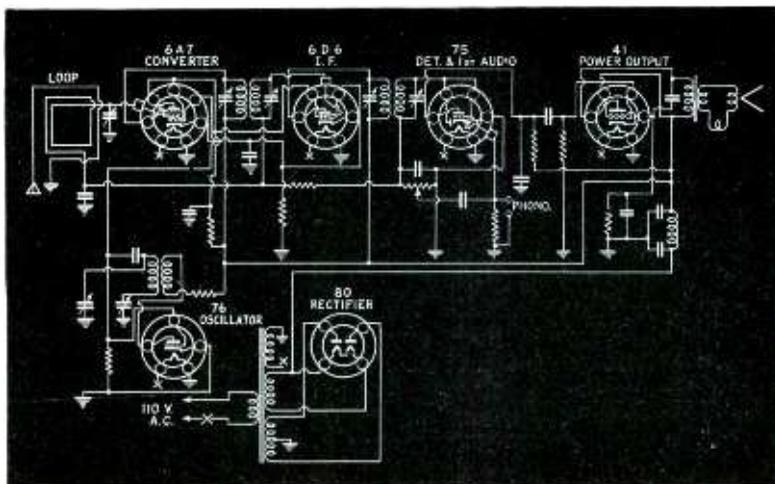
Giving larger and brighter images at a given tube size and cost, the DuMont intensifier cathode ray tube probably will find many television applications.

The tube, numbered 54-9-T a 5 inch electrostatic type is similar to a normal tube with the addition of the intensifier electrode. This takes the form of one or two metallic deposit rings near the screen end, serving to accelerate the electrons after deflection. So equipped, a tube possesses increased brilliance without corresponding loss in deflection sensitivity. Normally, to increase deflection sensitivity at a given anode voltage it is

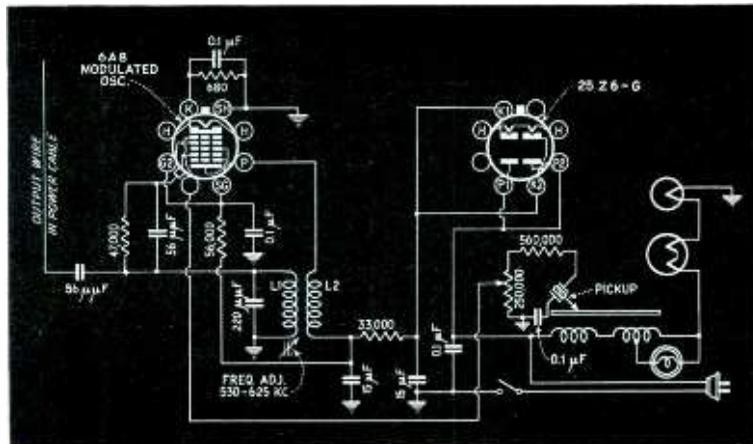


necessary to increase plate size or the spacing between. This action however, seriously affects the focus characteristics of the tube.

Operating at a voltage normally applied to this size tube, and with an additional voltage, equal approximately to the accelerating electrode potential, applied between the intensifier and second anode, the image on the screen brightens to the extent equal to doubling the accelerating voltage; yet sensitivity does not decrease materially. As an illustration, in terms of screen size, this means that instead of a 50 per cent reduction of image that double the accelerating voltage would produce, the new method reduces the pattern only 18 per cent.



**AEROSCOPE**—Pictured last month, the schematic of the antenna-less receiver by Admiral is shown above. Large spiderweb coil replaces first r.f. transformer (upper left); low impedance winding around coil permits normal antenna connection for dx stations.

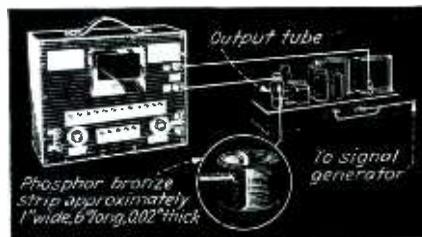


**WIRELESS PHONO MODEL VA-20** by RCA uses Magnetite tuned oscillator transformer (L1 and L2). Output of the unit feeds from the grid circuit through the 56 mmf condenser to a wire contained in the power cable.

## Wireless Output Meter

By use of a standard vacuum tube voltmeter, a practical output meter may be had which can be used as a time-saver in making measurements.

As outlined by Philco, one terminal of the voltmeter is grounded to the chassis under test. The other terminal connects to a thin strip of phosphor



bronze which is coiled so that it may be slipped over the glass envelope of the output tube. It should be small enough to fit the smaller tube and

have sufficient spring to be expanded for the larger tubes.

When inserted on a tube the strip serves as a capacity, coupling to the elements of the tube.

This method will usually be found to be quicker than the older methods of plate or voice coil connection since it may be used on any set without checking through the wiring.

## Noisy Volume Controls

Stock volume controls which have been on the shelf for a period of time may occasionally be noisy when installed in a radio set, although the controls have never been used previously. In order to avoid a condition of this kind as outlined by Philco, it is always desirable to rotate the volume control a dozen or more times before installing in the set so as to eliminate any small amount of corrosion which might have formed on the surface of the resistance element within the control or on the contact arm itself.

In some cases it may even be necessary to open the housing of the volume control in order to get at the inner construction. The control can be cleaned with a soft cloth which has been moistened with carbon tetrachloride. Very often it is found that when a control has been in stock for a long period, minute bits of dust get inside the unit and cause a noisy condition. Usually, rotating the control arm is sufficient, but if this does not eliminate the noise on a new control, the cleaning procedure is recommended.

This cleaning procedure is not recommended for volume controls which have been in use.

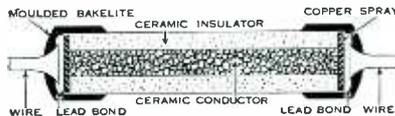


## YOU WOULDN'T USE A FIRE HOSE TO WATER THE PLANT

Nor does it make sense to replace a small resistor with a LARGE one. In fact, most resistors in radio sets actually carry less than 1/4 watt load. It is changes resulting from high chassis temperature and humidity that actually cause breakdown . . . not overload. Replacements of the same material, but in larger sizes are no sure remedy.

**TYPE 710, rating 1/2 watt, size 1/8 x 3/8 inch. List Price 60c for five.**

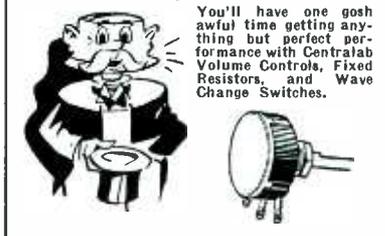
**TYPE 714, rating 1 watt, size 1/4 x 1 inch. List price \$1.00 for five.**



Center ceramic core, and ceramic jacket fired together to form a single shockproof unit. Pure copper covers resistor end for wire lead contact.

VISIT the 1939 National Radio Parts Trade Show, June 14 to 17, at Stevens Hotel, Chicago.

### OLD MAN CENTRALAB says:

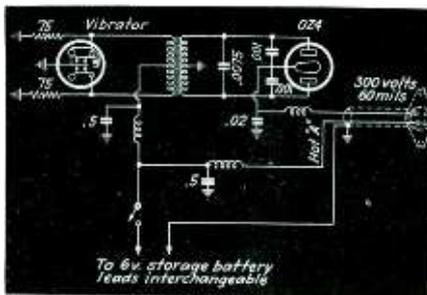


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## AXIAL LEAD RESISTORS

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



### DC Pack For AC Sets

Designed particularly for 6 volt operation of Howards a.c. communication receiver, the vibrator pack model 610 shown may also be used on any a.c. set which is to be operated in the country where power lines are not available. Only a few changes in the receiver are necessary.

The supply itself consists of a full-wave vibrator and an 0Z4 gaseous rectifier. Output voltage is 300 volts at 60 milliamperes. This is fed, along with 6 volts for heater operation, to a special plug which connects the unit to the communication receiver. Thus the receiver becomes a true d.c. set, obtaining filament and plate voltage from a storage battery.

## WHY DOESN'T SOMEBODY

. . . include a set of binding-posts and a simple switch in wireless type record-players so that the buyer can use it "as is" for remote control or connect the pickup direct to his set's audio system when extra-special quality is desired or radio noise is severe?

C. N. H.

### More On Loctals

**7B5**—Output pentode similar to the 41.

Heater Current . . . . .4 amp.  
Plate Voltage . . . . .250 volts  
Screen Voltage . . . . .250 volts  
Grid Bias . . . . .—18 volts  
Amplification Factor . . . . .150  
Plate Resistance . . . . .68000 ohms  
Transconductance . . . . .2200 umhos  
Plate Current . . . . .32 ma.  
Screen Current . . . . .5.5 ma.  
Load Resistance . . . . .7600 ohms  
Total Harmonic Distortion . . . . .10 per cent  
Power Output . . . . .3.4 watts

**7B6**—Duo-diode triode similar to the 75.

Heater Current . . . . .3 amp.  
Plate Voltage . . . . .250 volts  
Grid Voltage . . . . .—2 volts  
Amplification Factor . . . . .100  
Plate Resistance . . . . .9100 ohms  
Transconductance . . . . .1100 umhos  
Plate Current . . . . .1 ma.

**7B7**—Remote cutoff pentode similar to the 6S7.

Heater Current . . . . .15 amp.  
Plate Voltage . . . . .250 volts

Screen Voltage . . . . .100 volts  
Grid Bias . . . . .—3 volts  
Suppressor . . . . .0  
Amplification Factor . . . . .1200  
Plate Resistance . . . . .7 megohm  
Transconductance . . . . .1700 umhos  
Plate Current . . . . .8.5 ma.  
Screen Current . . . . .2.0 ma.

**7B8**—Heptode pentagrid converter not unlike the 6A7.

Heater Current . . . . .3 amp.  
Plate Voltage . . . . .250 volts  
Screen Voltage . . . . .100 volts  
Anode Grid Voltage . . . . .—3 volts  
Control Grid Voltage . . . . .—3 volts  
Oscillator Grid Resistor . . . . .50,000 ohms  
Plate Resistance . . . . .36 megohm  
Conversion Transconductance . . . . .550 umhos  
Plate Current . . . . .3.5 ma.  
Screen Current . . . . .2.7 ma.  
Anode Grid Current . . . . .4.0 ma.  
Oscillator Grid Current . . . . .0.4 ma.

**7C5**—Beam output tube having the same characteristics as the 6V6.

Heater Current . . . . .45 amp.  
Plate Voltage . . . . .250 volts  
Screen Voltage . . . . .250 volts  
Grid Bias . . . . .—12.5 volts  
Amplification Factor . . . . .218  
Transconductance . . . . .4100 umhos  
Plate Current (No. signal) . . . . .45 ma.  
Plate Current (Max. signal) . . . . .47 ma.  
Screen Current (Max. signal) . . . . .6.5 ma.  
Load Resistance . . . . .5000 ohms  
Total Harmonic Distortion . . . . .6 per cent  
Max. Power Output . . . . .4.25 watts

**7C6**—Duo-diode triode comparable to the 6T7.

Heater Current . . . . .15 amp.  
Plate Voltage . . . . .250 volts  
Grid Voltage . . . . .—1 volts  
Amplification Factor . . . . .100  
Plate Resistance . . . . .1 megohm  
Transconductance . . . . .1000 umhos  
Plate Current . . . . .1.3 ma.

**7Y4**—Full-wave rectifier like the 84.

Heater Current . . . . .5 amp.  
Max. A.C. Voltage per Plate . . . . .350 volts  
Max. Peak Inverse Voltage . . . . .1000 volts  
Max. Peak Plate Current . . . . .250 ma.  
Max. Heater-Cathode Voltage . . . . .450 volts  
Max. D.C. Output Current . . . . .60 ma.  
Voltage Drop per Plate at Rating . . . . .19 volts

**35A5**—Beam Output tube similar to the 25 L6.

Heater Voltage . . . . .32 to 35 volts  
Heater Current . . . . .15 amp.  
Plate Voltage . . . . .110 volts  
Screen Voltage . . . . .110 volts  
Grid Voltage . . . . .—7.5 volts  
Plate Current . . . . .35 ma.  
Screen Current . . . . .2.8 ma.  
Plate Resistance . . . . .25,000 ohms  
Transconductance . . . . .5,500 umhos  
Load Resistance . . . . .2,500 ohms  
Power Output . . . . .1.4 watts

*Attend the National Radio Parts Trade Show*

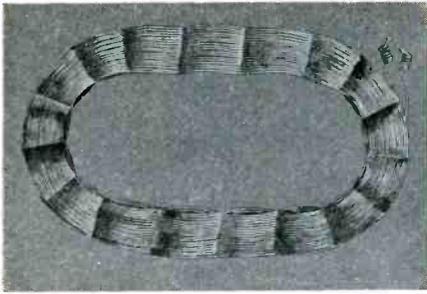
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OPEN to Servicemen, Amateurs, Retailers, Students and others.

Stevens Hotel, Chicago



**IT GOES IN HERE**—Intenna by Stancor takes the place of first r.f. coil on new antenna-less sets. Semi-directional, reduces interference in locations where noise originates at one point.

**35Z3**—Half-wave rectifier similar to the 12Z3 but with higher output.

Heater Voltage ..... 32 to 35 volts  
 Heater Current ..... 15 amp.  
 Max. A.C. Plate Voltage ..... 250 volts  
 Max. Peak Inverse Voltage ..... 700 volts  
 Max. Peak Plate Current ..... 400 ma.  
 Max. Heater-Cathode Voltage ..... 300 volts  
 Max. D.C. Output Current ..... 100 ma.  
 Average Voltage Drop at Rating 22 volts

**1805-P4**—"Stubby" 5 inch cathode-ray tube intended for television by National-Union; measures 13 inches long.

**1G4-G** Low drain detector-amplifier triode by RCA and Sylvania. Characteristics are:

Filament Voltage ..... 1.4 volts  
 Filament Current ..... .05 amp  
 Plate Voltage ..... .90 volts  
 Grid Voltage ..... .6 volts  
 Amp. Factor ..... 8.8  
 Plate Resistance ..... 10700 ohms  
 Transconductance ..... 825 umhos  
 Plate Current ..... 2.3 ma.

**1G6-G** Twin Class B Amplifier of the 1.4 volt type by RCA and Sylvania. Characteristics are:

Filament Voltage ..... 1.4 volts  
 Filament Current ..... .1 amp  
 Plate Voltage ..... .90 volts  
 Grid Voltage ..... .0 volts  
 Plate Current (per plate, zero signal) ..... 1.1 ma.  
 Peak Plate Current ..... .20 ma.  
 Power Output ..... .675 watt  
 Distortion ..... 5 per cent  
 Load Resistance (plate to plate) ..... 12000 ohms

**1849-1850** Two new iniconoscopes by RCA for television transmission. Type 1849 is designed for picking from motion picture film. Type 1850, has higher sensitivity and therefore more suitable for direct pickup.

## Audio Frequency

Ever have a case of wheel static which wheel static collectors would not cure? Massage thoroughly, the complete tire with powdered graphite taking special care on the sidewalls clear to the rim. Instead of eventually washing out, the graphite works its way constantly into the tire. Harmless to the rubber, a permanent static cure, when used with wheel springs.

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"The Chanalyst will do all you claim for it and also the following things. In conjunction with the instruction book the Chanalyst affords the best education in aligning and tracking, in all its phases, that I have yet encountered. It also clarifies all those mysterious circuits which were so much of a headache to servicemen, such as various oscillator circuits, A.F.C. circuits audio degeneration and regeneration, inverse feedback, phase inversion, etc. One can test all these circuits their effects, defects, components, etc., just as easily as he can check an ordinary T.R.F. set. The instrument is so simple to use that in a short time a serviceman can become quite adept with it and, as he goes about measuring voltages and checking circuits he never dreamed possible, it's so natural and easy he just takes it for granted that all this has come to pass. I like the Chanalyst and don't

know how I got along without it before and would never do without it now. It is not only an instrument, it's an education."—Walter Stepanovich, Steubenville, Ohio.

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"It has taken the nightmare out of my radio servicing.

Have seen nothing to equal it in my twenty years of servicing."

—R. H. Reed, Waco, Tex.  
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With Rack-Panel Assembly \$122.50  
 Rack-Panel Assembly (sold separately) \$15.00



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**GO TO YOUR JOBBER AND DEMONSTRATE IT TO YOURSELF**

# The RIDER Chanalyst



The RIDER VoltOhmyst

The VoltOhmyst is unlike anything heretofore available to the servicing industry. It will remain useful for years to come in the servicing of radio receivers, television, facsimile, sound and such equipment.

This New Electronic D-C Voltmeter-Ohmmeter measures voltage wherever you wish, without your being concerned with its value and irrespective of circuit complications. For, the Rider VoltOhmyst has one scale—one zero adjustment. You just put the proper probe at the point to be measured and look at the single scale.

The VoltOhmyst has an extremely wide range—0.05 volt to 5000 volts d-c, 0.1 ohm to 1,000,000,000 ohms.

Send today for complete specifications and literature. See your jobber for a demonstration.

Net Price **\$57.50** 25-60 cycle. Power consumption 12 watts.

**SERVICE INSTRUMENTS, INC., 404 Fourth Avenue, New York City**  
**FOREIGN DIVISION, 145 W. 45th Street, N. Y. C., Cables — "Servicin"**

# TRICKS

## CROSLEY 143

Distortion . . . open tone control. Since this feeds bias to the driver tube, an open circuit removes the bias.

## CROSLEY 425

Distortion . . . check dual .5 mfd condenser which bypasses the second detector and first a.f. bias resistors for leakage.

## DELCO 641-654

Fading . . . resolder oscillator coil terminals.

## DELCO 644

Fading . . . check for short to lug on loading coil in series with antenna coil.

## EMERSON AX 211, 212, 217, 219, 221

Intermittent noise which continues regardless of volume control setting . . . carefully resolder control grid cap on 6Q7GT tube. Grid lead of tube making poor contact with cap of tube.

## PHILCO MODEL 54

Poor tone and sensitivity—bad electrolytic, part No. 15. A whistle in this model can be stopped by rearranging the i.f. plate and grid leads.

## PHILCO 57

Dial drive slips . . . release end bearing on gang condenser. If dial still slips, remove drive mechanism, take apart, and insert thin shim under tip of drive shaft. Reassemble and oil thoroughly.

## PHILCO 59

Oscillation after normal warm-up period . . . connect .1 mfd bypass from green terminal of filter block to chassis.

## PHILCO 70

Loud howl . . . on receivers with a serial number below 22,000 suspect an open circuited detector plate bypass on B plus side of r.f. choke.

## PHILCO 116RX, 55RX

Hum when tuned to strong stations . . . Circuit ground returns riveted to chassis. Solder all these points.

## PHILCO 76

Fading . . . check ground strap from ground post to chassis for poor contact. Solder lead from post to chassis.

## PHILCO 37-604

Distortion and birdies . . . open .1 mfd bypass across 300 ohm cathode resistor on 6K7G.

## PHILCO 37-650

Dead . . . replace C 51 and C 48 twin .003 1000 volt condenser connected from plate of 6F6G's to chassis. Also replace C 25 a .1 mfd. connected from B plus to chassis.

# NEW...

## Short Length Television Tubes



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DEVELOPMENT

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and Kits

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Radio service engineers have learned over the years that National Union will never let them down. In quality, protection, price and dependability, National Union has proved it is the serviceman's tube dedicated to helping servicemen "make more money."

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RR-4-39

N.U. Quality in Television Tubes carries on the enviable tradition National Union has established for quality in radio receiving tubes. . . High brilliance . . . Clean sharp focus . . . 441 line definition . . . constant sensitivity. And, of course, the new short stem requires less space for mounting and materially reduces breakage hazard.

Just compare N.U. tubes for constancy in characteristics, performance and life.

## Audio Frequency

Having trouble with friction tape ravelling when being unrolled? With a sharp jackknife, on the flat side of the roll, slash the tape across its diameter several times, lightly. Tape will then come off the roll evenly, with no tears.

#### PHILCO 37-660

Intermittent distortion after set heats up . . . second section of candohm resistor (15 ohms) has increased to 30 ohms. Replace with 15 ohms wire-wound unit.

#### PHILCO 38-2

And other models using phase inverter—poor tone—both output tubes must check O.K. Unbalanced output tubes will cause distortion in this model.

#### PHILCO 38-8

Oscillation at high volume . . . shunt .0005 mfd condenser from grid of 6K5G to ground.

#### PHILCO 39-11

Insensitive on B.C. band, calibration off . . . check band switch stop to see if this allows full movement of switch arm.

#### PHILCO 39-30T

Oscillation as volume control is advanced . . . replace .00025 mfd plate bypass on 75 first audio with .01 mfd.

#### RADIOLA 62

Dead, low plate voltage, high bias on all tubes . . . suspect mica condenser connected from plate of second detector to ground.

#### RCA R8

Oscillation . . . check 4 mfd condenser (C14) bypassing plate of 27 oscillator.

#### RCA 120

Oscillates when aligned . . . replace cathode bypass on 58 r.f. with .25 mfd unit.

#### RCA VICTOR 96E, 96T, 96TI

Motorboating . . . open second filter condenser or open .1 mfd condenser from bottom of antenna coil secondary to ground.

#### RCA 813K

Noisy on automatic tuning . . . clean contacts on muter switch which operates by end-torque of motor.

#### RCA VICTOR HF2, HF4, U130

Distortion . . . leaky .025 coupling condenser from 6J5 phase inverter to 6F6. Also check .1 condenser between 6J5 second audio and other 6F6.

#### REMLER 40

Noisy, fades intermittently . . . replace R14, a 400 ohm 1 watt bias resistor on the 41; also C9, a .1 mfd. bypass across this resistor. Check (R17) the 15,000 ohm 5 watt carbon screen dropping resistor for 6A7 and 6F7.

#### REMLER 46

Hiss, intermittent hum . . . replace 4-4 mfd. electrolytic filter condenser. Also, check 15,000 ohm 5 watt screen resistor on 6A8.

#### SILVERTON 29

Weak, oscillation . . . replace filter condenser with 450 volt type.

#### SILVERTONE 109

Low sensitivity, especially on 550 end. . . Primary of antenna coil is resistance wire, very brittle and usually breaks. Replace with copper wire.

#### SPARTON 400

Intermittent noise . . . caused by poor contact of r.f. grid return which connects to casting on bottom of coil. Solder lead from this lug to ground.

*You've asked your Jobber.*

—and you've asked us hundreds of questions about the new SUPREME 504 Tube and Set Tester since it was introduced a few short weeks ago. Grouping and analyzing these questions we have attempted to answer them all in the seven paragraphs below.

**WHAT IS THE OVER-ALL ACCURACY OF THE 504?** The 504 has an OVER-ALL GUARANTEED accuracy of 2% on all D.C. and 3% on all A.C. functions. Contrast this with instruments in which ONLY THE METER is guaranteed to 2% or ONLY THE RESISTORS to within some percentage. SUPREME guarantees the accuracy of the ENTIRE INSTRUMENT—not just one component part.

**IS THE COPPER-OXIDE RECTIFIER GUARANTEED?** Unconditionally! The copper-oxide rectifier is completely guaranteed for 90 days—exactly the same as every other part. As far as we know, SUPREME is the only company which guarantees instrument rectifiers.

**WILL THE A. C. VOLTAGE READINGS VARY WITH TEMPERATURE?** The 504 incorporates an entirely new "Perma-Grad" TEMPERATURE compensated circuit. Each rectifier is individually matched with a specially wound spool of HYTEMCO wire which nullifies the result of temperature change on the rectifier by re-acting in the opposite direction. Thus accuracy is not guaranteed at only one temperature but is guaranteed to be well within 3% over a wide range of 40 degrees to 95 degrees. Even above or below these limits variation is negligible. THIS IS AN EXCLUSIVE FEATURE.

**WILL THIS TESTER CHECK LEAKAGE OF ALL ELECTROLYTICS?** The 504 is also a complete condenser analyzer and will check leakage of all electrolytics, regardless of the CAPACITY or the WORKING VOLTAGE. There are seven D. C. test

voltages from 25 to 450 volts with complete listings on the roll chart. Tests are made on an English reading scale and discard limits were set with the co-operation of three of the leading condenser manufacturers.

**I AM AFRAID TO BUY A TUBE TESTER BECAUSE MANUFACTURERS ARE SWITCHING AROUND THE ELEMENTS ON THE NEW TUBES.** The 504 has a "PATENTED DOUBLE FLOATING FILAMENT RETURN SELECTOR" and an obsolescence-free basic circuit which automatically re-connects every tube socket to the proper arrangement while the instrument is being set-up according to the tube chart. This is done REGARDLESS OF PRESENT OR FUTURE TUBE BASE CONNECTIONS. There are now about 120 different bases—the Model 504 does not care if there are 1000 or more. THIS IS AN EXCLUSIVE FEATURE.

**WILL THE 504 TEST 50-VOLT TUBES?** Yes, the 504 will check 50-volt filament tubes as well as 35, 32, 7 1.4, and all other types. It will check octals, single-ended "S" types, gaseous rectifiers, magic eyes ballast tubes, pilot and flash lights, G, MG, M, GT, octals and non-octals.

**I AM SOLD ON THE INSTRUMENT BUT I DON'T THINK I CAN AFFORD IT.** If you can afford a telephone or if you can afford to buy your cigarettes you can afford the Model 504. This big Model 504 laboratory, combining a 7-way tube tester, a 31 range set tester, and a complete condenser analyzer, is but 17c per day on the world's easiest installment terms

*If you want further details on this newest of new instruments, send coupon below*

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

EXPORT DEPT. Associated Exporters Co. 143 W. 43th Street, New York  
Cable Address: LOFRER, N. Y.

**MAIL COUPON TODAY!**  
SUPREME INSTRUMENTS CORP., Dept. R-5  
Greenwood, Miss.  
Please RUSH me your newest information on SUPREME 504 and many other completely new SUPREME 1939 Models.  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_



## There's a brand new sector in the scale of instrument quality

**S**PEAKING of "English reading scales," there is a new sector at the top of testing instrument value today, and the name of this higher plane is SIMPSON!

You will realize this the moment you examine any of the testers illustrated here. Like their larger brothers, these little fellows in the Simpson line have the same beauty of design and unerring accuracy that could only be built into them by Ray Simpson and a group of associates who have made a life study of instrument design and production.

There is an instrument built for you in the broad Simpson line. You will find it built to a higher standard yet priced lower than instruments which cannot match its range, its beauty, or its stamina.

Ask for complete descriptions. See them at your jobber's.

**SIMPSON ELECTRIC CO.**  
5204 Kinzie St., Chicago, Ill.

### MODEL 240 "HAMMETER"

A remarkable value in a pocket size (5 1/4 x 2 7/8 x 1 3/4") 3,000 volt, self-contained tester. Four A.C. and five D.C. voltage ranges at 1,000 ohms per volt; 0-15 - 150 - 750 - milliamps; 0-3000 - 300,000 ohms.  
Your price **\$14.75**



**MODEL 205** — Pocket size, but highest quality. Highest resistance ranges ever made in instrument of this size. 0-2000 - 200,000 ohms - 2 megohms. Volts, 0 - 10 - 50 - 250 - 1,000 D.C. only; milliamps, 0 - 10 - 500.  
Your price **\$13.25**



### MODEL 333 TUBE TESTER

The "most" tube tester ever offered at the price. Tests all tubes including new Loctal and other late types. Has double-filament switching. Only 7 1/2 x 10 x 5". Your price **\$26.50**



**MODEL 215** — The first small instrument with big 4 1/2 inch meter. Five A.C. and D.C. voltage ranges — five decibel ranges — 0 - 10 - 100 - 500 milliamps; 0-250 microamps; 0-4000 - 400,000 ohms; 0-4 megohms.  
Your price **\$25.75**

**MODEL 230** — Smallest A.C. - D.C. instrument on the market, yet has ranges of 0 - 10 - 250 - 1000 A.C. volts; 0 - 10 - 50 - 250 - 1000 D.C. volts; 0 - 10 - 50 - 250 D.C. milliamps; 0-1000 - 100,000 ohms.  
Your price **\$14.25**



# SIMPSON

**INSTRUMENTS THAT STAY ACCURATE**

#### SPARTON 930

Howl at low volume . . . replace r.f. choke in plate circuit of second detector.

#### SPARTON 930

Oscillation . . . check connections to r.f. coils for corrosion.

#### STEWART WARNER 1261

Weak on shortwaves . . . raise oscillator plate voltage by shorting 10,000 ohm dropping resistor in plate lead.

#### WESTINGHOUSE WR12

Dead . . . look for i.f. trimmer lugs shorted to winding.

#### ZENITH 5714

Whistles at medium volume, noisy between signals . . . Open filter condenser; loose connection or open condenser across r.f. choke.

#### ZENITH 5714

Inoperative on automatic tuning . . . open compensating coil (part No 20-196, No. 3 in diagram)

#### ZENITH 5801, 1004

Reduced volume, shadowmeter does not function . . . shorted .05 mfd bypass on r.f. input side of 6C5 shadowmeter grid.

#### ZENITH 4B131

Dead from 550 to 700 kc . . . check for open 9,000 ohm 1/2 watt resistor in cathode of 15 tube.

#### ZENITH 6M192, 6M193, 6M194

Noisy when jarred . . . i.f. shields grounded through one eye-bolt on can. Solder ground lead to cross-bar on top of can, making sure the nuts holding this are secure. Also check soldering lugs on tuning gang stator for good contact.

#### ZENITH 12L57, 12L58

Intermittent . . . replace C29, a .05 mfd condenser coupling 6H6 to volume control (R7).

#### ZENITH AUTOMATIC SETS

Some automatic buttons, especially those for the low frequency range, will not tune in a station above 700 K.C. . . . This is apparently due to the iron core of the permeability coil not going far enough into the coil due to insufficient threading of the adjusting screw. However, it is easily taken care of by adding a very small amount of capacity to the compensating condenser, marked C9 in the diagram, part No. 22-738. This brings up the frequency range of the automatic coils to any range desired, but since it is only a matter of a couple of hundred K.C., a very small capacity is required, not more than 50 mmfd. Simply twisting two insulated No. 18 wires about 6 inches long around each other and connecting one end of each wire across the compensating condenser, will give one the correct capacity. Untwisting or twisting more or less of the wires will give sufficient change in capacity to get the range just right.

Noisy automatic buttons. . . This is due either to poor contact of the spring contacts which is actuated by the button itself, or to the key bar in the switch, which slips out of position. In the first case, that of poor contact; simply clean the spring switches with carbon tetrachloride, and if necessary, bend them over so that they make better contact. In the second case, that of the key bar slipping out of position, the best thing to do is to drop a bit of solder on each end of the bar, where it goes through the guiding slots, which will prevent it shooting out of the slot and losing its position.

## MORE ABOUT SOUND

(Continued from page 20)

the hit status through proper exploitation although perhaps inferior to the first.

It is generally recognized that soundmen playing records exploit songs and are helpful in their sale. The radio stations have had the same contention for some nine years and still are forced to pay for the privilege of exploiting musical selections.

Since my first article about Licenses and Permits appeared, South Carolina has become the first state to adopt a law ruling out collection of license fees on performance of phonograph records or electrical transcriptions. On February 17 Governor Maybank signed a bill abrogating and cancelling all common-law rights to restrict or to collect royalties. Anti-ASCAP bills are now pending in several other states.

Several readers mentioned that when they were refused the sale of phonograph records by distributors they took off-the-air recordings of selections and used them in their sound work for profit.

This is in violation of present-day performance rights of the National Association of Performing Artists and the North Carolina Federal Court recently granted Fred Waring an injunction against the unauthorized use of such a recording. Also, in Pennsylvania, a state court has ruled that radio station WDAS could not play Fred Waring recordings without his permission. Paul Whiteman has a suit pending in the New York United States District Court against unauthorized use of his records.

## RECORDS IN REVIEW

(Continued from page 25)

as *Carioca*, *The Man I Love*, *Bill, Zigeuner*, *The Donkey Serenade*, etc.— by ten of the leading composers, all played in the distinctive manner of Artie Shaw and his Orchestra. Interestingly packaged collections by Andre Kostelanetz and three leading “Boogie-Woogie” pianists are put out by Brunswick and Vocalion. Others will no doubt follow.

By all means stock this varied array of low-priced sets. You can sell them next year and the year after as well as now and, unlike the leader in this week's hit parade,

there's no mystery surrounding the duration of their popularity. This merchandise is stable, it is tried and true, it always moves.

Moreover, the sales of these inexpensive sets of standard music will give you clues to the probable demand in your neighborhood for Victor Red Seal and Columbia Celebrity recordings of classical music. The \$2.25 sets (five discs) are worth their price; but don't forget that the \$1.50 and \$2.00 discs of similar music by world famous orchestras and artists are naturally superior in musical quality and mechanical presentation. Purchasers of Strauss waltzes played by a small studio orchestra will not be unimpressed by the more thrilling interpretation and more brilliant recording of the same music played by the Boston “Pops” Orchestra in a \$7.00 album.

### Novel Airplane Tie-Ins

RCA Victor dealers can tie in with a clever merchandising plan by informing their communities of the broadcasts, six nights a week over twenty-two NBC stations in key cities, of Red Seal records. These intelligently prepared programs bring to the living rooms of listeners in every section of the country not only the latest recordings but many older ones selected from the main catalog.

Here the record buyer can “shop around.” In fact, he is given a “preview” of the “music you want when you want it.” The commercials are brief but effective. They mention no specific dealer in a given locality, but the alert retailer will waste no time informing listeners in his district that records heard on the “Music You Want” programs may be obtained through him. He can do this effectively in the local newspapers, in a direct mailing, by a poster in his window, or by a commercial announcement identifying himself with the Victor records before or after their broadcast. These programs frequently carry commercials plugging new combination radio-phonographs; the listener being directed to his local dealer.

If you wish further information regarding these broadcasts, address your inquiry to the RCA Manufacturing Company, Camden, N. J.

The Columbia Broadcasting System, parent of the American Record Company, has lost no time publicizing records on the air. To date,



## Essentials to Profitable SERVICING

- ★ The RIGHT data, the RIGHT replacement, the RIGHT performance—that's what you need for PROFITS. And that's precisely what CLAROSTAT provides in its controls, resistors and Service Manual:

### CONTROLS

- ★ The CLAROSTAT Midget (Series M) Composition-Element Control, designed from scratch, was introduced almost two years ago. Since then it has gained a host of friends. Remarkably quiet. Highest immunity to humidity and climatic conditions. Mightily accurate—and stays that way for years of use. Choice of tapers. Handy Ad-A-Switch feature. You really don't know how good a modern control can be until you've tried a CLAROSTAT Midget.

### RESISTORS

- ★ CLAROSTAT pioneered Plug-in Resistors for AC-DC sets. Now offers largest line of exact-duplicate units. Also universal types for minimized stocks. Handy Tester indicates condition of any unit. CLAROSTAT also offers voltage-dropping power cords, flexible resistors, power resistors and other essential types.

### PRACTICAL DATA

- ★ Handy listing of all standard sets in CLAROSTAT Service Manual. Indicates at a glance the correct control and plug-in resistor replacements. New edition now coming off the press. Get your copy from local CLAROSTAT jobber—or write us direct.

See us at Booths 620-622—Hertz Ave. Radio Parts Manufacturers National Trade Show—June 14, 15, 16 and 17.



**Now..**  
**5 VITAL FEATURES**  
**COMBINED IN**  
**AMPERITE VELOCITY**  
**WITH ACOUSTIC COMPENSATOR**



it's a **VELOCITY**  
 it's a **DYNAMIC**  
**UNI-DIRECTIONAL**  
**NON-DIRECTIONAL**  
**HIGH OR LOW PITCH**

By moving up the Acoustic Compensator, you change the Amperite Velocity Microphone to dynamic operation — without peaks. At the same time you reduce the back pickup, making the microphone practically **UNI-DIRECTIONAL**.

With the Acoustic Compensator down, the microphone is **BI-DIRECTIONAL** . . . 120 degrees front and back without frequency discrimination. Rotating the microphone until it parallels the ceiling makes the microphone **NON-DIRECTIONAL**.

**THE ACOUSTIC COMPENSATOR** is a regular feature of these models: RBHk (hi-imp); RBMk (200 ohms) LIST \$42.00. RSHk (hi-imp); RBSk (200 ohms) LIST \$32.00

Write for Complete Illustrated Bulletins and Valuable Sales Helps

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

**AMPERITE** Velocity **MICROPHONES**

**Servicemen!**  
**ADD LAFAYETTE P.A. TO**  
**YOUR LIST OF MONEY-MAKERS!**

**BIG PROFITS!** in Public Address these days! Just look around you. In cafeterias, ball parks, offices, plants, churches, theatres—wherever folks gather in numbers—you can sell a sound system.

**EASIEST TO SELL** is a Lafayette system. Long-famed for performance-with-thrift, Lafayette this year offers three complete lines—the Economy, Standard and DeLuxe. Completely redesigned and streamlined for added buying appeal. Lafayette's the most complete line of sound equipment in the world today!

**GET THE FACTS!** Find out how you can profit, full time or spare, selling Lafayette P.A. Send at once for catalog and complete information **FREE** about the sensational Lafayette money-maker plan.



**LAFAYETTE RADIO CORP**  
 Dept. 74DP9 100 Sixth Ave., New York

**LAFAYETTE**  
 p. a. sales division  
 NEW YORK ATLANTA CHICAGO

CBS has not sponsored programs of the records themselves, but the whole network has instituted a regular Sunday "Dance Hour," from 8:00 to 9:00 P.M., featuring Brunswick and Vocalion recording artists performing compositions they have recorded. There are no commercials but frequent reference is made to available records. Your advertising can tie in with this program, too. Further details may be obtained from your ARC distributor.

**MODERNIZE TO MAKE MONEY**

(Continued from page 26)

they were often too high or too low, bad for business either way.

**Must Be Publicized**

Formerly the radio service department was generally hidden in the back of the store. The trend is now toward placing an eye-appealing service department where it can be seen by store traffic and be a selling aid. Eighty-five per cent of the dealers who modernized placed their service benches where more showmanship built into their make-up. One dealer reported that 90 per cent of his radio sales originated in the service department, replacements sold to repair prospects.

Some dealers contacted had dressed up their service benches with lighting in various colors. Another suggestion made was to use linoleum on the bench top. Makes an excellent working surface, easy to clean. A sliding slab or drop-leaf for perusal of manuals was another common refinement noticed.

We sum up our findings on the advantages of service department modernization as follows:

1. Gives customers more confidence in the ability of the serviceman to do the work efficiently.
2. Aids sales of radios and other merchandise.
3. Builds more profitable service sales.
4. Speeds up service, cuts costs.
5. Reduces idle time of servicemen. Increases ratio of productive labor.
6. Permits immediate and accurate estimates in shop or field.
7. Minimizes material spoilage.
8. Cuts down time spent on jobs, hence increases profits where flat price is given to customer.
9. Easier to keep clean and in systematic order.

**Pay As You Profit**

Since 82 per cent of the instruments purchased by the dealers interviewed were bought on time, the

initial outlay was low. Asking one dealer how much his modernization cost him, he replied, "Nothing. I paid as I made," meaning that he purchased the equipment on installments, which he paid out of the increased profits resulting from modernization.

The radio dealer, whether he does \$5,000 or more than \$50,000 worth of business, should more generally realize that the adequacy of his service equipment has a definite relation to net profit for his entire business.

Profits rise when you modernize.

**The Outstanding**  
**AUTO RADIO**  
**CONTROL LINE**  
**for 1939**

**NEW SPECIAL CHEVROLET PLATE**



For re-installation of any 1936-37-38 Delco, United Motors, or Chevrolet custom radio in 1939 Chevrolet, only this plate is necessary **UTILIZING ORIGINAL CONTROL**. Heavy die casting—exact duplicate of original installation.

**NEW SWEDGING TOOL**



The last word in Swedging Tools. Removes fittings from old cables and replaces them on new .150 and .130 cables and housings. High grade tool steel. Mounts on vise for immediate use. A really great seller to the service - dealer. Only \$7.50 net.

**Special Base for Permanent Mounting \$3.00 net**



**UNIVERSAL DELCO KIT**

Special conversion kit for 1939-38-37-36-35 Delco Radios. 12-1 ratio **TUNING CONTROL**, combined volume control, and on-off switch, Tone Control, complete with all necessary fittings for above Delco Radios. To convert any of these Delco Models only this kit is needed with any Star Escutcheon Plate, Kit #DE-29 complete with Tone Control \$7.05 List.

**SPECIAL ANNOUNCEMENT**

Notice to Our Chicago, Midwest and Western Trade Beginning April 1, 1939. Consolidated Wire & Assoc. Corp., of Chicago, Illinois, no longer represents us in the above mentioned territories. All inquiries, communications, and orders should be forwarded directly to our New York Factory for prompt attention.

Free Catalog Upon Request. Write Today to

**Star Machine Mfg's, Inc.**  
 1375 East Bay Avenue  
 Bronx, N. Y.  
 Cable STARCON—NEW YORK

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

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# SEARCHLIGHT SECTION

EMPLOYMENT and BUSINESS OPPORTUNITIES—SURPLUS STOCKS—RESALE MERCHANDISE

#### UNDISPLAYED RATE:

15 cents a word, minimum charge \$3.00  
Positions Wanted (full or part-time salaried employment only) ½ the above rates, payable in advance.

(See ¶ on Box Numbers.)

Proposals, 50 cents a line an insertion.

#### INFORMATION:

Box Numbers in care of our New York, Chicago and San Francisco offices count 10 words additional in undisplayed ads. Replies forwarded without extra charge. Discount of 10% if one payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

(New advertisements must be received by May 5th for the May issue)

#### DISPLAYED—RATE PER INCH:

The advertising rate is \$8.75 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

An advertising inch is measured ¾" vertically on one column, 3 columns—30 inches—to a page. Radio Retailing

## WHILE THEY LAST MYSTERY WIRELESS RECORD PLAYER

NO CONNECTIONS WITH RADIO



Astatic Crystal Pickup. Self starting, direct drive, constant speed motor. Handsome Walnut Cabinet. Quantity limited. We cannot mention manufacturer's name at this low price.

Write for free bargain bulletin on radios, tubes and parts.

\$9.37 ea.  
In lots of three \$8.88 ea.

**NEW YORK RADIO SUPPLY CO.**  
152 W. 42 St., N. Y. C.

### SPECIAL INSTRUCTION

RADIO CODE COURSE on three Records with Instruction book. Self-teaching. Dealer's Net \$5. Poinsettia, Inc., Ralston, Pittman, New Jersey.

### SALESMEN WANTED

SALESMEN-RADIO TUBES, Guaranteed, individually boxed, retailing 19c and 29c most types. Good commission. SW-127, Radio Retailing, 330 W. 42nd St., New York, N. Y.

## MOSTOW PAYS THE SHIPPING CHARGES

All Orders of \$50.00 or More  
Shipped Free of Charge.

All Orders From \$25.00 to \$50.00  
Mostow Pays One-Half Shipping Charges.

## SEND FOR OUR NEW CATALOG OF SENSATIONAL VALUES THE MOSTOW CO.

Distributors of  
Cameras—Photo Supplies  
Projectors

MERCHANDISE MART, CHICAGO, ILL.  
100% Wholesale American Made

## 1929 • CELEBRATE • 1939 WITH US OUR 10th ANNIVERSARY

Write for Our 8-Page Bulletin of 50 Grand Values on vacuum cleaner, washing machine, iron replacement parts and other electrical appliances. Quality Best Money Can Buy. A useful 6-inch ruler FREE with each bulletin. 1929 10 years of successful merchandising 1939

**Midwest Appliance Parts Co.**  
Manufacturers-Factory Representatives  
and Distributors  
2722 W. Division St. Chicago, Ill.

### EVERYTHING IN RADIO!

Our immense stock of radio sets, parts and supplies enables you to purchase your entire needs on one order. You will find all you have usually known favorites in this big book which is FREE for the asking. Practically every order is shipped the same day it is received. Write for Catalog

**BURSTEIN-APPLEBEE CO.**  
1012 W. McGraw St. Kansas City, Mo.

### AUTO ANTENNA

CLOSE OUTS—Discontinuing manufacture of auto antenna. Less than ½ manufacturing costs. Bullet Hinge Type Rust-proof satin finish Per Dz. \$1.75; Flex-Rod Hinge Type Ass'd. color fittings Per Dz. \$2.75; DeLuxe Running Board all rubber covered Per Dz. \$6.50. Terms: F.O.B. Chicago, Net Cash with order or C.O.D.

**Victory Manufacturing Co., Inc.**  
2021 S. Michigan Avenue Chicago, Ill.



# The Mighty 1939 Radio Parts Industry Show

It's your show . . . this year more than ever! . . . A mighty gathering of the Radio Parts Industry . . . planned for you and streamlined for action . . . up and down the streets of Radio Parts City and its exhibits.

Two days will be devoted to Jobbers—and two days to Servicemen, Retailers, Amateurs and others in the trade . . . insuring fullest attention and maximum benefit for each of you.

**JOBBER DAYS** . . . Wednesday, June 14 and Thursday, June 15. In cooperation with all branches of the Industry, these two days will be devoted to Jobbers only.

**SERVICEMEN DAYS** . . . Friday, June 16 and Saturday, June 17. The Convention of the Radio Servicemen of America will open on Friday, June 16—with special lectures, meetings, and exhibits of new parts and apparatus for the Servicemen.

**AMATEUR DAY** . . . Saturday, June 17. This will be a big day for all the Hams. There'll be new Ham Gear to see, new developments to discuss with factory men, engineers, and fellow-hams. Booths manned by technical men on Servicemen and Amateur Days.

## NEW PRODUCTS . . . NEW IDEAS . . . NEW EXHIBITS

It's your one and only opportunity of the year to meet the complete Parts Industry—face to face . . . to make personal contacts with Manufacturers, Jobbers, Engineers, Sound Specialists, Servicemen and Amateurs—from all parts of the world . . . to see all the very latest developments in Parts and Apparatus, Public Address, Ham Gear . . . and get valuable ideas you can use in your own field.

**IT PAYS TO ATTEND THE TRADE SHOW**  
This is your Annual Homecoming. You owe it to yourself to come. Make your plans now—and don't let anything stop you!

*Stevens Hotel-Chicago*

1939 JUNE 1939			
WED	THU	FRI	SAT
14	15	16	17
OPEN these two days to Jobbers, Manufacturers, Manufacturers' Agents, and Manufacturers' Engineers only.		OPEN on these two days to Servicemen, Amateurs, Retailers, Students and others in the trade.	

# National Radio Parts Trade Show

Sponsored by Radio Manufacturers Association and Sales Managers Club  
★Executive Office—53 West Jackson Boulevard, Chicago, Illinois



# CROSLEY "Special" SHELVADORS

are the easiest refrigerators to sell this season because customers easily see they are the BEST values on the market!!



LA9-60  
6 cu. ft.  
SPECIAL  
SHELVADOR  
\$132<sup>50</sup>\*

**A "Leader" Line**  
Dealers who consistently promote this SPECIAL CROSLEY line will obtain a LARGER and CONSTANT flow of prospects because PRICE plus the Shelvador is and always will be the greatest of all refrigerator sales stimulants!

LA9-50  
5 cu. ft.  
\$122<sup>50</sup>\*

LA9-40  
4 cu. ft.  
\$112<sup>50</sup>\*

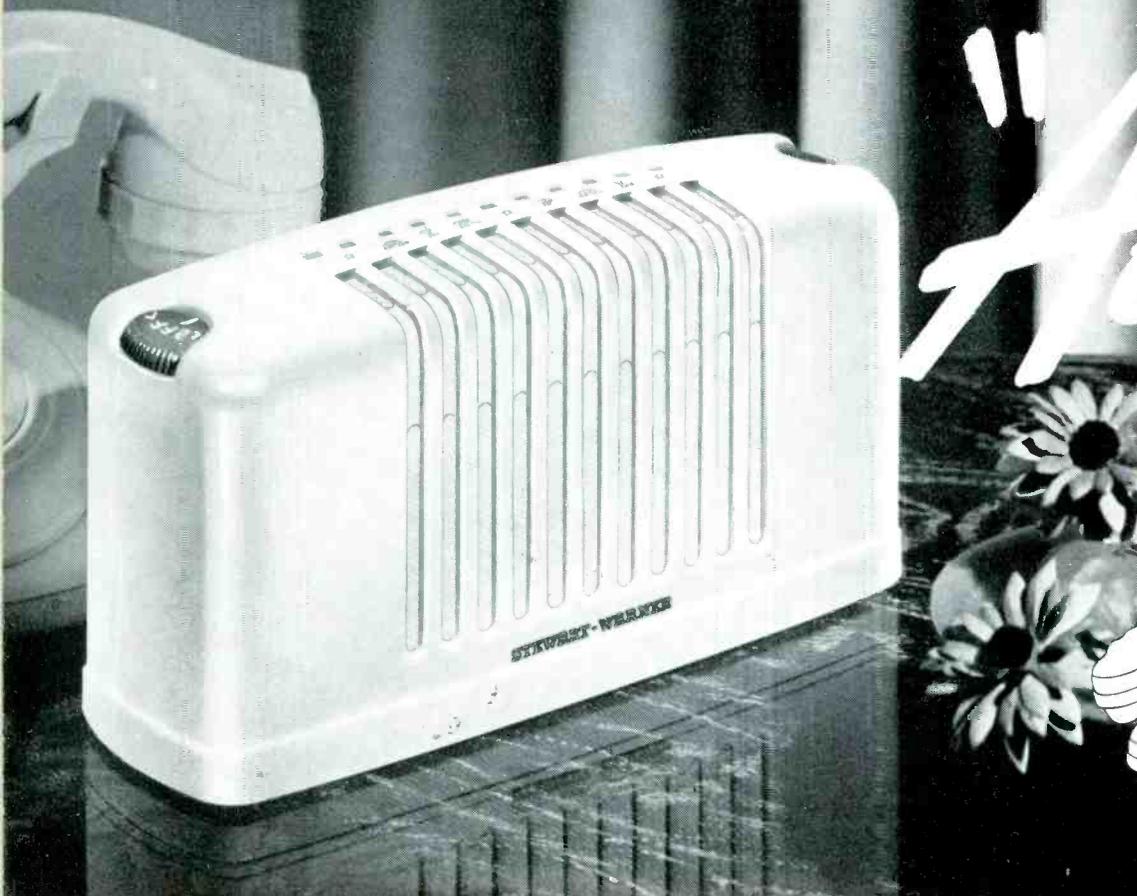
LA9-30  
3 cu. ft.  
\$99<sup>50</sup>\*

\*DELIVERED AND INSTALLED... 5 YEAR PROTECTION PLAN \$5.00 ADDITIONAL... PRICES SLIGHTLY HIGHER IN SOUTH AND WEST.

Crosley Special Shelvadors are an achievement in quality refrigeration, designed and manufactured to give STANDARD service at lowest possible prices. The hermetically sealed Electrosaver insures minimum operating cost. The Shelvador assures greatest efficiency in use—savings in steps, food and energy—long and lasting satisfaction—to which thousands of women are testifying throughout the world.

**THE CROSLEY CORPORATION**  
POWEL CROSLEY, Jr., Pres. CINCINNATI

# NOTHING ELSE IN RADIO LIKE IT!



# "Air Pal"

"THE MIGHTY MITE OF RADIO"

**\$9.95**  
Factory List



**Smaller Than a Phone!**

**C**ARRY IT from room to room in the palm of your hand! Toss it in a traveling bag or stuff it into an overcoat pocket—plug in and tune in! *This mighty mite of radio goes where you go—and goes to work wherever you plug it in.* Gives big-time 6-tube performance, yet is not as big as a cradle phone! Has built-in antenna, genu-

ine superhet circuit, operates on AC or DC with no hot cord! Sprayed ivory finish on plastic cabinet. Coral controls are completely recessed. Full dynamic speaker. *And only 9½ x 4⅝ x 3 overall!* In style—in compactness—in eye appeal and value—*it's a new high.* And your Stewart-Warner distributor can supply you now!

STEWART-WARNER CORPORATION  
CHICAGO, ILLINOIS



**For Music "On the Move!"**

This Companion model keeps the radio world at your side *anywhere . . .* in the woods this summer—on the water—in car or camp. Self-powered superhet with low-drain tubes—built-in antenna—AVC—dustproof 5¼-inch P.M. dynamic speaker. *Controls fully recessed.* Luggage-type waterproof covering. Weight with batteries 15 pounds.

**THE CAMPUS—The "Biggest Little Radio" Ever Made**



A streamlined beauty with performance to match! Has 5 real working tubes—7-tube performance. AC-DC superhet circuit—AVC—beam power audio system—*real dynamic speaker.* New illuminated pointer-tip Magic Dial covering standard broadcast and police band. Available in walnut—ivory with coral controls—and colored plastic cabinets. School and fraternity letters and personal initials available for personalizing.

**WATCH FOR ANNOUNCEMENT OF SENSATIONAL NEW JUVENILE RADIO**

# STEWART WARNER

MAGIC KEYBOARD RADIOS—SAV-A-STEP REFRIGERATORS AND RANGES