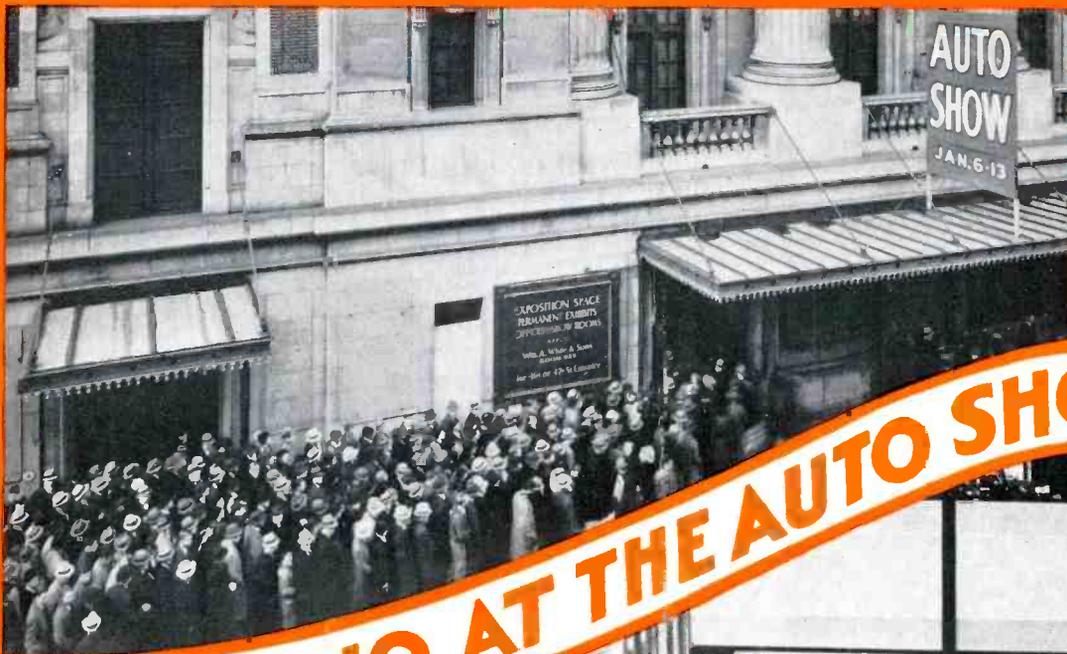


FEBRUARY, 1934

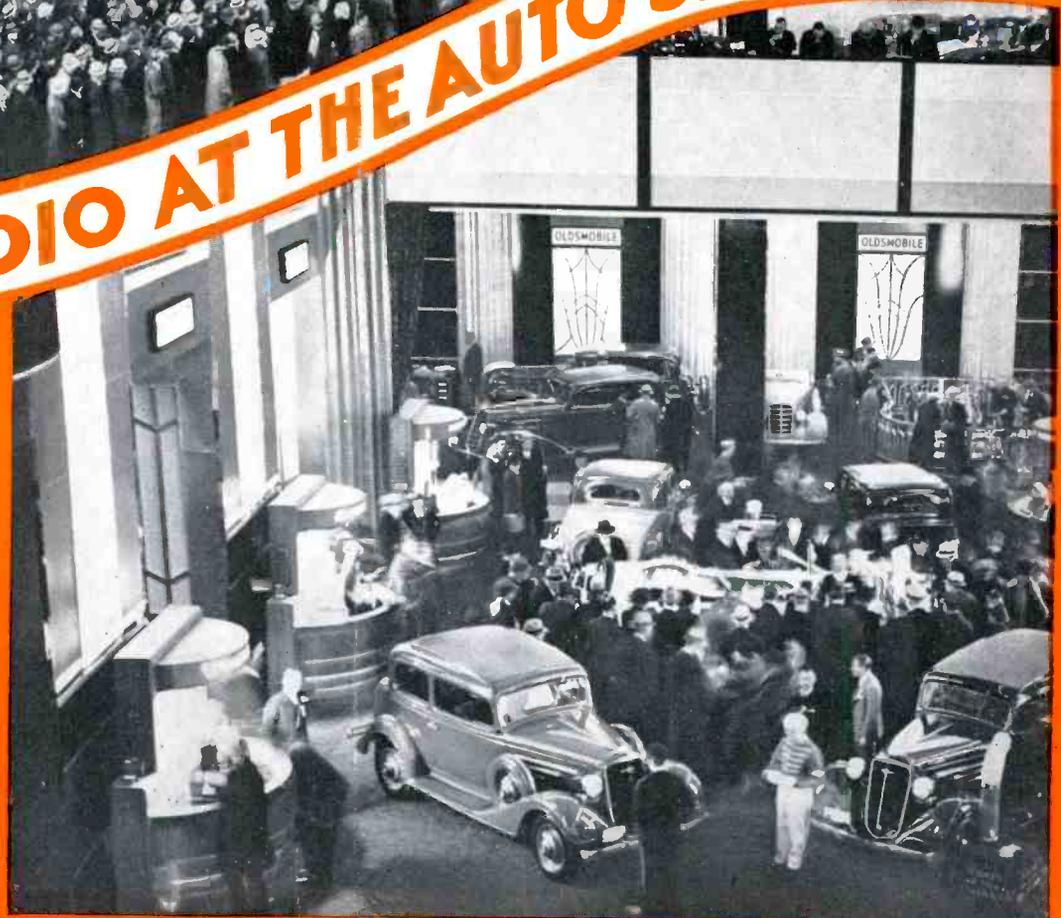
# RADIO RETAILING

INCLUDING  
SERVICE  
AND  
INSTALLATION  
SECTION

Home Entertainment Merchandising



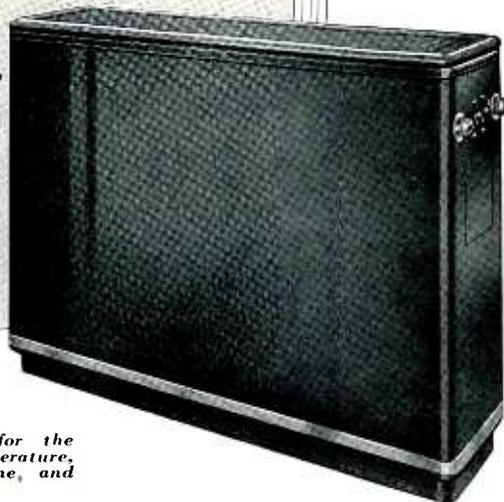
**RADIO AT THE AUTO SHOW**



See page 14 for complete story about stock-equipped cars, new dash-mounted controls, 1934 sales and installation opportunities

for the  
*Business Man*

**WHO IS READY TO SHARE IN  
THE PROFITS OF  
THE FASTEST-  
GROWING NEW  
GIANT INDUSTRY**



*Floor-Type Comfort Unit—for the year-round control of the temperature, humidity, cleanliness, volume, and distribution of air.*

*An Opportunity* TO DISTRIBUTE A COMPLETE LINE OF

# AIR CONDITIONING\*

You've watched Air Conditioning . . . watched it grow, swiftly, amazingly, into an industry of vast proportions.



Add to this Air Conditioning line, if you like, the world's foremost Commercial Refrigeration equipment . . . machine units for every capacity,

But you've waited until you could get into Air Conditioning with a dominant line of equipment . . . a line that would match the potentialities of a rich market.

Humidraft chilling units, self-contained milk coolers, water coolers, beer bars.

Today the opportunity you've waited for is here. Servel has brought Air Conditioning out of the "horse-and-buggy" stage. For 1934, it has perfected a line of modern equipment . . . so complete that it fills every Air Conditioning need, so advanced that you can sell it promptly, profitably.

Volume and profits await the business man who gets into Air Conditioning . . . today . . . with the line that is quickly taking the lead. Distributor and dealer franchises are now being arranged. Wire or write immediately for details of the powerful advertising and sales program. Servel Sales, Inc., Evansville, Ind.

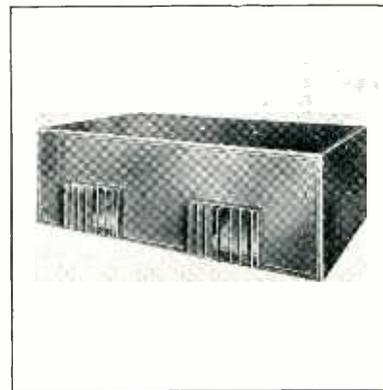
Servel brings you floor and suspension-type comfort units for year-round Air Conditioning, self-contained room coolers, massive 7-ton and 10-ton refrigerating machines for heavy-duty installations . . . all based on the rich experience of a refrigeration pioneer . . . all as outstanding as Servel Electric Refrigeration and Electrolux Gas Refrigerators.

# SERVEL

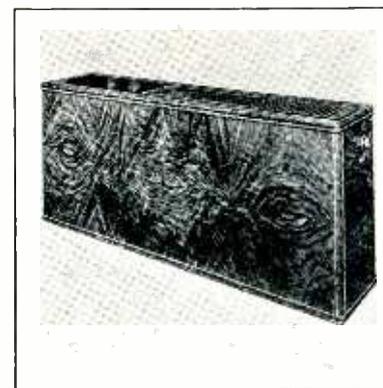
*Air Conditioning*

**AND COMMERCIAL REFRIGERATION**

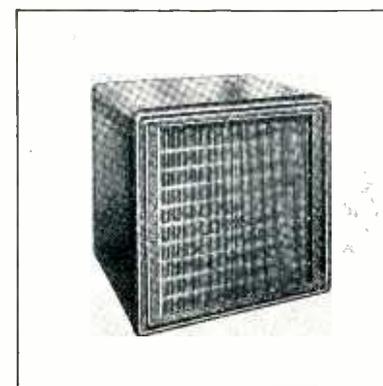
\*True Air Conditioning performs many functions . . . cools and dehumidifies in Summer . . . heats and humidifies in Winter . . . circulates, filters, and freshens the year round. Servel Air Conditioning is complete Air Conditioning.



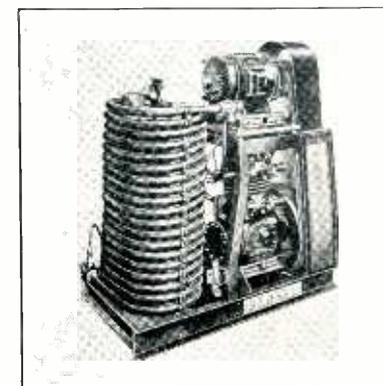
*Suspended-Type Comfort Unit—for all-season, heavy-duty Air Conditioning. To be suspended from the ceiling or in wall ducts.*



*Self-Contained Cooling Unit—for Summer use. This "package job" is readily portable, and can be installed anywhere with ease.*



*Suspended-Type Cooling Unit—for Summer use. Compact, efficient, powerful. To be suspended from the ceiling or in wall ducts.*



*Refrigerating Machine Unit—one of the big multiple-ton models developed for Air Conditioning and heavy-duty refrigeration.*

LET YOUR  
FAMILY  
BE THE  
JURY

on these

ZENITH

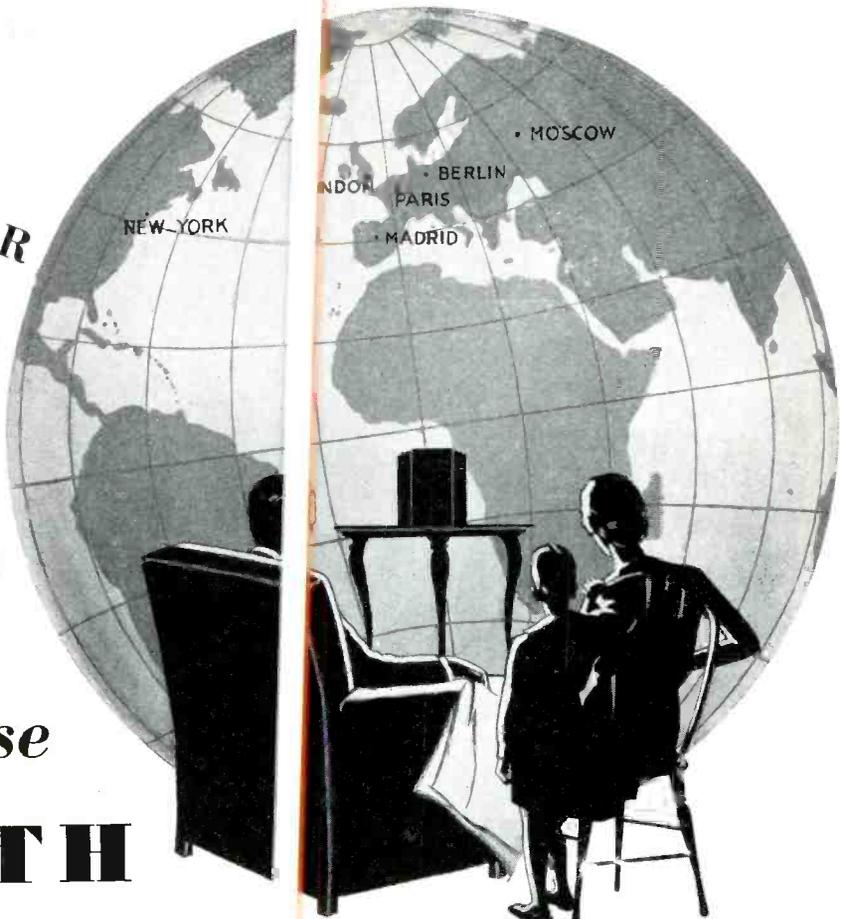
# Short Wave Sets

The way to prove that Zenith short wave radio really performs, is to let your own family be the jury. Take one of these sets home. Zenith welcomes the test.

Then you'll know that here at last is short wave radio that measures up to all we say about it.

Paris? Australia? London? Berlin? Peace Calls? Here they all are at your fingertips. Many have promised the same thing. But few have delivered.

Zenith does. We want you to be as sure of it as we are. Get in touch with your Zenith distributor today. If you don't know his name, write us.



**Model 288**—A standard and short wave radio for the air waves of the world. 8 tube superheterodyne—8 inch dynamic speaker—automatic volume control—all purpose over-size transformer giving above normal factor of safety—wave band selector—530 to 25,000 kilocycles (565 to 12 meters).



**Model 293**—Standard and Short Wave. Many women prefer a console model, and this handsome cabinet should intrigue any woman. Same chassis as Model 288.



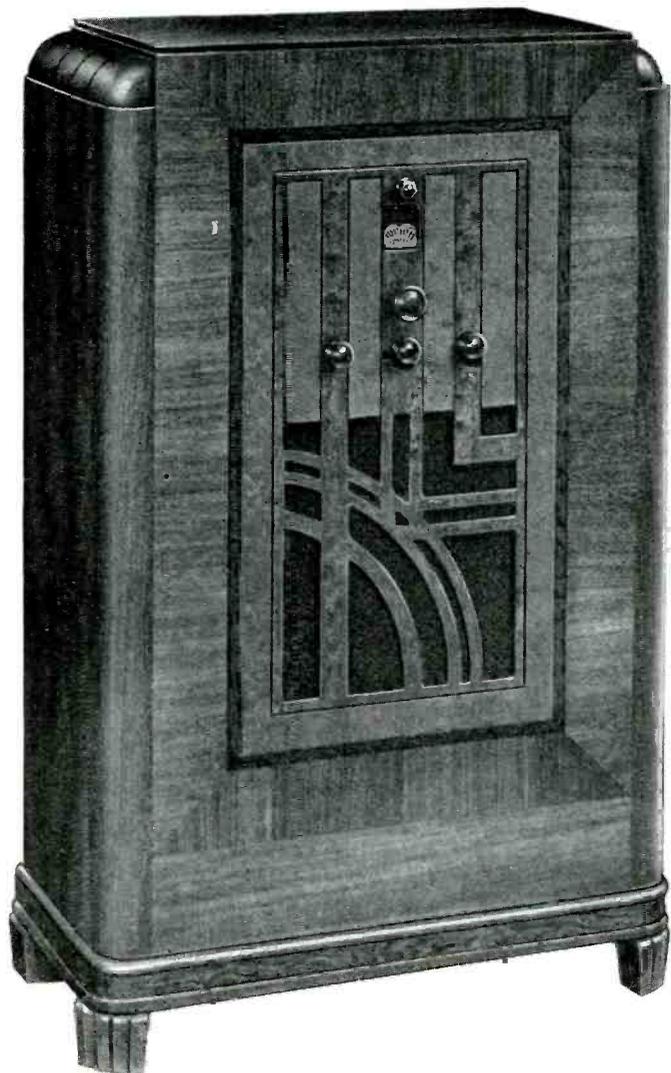
THE MONEY FRANCHISE

ZENITH RADIO CORPORATION

3620 IRON STREET • CHICAGO, ILLINOIS

“...QUALITY THE PRIME  
CONSIDERATION” in today's retail buying

DUN and BRADSTREET



The review of business of the well known mercantile agency for the week ending January 13th has this significant paragraph: . . . from all parts of the country there is a pronounced uniformity in the reports of the unexpectedly high level at which retail sales are being maintained . . . the demand for high-priced goods, with quality the prime consideration, has attained a force unequalled since 1929.

The increased demand for Stromberg-Carlson radios reflects this return to quality buying. Beginning in August, 1933, Stromberg-Carlson's sales have risen steadily — each month exceeding by a substantial margin, not only that of the corresponding month of a year ago but also that of the month previous.

This means that Authorized Dealers in the North, South, East and West, have been making more large unit sales and, consequently, larger percentages of net profit.

With the Stromberg-Carlson quality line now extended to a wider price range, a Stromberg-Carlson franchise will be more profitable than ever.

*Stromberg-Carlson home radios are priced from \$125 to \$762.50; Te-lek-tor-et remote controlled radios \$148.50 and up; Te-lek-tor remote controlled sound systems \$410 and up; the automobile radio \$79.50 (East of Rockies).*

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

The New No. 64 — \$125.00

The No. 64, a beautiful model of walnut, maple and rosewood. Favorite stations by “touch” tuning with absolute silence between them; or all stations with “free wheeling.” Entire broadcast band; both police channels, and many aircraft and amateur short wave channels. Super Class A Amplification and 15 watts

of undistorted power combined with a large area of cabinet front, gives this radio a fullness of bass response — in perfect balance with the treble tones — that cannot be obtained with lower power output or a smaller cabinet.

“There is nothing finer than a Stromberg-Carlson”



1894

Stromberg-Carlson



1934

MAKERS OF VOICE TRANSMISSION AND VOICE RECEPTION APPARATUS FOR MORE THAN FORTY YEARS

**LONG DISCOUNTS**  
*that mean*  
**BIGGER PROFITS**  
*in*  
**1934!**

**WURLITZER WASHERS**  
5 Models

**WURLITZER DUOZONE REFRIGERATORS**  
5 Models

**WURLITZER LYRIC RADIOS**  
Over 25 Models to Choose from

**LINE UP WITH  
WURLITZER FOR  
1934 AND YOU'RE  
IN LINE FOR  
BIGGER PROFITS!**

Tie up with Wurlitzer for 1934. Long discounts mean real profits on every sale! Wurlitzer Products have everything the public wants — name appeal — style appeal — *price appeal!* There's a Lyric Radio — a Mohawk Washer or a Duozone Refrigerator for every requirement and every purse.

Write, wire or phone *today* for complete information. Or send the coupon for prompt action — don't delay.

**THE RUDOLPH WURLITZER MANUFACTURING COMPANY**  
**NORTH TONAWANDA, NEW YORK**

The Rudolph Wurlitzer Mfg. Co.,  
No. Tonawanda, N. Y.

Send me full details on Wurlitzer

- REFRIGERATORS FOR 1934!
- RADIOS
- WASHERS

by return mail please.

Name .....

Address .....

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

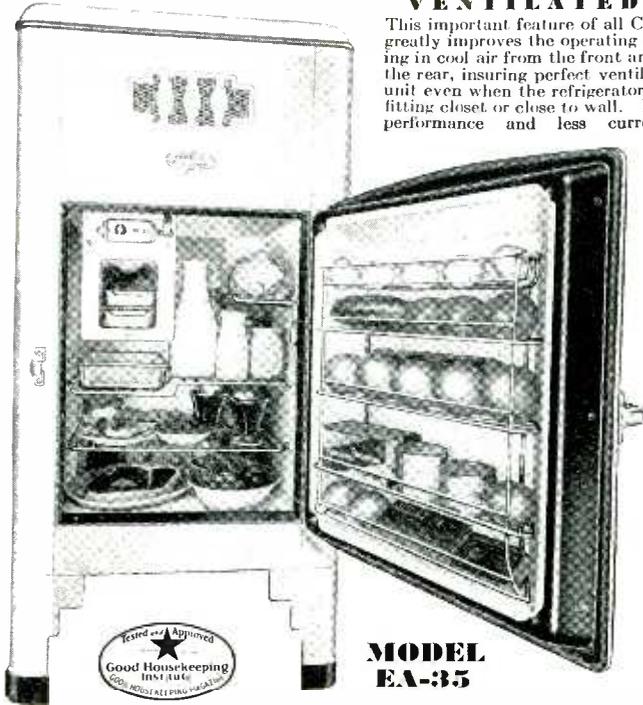
# CROSLLEY Presents

## VENTILATED FRONT

This important feature of all Crosley 1934 models greatly improves the operating efficiency by drawing in cool air from the front and expelling it from the rear, insuring perfect ventilation of the power unit even when the refrigerator is placed in tight-fitting closet or close to wall. It makes for better performance and less current consumption.



(UNITED STATES PATENT RE-ISSUE NO. 19,008)



**MODEL EA-35**



**only \$99.50**

### MODEL EA-35

This Crosley Shelvador Electric Refrigerator (shown open above) has a NET capacity of 3.5 cubic ft., with 7½ square ft. of shelf space. Two ice trays, each with 21-cube capacity, or 42 cubes in all. No-stop defrosting control will defrost while operating. Thoroughly insulated body

and door. Porcelain interior. White lacquer exterior with black trimmings. Stamped brass hardware is chromium-plated. *Ventilated Front* . . . refrigerator may be placed in small closet or close to wall. Illuminated interior. Dimensions: 48" high, 23⅞" wide, 21⅞" deep.

**YOU** will be surprised at the roominess of even the smallest Crosley 1934 model. Consider, for example, the one illustrated above. While the rated size of this box is 3.5 net cubic feet, the "usable" food storage capacity is increased about 50% by the Shelvador feature. In these days of daily deliveries, this box should be large enough for ordinary family requirements. The price, extraordinarily low, becomes still more amazing to your customer when she learns that the size is comparable to a larger box. Here is a leader of leaders from which to "sell up." All Crosley models, in addition to the special features elsewhere described have: The self-contained removable unit that may be exchanged without interfering with refrigeration and that has an unequal record for trouble-free service; the ventilated front; thermal cut-out; no-stop defrosting switch that defrosts while operating; one-piece, rounded-corner porcelain interior; flat bar shelves; illuminated interior. All models available in full porcelain at slight extra cost.

Montana, Wyoming, Colorado, New Mexico and west, prices slightly higher.

**The Crosley Radio Corp., - Cincinnati**

(Pioneer Manufacturers of Radio Receiving Sets)

POWEL CROSLLEY, Jr., Pres. Home of "the Nation's Station"—WLW

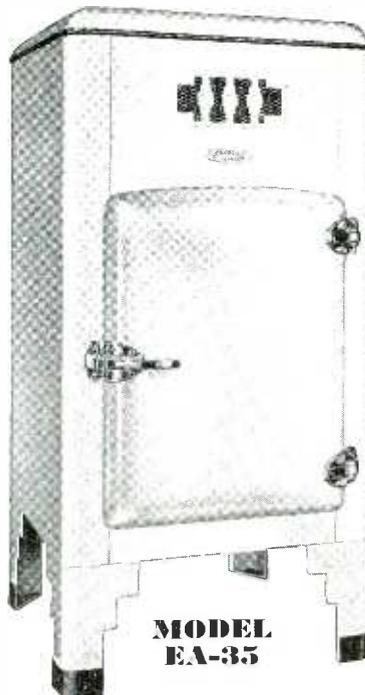
**T**HE startling success of the Crosley Shelvador Electric Refrigerator last year will be exceeded during 1934! There is no question about it. For here's Shelvador dressed in *STREAMLINE BEAUTY*, Shelvador with new, added features . . . Shelvador—in short—in a new, finer, more convenient edition.

Quick, ready sales are written all over these new models. Their breath-taking beauty catches the eye of the housewife. Nothing like it has ever been seen. Not just an "improvement" on former models in smartness . . . a wholly new and entirely different concept of what the refrigerator ought to look like.

The Shelvador feature, patented and exclusive, is of course the Big Idea in the 1934 Crosley Line. This—and Crosley's quality and value—is what lifted the Crosley during 1933 way up among the biggest leaders in refrigeration. It meant hundreds of thousands of dollars in profit to Crosley dealers . . . and competitive dealers also have occasion to remember it!

This is the refrigerator of the hour. Its sales message is packed with profit. It is the golden opportunity for refrigerator dealers . . . and for other dealers who want to enter this field. It is endorsed and approved by the largest, oldest, and most successful refrigerator outlets who pronounce it the outstanding line of the refrigerator world. See your Crosley distributor . . . this proposition means *real* money to you.

### AUTOMATIC ILLUMINATED INTERIOR IN ALL MODELS



**MODEL EA-35**



**MODEL EA-13**

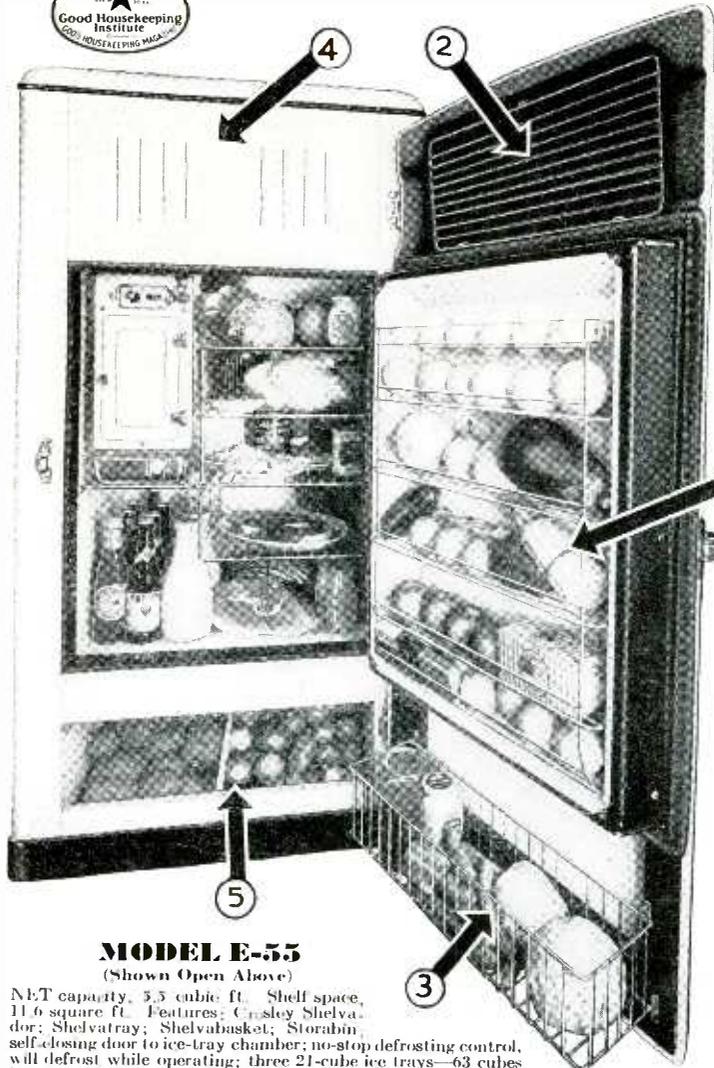
Designed for apartment or home. NET capacity 4.3 cubic ft., with 9.15 square ft. of shelf space. Shelvador greatly increases "usable" capacity. Two ice trays, each of 21-cube size; total 42 cubes. Also one double depth tray. No-stop defrosting control will defrost while operating. Thoroughly insulated throughout. Stamped brass, chromium plated hardware of modern design. Porcelain interior; exterior in white lacquer with black trimmings. *Ventilated front*. Illuminated interior. Dimensions: 51⅞" high, 23⅞" wide, 21⅞" deep. Price — delivered, with one year free service. **\$117.00**

**ALL PRICES INCLUDE DELIVERY. INSTALLATION. ONE YEAR FREE SERVICE**

# Streamline Beauty



(UNITED STATES PATENT RE-ISSUE NO. 19,008)



**T**HIS—the world's most beautiful refrigerator—incorporates features never before combined in an electric refrigerator. For example:

1. **THE SHELVA-DOR . . .** the biggest sales feature in refrigeration. Increases "usable" space about 50% over rated cubic capacity. Think of the price advantage to the Crosley dealer who can sell on a comparative basis of "usable" space. Think of the convenience to the housewife, whose "reach and hunt" days are over.
2. **THE SHELVA-TRAY . . .** When you want what is behind the chicken, merely put Shelvatray in a level position, place the chicken on it and get what you're after. Shelvatray (patent pending), an exclusive Crosley feature, saves "steps and stoops." Just put what you want on Shelvatray and take it—Shelvatray and all—to table or stove. (Patents Pending.)
3. **THE SHELVA-BASKET . . .** Handy for greens, cabbages, carrots and the like. Swings with door. A place for everything and everything in place . . . that's Crosley's motto. Exclusive, of course. Not refrigerated. (Patents pending.)
4. **THE VENTILATED FRONT . . .** Increases efficiency and economy of power unit. Stops "churning" of warm air when refrigerator is placed to wall or in tight closet. Exclusive. Sure!
5. **THE STORABIN . . .** A place for potatoes and onions and other bulk items. Just another example of Crosley's scientific use of space ordinarily wasted. Not refrigerated. Exclusive. (Patents pending.)

The above are *some* of the features. See your distributor. See the new Crosley models.

## MODEL E-55

(Shown Open Above)

NET capacity, 5.5 cubic ft. Shelf space, 11.6 square ft. Features: Crosley Shelvador; Shelvatray; Shelvabasket; Storabin; self-closing door to ice-tray chamber; no-stop defrosting control, will defrost while operating; three 21-cube ice trays—63 cubes in all; one double-depth tray; thoroughly insulated in door and body; chromium plated hardware of stamped brass; porcelain interior; exterior in white lacquer with black trimmings; illuminated interior. Base rests on floor. Dimensions: 57<sup>1</sup>/<sub>2</sub>" high, 29" wide, 25<sup>13</sup>/<sub>16</sub>" deep. Specially ventilated front.

**\$157.50**

Model E-55 showing both open and closed views



## MODEL E-43

NET capacity, 4.3 cubic ft. Shelf space, 9.15 square ft. Incorporates all features of Model E-55. Two ice trays, each holding 21 cubes—42 cubes in all—also one double-depth tray. Chromium plated brass hardware, porcelain interior, white lacquer black trimmed exterior. Base rests on floor. Interior illuminated. Dimensions: 56<sup>1</sup>/<sub>16</sub>" high, 23<sup>7</sup>/<sub>8</sub>" wide, 24<sup>7</sup>/<sub>16</sub>" deep. Price, delivered, installed, one year free service.

**\$135.00**



## MODEL E-70

NET capacity, 7 cubic ft. Shelf space, 14.9 square ft. Incorporates all features of Model E-55. Has four 21-cube ice trays—84 cubes in all, and one double-depth tray. Hardware is stamped brass, chromium plated. Porcelain interior with white lacquer exterior trimmed in black. Base rests on floor. Dimensions: 58<sup>7</sup>/<sub>8</sub>" high, 32<sup>3</sup>/<sub>4</sub>" wide, 26<sup>7</sup>/<sub>8</sub>" deep. Specially ventilated front. Price, delivered, installed, one year free service.

**\$185.00**



Montana, Wyoming, Colorado, New Mexico and west, prices slightly higher.

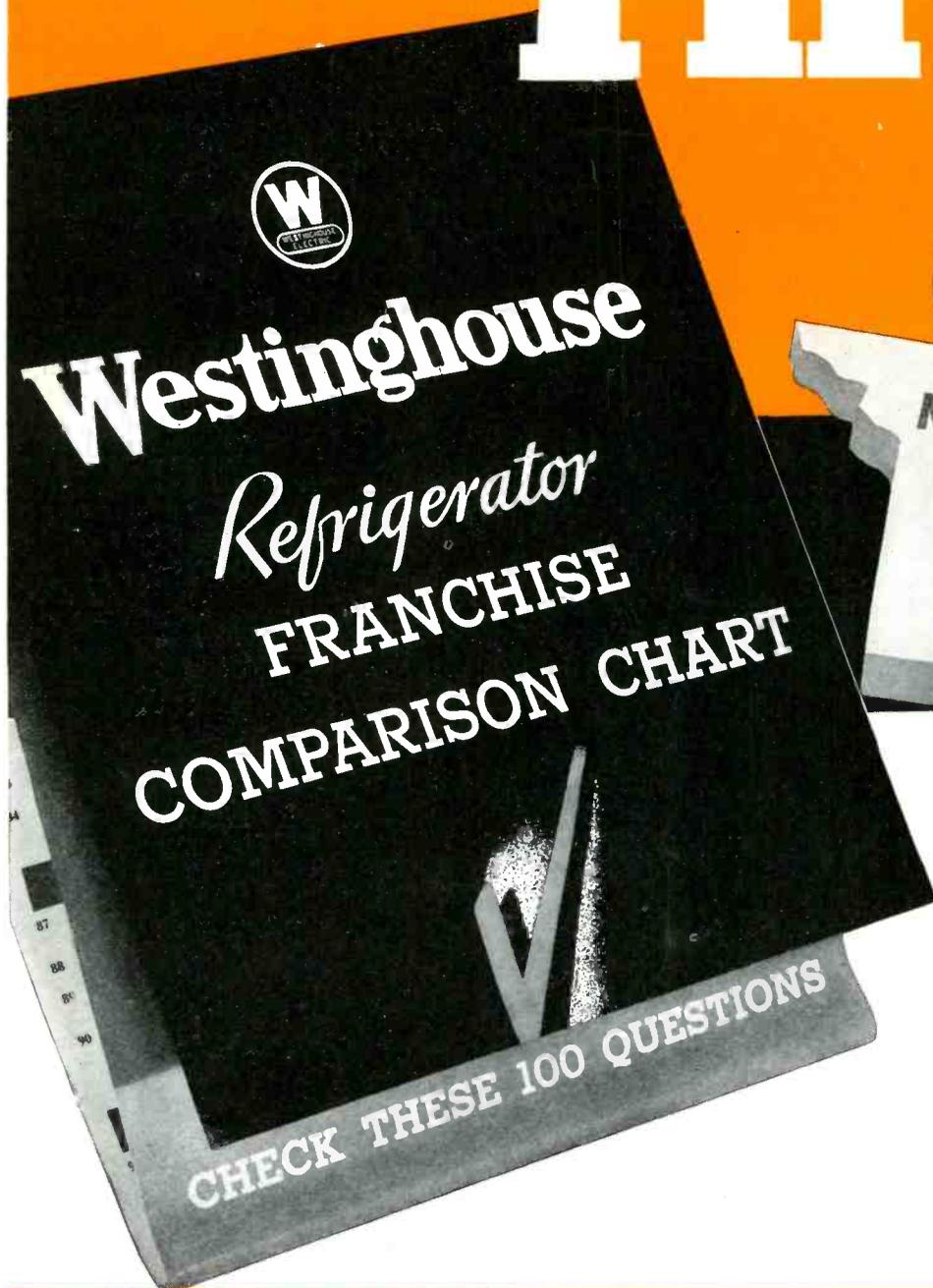
**The Crosley Radio Corporation - Cincinnati**  
(Pioneer Manufacturers of Radio Receiving Sets)

POWEL CROSLY, Jr., President

Home of "the Nation's Station"—WLW

**ALL PRICES INCLUDE DELIVERY..INSTALLATION..ONE YEAR FREE SERVICE**

# THIS



## DO YOU KNOW

... that the Westinghouse "Built-in Watchman" thermostat eliminates fuse replacement or circuit breaker resetting in the event of unusual overload conditions?

... that Westinghouse combines the advantages of forced-draught cooling with a top-mounted, hermetically-sealed mechanism?

... that approximately 300 rigid tests are required during the production of every Westinghouse Dual-automatic Refrigerator?

# Westinghouse

*Dual-automatic Refrigerators*

# CHART

was prepared for men who  
"WANT TO BE SHOWN"

Let it prove  
to YOU that Westinghouse is your  
BEST BET FOR 1934

● You've found it pays in business to get facts and proof. That being the case, you will find the "Franchise Comparison Chart" gives you exactly the information you want in laying your plans for a profitable electric refrigeration year in 1934.

There are reasons why Westinghouse sales have shown average yearly increases of 50% every year since the Westinghouse Dual-automatic Refrigerator was first put on the market. Why not find out what they are? There are many important advantages in Westinghouse advertising, sales promotion, education and general selling

assistance. Why not add up their cash value to you? There is good-will as well as profit in a service-free, super-quality line of refrigerators such as Westinghouse offers in its twelve handsome "Master Series" models.

Regardless of your present plans, let us send you the "Franchise Comparison Chart." A request on the coupon below or your own letterhead will bring it. Since it costs nothing, and may add something to your net profit for 1934, you have everything to gain and nothing to lose. Send NOW for the "Franchise Comparison Chart!"

**CLIP AND  
MAIL COUPON  
NOW**

Westinghouse Electric & Mfg. Co.,  
Refrigeration Division (RR 2-34), Mansfield, O.

We're willing to be shown. Send the Franchise Comparison Chart — without cost or obligation of any sort.

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



*And Now the Big News Breaks!*

# THE STEWART- REFRIGERATION

Backed by Spectacular Advertising Program—New Merchandising Plans, Proved and Practical—Sales Plans with Real Sales Drive in Them—A Host of New-Type Features That Make Demonstrations Clinch Sales!

**T**HE big news is out! The unveiling has taken place! Distributors from all over the country have come to inspect it critically—have gone back home “SOLD”!

Joseph E. Otis, Jr. and Frank A. Hiter, with their refrigeration engineering staff have *really* done it! For the 1934 Stewart-Warner Refrigeration Line definitely establishes this more than a quarter-of-a-century-old company *in the forefront of the Refrigeration Industry.*

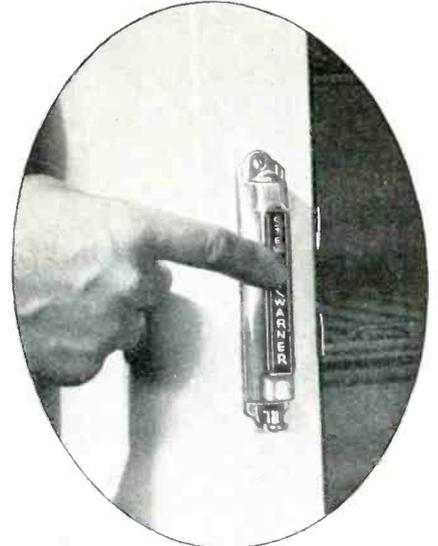
### *Tailored to Your Measure for Sales and Profits!*

This great, new Stewart-Warner Line is a highly competitive one. In Quality! In Finish! In Features! In Eye Appeal! In Every Way! Its Advertising Program—both National and Local—is a generous one. Its theme is spectacular!

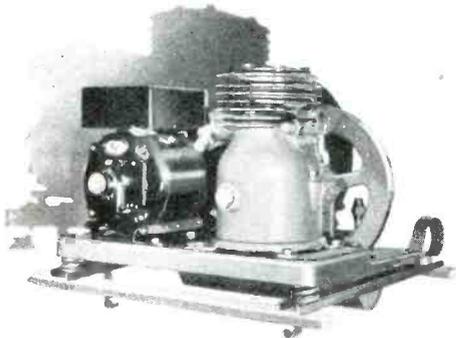
The Merchandising and Sales Plans are down to cases—PRACTICAL—WORKABLE—PROFITABLE! They have been especially developed to make sales for YOU.

FEATURES? Look some of them over in this ad. There isn't room for all of them. Every one a new type. Improvements over anything you've ever seen before. They literally “demonstrate” themselves into sales. Any one of these features is *dramatic enough to base a whole sales campaign on!*

But the whole story can't be told in this space. You certainly owe it to yourself to see this line and hear the whole profitable story! Send coupon at right—today!



**THIS FINGER POINTS** to the smartest specialty feature of the year—the “Feather-Touch” Instant Door Opener. It is the first point in your demonstration. And, just as a slight touch on it opens wide the refrigerator door, so does this feature open wide to you a year of greater refrigerator profits in 1934.



*This extremely rugged, twin-cylinder compressor is over-size, as is also the motor. Runs less often. Uses less current. Needs less service. Less reason to get out of order.*

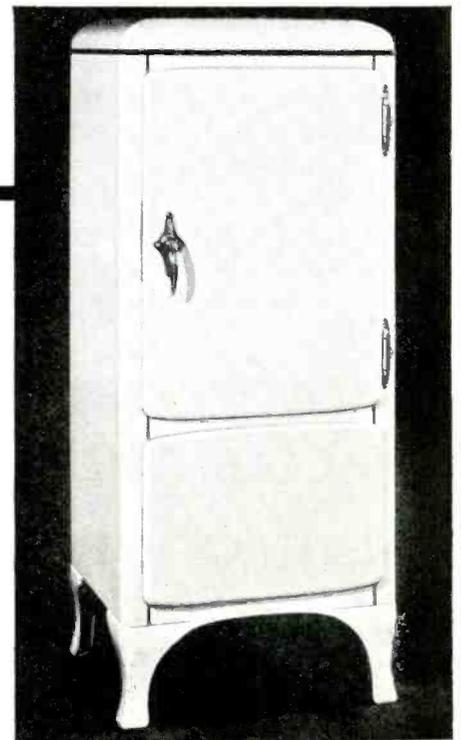
## STANDARD MODELS

EQUIPMENT . . . Variable Freezing Control, “Perma-Cold” Defroster, Porcelain Chilling Unit, Glass Chilling Tray.  
HARDWARE: 4-Position Latch Handle, Semi-Concealed Hinges. Chromium Finish.

MODEL 454 . . . 4.6 cu. ft.—  
SHELF AREA: 9.3 sq. ft.

MODEL 554 . . . 5.6 cu. ft.—  
SHELF AREA: 10.5 sq. ft.

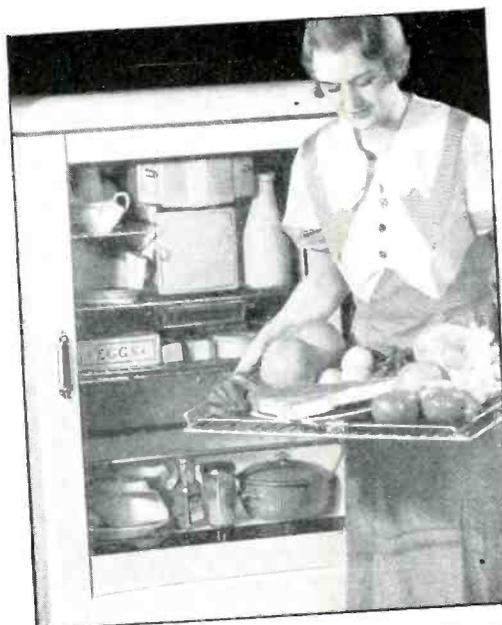
MODEL 704 . . . 7.01 cu. ft.—  
SHELF AREA: 13.4 sq. ft.



# WARNER LINE FOR 1934!



**POSITIVELY THE SENSATION  
OF THE TRADE**



*Note how these easy-gliding, roller bearing shelves may be taken out and used as trays.*

**The Great, Outstanding Feature— PROFITS  
From Your Standpoint!**

The basic purpose of the whole Stewart-Warner Refrigeration sales set-up is to enable you as a dealer to make satisfactory profits. (How can we hold you as a dealer if you DON'T make profits?) The franchise, therefore, is distinctly written from *your* side of the desk!

## DE LUXE MODELS

**EQUIPMENT** . . . Automatic Interior Light, New-Type "Forget-Proof" Freezing Control and Defroster, Porcelain Chilling Unit with Chromium Plated Door, Porcelain Vegetable Crisper, Glass Chilling Tray. **HARDWARE**—"Feather-Touch" Automatic Door Opener, Semi-Concealed Hinges, Chromium Finish.

**MODEL 564**—"Porceloid" exterior. All-porcelain interior. • **MODEL 564-P**—All-porcelain exterior and interior. 5.6 cu. ft.—Shelf area: 11.3 sq. ft. • **MODEL 714**—"Porceloid" exterior. All-porcelain interior. • **MODEL 714-P**—All-porcelain exterior and interior. 7.1 cu. ft.—Shelf area: 13.4 sq. ft. • **MODEL 834**—"Porceloid" exterior. All-porcelain interior. • **MODEL 834-P**—All-porcelain exterior and interior. 8.3 cu. ft.—Shelf area: 17.1 sq. ft.

**SAG-PROOF INSULATION**—Specially treated and constructed for years of service. Absolutely water-proof, vermin-proof, sag-proof, odorless. Special pure rubber door seal. **SANITARY INTERIOR**—with new-type design for easy cleaning—"PORCELOID" EXTERIOR FINISH—Hard, glass-like—permanently white. Will not mar, chip or peel. Resistant to fruit acids and soap alkalis. **FLEXIBLE FAST-FREEZING ICE CUBE TRAYS** that flip out cubes in quantities desired. **TALL BOTTLE ROOM**—Double shelf capacity for milk bottles, tall ginger ale bottles, etc.



*This "Feather-Touch" Door Opener literally opens at a touch as light as a feather. This latch can be locked when children are around.*

## MAIL THIS COUPON TODAY!

Refrigeration Division  
Stewart-Warner Corporation  
1853 Diversey Parkway, Chicago, Ill.



Please send me at once complete information on your 1934 Refrigeration Line. I understand this will be done entirely without obligation to me.

Your name.....

Name of Firm.....

Your Title.....

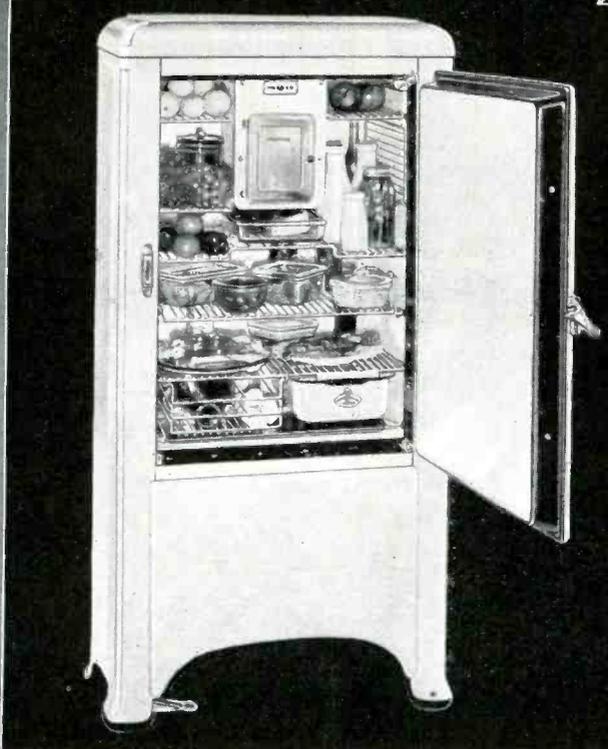
Address.....

# A PLAN THAT BRINGS

**PROSPECT,**

**REFRIGERATOR AND**

**SALESMAN**



# together IN YOUR STORE

### The Complete Refrigerator

offers these, and a score of other, great sales advantages

LEN-A-DOR—Leonard's famous self opening, step saving door.

Cabinets of beautiful design, superior finish and quality construction.

Planned interior, with unusual shelf area and storage capacity.

New serving tray, sliding and adjustable shelves.

Improved dairy basket, with bottle container, vegetable crisper, electric light.

12 freezing speeds, extra fast freezing tray, cold chest, "vacation temperature," ice tray lifter.

All-porcelain interior, all-porcelain cooling unit, refrigeration mechanism backed by 20 years' experience.

It is in the showrooms of dealers that electric refrigerator sales are most easily made. Prospect, product and salesman in the same place at the same time.

Leonard now offers you a plan that creates this ideal selling condition, bringing prospects in really large numbers *into your store*. Interested prospects—women who come to see and talk about electric refrigeration.

This is a tested, proven plan—workable, practical. In one city of 13,000, it brought 300 women into the Leonard dealer's place of business on a specified day. It drew 125 to another dealer's store in a town of 3600. It will repeat

these results month after month—for you, if you wish. Coupled with the new Leonard line—a product of outstanding beauty and quality—this plan is going to do great things for Leonard dealers in 1934. Don't you think you ought to know more about it?

We will gladly give you all the details, and at the same time tell you many interesting facts about the new Leonard Electrics—11 beautiful models (5 all-porcelain), a complete line of plug-in merchandise that covers 98½% of home refrigeration needs. Write or wire now. LEONARD REFRIGERATOR COMPANY, 14259 Plymouth Road, Detroit, Michigan. (599)



**LEARN ABOUT THE NEW**

# LEONARD

**STORE SELLING PLAN**

3 Brand New Models  
that Round Out the  
Complete **Emerson** Line  
of 15 Great Models



Model 26

**\$26.95**

5-Tube  
SUPERHET-  
ERODYNE

Long-and-Short Wave—75 to 550 Meters—Dynamic Speaker, Shadow-line Dial Tuning. Exceptional tone-quality and volume. Extremely attractive table model, rich hand-rubbed walnut finish. Size: 15 1/4 in. high, 11 1/4 in. wide, 7 1/4 in. deep.



Model 415

sets a sensa-  
tional price for  
a radio with a  
"name"

**\$15.95**

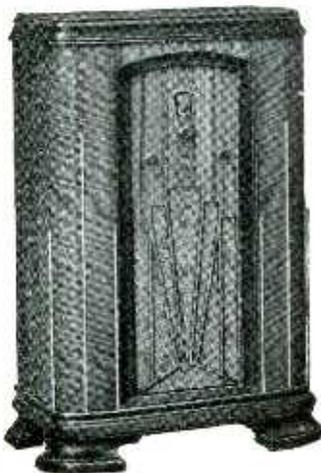
Now you have a genuine AC-DC EMERSON RADIO—"The Haadful of Radio that Plays Anywhere"—at a price that meets any competition. And you know that its performance will make it "stay sold"! COMPLETE with 1-6C6, 1-6D6, 1-38, 1-IV Cunningham Tubes and Built-in Aerial. Size: 9 1/4" wide, 6 1/2" high, 4 1/4" deep.

Model 77

Seven-tube  
"Superhet"  
Console at

**\$69.50**

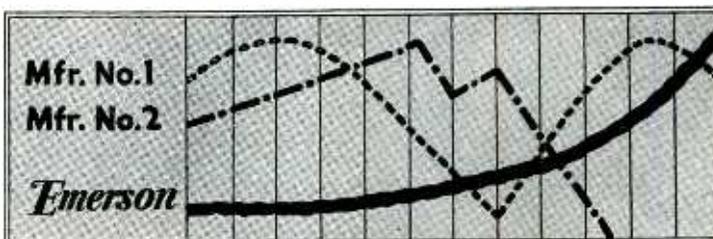
There's "eye-appeal" in every detail of this restrained modern cabinet of imported Oriental wood and finger-rolled figured walnut, with chromium trimmings. And quality performance is assured by such features as 12-inch Dynamic Speaker, A.V.C., Duo-Diode Detector. Size: 40" high, 23" wide, 13" deep.



Prices are COMPLETE with Cunningham tubes.

# These FACTS point straight at **Emerson**

FACT NO. 1—The Emerson Radio and Phonograph Corporation, ever since its inception in 1922, has enjoyed steady growth, without interruption—until in 1933 it has attained the position of one of the largest producers of radio sets in the world. There have been no sensational schemes—no extravagant promises, but always fresh, new ideas—against a background of proven dependability.



FACT No. 2—EMERSON has come to be regarded as the leader in the *styling* of radio—building radio sets that, in addition to price and performance, are outstanding in eye-appeal.

FACT NO. 3—The new EMERSON plant is one of the most modern in the industry, equipped to produce between 4,000 and 5,000 sets a day. It is located in the Port of New York Authority Commerce Building, which also houses Inland Terminal No. 1—affording unequalled shipping facilities.



## The COMPLETE **Emerson** Line for 1934—

ranges in retail price from \$15.95 to \$69.50. It embraces a total of FIFTEEN GREAT MODELS—including a variety of AC-DC models, "straight" AC models, long-and-short wave sets, consoles, consolettes, automobile radio. Every person interested in buying a radio can find an EMERSON to suit his purse and purpose.

Jobbers and dealers are heartily invited to visit our new Show Rooms and Factory.

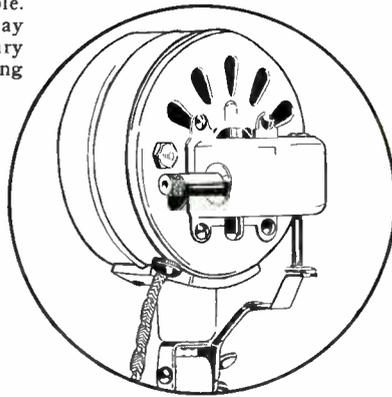
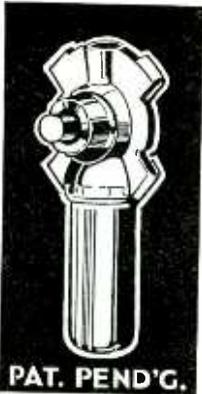
# Emerson Radio and Phonograph Corporation



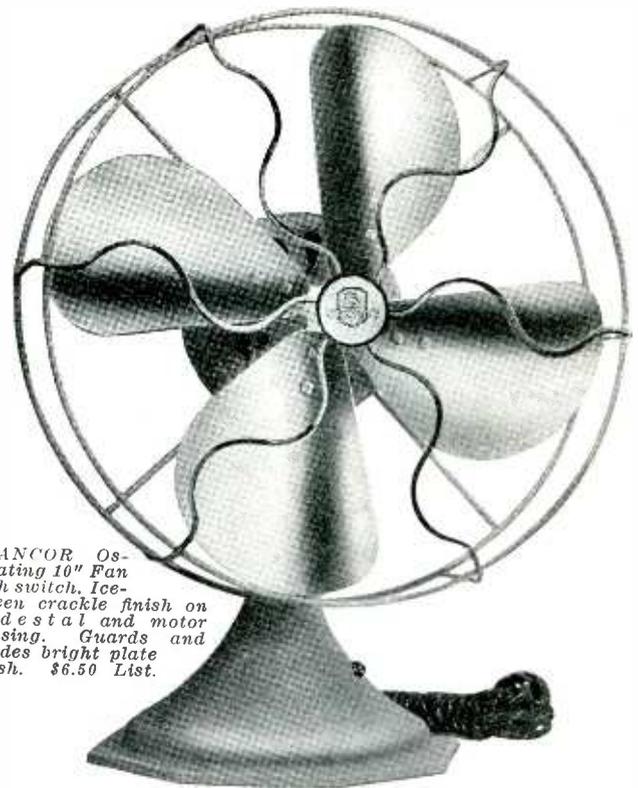
NEW HEADQUARTERS—111 EIGHTH AVENUE—NEW YORK

1. Automatic oiling system on which patents are now pending, puts all STANCOR Fans in a classification far ahead of their actual price division. STANCOR Motors, layer coiled and equipped with this device have run as long as 3900 constant hours with one lubrication.

2. Dripless oscillator mechanism positively prevents oil dripping from shaft to table. STANCOR Oscillators may be converted into stationary fans by oscillator actuating pin shown in illustration.



STANCOR Oscillating 10" Fan with switch. Ice-Green crackle finish on pedestal and motor housing. Guards and Blades bright plate finish. \$6.50 List.



## *you will* MAKE MONEY on STANCOR ELECTRIC FANS *too*

**J**UST as you have made money using STANCOR EXACT-DUPLICATE Replacement Transformers, so will you make money selling STANCOR ELECTRIC FANS.

For you who have been making friends through your radio set servicing and selling . . . who are on much more intimate terms with your customers than is usual, there is presented, in this line a real opportunity to get another piece of the family dollar profitably.

STANCOR ELECTRIC FANS are as far ahead in this field of conventional, tradition-ridden practices as STANCOR EXACT - DUPLICATE Replacement Transformers are in theirs.

For instance: 8 in. and 10 in. stationary and Oscillating Electric Fans with automatic, self-oiling lubrication . . . sealed-in dripless oscillator mechanism . . . with or without switches—all features that are customarily found only in fans in price divisions considerably higher than these . . . \$6.50 down to \$2.56, subject to the customary STANCOR trade discounts.

STANCOR ELECTRIC FANS will be distributed through the same authorized STANCOR distributors with whom you have been doing business. Get in touch with your distributor about this new means of adding profits to your business. Or, if you do not know who the STANCOR distributor is in your community, write to this office for full information.



STANDARD TRANSFORMER CORPORATION • 852 Blackhawk Street, Chicago, Ill.

SALES OFFICES: Chicago, New York, St. Louis, Boston, Detroit, Montgomery, Ala.; New Orleans, Los Angeles, San Francisco, Portland, Ore.; Dallas, Tex.; Denver, Minneapolis, Kansas City, Mo.; Tampa, Fla.; Cleveland, Philadelphia, Pittsburgh, Cedar Rapids, Ia.; Buffalo, N. Y.

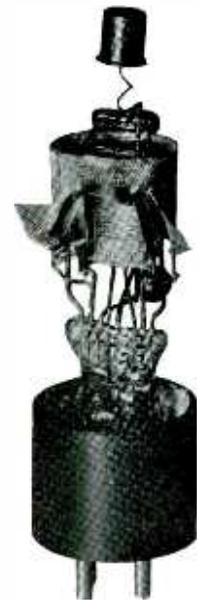
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## This Intricate Mechanism

— for 39¢



FOR many months there has been raging within the ranks of the tube industry a devastating fight—a battle for business based on price. Numerous conferences have been held in a sincere endeavor to better matters but without avail. Because the destructive repercussions of this war for supremacy have been felt by every dealer and jobber, as well as by all the tube companies, it is time that other remedies be applied. No longer is it the private business of each tube manufacturer to determine what lists he should establish, how wide and handsome should be his scale of discounts and what advantages might be taken of the other fellow.

The consumer has been advertised into the belief that 39 cents, more or less, is all that any radio tube, "licensed" or unlicensed, is really worth. Less than half a dollar, retail, for the most intricate, delicate and useful of all household necessities . . . a price that has taken all the pep, profit and prosperity out of tubes.

This march toward lower and lower lists and wider discounts has lead in one direction only—to the door of the big and unscrupulous outlets—who have used tubes as a doormat. Tubes are now regarded purely as "sucker bait," and the tube maker is hooked as well as the consumer.

Not only have ridiculously wide margins encouraged price cutting but the leakage of "seconds" into the open market and the direct or indirect negotiations between a few set manufacturers (who buy tubes on practically a factory cost basis) with these retail outlets, have all operated to hamstringing the small dealer who must, perforce, sell at list. Furthermore, despite these 60 plus many 10's quotations, the jobber's margin is less than his costs of distribution—with the result that the logical channel of trade is constricted.

What can be done to remedy matters?

Well, for one thing, there is the Tube Code, a code

that has not been utilized as a corrective instrument. In our opinion the Tube Industry should employ a full-time executive to administer this code. And, to such a man we would respectfully call attention to Article X of "A Code of Fair Competition for the Electrical Manufacturing Industry," as approved by President Roosevelt on August 4, 1933.

Leadership, unhampered and unafraid, would be welcomed with open arms by most of the tube magnates.

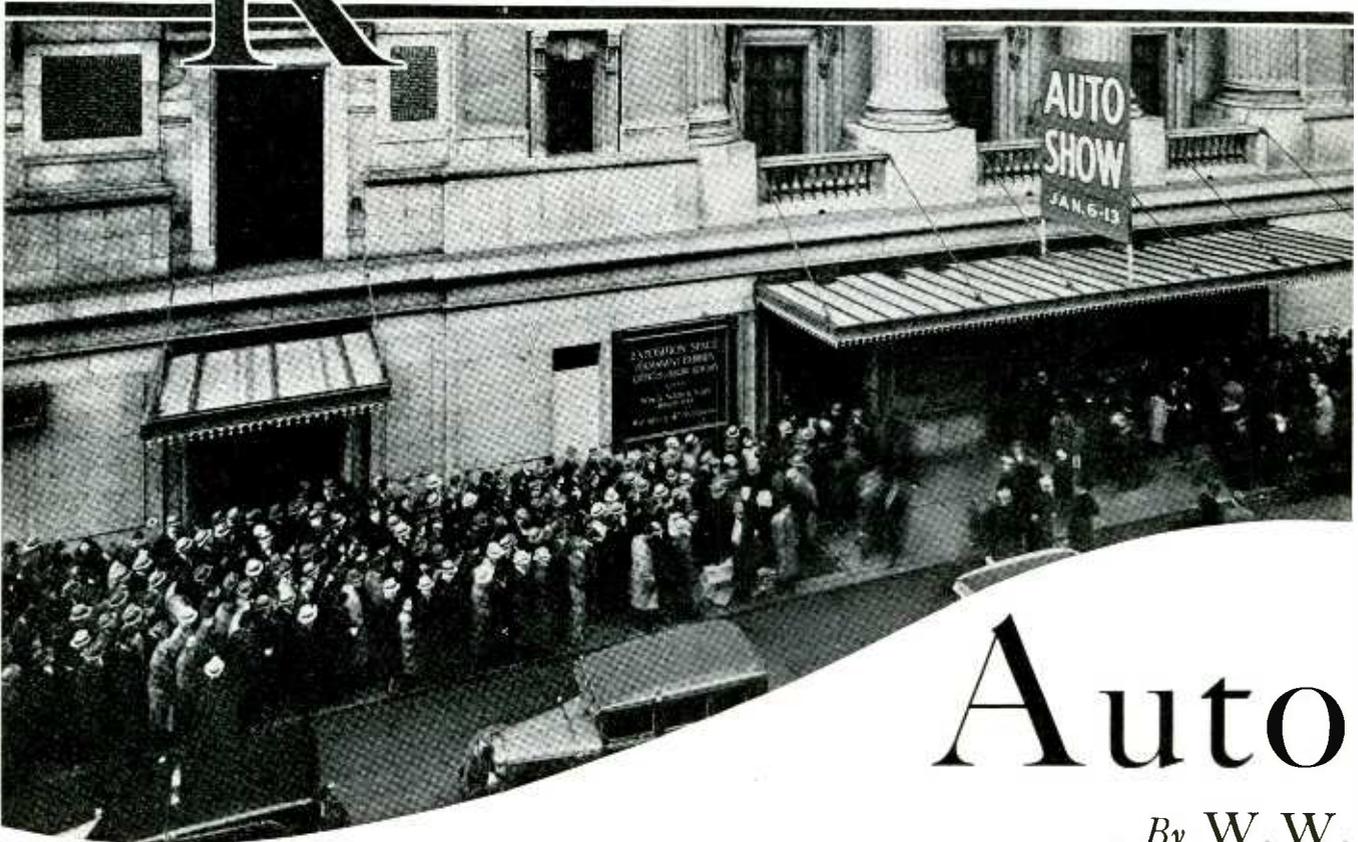
**B**UT there are other remedies: Half-a-dozen tube executives, if they so willed, could put the tube business on its feet by Trade Show time. Let them establish a new scale of *reasonable* discounts and list prices worthy of the marvelous product they manufacture. And let all the tube makers unite in promoting a publicity campaign not only to re-establish the true worth of the radio tube but to promote the vast possibilities of the replacement market—an opportunity for profit business as yet entirely uncultivated by the tube manufacturer. And lastly let's keep tubes away from the gyp-feeders, whether they be set makers who enjoy a special price advantage or any other type of privileged buyer.

The public never asked for a 39 cent tube. It was forcibly fed this thin diet. Why not give the consumer a dollar's worth of quality—and exchange this \$1 tube for a dollar bill?

*Ray V. Sutcliffe*

MANAGING EDITOR

# Knees and . . . . .



## Auto

By W. W.

**K**NEES, knees, knees. All God's chillun got knees. And so have most of the new cars shown at the New York automobile exposition this January. Buyers of modern gas-buggies can now skip blithely over open manholes while shooting a game of billiards. Then there is streamlining, advanced in several makes to such an extreme that your slightly bewildered editor had difficulty in deciding just which way the darn things were heading. And trick ventilation systems. Buy a new car and let the breeze blow down your neck through a round hole, a square or a triangular.

Auto-radio is right up along with "knees" and other snappy innovations as an important 1934 automobile sales feature. Eleven new cars exhibited at the show can be obtained with radio chassis designed especially for them. But the rumor that car makers would walk off with the lion's share of the auto-radio business this season seems somewhat exaggerated. For just one (Hudson-Terraplane) includes it in stock models, and then only in the deluxe line. The others are "extras."

### CONTROLS "POURED" INTO DASH

The Detroit boys have, however, made an important contribution toward the beautification of installations. All but one use remote controlled models, but

instead of mounting the controls on the steering-column these fit snugly in pre-arranged dash positions so neatly that they look as if they "grew" there. (See pictures on facing page.)

Graham, for example, exhibited a car with two pull-down type ash-receivers in the center of its dash. Radio controls (RCA) are installed in one of these as an optional extra in such a way that they are completely concealed from sight when the tray is closed.

Studebaker has a large glove compartment at the right of the dash and a dummy compartment panel which matches it at the left. When radio is desired the dummy panel is removed and drilled to accommodate the controls. (Philco.)

Chrysler and De Soto have medallion nameplates in the center of the dash. These may be removed and special radio controls (Philco) substituted, if desired. The set looks as if it were built-in at the factory, once installed.

Hudson and Terraplane have controls built into the center of the dash (Zenith). De luxe models include radio at no extra charge.

Auburn has a removable center-dash medallion for a special set (Crosley).

Packard has a removable center-dash medallion (Philco). Sedan limousines have the set under the rear floorboard,

speaker in the door and controls imbedded in an arm-rest.

Nash uses a dummy glove compartment panel at the left of the dash (Philco). The new Lafayette (made by Nash) uses the same system.

The Ford (not exhibited at the show) has a large removable center-dash panel. A single-unit set exhibited in the Palace (Majestic) slides into the same position, its panel being finished to match the original.

Cadillac is understood to have a working arrangement with Wells-Gardner, but exhibited no radio-equipped cars at the show.

Galvin maintained a floor exhibit of "Motorola."

### NEW CARS NOT LOST TO RADIO DEALER

With the exception of Hudson-Terraplane, car makers will rely upon their dealers to make radio sales and installations. Those dealers who sell cars with special dash positions have, of course, a sales advantage over the radio trade in that the sets offered have controls which blend into the dash.

The automobile salesman's primary object is, however, to sell cars and, as in the past, many of them will hesitate to talk radio for fear of jeopardizing automobile sales. For this reason it is felt that many new cars will go on the

New York show introduces sets with controls "streamlined" into dash. Eleven car makers supply special chassis on order but only one includes receivers in stock models. Most automobile dealers will rely on radio trade for installation and service

# Radio

MacDonald

road without radio, becoming good prospects for the radio dealer. Eventually, it is even possible that set makers will put out models for the trade which will fit the new dash positions of popular cars, enabling the radio dealer to compete with the car dealer on his own ground.

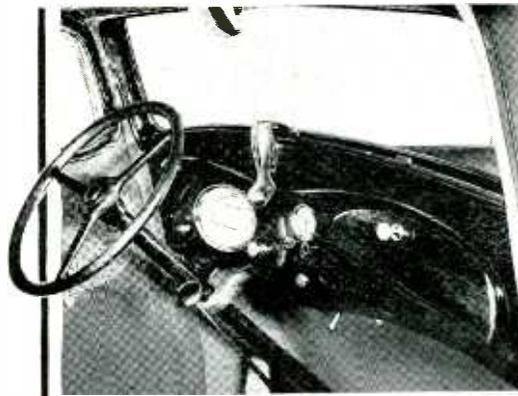
Radio salesmen should be able to clinch many sales "muffed" by nervous car salesmen simply by following up new car buyers after the automotive trade lets go.

That the automobile trade recognizes the importance of selling radio in such a way that the car sale is not jeopardized is indicated by the fact that one set maker has written a sales manual which cautions against the demonstration of radio, or even reference to it, until the car is definitely "on the dotted line." Dealers are urged, rather, to use the radio as a last minute "ear appeal."

The new car market is by no means "hog-tied" by the automotive industry. Inclusion of radio as optional equipment in ten cars is, in our estimation, a good thing for the entire business as the best kind of advertising for this merchandise is a satisfactorily operated set. The more the merrier. Every auto-radio in use sells more.

And the automotive dealer is quite out

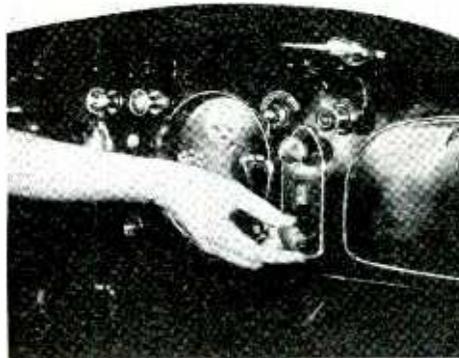
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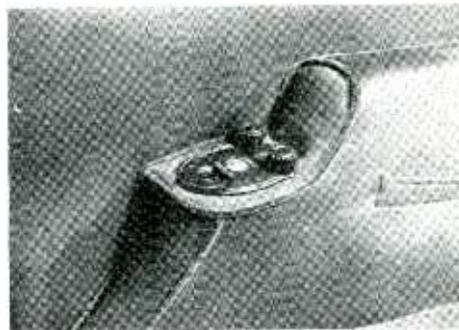
**TERRAPLANE**  
deluxe models include radio as stock equipment. Controls are built right into the center of the instrument panel



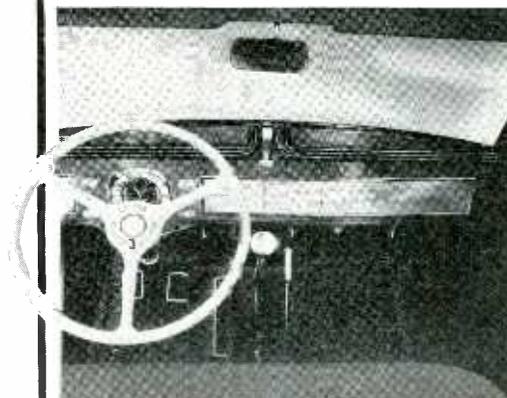
**STUDEBAKER**  
provides a dummy glove compartment plate, at the left, for dials. Radio is "extra"



**CHRYSLER**  
has a removable center-dash medallion. This special radio control panel may be substituted



**P A C K A R D**  
sedan-limousines may be obtained with controls in a rear-seat arm rest. The chassis goes under the car, speaker behind rear door upholstery



**G R A H A M**  
has two pull-down ash trays on the dash. (Directly over the gear shift lever.) Radio controls may be installed in one of these and are completely concealed when not in use

Kneeter.....Shannon.....Nadel.....O'Riordan.....



RALPH KNEETER  
has developed a  
"complete kit" sales  
approach



Foot-high letters blazon forth this shop's phone number. The neighborhood remembers, calls up when its sets go "haywire"

**D**URING the months of October, November and December, Dale Radio, New York (Sylvania) distributor, sponsored a "list price tube selling contest" among its retail outlets. We interviewed the prize winners—and report these volume building methods:

RALPH KNEETER, who operates the Radio Specialists Company, the Bronx, N. Y., normally moves 50 tubes a month. He sold 255, 258 and 250 during the three months of the drive. Here are some of the stunts that turned the trick:

The shop's telephone number was stenciled beneath its name over the store front in foot high letters. Kneeter has a main street location and people just can't help memorizing his number. Sooner or later they need service and phone. When they do he usually sells them tubes. Logs were hand-distributed throughout the neighborhood. Kneeter finds that these, carrying tube sales messages, are the best advertising medium, as people value the "editorial" information contained in them and do not throw them in the trash basket.

Then there is this dealer's clever story designed to sell kits of tubes instead of single replacements. He

explains to each prospect that while there may be one or two tubes in an old receiver with some remaining life, their eventual failure will probably require another service call and consequent additional charge. In addition, he hazards a complete and unconditional guarantee on jobs which include the purchase of a complete set of new tubes.

Very often the customer feels that he is being "sold" a complete set of tubes when just a few are needed. Kneeter sells this type of prospect by quoting a lump sum on the entire repair job, including "a complete new tube kit." After all, he explains, the customer whose set is not functioning wants it repaired and guaranteed. He cares little just what replacement parts are installed so long as it is restored to operation. And why should he be concerned with the actual number of tubes installed?

H. A. SHANNON, Mount Vernon, uses a different approach with equal effectiveness. Shannon has divided his shop into two distinct parts, one for repair work and the other for tube sales. In the latter section the walls are literally lined with tube cartons—1,000 tubes are sold per month.

Three elaborate tube testing panels are in use, not so much because these are actually needed, but to impress the customer. One of them is mounted just behind a window especially cut into the outside wall of the building and is visible from the street in all its intriguing detail. The display is dramatic and brings in trade.

Shannon has a good stunt that discourages the purchase of cheap, inferior tube brands. He bought a stock of "seconds" and when a customer complains that list price on a standard brand is much higher than cut-rate ads placed in daily papers by downtown dealers he takes down a "second" and offers to sell it for twelve cents. The customer naturally wants to know why it can be

Obermiller

*They  
sell*

# TUBES *at* LIST

*Most customers can be "switched" to recommended quality brands, these dealers find. Clever window displays, effective advertising helps*

sold so cheaply, and is promptly told that it will work, but that no one knows how well or how long it will work. Then the salesman points out that "seconds" and "rejects" bearing even well-known trademarks are sometimes sold as first-quality merchandise. The customer is usually convinced.

OSCAR NADEL, in the Cortlandt Street area, took a leaf out of the cigarette salesman's notebook to push contest tubes in preference to others. During the drive he instructed his salesmen to "absent-mindedly" take down a contest tube at full list every time a customer asked for an inferior, cheap brand.

Some prospects bought the brand offered, but the majority objected, asked why it had been taken down. The salesmen promptly explained that they had "sold so many of this particular brand in the past month that they reached for it automatically." This often induced the customer to ask: "Why, are they so much better?" The rest was easy for a salesman who knew his business. List price tube sales jumped.

C. O'RIORDAN, of Brooklyn, takes still a different tack. When a customer comes in with a complete set of tubes for test they are carefully checked and their exact condition explained. O' Riordan does not attempt to sell complete sets, has found that his particular class of trade shies from high-pressure methods and does not come back to the store that employs it. He feels that he gets more business in the long run by selling the prospect exactly what is needed at the time of the call.

Thus his "approach" is diametrically opposed to that of Kneeter, of the Bronx.

OBERMILLER, of Lynbrook, Long Island, sells much of his merchandise to building trades employees who are members of unions. When they ask for "gyp" types he asks them how they would like to have someone "scab" on their job, explains that cheap tubes must be made by underpaid help. A shoddy tube, he points out, looks just as good as a quality product—but sometimes a "gypped" plastering or brick job *looks* just as good as the product of union labor.

Obermiller, who serves widely scattered homes, has developed telephone selling to a high point of efficiency. Most of his overhead goes into the pockets of the Bell System or for gas and oil. He calls, makes appointments to test tubes, then sends a man out in a car to make the

circuit. The combination of telephone canvassing and supplementary personal selling in the home seems to produce the most suburban business.

All of which proves that "what's one man's meat is another's poison"! Kneeter high-pressures his clientele into kit tube purchases . . . because they will stand for it and because he has the ability to make them believe complete kit purchases are better for them in the end. O' Riordan won't touch this selling method with a ten-foot pole. He knows his customers, knows that more business can be obtained in his particular neighborhood by low-pressure methods. Nadel "switches" because he is in a district where this can be done. Low-pressure methods would not keep tubes out of the red.

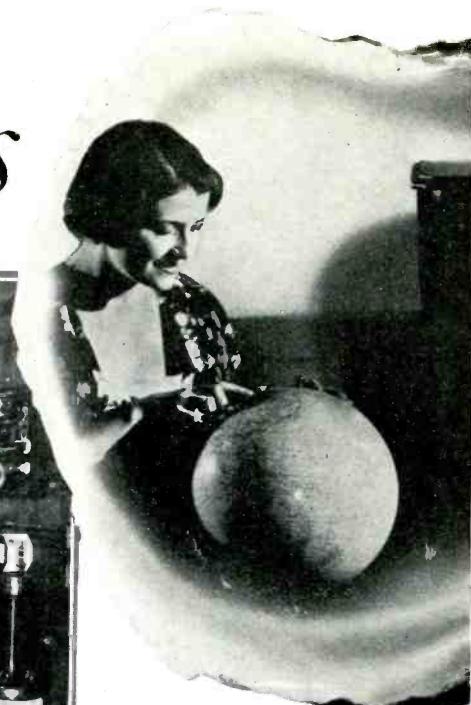
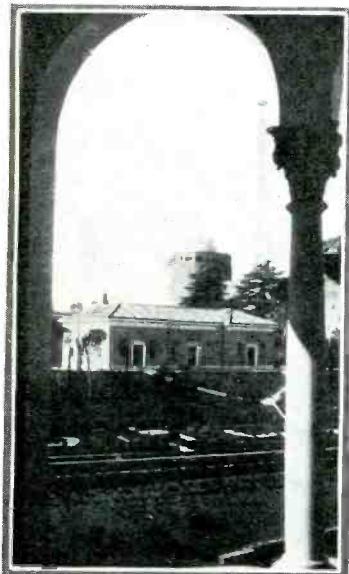
These prize-winners have one thing in common, however, *the ability to sell the tube they desire to push*, even if its list exceeds that of "gyp" types. In other words, tubes *can* be sold on a profit basis *in spite of* all obstacles. These instances are the exceptions—"which prove the rule." The fact that selling tubes "at List" is featured in this article indicates the general status of the retail picture, as outlined in the editorial which opens this issue.

Nevertheless, the moral of this tale still applies: *Why sell low-priced "gyp" tubes when the quality article can be merchandised?*



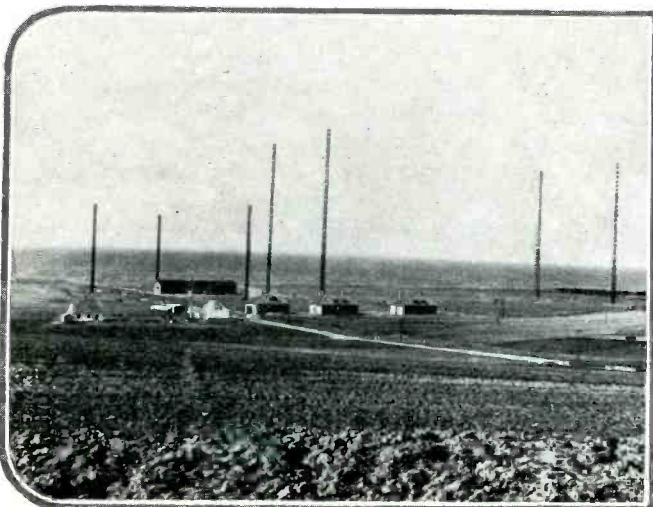
*Earl Marks, Portland, Oregon, won first prize in a recent "National Union" window dressing contest with this graphic display*

# All the World's

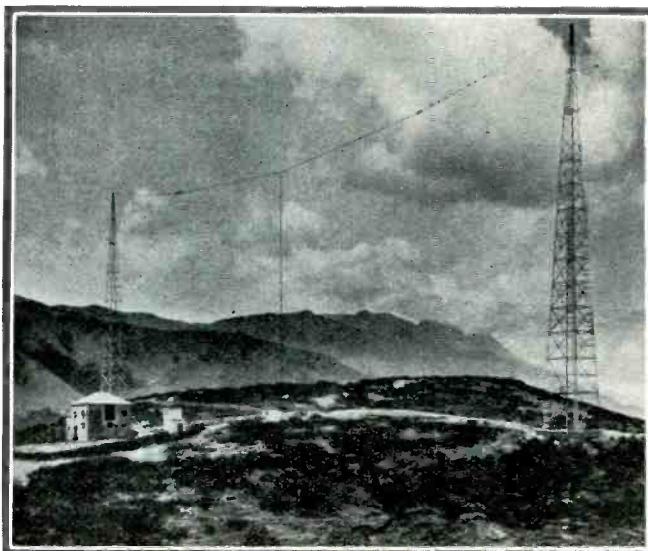


*HVJ in Vatican City transmits daily on 5,969 and 15,123 kc.*

*His Excellency, Monsignor Salotti, addresses a worldwide audience*

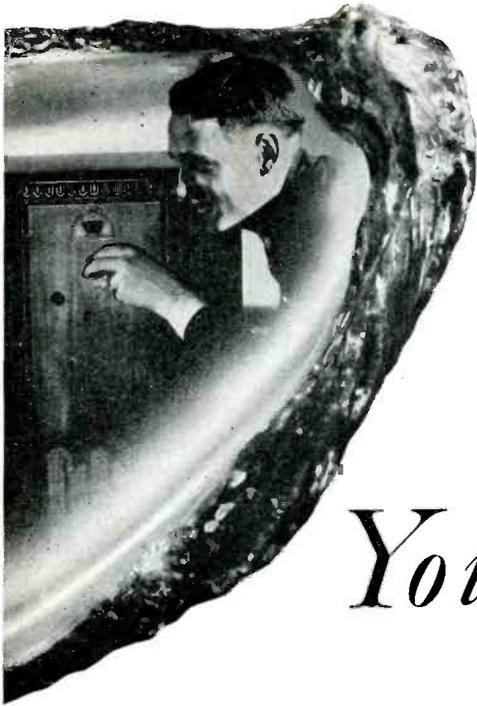


*Carl F. Schionning, Grete Otto and Daniel Prior, head the station personnel of OXY of Skamlebaek, on the western coast of the Island of Zealand (Denmark) which broadcasts on 6060 or 9520 kc.*



*YV1BC, high up in the Andes near Caracas, Venezuela, may be heard daily on 6112 and 11695 kc.*

*Edgar J. Anzola, manager of the station, learned program-planning in the phonograph business*

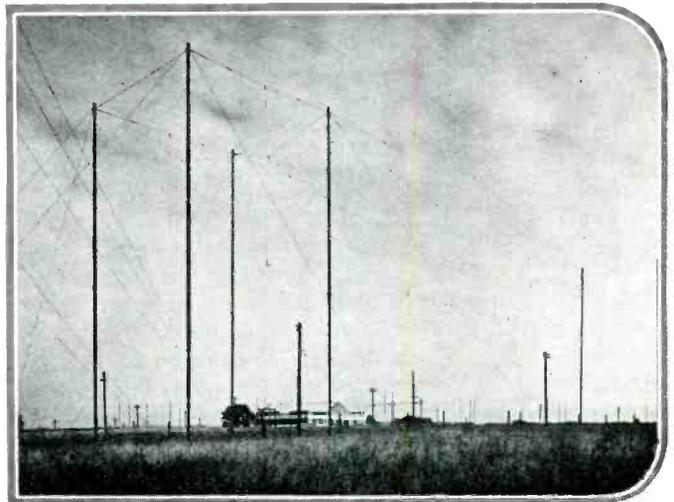
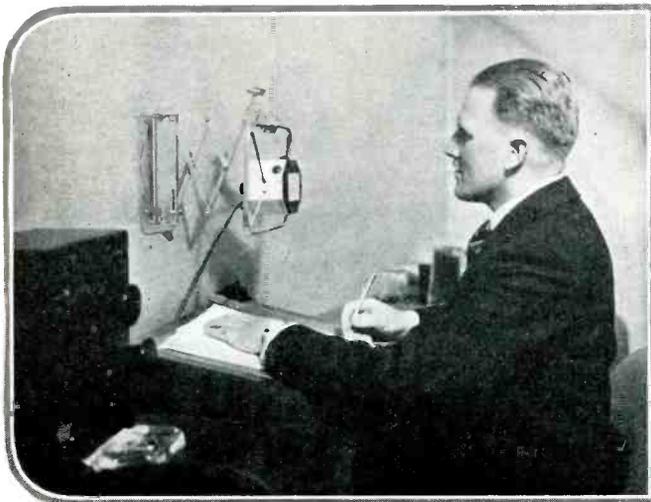


*Foreign shortwave stations such as these, and modern extended-band radios, give new meaning to the word "dx"*

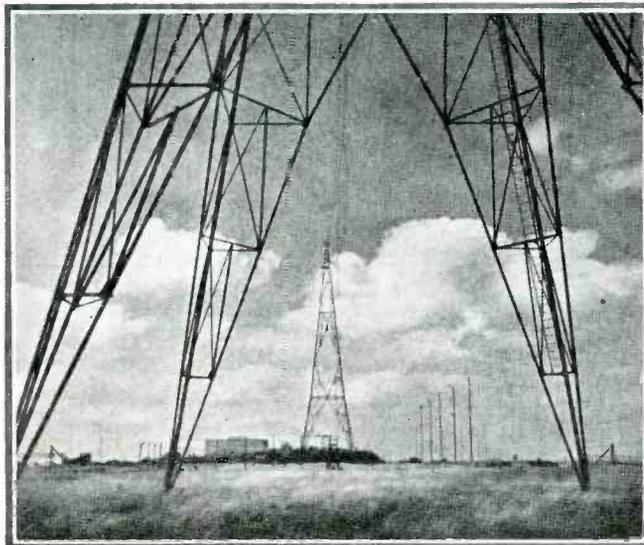
# *Your* OYSTER

*The voice of this Empire System announcer is internationally known. He broadcasts news to British listeners on long-waves and simultaneously reaches foreign listeners*

*GSA and other stations at Daventry, England, take the air from this elaborate antenna system, operating regularly on 6050, 9585, 11750, 11865, 15140 and 19790 kc.*



*PHI, one of the best known shortwavers, is heard on 11730 and 17775 kc., operating from Huizen, Holland. Edward Startz announces in Dutch, Malay, English, French, German, Spanish and Portuguese*



*Here's an Overlooked Market  
Big Enough to Put a Boy  
Through College*

# He Services

# Sets at *Notre*



**H**ARVEY ROCKWELL, senior at Notre Dame, formerly 8ATR, Rochester, N. Y., is putting himself through college by servicing sets and selling tubes after classes. Although he's doing this on his own, this sizable market offers an opportunity, in other university towns, for a dealer tie-up with some engineering student. Notre Dame has a student registration of 2,500, besides 300 professors. There are approximately 1,000 radio receivers in use.

Rockwell's workshop is a well equipped corner of his dormitory bedroom. A neat filing case contains complete records of every customer and prospect. In conjunction with a friendly instructor, Rockwell built most of his testing apparatus himself. Incidentally, he wrote his thesis based on this practical experience.

A year of professional stock company work on the stage before entering college taught Mr. Rockwell the value of showmanship in dealing with the public. His radio repair work is good and he doesn't hesitate to tell his clients how good it is. "No charge for labor, if your radio set cannot be made to operate better than when you bought it," is the guarantee on every job.

Rockwell's shop is the only source of radio tubes on the University grounds—despite cut prices to students in the adjoining city, between forty and fifty tubes a month are sold from this obscure little room—all at full list price.

Word of mouth advertising provides most of the business for this enterprising merchant. The *Scholastic*, a weekly campus newspaper, is used for occasional display advertisements and has proved to be a splendid advertising medium. Rockwell also contributes to this publica-



tion, offering friendly non-technical advice on radio to his fellow students.

No attempt is made to sell complete receivers. Most of the students receive their radios as gifts from home, and members of the faculty usually patronize the South Bend merchants for such major purchases. Standard accessories, such as RCA-Cunningham tubes, Belden wire, Elkon condensers, Centralab, Electrad, and Yaxley volume controls, are carried in stock. Supplies are purchased mostly from local wholesale outlets.

An interesting sidelight on this individual is that he is a member of the University Band, takes an active part in the various class projects, and is carrying all the re-

quired classes that are required of a senior engineer.

What Rockwell is doing is within the reach of every young and ambitious radio serviceman. Hundreds of colleges throughout the country present equal facilities for a man of the right calibre to work his way through and not only secure an education but an invaluable practical experience in merchandising which will greatly enhance his progress when out of school.

#### HOW TO GET THIS BUSINESS

Based on methods which have grossed an average of \$1,000 a year servicing campus sets, here's the adaptation of this story for the radio dealer:

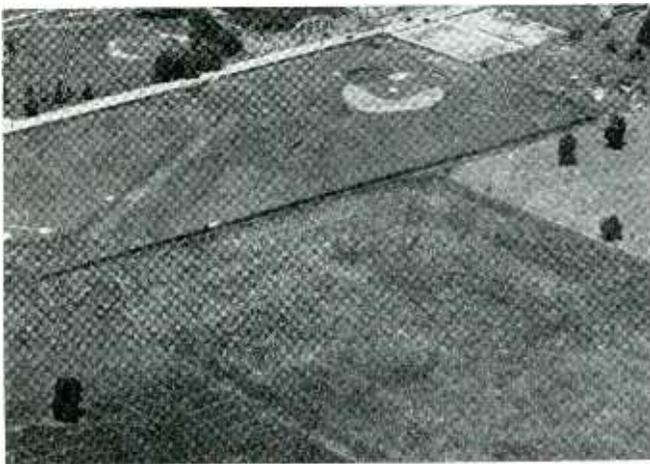
First—Find your engineering student. Consult with the Dean of Engineering.

Then—Set him up in the servicing business as your college representative.

Publicity Stunts—The room-workshop itself; advertising in the college newspaper; semi-technical articles in same medium; "Patronize a Fellow Student"; special letterhead and sticker poster; word-of-mouth publicity through contact with the faculty as well as fellow students.

Colleges also offer an excellent outlet for traded-in sets, according to a letter recently received from a professor of electrical engineering, Duke University, Durham, North Carolina. He writes: "There is a big demand for second-hand sets in this school—and very few radios

## D a m e



of this nature available. A dealer who could obtain good used receivers would find a ready market on the campus and also among the townspeople, who now are getting extra fine wages."

February should be an ideal month in which to establish a student sub-agent possessing qualifications similar to those of Mr. Rockwell. Such a man will have time to get the "hang" of things before school closes. And next year, with his reputation as a servicer established, this budding engineer would develop enough business to make the proposition worth while—and the dealer also will have the satisfaction of knowing that he helped put a deserving young man through college.

## Half-a-million Watts



IF you have been "nighthawking" at the dials these past few weeks you have probably heard test broadcasts emanating from Crosley's new 500,000 watt transmitter at Cincinnati. After 1 a.m. the existing 50,000 watt WLW is stepped up ten-fold and, although the FRC has not yet issued permission to use this output during regular service hours, commercial operation will no doubt soon be authorized.

Crosley is but the first to go to super-power. Others will undoubtedly follow. What will be the effect upon local receivers, the rural market, adjacent channel programs, tone quality, future receiver design?

*Radio Retailing* correspondents report a material increase in signal strength at distant points. Just what "service area" increase will be obtained is not yet definitely known but it will certainly be several hundreds of miles and satisfactory reception will probably be enjoyed at many points on both coasts. International reception is not beyond possibility. Fading is, apparently, reduced to an almost negligible point within a much wider mid-west service area. Coastal listeners report a reduction in fading but not complete freedom from it.

In the upper Mississippi valley, which includes an important farm area, increased signal strength will materially reduce static and noise background, permit the use of less sensitive receivers and probably provide daylight service to many hitherto slighted towns. No correspondent has yet reported any material increase in band width (blanketing) but the acid test will not come until WLW operates during service hours. The highly efficient vertical antenna of the new transmitter, and its ultra-modern modulating equipment is, no doubt, responsible.

Because of this marked increase in signal strength, super-super-power may create a market for new circuit design sets—having a wider control of input voltages and capable of greater fidelity and more pleasing tonal qualities than those of today. Such sets would, of course, provide a real argument for the purchase of a modern receiver to replace the old one. There are distinct possibilities here for the stimulation of a wider market for higher quality receivers, proportionately priced.

And so we say to the broadcasting fraternity . . . More power to you!

# Tested Sales Service Ideas

## High-Speed Repair Job Index

A QUICK-REFERENCE rotary telephone number index makes a swell work record for the service shop, according to Mrs. M. Reach, of The Radio Electric, South Pasadena, California. You've seen these handy little gadgets no doubt. They're small metal boxes holding spools of paper which may be rotated past a slot by turning a dial.

Secure a length of adding machine paper of the same width as the paper in the index. Print numbers corresponding to those on your work orders serially at the left of the strip and place it in the index. Now, as jobs come in and work orders are made out write the name of the customer opposite the number corresponding to that of the work sheet in the index. Write down pertinent information about the job.

When a job is completed have the service manager draw a line through it in the rotary index and file the work sheet. Thus, by rapidly spinning the index dial you can quickly tell which jobs are still open and which have been completed.

## Something for Something

IN THIS de-bunking age J. W. Willoughby, of Denver's Acme Radio Service, finds that truth in advertising pays. "No free service or inspection," reads his ad in the local telephone directory . . . and he gets a lion's share of available repair work in spite of the statement.

"People know that there is no such thing as something for nothing," states Willoughby. "For \$1.50 I give them a complete set and antenna inspection, make simple adjustments, charging extra for replacement parts and more complicated jobs. I point out that concerns giving free service must make up the cost by charging more for parts and labor and have found that truth in advertising produces more business in the end.

"By making an honest charge for inspection it is possible for us to do each job justice. Skimping is unnecessary. And our service is available at any time, day or night. People don't mind paying a reasonable charge if satisfaction is rendered on every call."

## Replacement Strategy

A WHEELING, West Virginia, dealer makes the interesting statement that more than half his "trade-in" sales so far this year have been to people already owning a relatively modern set.

"Those who never have had a set, after ten years of broadcasting, obviously are not interested in radio or

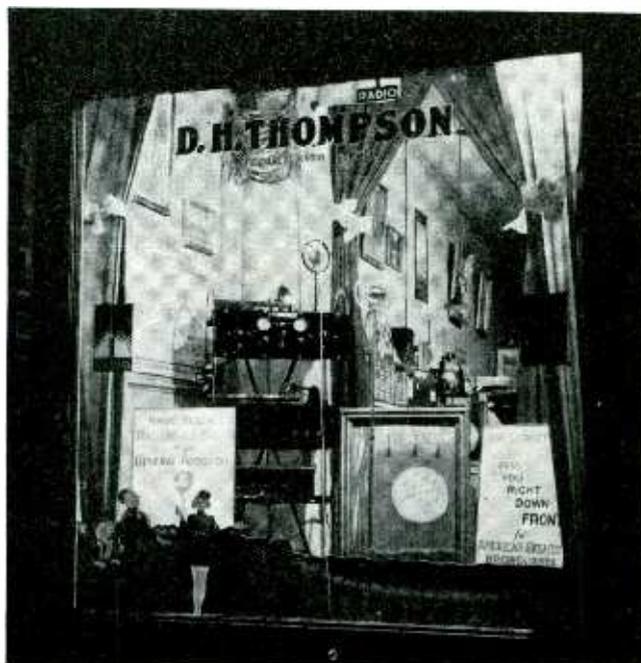
cannot afford to buy. On the other hand, those who bought sets a relatively short time ago are more apt to have money and to be interested in the latest developments than the man who, for years, has been content with mediocre performance."

## Broadcast From Window Boosts Sales

SALES ideas used with success during "Radio Progress Week" keep coming in, many of them being equally applicable at almost any time. Writes dealer D. H. Thompson, of Peconica, Illinois: "I installed a public-address outfit in my window, broadcast home-talent on Saturday evening and it brought in some business. A picture of the window is inclosed.

"In the foreground was a cut-out of an usher passing a man 'right down front.'" This was closely copied from the RMA leaflet. Window cards tied in with the idea. The card in the center was displayed with a curtained stage effect. Crepe-paper drapes at front and sides were purple with a wide canary-yellow ribbon tied in a box. The background consisted of light blue paper with a purple fringe at top and a six-inch strip of orange on the edge of the blue next to the parted curtains in the center.

"The curtains were of tennis-flannel of a purplish tone and were tied back with canary-yellow bows. The window was lighted with a single 50 watt flame-tint and one 50-watt yellow lamp, producing a very striking theatrical effect. Tie-in advertisements were run in the local newspaper together with publicity write-ups in the news section."



## Back To Old-Fashioned Selling



Riemer Calhoun

**G**LADWATER is a town of 6,000 people, with about 1,500 white families, in the heart of the East Texas oil fields. We have sold 111 electric refrigerators (Norge) there during the first six months of this year," reports Riemer Calhoun, manager of the Keoun Music Company.

"Everyone seems to feel that we must have stumbled upon some new selling stunt to be able to run up a sales total like this in a town of this size in a tough year. Not at all. It proves that old-fashioned selling still delivers results. Good old selling methods have been so often neglected and forgotten that perhaps they may appear new again.

"First, about our salesmen. A negative salesman cannot deliver a positive result. A good salesman must be 100 per cent sold on the product, on the company he represents and on himself. He must be fairly treated and constantly enthused. We see to it that our salesmen never turn sour or never burn out. We go after prospects earlier and stay out later than our competitors do. We do not maintain salesmen so much as we maintain 'sales families.' I mean the wives and children and relatives of our salesmen support us in every way they can.

"We have used lots of advertising and have had enough common sense to be unselfish about it. We have sold the benefits, economies and satisfaction of electric refrigeration through advertising designed to prove that any well-known electric refrigerator is a happy investment. And then, through advertising, we have sought the chance of demonstrating the eminence of rollator refrigeration.

"We are strong believers in the old-fashioned sales maxim that a worth-while product is its own best salesman. We believe in giving the public a chance to see the product. By that I do not mean stocking a single model and displaying it in a dark corner of the store. That is cheating the public and fooling oneself. A dealer isn't in business until he stocks a line so completely that the public can see he is really doing the business. Volume display is one of the biggest selling helps we have had. A 'short' display makes the public wonder whether the line is all right or makes people skeptical about doing business with that dealer.

"Another old-fashioned truth is that goods are bought most frequently when they can not only be seen but handled. During the past few years, all manner of stores have thrown away their counters and have moved their goods out where the public can get to them, inspect them, see them demonstrated. There is nothing like having a prospect feel the product.

"We believe in good, old-fashioned demonstration; thoroughly made. For instance, rather than merely tell the prospect about the rounded corners of the food compartment, we ask her to put her hand in the cabinet and

actually feel the unpunctured, unseamed, rounded cabinet corners. Having felt with her fingers, seen with her eyes and heard with her ears, we register a three-point conviction of the sanitary benefits of this feature. It may be interesting to know that we have sold 75 per cent of all that we have demonstrated this year.

"Finally, we keep very close tab on our customers. Several callbacks are made on each new owner to be sure that all are thoroughly satisfied and that they appreciate all the benefits of their refrigerator. We get warmly acquainted with these owners and turn them into a sort of secondary selling organization. As a result, we have a loyal band of hundreds of families working for us."

### Every Used Radio Disinfected

**E**VERY used radio, be it a trade-in, repossession or repair job, that comes to the Pearson Radio Company, Ontario, Calif., is thoroughly disinfected. "We do this for our own protection and for the protection of customers," states M. P. Pearson. "It is unfair to pass a set that may contain disease germs on to another customer and also unfair to our men to ask them to work on such a set.

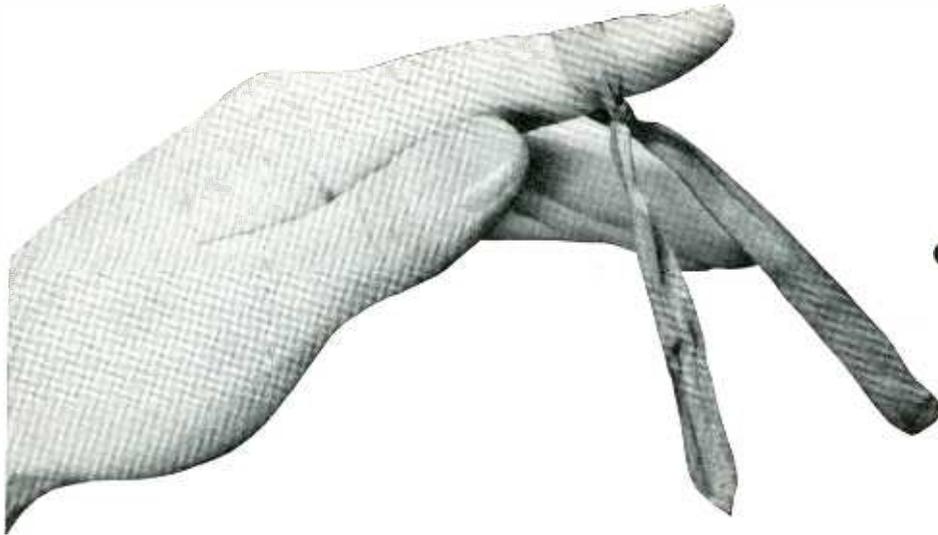
"The disinfecting is done at the same time polish is applied. We use a little Lysol in a liquid polish and spray the liquid into the chassis just as soon as the set comes into the shop. This liquid does not harm the 'works' and later is wiped out. It also moth-proofs the speaker fabric.

"As a result of this policy we have no used set problem. We advertise this feature and tell prospects why there is no danger of contracting disease from our used sets. It is a good sales argument. And our used sets smell fresh and new."

### A "Tested" Tube Selling Idea

**T**HE set makers and cigarette companies have no monopoly on the comparison test idea. Glenn Newman, of National Radio Service Laboratories, De Witt, Mich., has doubled his tube sales by the "note-the-difference" plan. He writes: "I insert one or more of our best grade new tubes in the customer's set, turn the R. F. stage off about one-third, and bring in Station KFL. Then I put back the original tubes, snap on the switch again and let the customer draw his own conclusions. When a set is in good working condition new tubes generally make such a difference that they sell on their own merits.

"After the service man has tuned the receiver and shown what it will do with new tubes in it, the sale of the tubes is usually assured, but if not, he replaces the old tubes in the set and lets it go as it was. I'll gamble that if you do this, as soon as you are out of the house the man or woman that owns that radio receiver will try for some of those stations that the service man pulled in with clarity and volume, and when they can't get them they will be along in a day or so after a set of the tubes that they know will bring them in. The sale is made anyhow, and everyone is satisfied. I have personally tried this method of selling tubes and I know that it will work out to good advantage." concludes Mr. Newman.



# Just a —that there business

**D**IVERSIFICATION of lines has long been accepted as good business practice. Many radio dealers have expanded their activities to include such entertainment equipment as coin-operated musical instruments, phonograph records, home movie machines and sheet music. Many, also, have found profit in handling the electric refrigerator, which has proven an admirable complementary line and readily merchandised to their established clientele.

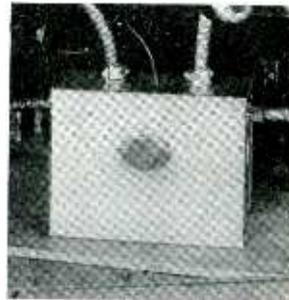
In the rush to diversify, however, it is "Radio Retailing's" opinion that the trade has overlooked many items *closely allied to the radio business* and logically sought in radio stores, despite the fact that these have tangible sales possibilities. The grass always looks greener in distant pastures.

So, by way of reminder, we picture the more important of these allied items and urge the trade to use these pages as a "check list." Not all the possibilities are exhausted pictorially. May we also point out that there is money to be made in amateur and replacement parts, home-recording devices, headphones, remote controls, centralized-radio, silencing switches and even radio magazines.

**EXTRA SPEAKERS** afford an inexpensive means of improving tone quality in old sets and can also be used to advantage in many new receivers. Here's an item whose value will be instantly apparent to the public which has already been "educated" by twin-speaker set advertising



**INTERFERENCE FILTERS** have received serious consideration from relatively few dealers. Yet there are men who make a living through the sale and installation of these alone. The field is not confined merely to household electrical appliances. Suppression of noise in large commercial machines is extremely profitable work



**PICKUPS** assume new importance when it is realized that there has recently been a definite renewal of interest in records among music lovers. And with these accessories turntables can often be sold. Forget the slim phonograph pickings of the past few seasons and give it another whirl



**NOISELESS ANTENNAS** are a revelation in click-ridden apartments but have been so poorly publicized that the consumer scarcely knows such relief exists. And transposed lead-ins, virtually a necessity on shortwaves, have not even kept pace with extended-band receiver sales



**TIME SWITCHES** are an excellent substitute for remote control when used in conjunction with receivers already in homes and, in addition, have the added appeal of a good electric clock. Now relatively low in price, they have a strong sales appeal

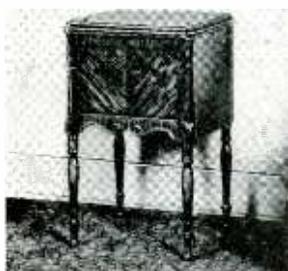


**TONE CONTROLS** brought in many a dollar when they were first introduced. And there are still plenty of receivers in use that need them. Try moving them as static reducers when Spring rolls around. They remove some of the "highs" too but most users don't mind

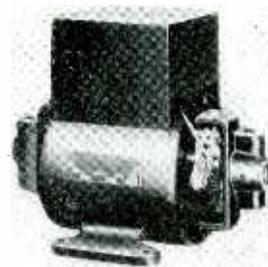


# Reminder . . . .

*is more to the radio  
than sets and tubes*



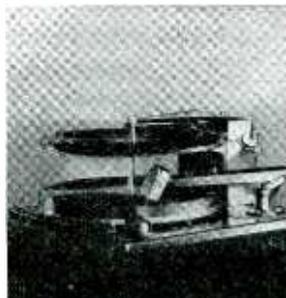
**MIDGET TABLES** and double-purpose furniture such as bookcase stands are legitimate stock for the radio store. Furniture is not easy to sell but it can be done. And this is one way the dealer can sell-up when prospects insist upon buying miniatures



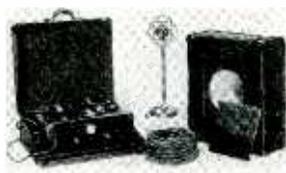
**CONVERTERS** are marketable in cities as well as out in the "sticks." They are needed by homes, stores and shops desiring to operate a.c. appliances, including radios, in d.c. districts. And there are a host of applications for types which will operate from a 6-volt automobile battery



**LINE BALLASTS** are a necessity in areas subject to widely varying voltage, especially if the receiver uses relatively old tube types with critical filament requirements. Line voltage control extends the life of even the newer tubes and gives more uniform performance



**RECORD CHANGERS** can be incorporated in furniture, built into wall recesses or, in many cases, substituted for existing single-record turntables. With them it is often possible to re-sell the upper-fringe of prospects and secure a replacement record market



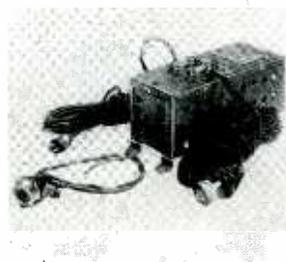
**PUBLIC ADDRESS** prospects logically come to the radio trade and every dealer should have at least one portable amplifier, for rental if not for sale. P.A. rentals not only constitute a good advertising medium but give the shop serviceman something to do in slack hours and return a modest profit



**PHOTOELECTRIC RELAYS** of the simple, self-contained type are legitimate merchandise for the radio dealer who has a good serviceman. It is no great trick to install burglar alarm systems and similar light-controlled apparatus. There is a good margin of profit and the publicity is not to be sniffed at



**MICROPHONES** are saleable for home-recording, home-broadcasting, public - address and transmitting amateur use. In addition they can be incorporated in small inter-room communicating systems, aids for the deaf and numerous other amplifying instruments



**BATTERY BOOSTERS** offer excellent sales possibilities now that car starting units are subject to the additional drain of auto-radio. Their use is economical in the end and even those car owners who do not tune in on the road will find the accessory invaluable during cold weather

# NEWS OF THE MONTH

## RADIO JOBBERS CODE UP FOR FINAL HEARING

Word comes from Washington that the prospects are favorable for a decisive hearing on the proposed Radio Wholesalers Supplementary Code. This hearing is scheduled for the middle of February and should climax a long and arduous battle on the part of Chairman Ben Gross and his committee for a workable, constructive code for the betterment of radio distribution practices. No less than four revisions of the original document so far have been drafted.

If approved, all jobbers of radio products must conform to its provisions and should affiliate with the Radio Wholesalers Association, 185 North Wabash Ave., Chicago, Illinois.

Mr. Gross presented the latest RWA code before the directors of the Radio Manufacturers Association at their meeting, January 11, in New York. On motion of William Sparks and seconded by W. S. Symington, chairman of a special RMA committee to cooperate with the Radio Wholesalers Association, the RMA Board pledged itself, unanimously, to support this action in behalf of an ethical code for the bettering of radio wholesaling and retailing conditions. RMA will be represented at the code hearing in Washington this month. The Board also recommended that all radio jobbers be urged to join the Radio Wholesalers Association.

Attention is again called to the fact that

this will be a "supplemental" code, under the general "Code of Fair Competition for the Wholesaling Trade." Radio jobbers are urged to at once secure a copy of this general code, approved January 12, by President Roosevelt. Copies may be secured from the Superintendent of Documents, Washington. Ask for Approved Code No. 201, Registry No. 1625-59. The heart of this basic code is embodied in Article VIII which deals with Permissive Trade Practices. These provisions are designed to protect the interests of the retailer as well as to protect the wholesaler from unfair competition within his own class or from direct selling by the manufacturer. Selling the consumer at wholesale also is dealt with.

of the more rapid transmission and the public will pay per square inch rather than per word.

Additional relay stations are to be constructed in Chicago, New Orleans, Washington and Boston, these to operate in the vicinity of 5 meters.

## NEW COLONIALS INTRODUCED WITH CASH PRIZE CONTESTS

The 1934 line of Colonial "10-Feature" sets, distributed exclusively by Graybar, will be exploited by a series of point-of-sale campaigns. The initial effort comprises three cash prize contests—108 prizes amounting to \$2,000 for the best consumer letters, 15 prizes amounting to \$650 for the best dealer windows, 108 prizes amounting to \$850 for dealers' salesmen who cooperate with entrants in the \$2,000 contest.

In its first broadside to the trade, Colonial Radio Corporation stresses the importance of more constructive promotion in the dealer's windows and store—and offers a service and materials design to step up this phase of retail merchandising. While conceding the value of national advertising, the broadside predicts that radio selling success in 1934 will depend largely upon resourceful promotion which directly capitalizes the public's knowledge of radio.

## RMA "FIDELITY" CAMPAIGN

A plan for the commercial development, and public exploitation, next fall, of high fidelity receivers was presented to the RMA directors, Jan. 11, by Dr. Alfred Goldsmith, of New York.

Cooperation between the RMA, the Institute of Radio Engineers, the National Association of Broadcasters and other radio interests in development and commercial presentation of a greatly improved type of receiving set was outlined by Dr. Goldsmith. The plan was well received and referred, for further study, to the RMA Set Division. Dr. Goldsmith detailed the vast improvements in high fidelity receivers, "now requiring changes and improvements in broadcast transmitting apparatus as well as sets and, therefore, requiring, in commercial presentation, co-operative action by broadcast and other interests."

## PUBLIC SHOW PLANS CHANGED

A change in its policy relating to public radio shows was made by the RMA Board of Directors at their meeting January 11 in New York. While the RMA will continue its plan to promote a public radio and electrical show in Chicago next fall,

the Association decided to take no action relating to a similar show in New York until 1935 at least. The Board decided not to sponsor or have any official connection as an association with the electrical and radio show being planned in New York next September under private management, but to leave RMA members free as to their action on exhibiting in the New York show. The RMA is not opposing the show planned in Madison Square Garden in September, but is withholding any RMA connection therewith.

## BAKER GM FOR RCA-VICTOR

W. R. G. Baker has been appointed vice president and general manager of the RCA-Victor Company. This appointment followed the resignation of E. A. Nicholas, formerly vice-president in charge of sales for this company.

## RCA to Send Radiograms Via Facsimile System

The Federal Radio Commission has just approved application by RCA for the construction of ultra-high frequency radio transmitters at New Brunswick, N. J., and Philadelphia, Pa., which are to be opened late this year as facsimile stations transmitting Radiograms by the "picture" method rather than by dots-and-dashes. Charges will probably be reduced because

## Gen. Mgr. for Krauss Bros.

William F. Krauss has assumed the position of general manager of Krauss Bros., one of New York's largest and most active auto radio sales and installation concerns. "Bill" Krauss, and his brother Emil, have had an unusually wide experience in the practical angles of both automobile and radio service work.

## U. S. Car Sets in Canada

May American automobiles equipped with radio be driven in Canada without payment of a license fee? Dominion set owners pay such a tax and, legally, portable receivers are not exempt. We are assured, however, by Minister of Marine, Alfred Duranleau, that no proceedings have been instituted or contemplated against tourists with radio equipped cars. "Foreign" car radio sets, for the time being at least, may be operated in Canada without apprehension.

## New Sales Heads for Thordarson

Donald MacGregor, well known as a past treasurer and director of the RMA, has been appointed general sales manager of Thordarson Electric, Chicago. C. P. Cushway, of radio and refrigerator fame, will assist MacGregor as general sales manager while Russell Lund, former ad-

vertising manager, is to be chief sales engineer in charge of manufacturer contacts.

President C. H. Thordarson places upon the shoulders of these men the responsibility of putting over his company's new line of radio manufacturers' transformers, replacement units and special heavy-duty types of transmitting amateurs.

### Majestic Convention Feb. 12-15

Grigsby-Grunow will hold its annual distributors' sales conference at the Edgewater Beach Hotel, Chicago, February 12, 13, 14 and 15. Four full days have been scheduled to allow ample time for a complete presentation and discussion of plans. New sets and a startlingly new refrigerator are promised.

### Sales Analyst

Reuben M. Coburn, who in the past has been associated with Kolster, Sterling, Majestic, Freed-Eisemann and Ware, and is particularly well known to members of the New York trade, has joined National Union as sales analyst. He will make his headquarters at 400 Madison Avenue, New York.

## CROSLEY CONVENTION INTRODUCES TRI-SHELVADOR REFRIGERATOR

First formal showing of a new series of Moderne receiving sets, designed for Crosley's '34 line of sets, was made at the annual convention of Crosley distributors, held at the plant of this well known corporation, Cincinnati, January 3-4. These "Ultra Modernes" ranged from a 4-tube Travo Deluxe to a 14-tube "Dual."

Over 100 jobbers attended this get-together, saw and admired not only the new line of 14 sets but super-super-power WLW and a new line of electric refrigerators on which, in a number of models, the convex door extends from full top to bottom of the box. Said box setting flush on the floor—no legs—and the entire effect being most pleasing and unique, according to the opinion of 100 per cent of the jobbers in convention assembled. "Tri-Shelvador" is the name given to Crosley's new deluxe line of refrigerators—has three in-the-door shelf features.

Also introduced at this affair was sales assistant Howard Richardson, formerly and

## RADIO SERVICE MEN TO CONVENE IN CHICAGO, FEBRUARY 23-25

The Institute of Radio Service Men will hold its Second Annual Regional Convention at the Hotel Sherman, Chicago, February 23 to 25 inclusive. A large part of the program will be devoted to service "clinics," in which manufacturers will participate. There are to be many technical sessions.

The interest in this convention and exhibit has surpassed that of last year. A complete sell-out of display space is anticipated. Forty per cent of the available booths were reserved within ten days after the announcement to exhibitors.

A meeting of the radio parts and accessories distributors at the Hotel Sherman, February 24 and 25, has been called by the National Association of Radio Parts and Accessories Distributors. Further development of plans of the association and joint meetings with manufacturers of parts and accessories and with representatives of the radio service field have been arranged.

The New York Section, at a recent meet-

ing, elected L. Howard Sack of Newark, N. J., chairman for the coming year. Sack succeeds Arthur E. Rhine of New York.

Other officers elected were R. M. Palmer of Princes Bay, Staten Island, treasurer; Forrest B. Arnold of Brooklyn, secretary, and William J. Healey of Bloomfield, N. J., recording secretary.

### IRSM Forms 20th "Region"

The Institute of Radio Service Men is now organizing its 20th "Region," which will embrace the greater part of New York and Pennsylvania, with the Rochester Section as the key organization. Regions correspond roughly with Federal radio inspection districts.

Three members of sections included in the new region will form the advisory and subadvisory committee, which will in turn represent the group in the general organization meetings.

Howard, Howard Radio; Louis Le Winter, Le Winter's Radio; Alf Hanssen, C. A. Hanssen & Brothers, and David Feiner of Woodhaven.

The association has tentatively been called "New Deal Radio Retailer's Association" and is at present busily engaged in studying the pending Code of Fair Competition of the Distributor's Division of the Radio Industry.

## RADIO TAXICABS

In a 2,300-word opinion, delivered by Police Commissioner John F. O'Ryan, Jan. 18, radios will be permitted in New York taxicabs. This ruling reversed that of former police chief James S. Bolan. It was based on three points of controversy: (1) Does an operating radio distract the taxi driver sufficiently to interfere with due care in the operation of his cab? (2) Is radio offensive to passengers or to those otherwise exposed to it? (3) Would the removal of radio equipment already installed cause heavy loss to those companies who have invested their capital in this project?

Commissioner O'Ryan found that sets might be so installed in taxicabs as to be solely within the control of the passenger; that they did not constitute a hazardous distraction and that it would be unfair to order their removal.

These rulings are in line with the stand taken by *Radio Retailing* and set forth in a special telegram of protest sent by this magazine to then Commissioner Bolan protesting the original adverse ruling of this gentleman.

### Joy Jamboree

Another "Joy Cruise" is in the offing. This time to be run by the F. B. Connelly Co., Portland, Ore., Grunow jobber. Twelve days at sea or in San Francisco or Los Angeles. Pacific liner sails March 6.

It's to be a sales contest. free passage for all top-score men.

for many years a successful jobber himself. "Red" hails from Chicago and handled the more intricate proceedings of the second morning's session with spirit and appreciation of the practical jobber's viewpoint. Not the least of the delightful features of this convention, from your correspondent's angle at least, was a gala banquet at the Netherland Plaza Hotel and the hospitality headquarters maintained by KenRad under the suave captaincy of Bud Matthews.

### Columbia Leases Theatre

Columbia Broadcasting, late last month, leased the Hudson Theater, one of New York's better known theaters, christened the building "Radio Playhouse" and proceeded, on February 3, to broadcast a program of stellar talent from this point over 80 chain stations.

Admission to the Playhouse, which is equipped with special glass panels permitting a view of the control room as well as the stage, is free but tickets must be obtained either from the Columbia offices or from advertisers sponsoring the programs. The house will be used, in addition to its functions as a studio for elaborate sponsored productions, as a test studio for further improvement in radio dramatics.

### N. Y. Has New Retail Assn.

About 40 radio dealers in the metropolitan area of New York City have organized a new retail association for the purpose of improving competitive merchandising conditions. Officers are: P. R. Bowers, Aeolian Co., president; Louis Leibowitz, Leibowitz Radio, vice-president; Jules Frank, Michaels Brothers, secretary. The executive board is composed of Robert

### In Charge of Sales Promotion for Harry Alter Company



Who buy, and use, electric refrigerators? Women! Therefore it was but business sagacity for Harry Alter, Chicago, to nominate Miss Marge Niess as head of sales promotion for his concern, which company is exclusive distributor for Grunow radios and refrigerators in northern Illinois.

In addition to her good looks, Miss Niess (pronounced "nice") has a world of experience in the sale and advertising of household appliances.

## SPARTONITES MEET AT JACKSON, MICH.

The Sparks-Withington Company held its annual distributor convention at Jackson, Mich., January 29-30. Four new refrigerator models were displayed as well as a new series of all-wave receivers and a motor car set. The latter is priced at \$49.50.

Not the least of the many "features" of this well-attended affair was the presence of Arthur T. Haugh, a radio citizen of more than local fame and now an active member of the Sparton team of sales executives. "Art's" batting of the ball was enthusiastically welcomed by the Spartonite rooters. The more so because of the wealth of hard-headed experience, inspiration and good-fellowship which he brings to this organization. Did he tell his celebrated bird story? Try and stop him!

### J. C. Warner, General Manager Radiotron and Cunningham

Appointment of J. C. Warner to be vice-president and general manager of RCA Radiotron Co., Inc. and E. T. Cunningham, Inc., has been announced by E. T. Cunningham, president. Mr. Warner has held the post of vice-president in charge of engineering since December, 1932.

Mr. Warner announced the appointment of E. W. Ritter to the position of manager of the Research and Development Laboratory.



### RMA Auto-Radio Committee Active

The RMA Committee on Automotive Radio has been active in obtaining authoritative data on built-in car antennas and battery polarity directly from the car manufacturers. As soon as all the car manufacturers have supplied their data, a compilation for the Handbook will be made. The Committee is also beginning the consideration of standardization of ignition suppression resistors.

### What the Well-Dressed Police Car Will Wear



In addition to four kinds of shooting irons and a gas bomb billie, the well-dressed police car will, of course, be radio-equipped. In this case it's a Sparton.



Here's proof of the vitality of radio—it's grip on the public: Carborundum, Niagara Falls, one day in 1932, over a Columbia hook-up, offered a small sharpening stone to all listeners who would write for it. Latter part of '33, same day and hour as before, the identical offer was repeated and by the same announcer. Returns from the second broadcast, from same stations, were 158% greater than from the first one.

S. Lee Schott, radio pioneer, joins the Pilot Radio Corporation. Will handle domestic sales of short wave receivers. "Lee" recently motored throughout New England and is now doing the Middle West.

Irving J. Kahan is making his third lap around the country for the Sprague Products Company. Recently opened Chicago headquarters at 333 N. Michigan Avenue.

The newspapers are printing programs again. In Cincinnati, when this service was withdrawn, the publishers of the program "Weeklies" hopped in and did a land office business. Were on sale at every street corner—and eagerly purchased by thousands of listeners, including yours truly.

Motor car sets have hit New Zealand. The trade is all excited and predict their immediate popularity. Had lunch with E. R. Boucher, managing director of Radio Limited, Auckland, last week. Says "Government House" is against privately owned stations and high power. Mr. Boucher was highly impressed with the American system of commercial sponsorships and quality programs. Finds the advertising talks not objectionable. Prefers our system to that of Great Britain.

W. W. Boes, of 912 Cumberland Ave., Dayton, Ohio, has been appointed factory representative for Universal, covering southern Ohio, Kentucky, southern Indiana and western West Virginia.

Television Laboratories, Ltd., of San Francisco and Philadelphia, have licensed Heintz & Kaufman, radio manufacturers at San Francisco to construct television transmitting equipment under the Farnsworth patents for television by aid of cathode-ray tubes. License for the manufacture of receiving equipment has already been granted to an Eastern radio manufacturer in whose laboratories Farnsworth spent two years in perfecting his receiver for commercial use.

Television Laboratories, Ltd., is planning a vigorous campaign for television service to all important centers of population in the United States before the end of 1934.

### New Home-Recording Booklet

The Universal Microphone Company, Inglewood, Calif., has issued a supplement to its "Simplified Home-Recording" booklet, written by chief engineer E. E. Griffin.

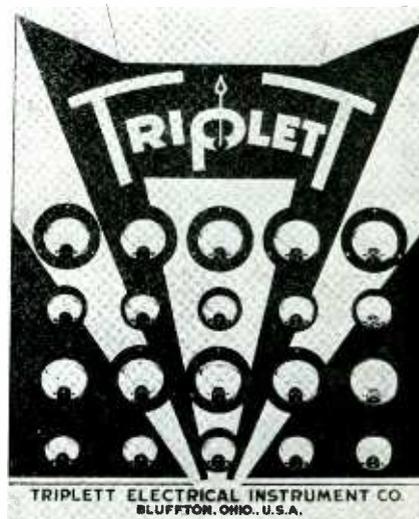
## DISCUSS HIGH-FIDELITY

Before a joint meeting of the broadcasting committees of the Radio Manufacturers Association, National Association of Broadcasters and Institute of Radio Engineers, held at the Hotel New Yorker, New York City, Feb. 3, Dr. A. N. Goldsmith, consulting radio engineer, presented a plan for commercializing high-fidelity radio receiving sets, already discussed at the recent RMA board meeting. The plan advocated by Dr. Goldsmith contemplates receiving sets reproducing the full tone range from 50 to 8000 cycles, and would involve a widening of the broadcast channels beyond the present 10 kc. limitations. Most of the new broadcast transmitters are already capable of transmitting to 8000 cycles and above.

Discussion brought out the point that until average installations are improved and the presence of electrical noises and man-made interference is eliminated from reception through better antenna location and higher broadcast powers, the annoyance which listeners suffer with high-fidelity reproduction leads them to cut off the "highs" and emphasize the bass tones. All present agreed that the work of the radio dealer and service man in making correct initial installations of radio sets is of the utmost importance to securing proper reception either with high-fidelity sets or present receivers.

The future services which radio may bring to the homes of America, were also touched on during the general discussion. That new uses will be found for the ether waves in everyday home reception was brought forward by several speakers. Said Dr. Goldsmith: "Radio's greatest triumphs still lie ahead. The next twenty years of radio development will make the past ten years look sick indeed."

### Aid for Merchandising Meters



The Triplet Electrical Instrument Company, Bluffton, Ohio, has developed a new type of counter display that holds 20 Triplet instruments in different sizes and ranges. This idea takes the meters off the shelves and puts them on the counter in full view. The display card is printed in two colors and given free with an assortment of instruments.



## 200 GATHER FOR GENERAL HOUSEHOLD'S SECOND ANNUAL

Rallying 'round the slogan: "This Is Our Year and Your Year," 200 jobbers or their representatives reported, January 22, for General Household Utilities Company second annual family party. It was held at the Lake Shore Athletic Club, Chicago.

The showing of the new lines of popular priced and deluxe refrigerators was fol-

lowed by the, to be expected, vigorous and colorful presentations of sales plans by William Grunow, J. Clarke Coit, Henry Bonfig, Duane Wanamaker, "Jimmie" Davin and others. New and improved super-safe Carrene refrigerators held the center of the stage—pictured above. Of special "news" value was the announce-

ment by advertising manager Wanamaker of a 50 per cent increase in newspaper space for '34 and the launching of a coast-to-coast broadcasting campaign over 44 Columbia chain stations. The famous Minneapolis Symphony Orchestra of 85 pieces will be heard every Tuesday evening at 9:30 E.S.T., beginning March sixth.

## JOBBER MEETINGS AND APPOINTMENTS

MAJESTIC now has Commonwealth Utilities of Chicago for northern Illinois. Lou Stutz and his salesmen, who represented the company in this territory prior to the appointment of Commonwealth, will join Sam Schulman's organization and continue to contact their established clientele. Interstate Distributing of South Bend and Auto Electric Service of Fort Wayne have also joined up with Majestic, the first serving northwestern and the second northeastern Indiana.

Sanford Brothers, WURLITZER distributor in Chattanooga, staged a two-day sales convention late in January at the Reade Hotel, exhibited the complete 1934 line to the local trade. Present at the meeting were Homer E. Capehart, R. W. Camfield and Charles H. Deverall, respectively, general sales manager, traveling sales manager and chief engineer for Wurlitzer. W. S. Nott & Company, ran a similar party in Minneapolis, Homer Capehart flying from Tennessee in time for the meeting.

Lewis & Carnell were hosts to over 500 dealers at a CROSLY shindig held at the Bellevue-Stratford, Philadelphia, last month. President M. J. Lewis introduced the following factory men: Frank Hogan and Lee Bird, of Crosley; W. H. Thompson, F. B. Wanselow and A. J. McGettrick of E. T. Cunningham.

Domestic Utilities, Inc., Chicago, has signed with GIBSON as exclusive distributor for this line of electric refrigerators for the entire Chicago trading area. Headquarters, at 201 N. La Salle Street,

are undergoing major revamping to properly display Gibson's new models.

Hamburg Brothers, Pittsburgh, is to handle COLUMBIA records, portables and parts, with warehouses at Akron and Wheeling.

GENERAL HOUSEHOLD UTILITIES, maker of Grunow refrigerators and radios, has added the following distributors to its list: Nassau Distributing, Trenton; Electric Appliance Distributors, Altoona; Morris Distributing, Albany; Shapiro Sporting Goods, Newburg, N. Y.; and J. J. Perry, Nashville.

### Arvin Banquet

Noblitt-Sparks staged a banquet at the Commodore, New York, coincident with the Automobile Show, introduced four new Arvin auto-radio models. Two hundred eastern distributors, distributor's salesmen, and 100 metropolitan dealers attended to hear Glenn Thompson, sales manager, predict that auto-radio sales would probably double this year. Chief engineer Booth and radioman Peeke described new mounting methods and circuits.

### M. G. — Milwaukee

The M. G. Company is a new distributing outfit formed by Vernon Maurer and F. W. Greusel of Milwaukee, Wisc. Headquarters will be at 808 N. Market St. H. M. Northup, formerly associated with Greusel, will be connected with the new organization. M. G. has taken on the Grunow line of radios and refrigerators.

## Alter Follows Through

Here's a bright idea. Why hasn't it been done before?

Right on the heels, so to speak, of Grunow's departing distributors, Harry Alter, Chicago distributor for General Household Utilities Company, pulled the first dealer meeting, for this manufacturer, of the new year. Held it also at the Lake Shore Athletic Club and used the same product displays and scenery that had been prepared by the factory for the edification of the jobbers the preceding day. Even grabbed the same factory executives and parts of their speeches, including boss Bill Grunow himself. Only objection to this stunt is that all hands might be a bit fagged, what with the banquet the night before, etc.

A policy of limited dealerships and a fight against price cutting were two of the high points of Mr. Alter's remarks. Indicative of the pulling power of the quick follow-up is the fact that over 250 dealers attended and that a total of 625 individuals were counted during the "Cocktail Hour, 5 to 6" which followed the serious stuff.

### Wurlitzer Men at Factory

Sales representatives of the Rudolph Wurlitzer Manufacturing Company (Lyric) spent the second week in January at the plant, North Tonawanda, N. Y. The occasion was the first showing of new models in refrigerators, radio sets and washing machines. Homer Capehart, general sales manager, presided. Engineer Deverall conducted demonstrations to prove the unusual refrigeration feature of the Duo-zone unit.

Attending this meeting was D. W. May, president of the D. W. May Corporation, New York distributor.

# Merchandising



By Richard Gilbert

THE phonograph companies' valiant assertions that the record business is picking up all over the country is a fact that radio dealers should not overlook. To determine the nature of this increase in disc interest, we set out the other morning in company with a branch salesman. By nightfall we had visited a dozen dealers in Manhattan who enthusiastically supported the above claim.

We uncovered some interesting features of disc merchandising as well as some pertinent suggestions store managers had to make regarding the manufacturers' aid in extending this revival further.

Most all of the managers interviewed expressed the opinion that the companies have been lax in the matter of national advertising. Claims Mr. Meyers, in charge of Bloomingdale's record department, "Phonograph propaganda is badly needed. A great number

of people don't know the difference between the old and new methods of recording. We get new customers everyday, wandering about a large department store such as this, who, when they bump into this end of the radio section, seemed surprised that records are still being sold. They are actually amazed at the fine quality reproduction available from present-day records. These new customers take a few discs home, play them on old instruments and, perhaps, because the quality isn't so good from these acoustic machines, lose interest. Others come back and look over the new combinations. It's up to the phonograph companies to spread the propaganda of electrical recording and loudspeaker reproduction. But we do quite well, shooting close to a 1,000 popular discs a week. The album business increases steadily."

These same thoughts were echoed by

Mr. Kearn in the Recorded Music Shop. "We've only been here a short while but the record advertising we've done in the musical section of Sunday papers has brought us many new customers. Our business is mostly classical music and album sets. If the companies would advertise their publications in the music sections of the Sunday papers and in magazines appealing to cultured readers, stressing the fine quality of electrical reproduction, I'm confident interested music lovers would search out local record shops to hear and buy discs. Our newspaper advertising brought a lot of inquiries and business from out of town."

Up on Fifty-ninth street, Marconi Brothers and the Liberty Music Shop specialize in records. The latter store and its Madison Avenue branch possibly sell more popular discs, both domestic and imported, than any other single organization in America. They get the sophisticated Park and Fifth Avenue trade.

Both these stores publish their own monthly lists of records. Marconi Brothers arouse interest by striking window displays. A recent one featuring Ethel Waters' "Heat Wave" disc took over a hundred copies off their shelves in a few days. That sounds like pre-radio times, doesn't it?

Down Madison Avenue Haynes-Griffin Radio Service specializes in "How to Have Fun at Home" which includes everything from phonograph records, through big combinations and midget instruments, to a Repeal Department of glassware, cock-tail napkins and other bar accessories.

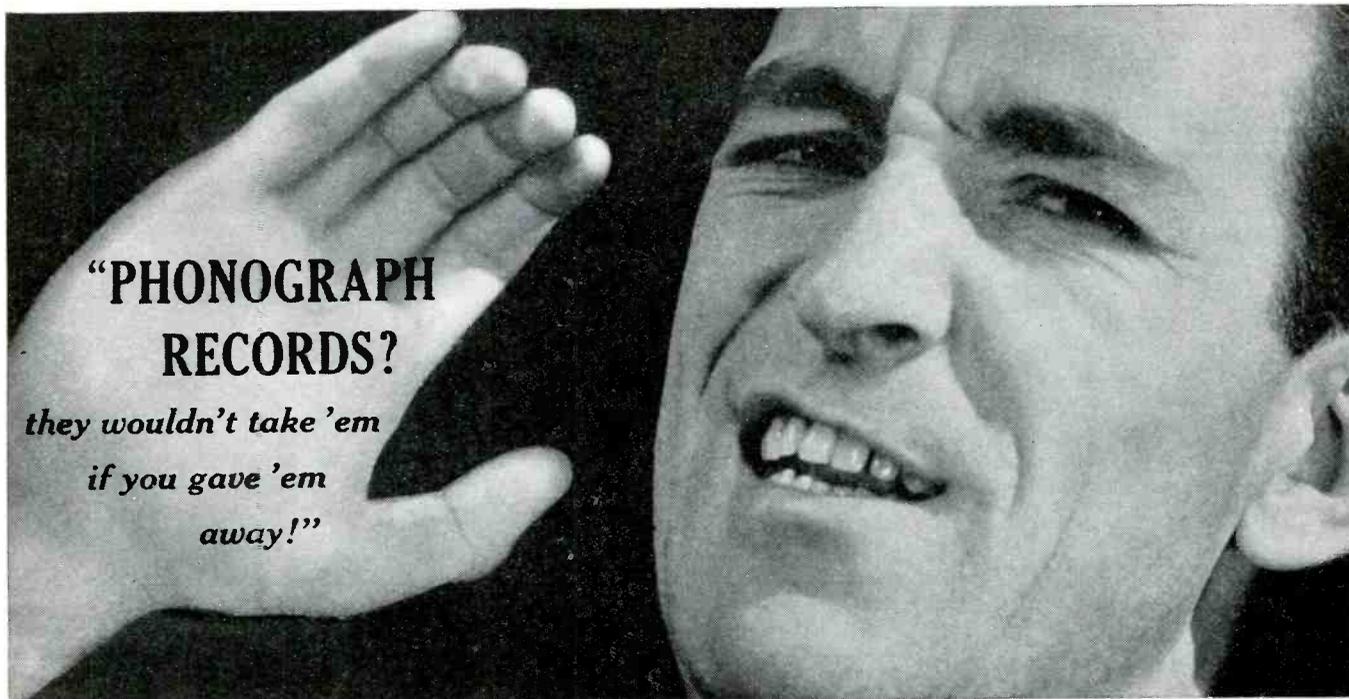
"Two years ago," said John W. Griffin, "we moved from a large store room over on Forty-Third street to this locality. Our record stock was only a more or less complete catalogue of Victor records. We were primarily a radio instrument store, we never pushed our records very much. Concentrated on the big sets and had the disc stock principally to service combination sales. Our record mailing list didn't exceed a hundred names. In 1932 we began pushing discs in our new locality. First we featured special tango albums of our own selections of imported discs, and got out monthly folders listing records. As our mailing list grew, mostly from transient trade, our disc business in-



"How to Have Fun at Home," an original merchandising idea of Haynes-Griffin Radio Service, New York City. This 12-page monthly bulletin lists current records and other forms of home entertainment, presented with amusing running comment calculated to appeal to a sophisticated clientele.

# Business Follies of 1934

## FOLLY NO. 1



... And that shows he's a year behind the times! Victor's new records, with their new clear tone, increased sales 100 per cent. last year—and they're selling faster every day!

**I**T'S time we told the world what's happening in the record business ... that sales of phonograph records jumped up 100% last year... that they're still going up. Live dealers know it;

they're cashing in on it; and they know the reason why. It's all because Victor is putting out an amazing new record, with a crispness and definition that is remarkable.

Through higher fidelity, Victor gets a new sweetness and purity of tone never before achieved in any kind of reproduction. We'll grant you that back when the depression was hitting bottom, phonograph records were perhaps a dead item. "Them days are gone forever!" The news is out that more and more turntables are being

bought every day. Dealers who are making a modest investment in Victor records are finding a steady stream of profits coming in. They're taking advantage of the new sales plans Victor is offering. Fill out the coupon below and we'll tell you all about it ... Also how you can cash in on the new Blue Birds, fastest selling low priced records.

RCA VICTOR CO., INC., A Radio Corporation of America Subsidiary.

*Get These New Releases:*

- |       |   |  |       |   |  |
|-------|---|--|-------|---|--|
| 24517 | { | Wagon Wheels—Fox Trot (from "Ziegfeld Follies")  | 24505 | { | One Morning in May—Fox Trot  |
|       |   | If I Love Again—Fox Trot (from Musical Comedy "Hold Your Horses")  |       |   | Hoagy Carmichael and his Orchestra   |
| 24485 | { | Love Locked Out—Fox Trot   | 24512 | { | Armful of Trouble—Fox Trot   |
|       |   | On the Other Side of Lover's Lane—Fox Trot   |       |   | Don Bestor and his Orchestra   |
| M196  | { | Der Rozenkavalier (Red Seal) The Vienna Philharmonic Orchestra with Lotte Lehmann, Maria Olszewska and Elizabeth Schumann. |       |   | This Little Piggie Went to Market—Fox Trot (from film "8 Girls in a Boat") |
|       |   |  |       |   | If I Didn't Care—Fox Trot  |
|       |   |  |       |   | Eddie Duchin and his Orchestra   |



RR

IT PAYS TO SELL

# Victor Records



RCA VICTOR CO., Inc., Camden, N. J.  
I want to get in on the new increase in sales of Victor records. Please send me complete details of your proposition.

Name \_\_\_\_\_

Address \_\_\_\_\_

# RECORDED MUSIC

## Merchandising

creased. We pushed this line. With 3.2 beer and Repeal guaranteed, we started our "How to Have Fun at Home" campaign and we've been eminently successful."

The Haynes-Griffin twelve-page monthly booklet, pictured on page 30, takes the prize among dealer direct mail advertising examples.

"There is certainly a market for dance and vocal records, only you've got to push them," concluded Mr. Griffin.

### SOLD 19,000 RECORDS FOR EDUCATIONAL PURPOSES

G. Schirmer, Inc., on Forty-third street, is a music store known throughout the world. But 15 months ago records were not on sale here. The first stock was a small counter affair of a few current popular discs. Schirmer's musical clientele had an eye for recorded music, however, and before the store was quite aware of it, this small original stock had increased, of its own sales momentum, to a stock which now includes the complete catalogue of every domestic company and a number of imported records. A. J. Powers, store manager, told us that "although up to now we haven't spent much effort on direct mail advertising, it has been surprising how our disc department has grown. We are quite proud of the contract we procured from the Carnegie Corporation to equip twenty-three colleges throughout the United States and Canada with music sets, each containing, besides musical scores and books, 824 phonograph records and an automatic record changing phonograph-radio combination. The future of the phonograph and record business looks



A yokel character in Smetana's folk-opera, "The Bartered Bride." Marek Windheim, as the pie-eating "Wenzel." Victor Set No. M193.

good to us—we're going to push this line."

Rab Sons sell radios, cameras, motion picture projectors, sporting goods, binoculars and records. You wouldn't say this was a music store. The record department, managed by a competent saleslady, does well with both the classical and popular discs. This store has found the Victor Advance Audition discs especially valuable in bringing in old customers for new records. Rab sells a large number of high priced combinations. A disc library goes with each instrument and the buyer isn't lost sight of during ensuing months. "I use the telephone a lot," said the record clerk, "and when a disc comes out which fits the taste of a particular customer of mine, I pass along the information or even send the records around as soon as possible. If you remember your customers' individual tastes and keep them informed of new releases, it's practically impossible not to sell records these days."

And then there are the "hole-in-a-wall" stores, catering to the popular and "hot" trade, on Forty-second street and Broadway. Three of these reported a better business in popular discs during the past three months than at any time since 1930.



Ruth Etting, who glorifies in song for "Hips Hips Hooray," records for Brunswick, "Everything I Have Is Yours," from "Dancing Lady," and "Dancing in the Moonlight." Brunswick No. 6719.

All of the record clerks interviewed think that the companies are working closer with the dealer and taking some of his suggestions more seriously. "A year or so ago," said a clerk at the Commodore Radio Shop, opposite the Chrysler Building, "the hits didn't arrive as soon as we would have liked them to, and sales were lost. Now the recorders are putting the hits on wax and releasing them when the public demand is greatest. The classical records are coming along, too. Here we cater mostly to "hot jazz" fans, but every day someone drops in and buys an album set or so. Yep, records are coming back."

Everywhere records were being sold. The salespeople were experts. They know their record catalogues and how to make suggestions to customers.

## The Month's Classics

**SMETANA: THE BARTERED BRIDE.** A complete recording of one of the most engaging and tuneful of comic operas. The work was revived in America last season with great success by the Metropolitan Opera Company. Recorded in Czechoslovakia in memory of the 50th anniversary of the foremost Bohemian composer's death, this masterpiece will interest every opera lover. It is presented here in the most authoritative fashion by orchestra and members of the National Theatre of Prague, directed by Otakar Ostrcil. The recording is first-rate and the performance could not be more sympathetic to the composer's intentions or the spirit of the amusing libretto. *Victor Masterpiece set No. M193*; fifteen 12-inch discs in album.

**SZOSTAKOWICZ: SYMPHONY NO. 1, OP. 10.** This recording, by Leopold Stokowski and the Philadelphia Orchestra, is particularly timely for it introduces to many music lovers the work of a foremost Soviet composer. The symphony was recorded on the day of Russian recognition by the United States. Szostakowicz's music is vivid, arrestingly original yet plainly comprehensible. He is twenty-

seven years old. This symphony may be calculated to appeal to all classes of listeners; we have no hesitancy in recommending its robust exuberance, youthful poeticism and eloquent intensity to either advanced or conventional ears. The recording is especially brilliant. *Victor Masterpiece set No. M192*; four double and one single-faced 12-inch discs in album.

Also listen to and feature the Victor album of Ernest Bloch's *Quintet for Piano and Strings* (Set No. M-191); Conrad Thibault's recording of *Kashmiri Song* and *Till I Wake* (Victor No. 1631); the dramatic reading of excerpts from *Hamlet* by Henry Ainley (Victor Nos. 4248 and 4249); the re-recording of Mme. Luisa Tetrazzini's singing of ageless operatic arias (Victor No. 7883); and other discs on Victor's February Red Seal list.

Columbia offers two lovely vocal recordings by Lotte Lehmann, who recently made her debut at the Metropolitan Opera, and Ninon Vallin, French soprano. Discs Nos. G-4090M and G-4091M respectively. Also Haydn's *Symphony Number 11* and Handel, *The Origin of Design*.

## Knees and Auto-Radio (Continued from page 15)

of the used car picture. When it is considered that there were 20,526,000 passenger cars in use at the close of 1933 and that the automobile industry expects to sell only 1,750,000 in 1934, the relative importance of the used car market, wide open to the radio trade, may be appreciated.

### RADIO TRADE WILL MAKE MOST INSTALLATIONS

Our esteemed contemporary, "MoToR," writes in its January show number: "Some manufacturers and wholesalers (automotive) who suffered last year from inexpert installations will be more exacting in the selection of retail outlets. They will urge retailers lacking skilled electrical mechanics to 'farm out' their service to specialists. More manufacturers and wholesalers will adopt an 'authorized service station' policy.

"Automotive jobbers, unless they are distributing radio (home and car) as a major activity, in most cases will discontinue radio service departments and employ service stations for service purposes."

We agree with "MoToR." Experience has taught the automotive trade that specialized knowledge is necessary for proper installation and servicing of car radios and the majority of them will enlist the aid of radio servicemen for this part of the job. Field contacts indicate that most automotive salesrooms will simply turn over their installations to outsiders on a flat-rate basis, the fee to include free service during the guarantee (90 day) period. As business develops some of the larger showrooms may hire radio men on a part time basis, increasing the time as sales warrant it.

We take this opportunity to urge servicemen to contact local automobile showrooms immediately, endeavor to work out some sort of an equitable contract for 1934 auto-radio installations. This applies as well to specializing installation stations. There is also an opportunity for the radio dealer to tie up with showrooms which do not desire to become embroiled in the radio business, perhaps following up new car buyers immediately after they purchase, paying the showroom a commission on all sales. Contact with a number of showrooms leads us to believe that there are many who would prefer such an arrangement to handling radio themselves, even though they can now secure sets from their own supplier.

### QUIETER IGNITION SYSTEMS COMING

There was such a jam around the cars exhibited at the show (attendance reached an all-time high) that the Grand Central Palace was scarcely the place to get the low down on new auto-radio

technical features and future sales expectations. There were, however, many room exhibits maintained in New York hotels by leading radio manufacturers and by delving hither and yon among them we were able to pick up a lot of interesting data.

*Radio Retailing* estimated (March, 1933) that sales would be about 300,000 for the year. We were wrong and are glad to admit it. They were somewhere between 600,000 and 700,000. (See March, 1934, issue for final statistics). And we gather that manufacturers expect sales to exceed 1,000,000 in 1934, some predicting 1,250,000.

We also heard that two car makers have been prevailed upon to redesign their ignition systems so that these will produce a minimum of radio noise. This is welcome news as it may spread to other companies. It didn't cost much. The coil was moved off the bulkhead and the high and low-tension ignition leads separated.

Several laboratories are experimenting with distributor rotors having built-in suppressors and solution of a troublesome mechanical problem which holds up the idea may come at any time. And while we are on the subject of distributor rotors it has been suggested that perhaps the distributor of the future will have a wiping contact instead of the present spaced variety. It is not beyond possibility that someone will eventually find a way to use an electronic tube of the thyratron variety to do the job without mechanical contacts of any kind.

### SUPPRESSOR RESISTORS GOING DOWN

When auto-radio first became popular suppressor resistors were commonly 25,000 ohms. Then they dropped to 15,000 and today we understand that between 8,000 and 12,000 ohms is more or less standard. One of the best known installation stations in the east tells us that about two-thirds of the new cars work OK with just a distributor suppressor. This is no doubt due to the tremendous progress made by designers of auto-radios in the past few months toward the perfection of shielding, plus the use of efficient supply line filter systems. There are still some tough nuts among the older cars, however, that seem to require individual spark-plug suppressors.

Not much has been done by set makers toward reducing battery drain, always a serious problem. Studebaker can, however, supply a special generator (the dealer trades in the old one and pays \$3) which has an extremely flat charging rate characteristic at both low and high speeds, where most stock types are deficient. Terraplane has a heavy duty fan-cooled generator. And

another popular car may shortly be equipped with a generator field resistor and cutout relay as stock equipment. The charging rate would automatically be increased when the load from lights, heater, radio, etc., was applied.

Then there is the set, momentarily expected on the market, which is said to have a 22½ volt C-bias battery in addition to the regular B-eliminator. It seems that adequate plate voltage for good tube performance can be obtained from a B-eliminator having extremely low drain if it is not necessary to use part of the high-voltage output for bias.

### EASIER TO INSTALL

Progress has also been made in building more rugged, mechanically superior chassis. Installation men will welcome the ease with which many new chassis can be installed, and the rapidity with which they may be removed for servicing. Mountings have been simplified and it is obvious that manufacturers are now fully aware that ease of installation and removal for servicing is an important sales feature.

Remote controlled two and three unit jobs of the flexible "dental-drill" cable variety retain their popularity. This is probably due to the fact that there are many positions in which such sets can be installed.

Single-unit sets are offered by at least two manufacturers and, because of their extreme simplicity, small size and low price, fill a definite need.

Little change in circuit design is seen, except for the fact that sensitivity, even in the cheaper models, has been boosted so that all sets should perform well in the "sticks." Manufacturers evidently learned their lesson last season.

Quality is up. And so is price. The cheapest model we've seen so far retails at \$44.50. Most sets are considerably higher, one 9-tube job (a new high for mobile equipment) carrying a \$110 list.

All in all, it looks like a peach of an auto-radio year.

### RMA Television Recommendations

Recommendations regarding broadcast allocations for television have been made to the Federal Radio Commission by the RMA. Following approval by the RMA Television Committee, D. E. Replogle, chairman, and also of a special RMA committee headed by Walter E. Holland, the Association has formally requested the Radio Commission to reserve for television service a continuous band of frequencies from 40 megacycles to at least the neighborhood of 110 megacycles. The RMA resolution also declared that from present indications the television requirements of the future will be such that assignments in television band should be at least four megacycles wide.

# NEW MERCANDISE



Stromberg-Carlson Model 64

## Stromberg-Carlson Sets

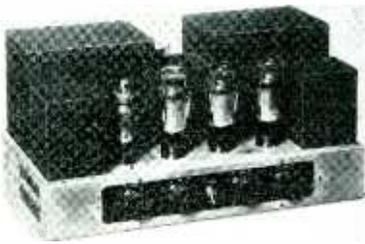
With the announcement of its Model 64, the Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y., presents a "touch tuning" receiver in a lowboy cabinet modern in its motif but sufficiently conventional to "belong" regardless of surroundings.

This set's audio system incorporates push-pull class A triode design to provide a maximum undistorted output of 15 watts. The speaker is the largest size SC electrodynamic.

The "touch tuning" allows the owner to set up on a pre-selection mechanism a number of his favorite stations. A mechanical "Q" circuit provides quiet tuning between stations.

A new feature, known as "free wheeling," raises the contact levers from the favorite station settings on the touch tuning mechanism and throws out the operation of the "Q" circuit so the owner can cruise the dial. The tuning range covers from 540 to 3,600 kc.

Topping the line of straight radios for 1934 is Model 59 highboy. A feature of this set is its tremendous Class A power—15 watts—sufficient to provide clear reproduction throughout an auditorium. This is obtained through the use of the 2A3 triode super-power tubes in push-pull arrangement, driven by a stage of push-pull audio amplification preceding them. Model 59 is an 11-tube set and the speaker is the largest size S-C make.—*Radio Retailing*, February, 1934.



## Simplex Amplifiers

Both Class A and B amplifiers in the category of single unit amplifiers, drivers and power stages, in a range of power output conservatively rated at 3.2 watts to 175 watts can be obtained from the Simplex Electric Co., Inc., 100 Fifth Ave., New York City.

These amplifiers feature a self-contained microphone current supply, overall gain or mixing control, volume controls for microphone and pickup and tone control.

The input and output have tapped impedance transformers to readily match the impedances of the input apparatus and speakers.—*Radio Retailing*, February, 1934.

## Zenith Short Wave Console

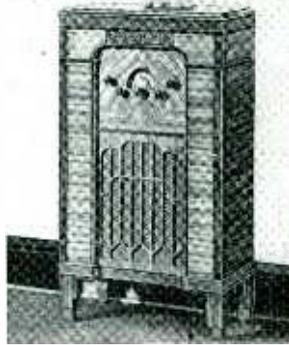
Incorporating the same short and standard wave chassis which made its debut in the Model 767, the Zenith Radio Corp., 3620 Iron Street, Chicago, announces the addition of Model 725 to its Challenger line of sets.

The dial is calibrated in megacycles, operating on five separate sections of the wave band. This set has a.v.c., phonograph jacks and full sized electro-dynamic speaker. It is a console of striped and figured American walnut.—*Radio Retailing*, February, 1934.

## Sparton 75, 475 and 478

Models 75 and 475 of the Sparks-Withington Co., Jackson, Mich., are 8-tube superheterodynes, the former a table set and the latter a modernistic lowboy. Tubes used are 3-58 and one each of the 56, 57, 55, 47 and 80 types. Both sets cover from 526 to 24,990 kc.

Model 478 is also an 8-tube superheterodyne but takes 3-6D6, 3-37, 42, 80. This set covers from 565 to 187 meters and from 230 to 88 meters. It comes in a six-legged lowboy cabinet.—*Radio Retailing*, February, 1934.

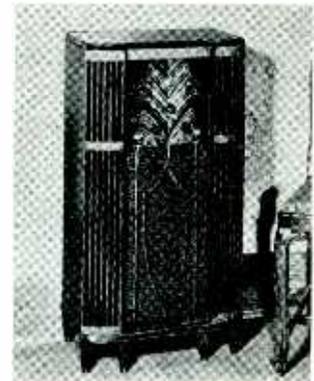


## Remler P.A. Equipment

Complete public address equipment including amplifiers, microphones, speakers and associated equipment can be obtained from the Remler Company, Ltd., 2101 Bryant Street, San Francisco, Calif. A wide variety of amplifiers is available for all types of installations at prices ranging from \$90 to \$575. Remler speakers may be obtained within a price range of \$25 to \$65. A baffle cabinet is \$15. The radio tuner and phonograph unit are \$60 each. This company's condenser microphones range in price from \$110 to \$150. Its condenser microphone power supply for one condenser microphone is \$70; for two condenser microphones, \$95. The ladder type attenuator lists at \$18.—*Radio Retailing*, February, 1934.

## Thordarson Universal Duplicate Replacement Transformers

After many months of design work and actual field servicing tests, the engineers of the Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, have announced a new line of "universal-duplicate" replacement power transformers. From the eleven new models, a transformer, electrically designed to the exact needs of any receiver, can be obtained. A new replacement guide has been prepared listing the proper universal-duplicate transformer for over 2000 receivers.—*Radio Retailing*, February, 1934.



Lyric Model 450Z

## Lyric Radios and Mohawk Refrigerators and Washer

Model 450-A, five tube mantel type set of the Rudolph Wurlitzer Co., N. Tonawanda, N. Y., has two wave bands, 550 to 1500 kc. and 1440 to 3500 kc. The tubes used are 2A5, 2-58, 57 and 80. \$34.50.

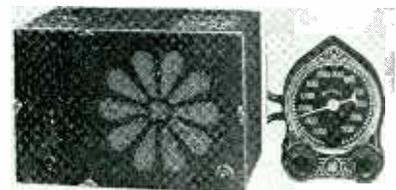
Model 450-Z has the same chassis in a modernistic six-legged console. \$49.95.

Two radio phonograph combinations are also offered. Model 490-Y has a 9-tube receiver (2-57, 56, 2-58, 55, 2-2A5, 80) with a.v.c., interstation noise suppression and special image rejector circuit to eliminate interference. The phonograph has a two-speed motor.

Model 490-X is the same but with automatic record changer unit. It plays ten 10-in. records consecutively, repeating the last record until stopped. It also plays 10 or 12 in. records with repeating feature.

This company is now in full production on its improved Mohawk electric refrigerators. All have broom high legs, heavy modernistic hardware and each of the five models is equipped with a Mohawk Duozone Unit. This unit is described as being two separate refrigerating systems in one. The upper coil is devoted to cooling the food storage compartment, while the lower, and separate, coil is directly around the ice trays for fast-freezing. The sizes range from 4.0 to 8.5 cu.ft.

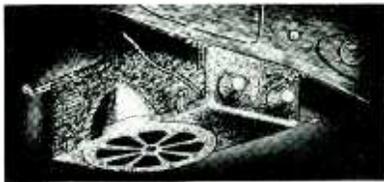
Model SS "Speedi-Spin" washer has a power pump for emptying the tub and eliminates the necessity for a wringer with its Speedi-Spin rinser and drier. A complete line of Mohawk washers is also ready.—*Radio Retailing*, February, 1934.



## Audiola "No-Suppressors" Auto-Radio

"No spark plug suppressors" the feature of Models A6 and S7 auto-radios of the Audiola Radio Co., 430 S. Green St., Chicago, has been retained in the new set, Model 346. This set has illuminated aeroplane dial, a.v.c., Class A amplification and Jensen 6 in. built-in speaker. The tubes used are 2-6D6, 6A7, 75, 41, 84.

To accomplish the "no suppressor" feature, Audiola has built the set to special high quality standards. A novel and attractive lock is supplied. \$54.95.—*Radio Retailing*, February, 1934.



Arvin Model 15

## Arvin Auto Radios

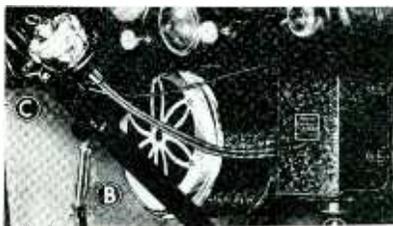
In order to offer the car owner a wide price range in Arvin auto radios, Noblitt-Sparks Industries, Inc., Columbus, Ind., offer four models ranging from \$44.50 to \$110.

The line starts with the Model 15—a 5-tube single-unit model with direct controls, all contained in one compact metal case and priced at \$44.50. Overall size: 6½x5½x10½ in. It is a 5-tube superhet with avc using 6A7, 6B7, 78, 41 and 84.

Model 25 is a 6-tube single-unit with steering column remote control listing at \$54.50. The tube line up consists of 2-78, 6A7, 6B7, 41 and 84.

Model 35 is an 8-tube set of the double unit design, listing at \$69.50. While the two previous sets have 6-in. speakers, this model takes an 8-in. speaker. A plug socket is provided on the side of the set for an extension speaker if desired. This set has avc and interchannel noise suppression. It is double shielded and a built-in suppression circuit reduces the need for suppressors. Uses 87, 77, 37, 6B7, 79, 84 and 2-41.

Model 45 is the \$110 set. This is a 9-tube double unit model with a 10-in. speaker. This set is also double shielded with built-in ignition and motor noise suppression circuit. Tubes used are 2-78, 2-37, 77, 79, 2-41 and 84.—*Radio Retailing*, February, 1934.



Arvin Model 35

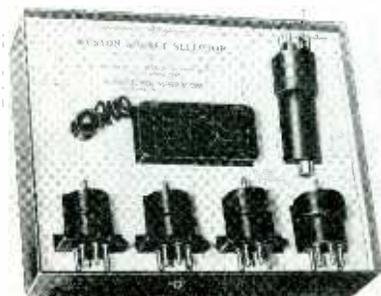
## Improved Weston Analyzer

The system of selective analysis sponsored by the Weston Electrical Instrument Corp., Newark, N. J., has been further improved and simplified.

The new arrangement provides for a single 7-prong plug and cord with special adapter combinations which will reduce from the 7 prongs to 6, 5 or 4 prongs. Adapters for the large 7-prong tubes are also provided. Each adapter comes in a different color for easy identification.

In order to mark the several terminals with the prong numbers, a special molded skirt is provided at the bottom of the 6, 5 and 4 hole adapters for the selector unit which indicates the correct numbers in accordance with the new RMA numbering system applied to these tubes.

The assembly allows for complete testing of all tubes and radio sets with a suitable volt-milliammeter such as the Model 665.—*Radio Retailing*, February, 1934.



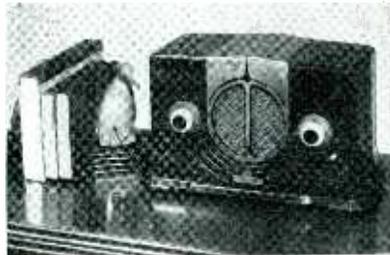
*Radio Retailing*, February, 1934

## GE Radio Sets

The new Model K-105 of the General Electric Co., Bridgeport, Conn., is a 10-tube superheterodyne with push-pull amplification, dual avc and noise silencing. The tube complement includes 4-58, 3-56, 2-2A5 and an 80. The cabinet is a full size console of early English design.

Model M-41 is a table model with a police call range of from 1,400 to 3,600 kc. The cabinet is conservatively modernistic in design with a two-tone walnut finish.

Model L-53 is a superheterodyne for operation on either a.c. or d.c. It has a tuning range of from 1,500 to 1,712 and 2,400 to 2,500 kc., as well as the regular broadcast bands.—*Radio Retailing*, February, 1934.



GE Model L-53

## Polymet Electrolytic Condensers

Polymet Mfg. Corp., 829 E. 134th St., New York City, offers a wet electrolytic condenser, well known for its self-healing quality, which can be used in most cases where an 8 mfd. condenser of any type is now being used.—*Radio Retailing*, February, 1934.

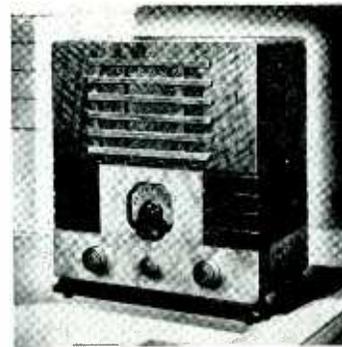
## Mallory Battery-Charger

P. R. Mallory & Co., Inc., Indianapolis, Ind., has developed a new "5535" battery charger, so named because the initial charging rate of 5.5 amp. automatically tapers to 3.5 amp. as the battery becomes fully charged. Thus it never overcharges and cannot harm the battery. The fuses are mounted externally, where they are easy to change, and a spare fuse is provided. Installation is made by an easy thumb-screw attachment, two wires to ammeter and ground. As the charger is compact it can be hung on the garage wall, mounted on window sill, or placed on running board. When touring the charger can be carried in the car. It is attractively finished, economical and fool-proof.—*Radio Retailing*, February, 1934.

## Ansley Radio-Dynaphone



The new Model D-6 "Radio Dynaphone" being made by the Ansley Radio Corp., 240 West 23rd St., New York City, is an extremely small phonograph combination measuring 11x11x6 in. The radio chassis is a 5-tube superheterodyne using 2-77, 43, 78 and 25Z5. The motor is of the self-starting synchronous type and drives by friction to the rim of a die cast turntable 10 in. in diameter. The pick-up is of a radically new type designed and made by Ansley. The turntable is removed when the phonograph is not in use and is kept in a compartment in the back of the cabinet.—*Radio Retailing*, February, 1934.



RCA-Victor Model 101

## RCA Victor Sets

Model 101 of the RCA Victor Co., Camden, N. J., is an attractive moderne table set equipped with a 6A7, 6F7, 41 and 1v. The tuning range extends to 3,500 kc. \$27.95.

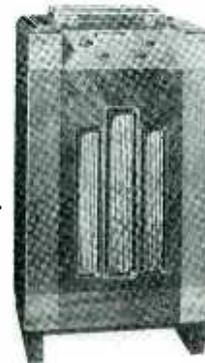
Model 114 is a 5-tube a.c.-d.c. superheterodyne in a table model cabinet. This set takes 78, 6A7, 77, 43 and 25Z5. Police broadcast reception. \$33.

Model 26 is a 10-tube "Bi-Acoustic" set in a 6-legged console. The tube equipment includes 4-58, 3-56, 2-2A5, 80. \$114.50. Police call reception.

Model 219 portable phonograph is a light weight model with a clock-type spring capable of playing two records without re-winding. The sound box has been improved and the horn is made of a fibrous material which eliminates the usual metallic harshness. A leather-covered holder in cover holds twelve 10-in. records. The fabrikoid case may be had in blue or black. \$19.75.—*Radio Retailing*, February, 1934.

## Arcturus Tubes

The new Arcturus 25Z5, as well as the 43 type tube, is a quick heater, operating in only 17 seconds, the statement says. It may be obtained from the Arcturus Radio Tube Co., Newark, N. J.—*Radio Retailing*, February, 1934.



## American Bosch "Right-Angle-Tuning" Receiver

A new principle in design is found in the Vibro-Power Models 370X and 360X announced by the United American Bosch Corp., Springfield, Mass. This principle, called "Right-Angle-Tuning" adapts dial operation to the natural needs of the listener. It permits new cabinet beauty and the elimination of doors. Dials and knobs are concealed under a folding lid which raises like that on a piano.

Model 370X is a long and short wave superheterodyne. Range includes long wave 540 to 1900 and shortwave 1900 to 6200 kc. (568 communication channels). It has 8 watts power output.

Model 360X, an all wave receiver in same cabinet with right-angle-tuning, provides allwave reception from 540 to 20,000 kc. or the full 1940 communication bands.—*Radio Retailing*, February, 1934.

# TUBE TIDINGS

February, 1934

E. T. Cunningham, Inc.—RCA Radiotron Co., Inc.

Camden, N. J.

## New Micro-Sensitive RCA-Cunningham Radio Tubes Featured in Tested Spring Sales Drive

Sound advice from  
**STOOPNAGLE and BUDD**  
*They give a tip to every radio listener*

COLONEL: HERE'S A LETTER FROM A WOMAN WHO SAYS YOU HAVE A "BAD" VOICE, BUT IT'S NO WORSE THAN ANYBODY ELSE'S.

GREAT! IN THAT CASE MY VOICE IS JUST AS GOOD AS THE GREAT ESTABLISHED ON THE AIR.

2 COLONEL, BE SERIOUS—THERE MUST BE SOMETHING WRONG WITH HER RADIO.

RIGHT YOU ARE—I BET IT'S DISCONNECTED.

3 CBS

4 CBS

5 DO YOU BE READING MY LETTER, ARE YOU? WELL, TO TELL YOU MY SET'S ALSO DISCONNECTED.

COLONEL, I FEAR THE WOMAN NEEDS NEW RADIO TUBES.

SOUND ADVICE: LISTEN TO MAKE HER RADIO SOUND RIGHT USE SPECIAL STRAP WITHOUT TURNS.

NEW TUBES—I NEVER THOUGHT OF THAT. WHEN ARE THEY A FEW DOLLARS... I'D HAVE THEM TESTED.

5 3 DAYS LATER—ON THE AIR AGAIN

HERE'S THAT LADY AGAIN. I BET SHE SAYS YOUR VOICE IS WORSE.

GOOD, I'LL CHECK UP JUST LISTEN, I GOT A WHOLE NEW SET OF MICRO-SENSITIVE RCA RADIO TUBES. NOW I CAN ENJOY MY PROGRAM ANY TIME.

**TO GIVE YOU MORE RADIO PLEASURE**

Accept no substitutes! Get the genuine Micro-Sensitive RCA Radio Tubes with 5 great advances that will really put *new life* in your set. Only the new RCA Radio Tubes are *guaranteed* by RCA Radiotron Co., Inc., to give you these 5 great improvements. Have your dealer replace worn-out tubes today with these amazing new RCA radio tubes.

**New! MICRO-SENSITIVE RADIO TUBES by RCA**

with 5 great advances:

- 1 Quicker Start
- 2 Quieter Operation
- 3 Uniform Volume
- 4 Uniform Performance
- 5 Every Tube is Matched

**RCA Cunningham Radiotron RADIO TUBES**

RADIO STARS "TALK" in NEW C-R ADS

Having waited until reports from the field indicated that dealers' shelves were free of old style tubes of their manufacture, RCA-Cunningham are now starting a great Spring advertising campaign to acquaint the public with the need of new radio tubes and the special advantages of the improved Micro-sensitive RCA Cunningham-Radiotron Radio Tubes.

"During the past year, 'strip' style ads have proven unusually effective for many lines, but certainly this style of ad is a 'natural' for radio tubes," said T. F. Joyce, Advertising Manager of RCA-Cunningham. "Dealers selling our lines of tubes this spring can expect to get concrete results when the radio stars themselves 'tell' the public that they need RCA Micro-sensitive Radio Tubes.

"Even where the characters used in strip advertisements are fictitious, the messages have a high degree of reader interest. Our new advertisements have the added advantage of having the tube-renewal story put across in an interesting way by famous radio artists. The comic characters make the funny page the best-read section of any newspaper; these famous radio stars will make our advertisements the best-read in the magazines in which they appear."

Micro-Sensitive Radio Tubes will be featured also in all C-R newspaper advertising this Spring. Constant repetition in poster-style ads, rather than large space used infrequently, is depended on to accomplish results. 187 newspapers in key markets are on the schedule.

### Many Forms of Publicity Back Dealers' Efforts

Newspapers, magazines, window displays and direct-mail material all share in the attack on Old Man Consumer in the great Spring "Tune-Up" sales drive just announced by RCA-Cunningham, which will feature the advantages of the improved Micro-sensitive RCA-Cunningham-Radiotron Radio Tubes.

The activity carries through from the start, with national advertising, to closing the sale through the use of a direct-mail campaign that has proven highly effective in preliminary tests.

### Free Window Display

The new window display, a worthy successor to the famous RCA Cunningham-Radiotron "Studio Party" display of last fall, provides the dealer with an unusually strong tie-up with the newspaper and magazine advertising.

"The first law of selling is 'Show your merchandise,'" said C. R. King, sales manager for RCA-Cunningham, in commenting on the new display. "We have only to look about us to realize that this principle has been an important factor in the achievements of many of the most successful merchants of today. And that is just what this display does. It shows the merchandise,—and how!

"The important thing this spring is that we really have something to show in the tube itself. Our Micro-sensitive Radio Tubes, with their five great improvements, mark a new era in radio tube manufacture, in satisfaction to the radio listener, and in profit to the dealer."

★  
**WATCH** for new  
**C-R strip ads**  
shown here . . . in  
magazines with total  
circulation of . . .

**15,000,000**

★

# PAUL WHITEMAN solves a mystery

and gives a clue to finer radio music



## 1 ON THE DANCE FLOOR

OH, MR. WHITEMAN, HOW DIFFERENT YOUR MUSIC SOUNDS —IT WAVERS SO ON MY RADIO

STRANGE—IT MUST BE YOUR RADIO



## 2

HOW WOULD YOU TWO LIKE TO SEE INSIDE A RADIO STUDIO? I'M GOING OVER IN A FEW MINUTES

OH, HOW THRILLING—I'VE ALWAYS WANTED TO SEE THEM BROADCAST



## 3 IN RADIO CITY

THESE ARE THE BIG RCA TUBES ALL THE LARGE STATIONS DEPEND ON

AND, OF COURSE, OUR ENGINEERS CHANGE THEM REGULARLY TO INSURE THE VERY CLEARST TONE



## 4

AHA—MAYBE THAT'S WHAT YOUR SET NEEDS —NEW TUBES

THAT'S THE ONE THING WE FORGOT. THEY'RE ABOUT A YEAR OLD, I'LL HAVE THEM TEST-ED FIRST THING



## 5 A WEEK LATER

OH, MR. WHITEMAN, YOUR MUSIC COMES IN FINE ON OUR RADIO NOW. WE HAVE A NEW SET OF MICRO-SENSITIVE RCA RADIO TUBES

THAT'S GREAT—TELL YOUR FRIENDS ABOUT IT. THEY WANT BETTER RECEPTION, TOO

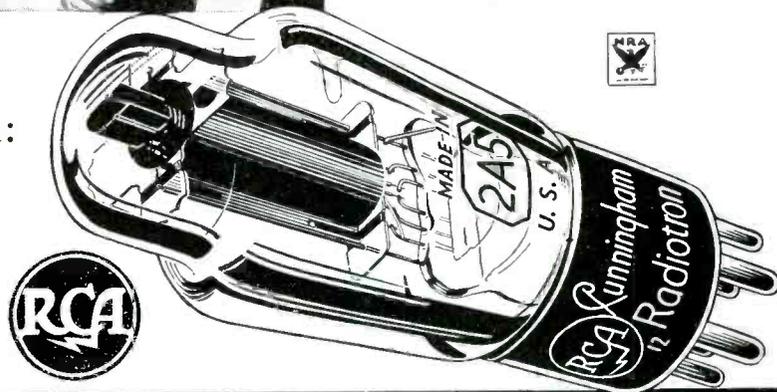


## NEW LIFE FOR OLD RADIOS!

Quicker start! More power! Better tone! It really means *new life* for your set when you replace old, worn radio tubes with these new Micro-Sensitive tubes by RCA. These are the only tubes *guaranteed* by RCA Radiotron Company to give you 5 important improvements in tube performance...Have your dealer test your tubes today and replace those that are worn. Insist on RCA Radio Tubes —and bring back the thrill of radio.

New Micro-Sensitive RCA Radio Tubes give you:

- 1 Quicker Start
- 2 Quieter Operation
- 3 Uniform Volume
- 4 Uniform Performance
- 5 Every Tube is Matched



# RCA Lunningham Radiotron RADIO TUBES

# Buy Tomorrow's Tube Tester Today!



## SUPREME MODEL 85 TUBE TESTER

Dealers' Net Cash **\$39.95**  
Wholesale Price

### FACTS: ABOUT THE MODEL 85 FOR THE DEALER AND SERVICEMAN TO CONSIDER BEFORE BUYING A NEW TUBE TESTER

#### UTMOST SIMPLICITY:

1. Only 3 simple operations: (1) select proper filament voltage, (2) set tube selector per chart or panel marking, and (3) press a button.
2. Direct English-Reading scale on full-sized meter.
3. Only 4 sockets—tube cannot be placed in wrong socket—no adapters required.
4. Extra handling is avoided by making the short and leakage test in the same socket used for the quality test.
5. So simple the customer can operate.

#### SERVICE RELIABILITY

1. Efficient over-sized transformer—circuit constants designed to withstand any short-circuit or over-load hazard without necessity of fuses.
2. Impossible to harm tester by incorrect operation.
3. Unexcelled construction.

#### GREATER ACCURACY:

1. Line voltage adjustment on meter for accurate tests, 100-125 volts.
2. Quality test indicates "GOOD" and "BAD" tubes, based on accurate calibration.
3. Large Neon glow lamp indicates "shorts" and leakages up to 100,000 ohms between ALL tube elements. Indicates any offending element.

#### PRACTICAL UTILITY:

1. Tests ALL elements of ALL radio receiver tubes.
2. Maximum of flexibility for future tubes.
3. All popular tubes verichromed on bakelite panel.
4. Complete listing of all present tubes on chart, with ample space for future tubes.
5. Ruggedly constructed and housed in beautifully finished hardwood carrying case with detachable cover—ideal for both service calls and counter tube testing.

YOUR JOBBER NOW HAS THE NEW SUPREME MODEL 85 TUBE TESTER IN STOCK

SEE YOUR JOBBER NOW

SEND THE COUPON! →

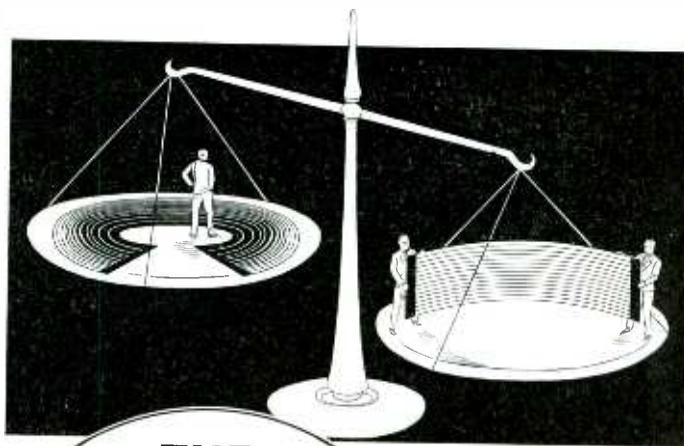
**SUPREME INSTRUMENTS CORPORATION**  
487 Supreme Bldg., Greenwood, Miss.  
Gentlemen:  
Send me full information, without obligation, on the new Supreme Model 85 Tube Tester.

Name .....

Address .....

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

Jobber Preference .....



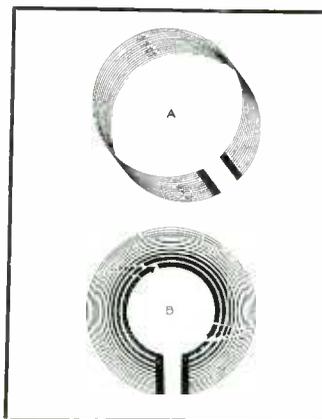
THE  
*new*  
OUTWEIGHS  
THE OLD



**T**HE new Centralab Radiohm permits smoother attenuation because of the greater effective length of the resistance strip employed.

The current path in the new Radiohm is more than twice as long as that in an old-style annular control of equal outside diameter. Current short cuts that might cause jumpy control are eliminated in the new Radiohm.

Since smooth control depends upon gradual resistance change the "doubled" length of current path in the new RADIOHM offers a still finer performance . . . again demonstrating Centralab superiority and reliability.



Resistor A used in the new Radiohm, has the same length path across its entire width, giving greater effective area for good volume control.

Resistor B of annular shape, has long been the standard type. Current concentrates around the INNER edge, i.e.: the shortest path.

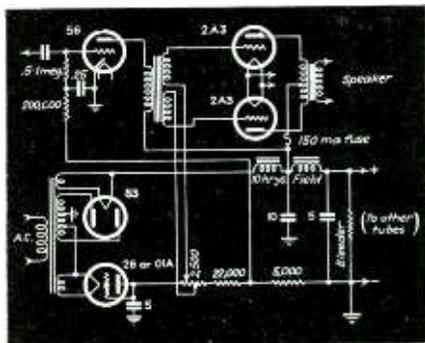
**Central Radio Laboratories**  
MILWAUKEE, WIS.

# SERVICE AND INSTALLATION SECTION

## CIRCUITS of the MONTH

### Semi-Fixed And Fixed Bias For 2A3's

When 2A3's are operated in push-pull with fixed bias a rise in d.c. plate current with increasing signal voltages increases drop across the biasing resistor, with consequent raising of bias. This tends to increase distortion and to lower output. Cunningham engineers recom-



mend semi-fixed or fixed bias systems for high-quality at high volume levels.

Semi-fixed bias is most easily obtainable by connecting the center-tap of the input transformer secondary, through a 50,000 ohm resistor, to the low side of a speaker field wired in the negative lead of the powerpack, by-passing the center-tap to ground through a .05 condenser. This utilizes the drop across the field as bias. 2A3 plate current flows through the field, so there will not be an absolutely constant bias, but inasmuch as plate current for the other tubes in the set also flows through the field variations will be less severe than when self-bias is used.

Fixed bias may be obtained by using a 26 or 01A in a separate rectifying circuit. As shown in the diagram d.c. will be developed across the 2,500, 22,000 and 5,000 ohm load resistors in an amount determined by the position of the auxiliary tap on the power transformer high-voltage secondary. Bias, uninfluenced by plate current, is taken from this voltage divider system for both the 56 driver and 2A3's. A 5 mfd. filter condenser removes hum from the half-wave rectifier circuit but a split secondary input transformer is recommended, with the center-tapped potentiometer shown, so that any differ-

ences in impedance between the transformer secondary halves may be adjusted.

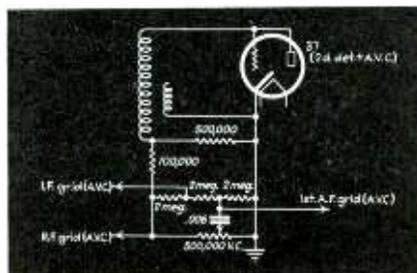
26's or 01A's are recommended for auxiliary rectifier use as these come up to operating temperature quickly enough to prevent the 2A3's from operating without bias when first turned on. A 150 ma. fuse is included in the 2A3 plate supply lead to prevent receiver damage by excess plate current in the event that the auxiliary rectifier fails to function.

### AVC Controls RF, IF And AF Gain

A 37 working as a diode second detector in Montgomery-Ward's Airline 62 series automatically controls r.f., i.f. and a.f. gain. This in itself is not unusual but the circuit differs from orthodox systems in that full control is exerted on the r.f. grid, two-thirds on the i.f. and only one-third on the a.f., providing smooth a.v.c. action.

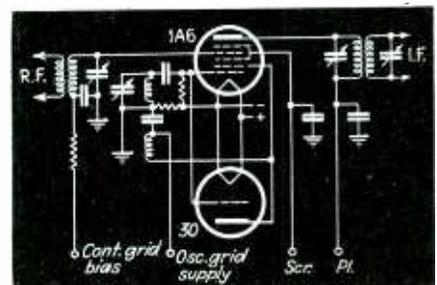
A.f., and also d.c. control voltage, is developed across the 500,000 ohm volume control which, in series with a 100,000 ohm fixed resistor, is in parallel with a 500,000 ohm load. Ordinarily, a.v.c. voltage would be taken off at the "hot" end of the load resistor but in these receivers three 2 megohm resistors are bridged across the load and control voltages taken from junction points, the three resistors serving as voltage dividers.

The resistance of the voltage divider system (6 megohms) is high with respect to the load shunted by them, hence little a.f. is lost. In addition, their relatively high resistance prevents r.f. and i.f. voltages from feeding back into the audio system. The open-ended coil evidently serves as a capacity, by-passing the resistance network.



### Pentagrid Converter Circuit for High-Frequency Bands

Pentagrid converters 2A7 and 6A7 will work satisfactorily in the 10 to 25 mc. band, using the conventional electron coupled detector-oscillator circuit for which these tubes were designed. But the 1A6, according to RCA-Radiotron, does not perform so smoothly in this high frequency range and a special circuit in which a type 30 triode is connected in parallel with the oscillator portion of the tube has been devised. This circuit, incidentally, can be applied to the 2A7 (56 in parallel) and the 6A7 (37 in parallel) when efficient operation even higher than 25 mc. is desired.



The function of the extra tube is to increase the voltage available for excitation in the oscillator circuit, necessary because of the unfavorable L/C ratios of the tuned circuits at these frequencies. It is not necessary to disconnect the triode for low-frequency operation.

### Electron-Coupled Test Oscillator

Sound Engineering has a new test oscillator which, for its size and price, is extremely stable. The device uses a 41 pentode, the screen-grid, control-grid and cathode being used as a triode in a shunt-fed Hartley circuit, the screen (plate of the oscillator) being grounded with respect to r.f.

The oscillator is electron-coupled to the plate of the 41, shielded by the suppressor grid to reduce capacity coupling, an output taken from this isolated circuit. Plate voltage is excluded from the through a blocking condenser. Varia-



Founded  
in 1920



# Choose your path to Profits!

For quick turnover  
and small inventory

==== six controls to  
==== service 477 sets

For unparalleled service  
on quality work

==== over four hundred exact  
==== duplicate controls

Clarostat "X" line has over 400 controls to choose from—exact as to electrical overall resistance, taper, bushing, shaft length, and will fit into exact space in set.

CLAROSTAT AD-A-SWITCH line comprises the maximum utility with minimum stock investment. Series W (Wire Wound) obtainable from 50 to 50,000 ohms. Series C (new composition element) obtainable from 1,000 to 5,000,000 ohms. Both lines obtainable in all tapers—insulated shaft 1½" long. Wide use is indicated as follows: W-28 will service 128 sets; C-28, 106 sets; W-29, 77 sets; C-59, 66 sets, etc., etc.

The Clarostat lines include Volume and Tone Controls; Line Ballasts; Automatic Line Voltage Regulators; Flexible Pig-tail Resistors; Center-tap Resistors; L, T and H Pads; Series Mixers, etc., etc.

*New Control Replacement Guide upon Request*

## Clarostat Manufacturing Co., Inc.

285 North 6th Street, Brooklyn, N. Y.

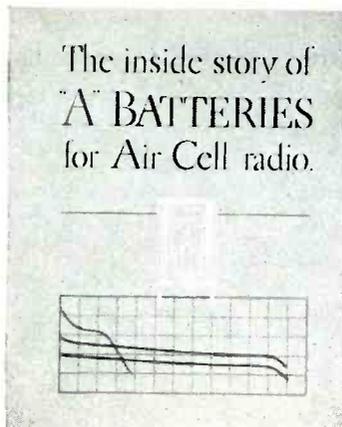
# NEW-

## SERVICEMEN AND RADIO DEALERS

Get a FREE Copy of This New Book

"The Inside Story of "A" Batteries for Air Cell Radio"

Right off the press—A direct Efficiency and Cost comparison of the Storage Battery; Dry "A" Battery and the new and improved Eveready Air Cell "A" Battery as used on the new 2-volt sets.



**SEND  
THE  
COUPON**

**NATIONAL CARBON CO., INC.**

30 East 42nd Street, New York, Dept. RT-2

Please send me a free copy of your new Book

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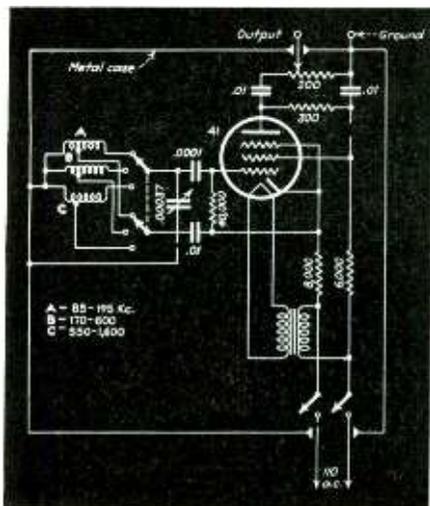


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tions of load have no appreciable effect upon the generated frequency. The 8,000 and 6,000 ohm resistors isolate the oscillator from the line. Output is con-

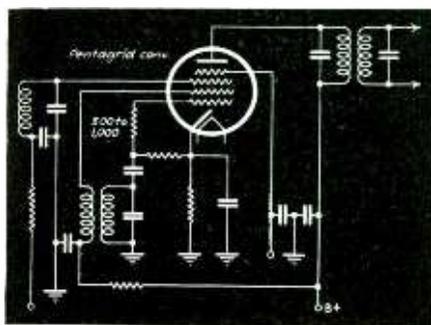


trollable between 20 and 200,000 microvolts.

Further stability is obtained by operating the tube substantially under its rating. The heater is a.c. operated while oscillator and output plates self-rectify their own supply current.

### Grid Suppressor Keeps Oscillator Output Uniform Over Band

In a super, it is desirable to keep the oscillator output uniform over the entire frequency band covered. Without some sort of compensation oscillators do not have such uniformity as coupling falls off at the low-frequency end of the dial so a series padding condenser is commonly used to rectify this condition, capacity coupling aiding inductive



coupling at low-frequencies.

Here is a circuit which dispenses with the padding condenser. According to Hygrade-Sylvania engineers a 500 to 1,000 ohm suppressor resistor placed in the control grid lead of the oscillator reduces the strength of oscillation at high-frequencies due to the fact that the capacity reactance of the input circuit decreases as the frequency increases. This limits the amplitude at the higher frequencies to a greater extent than at the low and produces a "flatter" curve.

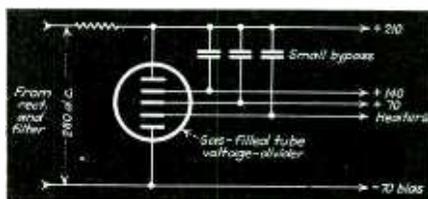
Incidentally, this suggests a practical means of correcting a common trouble in existing circuits, particularly those using the 6A7 . . . failure to oscillate in

the vicinity of 540 kc. Slap a suppressor resistor in the grid circuit of the oscillator and, if this doesn't cure the grief, increase the grid leak from 20,000 to 50,000, or from 50,000 to 100,000 ohms. Reducing the capacity of the grid condenser sometimes helps too.

### Glow-Tube Divider Assures Constant Output Voltage

Gas-filled glow tubes may be made with almost any required inter-electrode resistance and, curiously, resistance remains more or less constant regardless of load. A British set designer makes use of this interesting characteristic by using a 5-electrode type in place of the customary voltage dividing resistor.

In sets using resistor type voltage dividers increased plate current drain produced by variations in signal voltage increases the drop across portions of the divider, with the result that screen and plate voltages fall off. When the Marconi "Stabilovolt" divider tube is used plate current may vary but the drop



across the divider remains constant.

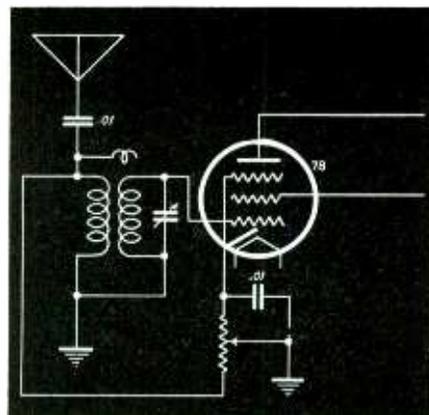
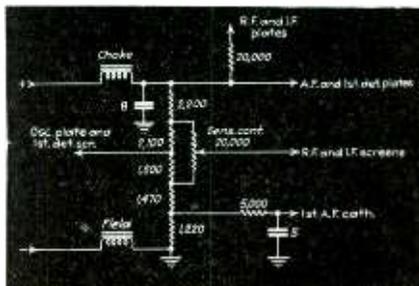
The circuit shows an interesting method of hooking up the tube to provide 70 volts of negative bias for the final audio stage.

### 115 Volt Pilot

In Colonial's "Globe" model 158 super a 115 volt, 6 watt pilot is connected directly across the line.

### Variable Screen Voltage Controls Sensitivity

Here's the voltage divider network of the Clarion 480. The method of controlling sensitivity is interesting. Note that r.f. and i.f. tube screens obtain voltage from a variable resistor shunted across part of the divider system. Variation of the control adjusts screen voltages, hence sensitivity, without changing the overall resistance of the divider system.



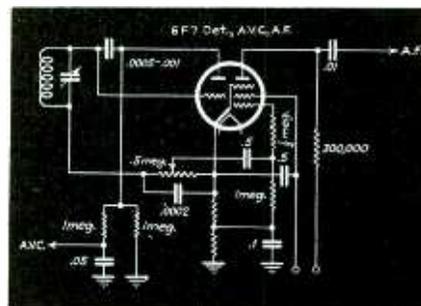
### V.C. Varies Bias And Antenna Circuit Impedance

New Pierce-Airo universal models use a single unit volume control in a simple circuit which permits variation of tube bias and antenna circuit impedance simultaneously. In models 42, 42R (diagrammed) and 430 the first r.f. stage is so controlled while in the 55R bias is varied on the i.f. tube.

In battery model G2 another innovation is seen—a ¼ watt neon pilot connected across the B supply. This seems an excellent solution to the problem of keeping filament drain within bounds when using A batteries worked near maximum permissible load.

### Sensitivity Control

Zenith models 474, 475, 715, 755, 756, 760, 765, 767, 770B and 775B have, in addition to orthodox audio circuit volume controls, manually adjustable sensitivity controls. These are simply a variable cathode resistor common to r.f. and i.f. stages.



### 6F7 As Detector, AVC and AF

A 6F7 can be employed as a half-wave diode detector, a.v.c. and a.f. amplifier, according to Radiotron engineers. Here's the tube "subbing" for a duo-diode pentode. The control grid of the triode section works as a diode rectifier while the plate of the triode, receiving i.f. or r.f. through a .0005 to .0001 coupling condenser, develops a.v.c. voltage. A.f. is produced in the triode grid-cathode circuit across the .5 megohm volume control and is applied by the variable arm to the control grid of the pentode section, which amplifies at a.f.



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# Modernizing the Old Analyzer

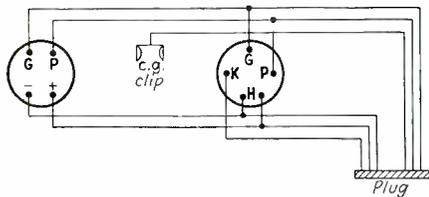
Use of composite sockets, new cable and plug permits testing of 6- and 7-prong tubes

By F. L. SPRAYBERRY\*

SINCE the advent of so many new tubes, thousands of servicemen find their test equipment obsolete. A serviceman depending on an old analyzer is lost when new sets employing 6 and 7-prong tubes are encountered. There is very little that he can do with the chassis in the cabinet. Of course, once it is removed the external ranges of old analyzer meters can be used to make voltage measurements. However, this still does not solve the problem of measuring current.

Current meters must be connected in series with the circuit under test. Unless the analyzer plug performs this function it is necessary to actually open circuits by hand to connect meters in series. There is, however, a simple way to make plate current measurements on new sets even though the serviceman does use an old analyzer. Simply remove the old sockets and use new sockets in their place and change the plug and cable to a new type.

Nearly all old set analyzers employ 4 and 5-prong plugs. The prongs of these plugs contact the filament, plate, grid and cathode circuits. Another terminal is usually provided at the top of the plug. This is the control grid contact for screen grid tubes. Old analyzers usually also employ at least two sockets, one for 4-prong tubes and the other is for 5-prong tubes. The sockets and plug of old set analyzers are fundamentally connected as in Fig. 1. Of course there will be resistances, meters, switches and other parts in series with the cable



leads. However, when the circuit is traced, it will be found that all analyzer circuits "boil down" to this fundamental circuit.

One of the first things to do when modernizing is to rearrange this fundamental circuit to accommodate 6 and 7-prong tubes. This can be done without disturbing the wiring of the analyzer except for disconnecting the old sockets and reconnecting new ones.

By adding 6 and 7-prong sockets we have two new circuits introduced into the analyzer. These are the suppressor and G<sub>2</sub> circuits. The suppressor circuit is common to both 6 and 7-prong tubes while the G<sub>2</sub> circuit is associated with 7-prong tubes of the small base type only.

## Installing New Sockets

Obtain a composite 4, 5 and 6-hole socket and a composite 7-hole socket

\*Author of "Practical Mechanics of Radio Service," 132 Bryant St., N.W., Washington, D. C.

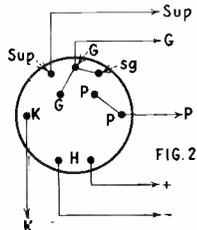


FIG. 2

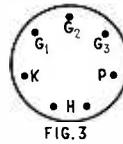


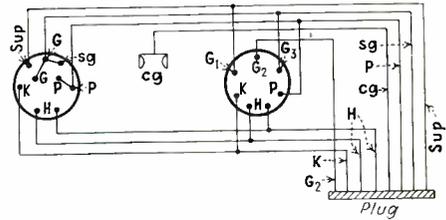
FIG. 3

which will take both small and large base 7-prong tubes. You will also need a 7-prong plug with an eight wire cable and 4, 5 and 6 prong adaptors.

Wire the composite 4, 5 and 6-hole socket as in Fig. 2. By wiring it this way the plate circuit of 4, 5 and 6-prong tubes becomes one common circuit. Then by wiring the three grid terminals together, one common circuit can also be used for grid and screen circuits of 4, 5 and 6-prong tubes. The 7-hole socket for both types of 7-prong tubes is shown in Fig. 3. It is not necessary to use special wiring for this circuit. However, it is necessary to follow special directions when making measurements on tubes in this socket. This will be explained in detail later on.

After wiring the composite socket as shown in Fig. 2, unsolder the leads to the original 4-hole socket of the analyzer. As you do this, tag each lead properly, i.e.: plate, grid, minus filament, plus filament. This will prevent confusion when reconnecting the wires. Mount the composite socket in place of the original. Then reconnect the plate, grid, minus filament and plus filament leads to the proper terminals on the composite socket. This will leave the cathode and suppressor grid terminals free. Forget about them for the moment.

Now you are ready to substitute the 7-hole composite socket for the original 5-hole socket of the tester. Unsolder the leads to this socket as you did those of the 4-hole socket. Also be sure to tag the leads so that you can identify them later. Remove the socket, mounting the new 7-hole composite socket in its place. Reconnect the leads you removed from the 5-hole socket as follows: the plate lead to "P" of Fig. 3; the cathode lead



to "K." At this point connect another wire from the "K" of the 7-hole composite socket to the "K" of the 4, 5 and 6-hole composite socket. This completes the cathode circuit between the two sockets.

Now, getting back to Fig. 3, connect the two filament leads to the 7-hole socket. Then connect the "G" lead which you removed from the original 5-hole socket to the G<sub>3</sub> terminal of the new 7-hole composite socket. This leaves the suppressor of the composite 4, 5 and 6-hole socket and the G<sub>1</sub> and G<sub>2</sub> terminals of the composite 7-hole socket free. To complete the suppressor circuit, connect a wire from the suppressor terminal of Fig. 2 to the G<sub>1</sub> terminal of Fig. 3.

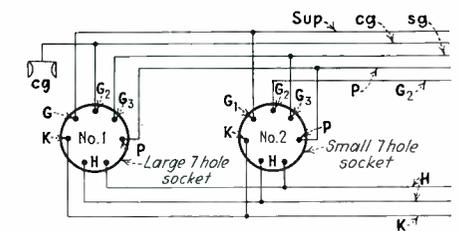
## Connecting New Plug

Now you are ready to connect the new plug. Before this is done, however, you must unsolder the old cable. As you do this, note particularly at what points in the tester circuit the plate, grid, control grid, cathode, minus filament and plus filament leads of the old cable connect. Reconnect the new cable leads to the same points in the circuit.

When this is done you will have two leads free (the six other leads should have been connected.) These two free leads are for the suppressor and G<sub>2</sub> circuits. To finish connecting the cable, connect the suppressor lead directly to the suppressor terminal on one of the new sockets. Then connect the G<sub>2</sub> lead of the cable to the G<sub>2</sub> terminal on the 7-hole socket.

Now, instead of the fundamental circuit of Fig. 1, you have a new fundamental circuit like that of Fig. 4.

If there is room enough on the tester panel for a 3rd socket, the circuit of Fig. 5 will be more desirable than the



one of Fig. 4. Many analyzer panels will not, however, accommodate more than two sockets. Notice that in Fig. 4 the G<sub>2</sub> terminal is in reality the G<sub>g</sub> terminal of a tube like a '59. Therefore a negative voltage will be applied. This terminal, then, might as well be common to the regular Cg circuit of the tester. If this is done, then the regular Cg method of measuring voltage on the old analyzer may be employed when testing '59 tubes.

To do this, two 7-hole sockets are required, wired as in Fig. 5. If we use a composite 7-hole socket it will accommodate both types of tubes. However,

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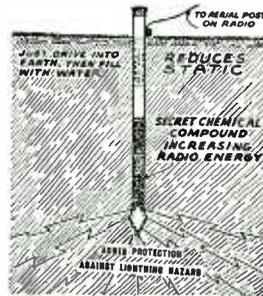
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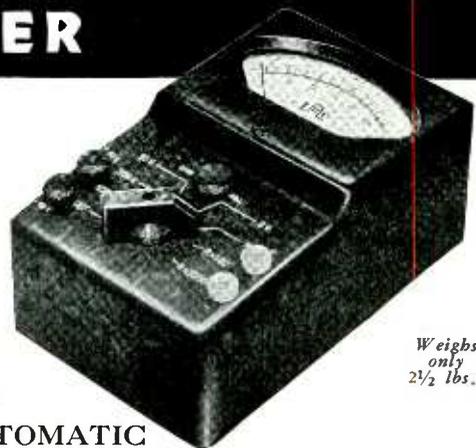
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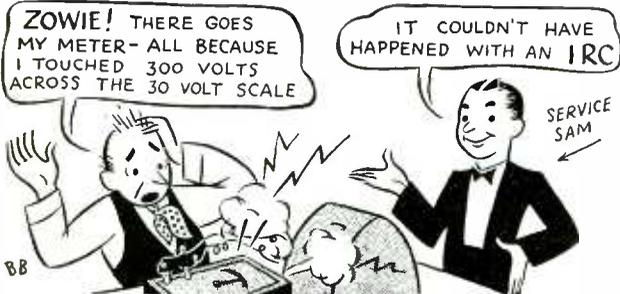


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it does not permit us to have a common Cg circuit. If we use a large and small type 7-hole socket, the '59 Cg circuit will be the same as for other tubes, as examination of the wiring of socket No. 1, Fig. 5 will show. Note then the G2 circuit of the other 7-hole (No. 2) is a separate and distinct circuit, as it should be.

### What Circuit Will Do

Now, to make everything clear, the writer will explain just what this change enables you to do, and just what you cannot do.

You can make every measurement that you previously made with your analyzer.

The new circuit permits you to make plate, cathode, grid, screen grid, filament voltage and plate current tests on all new tubes.

If your analyzer previously measured Sg current or second plate current of rectifiers you will still be able to do this, and by the same method you will be able to measure screen current on 6-prong tubes and G3 current on 7-prong tubes.

You will be able to measure Cg voltage on all tubes except the 7-prong type. If you use the circuit of Fig. 5, Cg measurements on the '59 or on any other large type 7-prong tube may be made.

You cannot make suppressor or G2 voltage measurements, nor can you measure current in these circuits. The reason for this is that the analyzer did not originally incorporate switches for making these measurements.

It is, of course, entirely possible to redesign old analyzers so that they will make all measurements on all tube circuits. But it is impossible to give general directions for doing this as each different make and model presents a different design problem.

## Poor Fan Belts Cause Auto Radio Trouble

By George R. Campbell

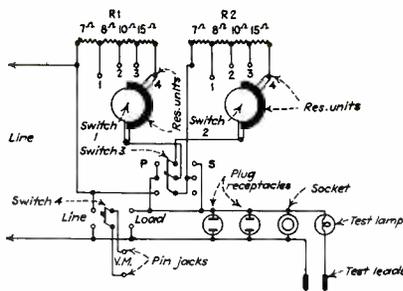
Servicemen who install and repair auto-radios will find it profitable to stock standard fan-belts for popular cars. Poor belts not only cause trouble in eliminators operating from that source but also affect the charging rate and thus indirectly have some bearing on the efficiency of battery driven eliminators.

## Handy Bench Rheostat

By Al Beers

The two resistance units of an old Philco A-B eliminator hooked up as shown in the diagram make an excellent line rheostat for shop bench use. With it I control the speed of my electric drill, dim the bench lights, cut down voltage to soldering iron and test lamp and determine the approximate drain of any chassis or small appliance by noting the drop and applying ohm's law. Low values of a.c. for testing are also obtainable by loading up the circuit properly.

The constant load of the resistors in



parallel is 500 watts, in series 250 watts. Switches 3 and 4 are baby knife types. Switch 4 provides a quick means of checking voltage drop with an external voltmeter. With the line at 122 volts and switch 3 in the parallel position voltage output will be 115 when switches 1 and 2 are on taps 1; 110 when they are on taps 2; 100 on taps 3 and 90 on taps 4. With switch 3 in the series position and switch 1 on tap 4 output will be 80 with switch 2 on tap 1, 70 on tap 2, 60 on tap 3 and 50 on tap 4.

## Voltage Measurement by Potentiometer Method With One Meter

By Carl F. Mathisen

It is often desirable to measure a voltage without drawing current from the circuit to be measured. This may be accomplished by using two voltmeters and a variable voltage supply as shown in the article, "Electrolytic Condensers," page 41 of *Radio Retailing*, March, 1933. It may also be done with only one voltmeter and without an external source of power where the circuit to be measured is a part of a piece of apparatus using a larger amount of current, such as a radio receiver.

In the drawing  $R_1$  is the multiplier resistance of the voltmeter. The point X is connected to the point of unknown potential, and E to a point at higher potential where sufficient current to operate the meter is available, the B supply of a receiver for example. C is

connected to the chassis or the common negative lead of a receiver.

$R_1$  is set to a value appropriate to the expected voltage.  $R_2$  and  $R_3$  are made large at first and D is set on B.  $R_2$  is now reduced in value until the meter shows no reading. Then the  $R_3$  resistance is reduced until the meter again shows a reading and  $R_2$  is then re-adjusted. The object is to get the potential at point B the same as the unknown potential. When final adjustment has been obtained D is switched to A and the value of the unknown voltage will be indicated by the meter.

For radio servicing, using a voltmeter with a 1 M.A. movement,  $R_2$  should be adjustable from 2 or 3 thousand ohms to 300,000 ohms or more.  $R_3$  may be made in two steps, 500,000 and 20,000 ohms for example. A third step, say of 2,000 ohms, may be added but should be used with caution to avoid damage to the meter and is not necessary except for measurement of very low potentials.

It will be seen that while the current necessary to give a true reading on the voltmeter may be greater than the individual circuit being measured can supply, it will be negligible compared to the total B current used by the receiver.

When using this circuit it must be kept in mind that the meter is not at ground potential. Do not touch the zero adjust screw.

For greatest sensitivity there should be provision for shorting the meter movement while balancing the voltages. This will make it possible to observe a deflection of the meter pointer too small to be noted with the pointer at rest.

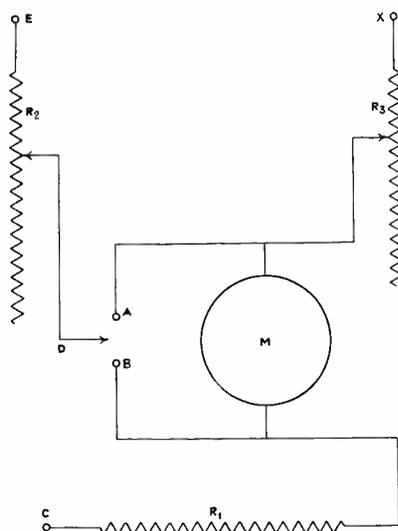
It will be noticed that no provision has been made to compensate for the resistance of the meter movement. This compensation is hardly necessary in ordinary work. When greater precision is required compensation may be made by adding the equivalent of the meter movement resistance to the multiplier resistance while the voltages are being balanced. In the final step of reading the unknown voltage this compensating resistance is removed or shorted.

## Curing Speaker Rattle

Dynamic speaker cones that rattle can often be fixed by inserting a  $\frac{3}{8}$  or  $\frac{1}{8}$  in. sponge-rubber washer under the center holding screw. This tightens and takes up slack by forcing the cone slightly forward without materially affecting quality.

Many speakers come loose near the rim of the cone. This can be remedied by spreading very thin over the broken part a coat of plastic rubber (Miller) obtainable at any five and dime store.

A LOT OF MEN CONTEND THAT shielding will be the eventual system of eliminating ignition noise. But there's a hitch. Ignition coils have low power ratings. And shielding in the high-tension circuit puts such a capacitive load upon them that voltage is inevitably reduced. So shielding, alas, is not the answer.



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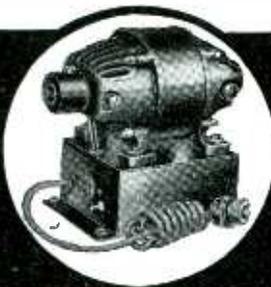
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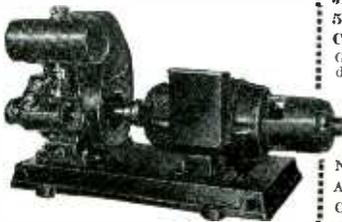
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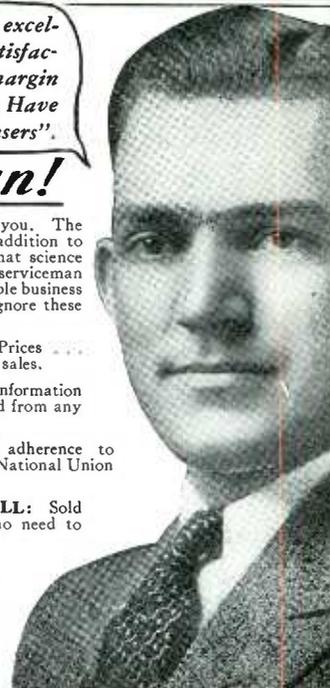
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Engineer, Wilton, New Hampshire:**

"I have been an ardent reader of your magazine for the past three years, especially the 'Service and Installation' Section. I have been helped by it many times. I am enclosing a few kinks that have happened to me time and time again in the hope that they may be of help to someone."

ARTHUR B. SANBORN

**SHIKES RADIO SERVICE CO., 79 Cool-  
idge St., Brookline, Mass.**

"Your 'Tricks of the Trade' column is worth many times the subscription price. Glad to see you are arranging them alphabetically, saves time in clipping. Have you ever thought of taking all these notes published to date, and putting them in booklet form—either for outright sale or as a special extra with a year's subscription, or some similar offer? I'd extend my subscription still another year for the back notes. Best wishes."

M. A. SHIKES

**GUILFORD RADIO SERVICE CO., High  
Point, North Carolina:**

"Permit us to commend you upon your excellent 'Service Section.' It is our opinion that this part of your magazine offers more real information of value to the service man than any other magazine dealing exclusively with service problems or generalizations."

JOHN F. BIVINS, Mgr.

**OVIDE C. HARRIS, Radiotrician, 4206  
General Ogden St., New Orleans, La.:**

"I just received my first copy of *Radio Retailing*. I am sure sorry I had not sent in my subscription before I did. *Radio Retailing* contains the information that I most desire, namely: 'Tricks of the Trade' and 'Shop Shortcuts.' I am not a radio engineer and can't understand all that technical stuff contained in other radio magazines. The article Servicing 70-90 by Mr. B. B. Lamoni is very interesting. Will you please ask him to send in an article on Servicing Majestic 20 for my benefit?"

OVIDE C. HARRIS

**RADIO SALES & SERVICE CO., Boston,  
Mass.:**

"The copy of *Radio Retailing* received the 8th inst. and for which I am very grateful. Let me add that this is the greatest magazine for the service man that is on the market."

FELIX J. PULCINELLA

With such reader interest in *Radio Retailing*, among radio service men, service managers and the proprietors of independent service organizations, it isn't hard to understand this result: more and more manufacturers of radio parts and service equipment are regularly telling their story to the readers of *Radio Retailing*, through the advertising pages.

When the 20,000 readers of *Radio Retailing* study these pages, do they find your sales story? If not, why not let us help you? Address

1,000 volts. This meter is also used to read from .1 to 8 mfd. paper condensers. Milliammeter, 20 and 100 mils. D.c. volt-ohm-output meter, 5, 50, 250 and 1,000 volts. From 0 to 100,000, 10,000 or 1,000 ohms. As an output meter, ranges of 1, 10 or 100 volts.

### Operation

The 4, 8 and 40 volt a.c. ranges are connected to the selector switch for reading filament voltages. The above a.c. ranges, as well as the 200 and 1,000 volt ranges, are available at the binding posts. A variable resistance is used in series with the a.c. meter and line when used as a capacity meter and allows voltage adjustments between 100 and 140 volts a.c.

The 20 and 100 mil. d.c. millimeter ranges can be used at the binding posts only when the 8 point rotary breaker switch is in the "off" position.

The d.c. voltage ranges are controlled by the right-hand 4 point rotary switch for analytic use in the tester, with the d.p.d.t. switch in the normal position. This switch is in the positive side of the meter. The 8 point rotary switch controls the negative. The reversing double pole toggle switch reverses this operation. All voltage ranges are available at the binding posts.

When the position of double pole double throw toggle at the extreme right of the diagram is toward T the d.c. volt-ohm-output meter is used in the testing circuit with the analyzer plug placed in the radio under test. With the switch toward O, the meter is used as either an ohm or output meter at the designated binding posts.

Grid-shift buttons have been omitted. Initial readings are checked against a standard chart when testing tubes.

The following tests are made with analyzer plug in the set socket and the tube in the analyzer: D.c. filament voltage. The 5 and 50 volt ranges are available for this purpose and the reading is obtained when the 8 point rotary switch is placed at position 4 and the breaker switch at 3. Use reverse switch if pointer goes backward. The milliammeter does not read in the filament circuit.

A.c. filament voltage. Set the left-hand 4 point rotary to the desired range and read on the a.c. voltmeter. This meter may be left on during the entire test of the tube, if so desired. After these tests are completed determine the position of the negative element. Place switch on the number contacting the negative element and it may be left in this position during the entire test of the tube. Then rotate the break switch through the various other elements and both volts and mils. will read simultaneously.

To test from point to point by means of the ohmmeter: With a 47 tube in the analyzer socket, for example, turn the radio set switch off. The rotary switch should still be on number 4 and the break switch on 2. Move the d.p.d.t. toggle to the 0 position, use two jumpers from the ohms binding posts to the two volts binding posts. Move the 3 pole rotary switch to H on ohms, the readings that appear on the d.c. voltmeter are then the resistance between plate and filament. Moving the breaker switch to number 5 indicates the resistance between pentode grid and filament, now

moving the 8 point rotary to number 2 position shows the resistance between plate and pentode grid, etc.

Ground test: To determine the C bias resistance on the filament type tube a test must be made between ground and filament. This is accomplished by plugging into the test socket, connecting a wire from the grid terminal on the side of the plug to the chassis. Place the 8 point rotary switch in position 4 and the break switch on T.C. and read by the resistance method. To read C bias on heater type tubes read between 4 and 5 if heater is in 5 position. Binding post ranges: All a.c. voltage ranges can be obtained at the binding posts. The 4-8 and 40 volt ranges are controlled by the left-hand 4 point rotary. The 40 volt range is read on the 4 volt range using a multiplying factor of 10. The 200 and 1,000 volt ranges are independent of any switch.

The d.c. mils. readings cannot be obtained at the binding posts until the break switch is placed at the off position. All d.c. voltage ranges are obtained at the volts binding post when the d.p.d.t. switch at the extreme right is in position T, and are controlled by the right-hand 4 point rotary. With the d.p.d.t. switch in the 0 position ohms and output can be obtained at their respective binding posts. 3 point rotary controls the three ranges of ohms and three ranges of output. To test the radio by the resistance method, connect the ohms binding posts to the volts binding posts by means of jumpers. The ohmmeter is then controlled by the two 8 point rotary switches and a resistance measurement can be obtained from any point to any other.

Capacity measurement: Connect two wires from the line binding posts to the 110 a.c. supply, short the two capacity binding posts and adjust to full scale by using the variable resistance in the line circuit. After removing the short, place the condenser to be tested across the posts and read on the 8 volt scale. The following chart indicates the most commonly required capacities:

Capacity	Volts
.1	.5
.25	1.
.5	1.8
1.	3.5
2.	5.8
4.	7.2
5.	7.4
6.	7.6
8.	7.8

Parts lettered in bold type on the schematic are not included in the old analyzer but must be purchased.

## TRICKS of the TRADE

**AK 40, 42.** Excessive hum . . . Look for poor connection between ground terminal under resistance strip in power-pack and wire going through insulating compound into pack.

**AK 82.** Oscillation . . . Try replacing a.v.c. plate by-pass with a new  $\frac{1}{2}$  or  $\frac{1}{4}$  mfd. unit. Intermittent reception . . . Replace screen by-pass condenser.

**BOSCH 58, 60.** Replacing dial cables . . . Cut stock  $32\frac{1}{2}$  in. long, make loop in each end,  $1\frac{1}{2}$  in. in each. Cable should now be  $29\frac{1}{2}$  in. overall. Turn condenser gang all the way out, to minimum capacity, then place loop over screw on right side of large drum and bring cable down to threaded spool. Turn spool so that setscrew is facing bottom of chassis and start winding cable at first clear thread above screw, winding on  $7\frac{1}{2}$  turns. Bring cable up over idler pulley and insert piece of sponge rubber between threaded spool and its bracket. Run end of cable down around drum and catch loop with piece of stiff wire, hooked on end. Pull cable up into place, making sure it is in groove on drum. Hold good strain on cable and with left thumb press down on spring on drum until the hooked end engages the loop in the cable. Remove hooked wire and sponge rubber.

**BRUNSWICK AC10.** Weak signal, all voltages ok . . . Voice coils commonly blow.

**BRUNSWICK 17.** No reception . . . Check for grounding of 14,000 ohm screen resistor at right of chassis between two coil shields, also for .5 mfd. condenser in oscillator plate circuit. These are common faults.

**CLARION.** Broken flexible leads in models having moving dial lights . . . For permanent repair remove clip holding leads to front of condenser gang, loop the leads loosely around condenser shaft once and resolder.

**CROSLEY FIVER.** Be sure 6.3 volt and not 2.5 volt pilot is used as reduction in heater drain caused by use of smaller bulb permits voltage to rise and causes erratic oscillator operation, frequently intermittent reception.

**CROSLEY 148.** Dead, or weak signal . . . Generally due to increased value of wire-wound, impregnated resistor under chassis from i.f. coil to plate and cathode of 58. Replace with two-unit type with an 8,500 ohm and a 25,000 ohm resistor, 10 watt types.

**CROSLEY 42S.** Over-sensitivity . . . 5,500 ohm bleeder frequently opens, raising all voltages.

**EMERSON 20A, 25A.** Excessive oscillation . . . Remove antenna wire coil from inside case. Even a small amount within chassis causes trouble.

**FRESHMAN G60.** Critical volume control and fluctuating volume with control set near maximum . . . Connect jumper from filament end of control to arm, or ground to chassis. This also gives smoother than original control.

**INTERNATIONAL J.** Hum . . . Test for defective resistor connected to plate of second detector 24 and in series with 60,000 ohm resistor to screen of 35 r.f. tube. Replace with 500,000 ohms if defective.

# 6 OUT OF 7 PIONEERED BY ARCTURUS

Progress in a.c. radio tubes, since 1927, has been based on 7 fundamental developments. Of course many refinements in design have been contributed by Arcturus and other manufacturers, but the fundamental developments are:

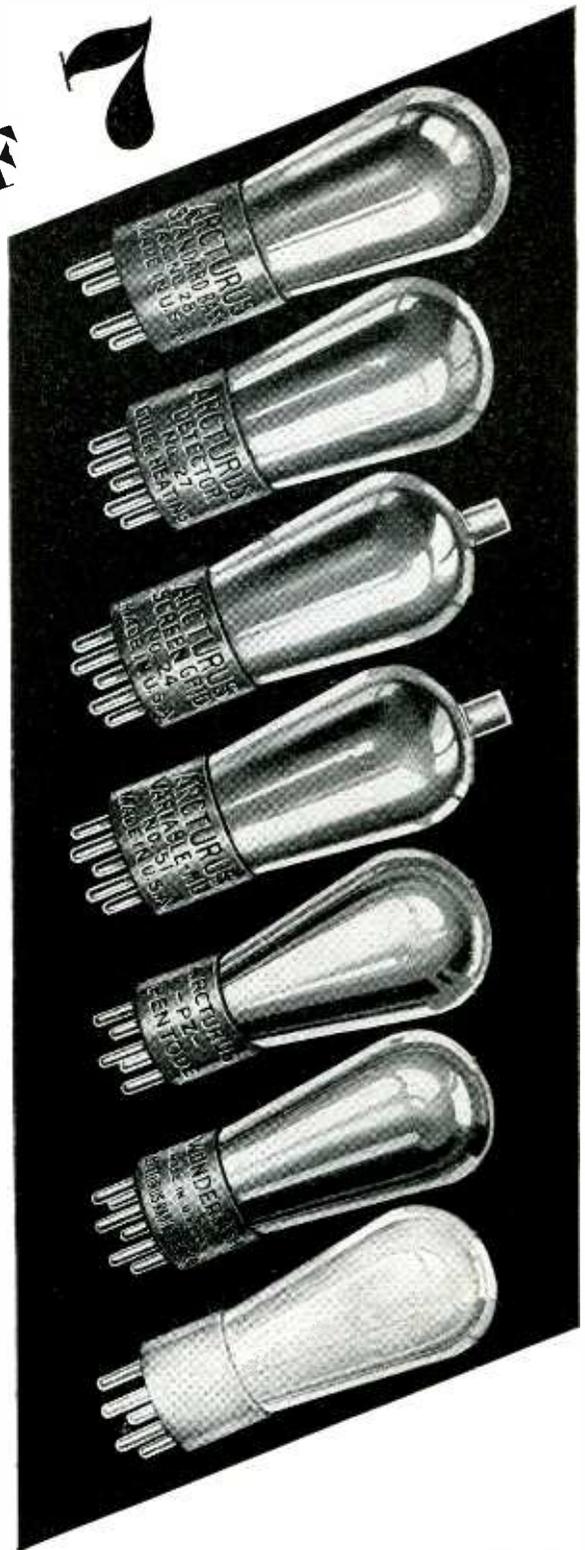
- \*1. Standard-base A. C. Tube
- \*2. Quick-Heater
- \*3. Screen Grid
- \*4. Variable-Mu
- \*5. Suppressor Grid (Pentode, 2A5)
- \*6. Coaxial Grid (Wunderlich)
- 7. Emission Control Modulator (2A7)

*\*Six out of the seven were pioneered by Arcturus!* For the seventh, we give credit to one of our competitors.

Seldom, if ever, in any field has a manufacturer so consistently and constructively pioneered.

If you are interested in building your own standing, then you must handle products fundamentally right . . . tubes consistently superior . . . Arcturus Tubes.

ARCTURUS RADIO TUBE COMPANY, NEWARK, N. J.



# ARCTURUS

*Radio's trail blazer*

# Suddenly... RADIO DESIGN IS REVOLUTIONIZED!

... with **RIGHT-ANGLE TUNING!**



**E**VER hear of a radio set just as easy to tune standing up or sitting down? . . . that you can tune without bending, stooping, crouching, stretching? . . . that is doorless, yet unmarred in appearance by knobs, dials, or hardware of any kind?

Here it is! The newest American-Bosch Vibro-Power Radio presents *Right-Angle Tuning*—the one new basic principle introduced into radio design in many years.

Right-Angle Tuning cleans up the appearance of radio. No cumbersome doors. No knobs or dials to mar the radio's beauty—now they're concealed under a folding lid which you raise like the lid on a piano. There, tilted conveniently at a right angle to your eyes, are tuning scale and knobs; comfortably accessible and in direct, right-angle line of vision whether you're standing up or sitting down.

Right-Angle Tuning is the most powerful stimulus to full-profit sales that the radio industry has had for many seasons. Ask your American-Bosch distributor or write for literature about Right-Angle Tuning and the completely new 1934 Second Series American-Bosch Radio line.

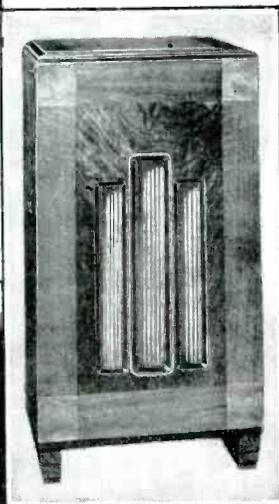
**UNITED AMERICAN BOSCH CORPORATION**  
SPRINGFIELD, MASS. NEW YORK CHICAGO DETROIT  
*Manufactured under patents and applications of R. C. A.*



**ALL-VISIBLE CHASSIS**—Tilted, it enables salesman to point out full-size, superior engineering, structural strength of chassis as a whole or of any particular part.

**MODEL 370X**—7 tube, 11-tube-performance long and short wave superheterodyne. Reproduces faithfully program frequencies up to 5,000 cycles. Range includes 540 to 1900, and short wave 1900 to 6200 kilocycles (568 communication channels). 8 watts power output. Dial shifts for each wave band. Markings in two colors. Reduction tuning drive; 3 gang condenser; perfected continuous type tone control; full floating coil large size dynamic speaker . **\$84.50**

**MODEL 360X**—Same cabinet with 7 tube *All-Wave* chassis (1940 communication channels) . **\$89.50**



# AMERICAN-BOSCH VIBRO-POWER RADIO

# \$3,500.00 CASH PRIZE CONTESTS START 1934 GRAYBAR-COLONIAL DRIVE

New, Intensive "Point-of-Sale" Promotion Making Colonial Radio One of Dealer's Strongest Merchandising Factors. Quality, Price and Profit Outstanding Features of 1934 Line

**T**WELVE months of hard-hitting "RE-SALE" service—one intensive campaign after another—campaigns aimed at STOPPING THE CROWDS at YOUR WINDOWS—BRINGING THEM INTO YOUR STORE—SELLING THEM—this is the business-building program back of Colonial Radio for 1934. This is the SORT of help which is now most vital to successful radio retailing.

The opening gun in this dynamic promotion series—featuring the most outstanding line Colonial has ever produced—is a group of Cash Prize Contests—\$2,000.00 for the general public, \$650.00 for window displays, \$850.00 for retail salesmen.

This initial campaign drives home the superior quality and genuine value of Colonial "10-Feature" Radio. It literally FORCES public attention on YOUR individual business—it helps to sell your entire line of radio and equipment.

The Graybar-Colonial proposition is now available to progressive dealers. Upon request, a Graybar representative will gladly call with full particulars—discounts, sales promotion materials and merchandising cooperation.

The All-Wave Sensation  
of 1934!

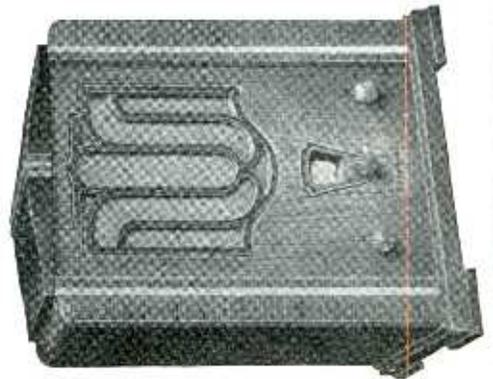
COLONIAL Model 650

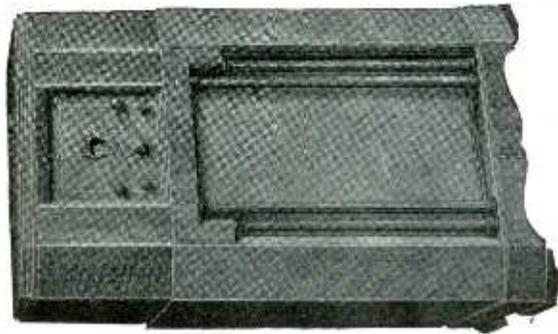
Short Wave and Tone Control Switch  
Knobs at Back of Receiver

550 to 12 meters — superheterodyne giving 8-tube performance. Amazing reception of foreign stations, police calls, amateur stations and national broadcasts. 6-inch dynamic speaker, vernier tuning condenser, automatic volume control. Rare wood and non-corrosive metal trim cabinet. 14¾ inches high.

**\$4950**

With RADIOTRONS





**COLONIAL**  
Model 601

10-tube set—4600 to 550 meters — regular broadcast and short wave reception of police calls, amateur stations and other intermediate signals. 12-inch dynamic speaker, full-vision illuminated dial and all other engineering superiorities. Original and American walnut cabinet with non-corrosive metal inlays. 42 inches high.

**\$10950**

With RADIOTRONS



Colonial "10-Feature" Radio, as typified by the few models shown here, is the quality product of one of the oldest and strongest manufacturers in the industry.

The 1934 Colonial line is presented, not merely as an imposing group of receivers to sell at reasonable prices—but as a BUSINESS-BUILDING FORCE in the retailer's store.

The object of Graybar-Colonial promotion is not merely to dispose of quantities of receivers wherever they can be sold—but to establish permanent relationships with progressive dealers who want to cooperate in a constructive and continuous program of business development.

**COLONIAL RADIO CORPORATION**  
Buffalo, New York

(NOTE: Prices slightly higher on West Coast)

**\$2,000.00 Cash**

108 Prizes for best judged letters from public on Colonial "10-Feature" Radio.

**\$650.00 Cash**

Prizes for best judged window displays featuring Colonial sets and contest materials.

**\$850.00 Cash**

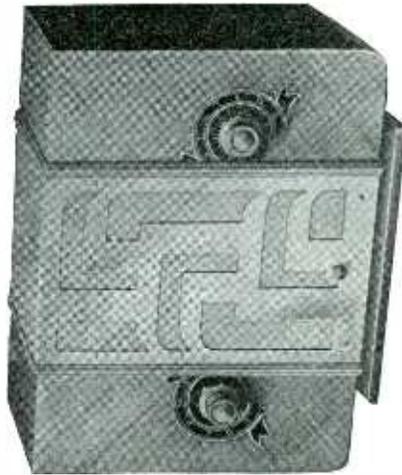
108 Prizes for salesmen who interview and help entrants in \$2,000.00 contest.

**COLONIAL**  
Model 600

6-tube superheterodyne giving 9-tube performance. 2500 to 540 kilocycles, including intermediate short wave for police calls, amateur stations, etc. Vernier tuning control, automatic volume control, 8-inch dynamic speaker. Cabinet in walnut combination with non-corrosive metal trim. 36½ inches high.

**\$5950**

With RADIOTRONS



**COLONIAL Compact Model 301**

5-tube AC-DC or AC superheterodyne. Completely shielded. 3-gang condenser. Automatic volume control. Vernier reduction tuning control. Dynamic speaker. Matched African walnut and chrome metal. 10¾ inches wide.

With RADIOTRONS **\$3695**

Graybar Electric Company, Inc., exclusive distributors of Colonial Radio, have Branches in 73 principal cities throughout the United States.

Representatives of these Branches maintain close contact with Colonial dealers and extend every type of operation which furthers retail progress.

If you do not know the address of your nearest Branch House, write, wire or telephone us and we shall have a representative get in immediate touch with you.

**GRAYBAR ELECTRIC COMPANY, INC.**  
420 Lexington Avenue New York, N. Y.

**WRITE, WIRE OR TELEPHONE "GRAYBAR" NOW**



**THESE MEN . . .**

# STEER THEIR OWN SHIP

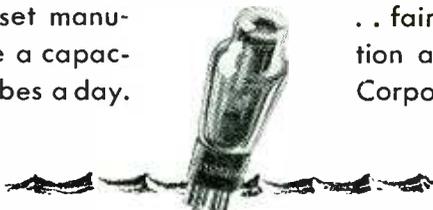
● The majority of the stock of Hygrade Sylvania Corporation is owned by the same men who manage and control the business.

These men have skillfully steered their own ship through some of the most difficult years ever known in the radio industry. They have kept their course in spite of storms.

Their company has shown constantly increasing financial and dealer strength. Even during 1930, '31, '32 and '33, its credit rating has remained AaA1! Today Hygrade Sylvania Corporation makes a major portion of the tubes installed as original equipment by set manufacturers. Its factories have a capacity of more than 100,000 tubes a day.

Hygrade Sylvania engineers are leaders in the technical field. They pioneered in the development of the more efficient 6.3 volt tube for automobile sets . . . and applied its advantages to general usage also. These same engineers are always ready to help set manufacturers solve circuit and design problems . . . without charge or obligation.

To dealers and jobbers who carry Sylvania Tubes, "management-owned" is more than a phrase. It is their guarantee of constant advancement in design . . . fair price policies . . . full cooperation and support. Hygrade Sylvania Corporation, Emporium, Penna.



# Sylvania

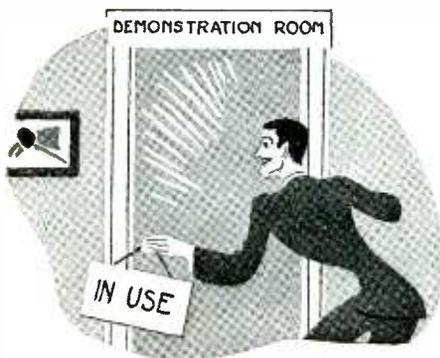
(Reg. U. S. Pat. Off.)



THE MOST ESTEEMED RADIO TUBE

© 1934, H. S. C.

# A demonstration method that set a new sales record!



How a dealer in Meriden, Conn., found a simple yet effective way to increase his G-E Radio sales at very small cost.

THIRTY-EIGHT General Electric Radio sets sold in less than a month!

That's what this wide-awake dealer did . . . and he broke the state record when he did it!

How? By demonstrating G-E's. But in a rather unusual way . . . in a friendly, hospitable way.

He built, at very small cost, a soundproof room within his store. Furnished it with a rug, lamps, chairs and a davenport. Made it

comfortable, inviting. Gave it the home atmosphere.

He displayed, in this room, eight different G-E models—all-wave sets, standard-range sets and radio-phonograph combinations.

After a complete demonstration of his own, he told his prospective customers that they were free to linger there as long as they wished. Then—closed the door and left them alone . . . to listen without annoying interruptions . . . to be thrilled by G-E performance . . . to talk themselves into buying.

And they bought . . . as the records show. Thirty-eight G-E sets in twenty-five days!

The moral is plain: Demonstrations continue to sell General Electric sets . . . just as demonstrations won for G-E the famous "tone-tests." Because G-E dem-

onstrations are convincing demonstrations—prove G-E quality . . . G-E's superiority of tone.

See your General Electric distributor. Or write General Electric Co., Section R-362, Merchandise Dept., Bridgeport, Conn.

"Now is the time to buy."

## NEWS FLASH!



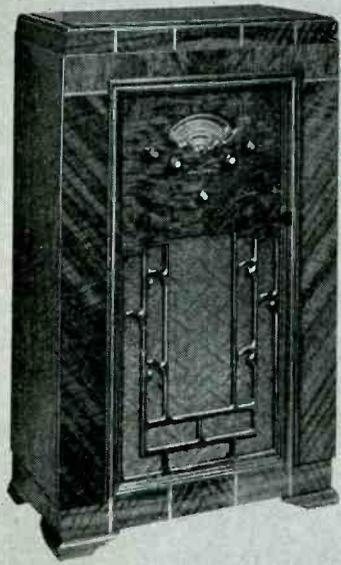
Short-wave radio now is riding the high wave of radio popularity. And General Electric is the short-wave pioneer. Display and demonstrate G-E's all-wave receivers: They are the leaders which will sell your entire line. The new G-E All-wave console (K-85) is shown here. It lists at \$128.75 in the East. Slightly higher West, Middle West and South.

**GENERAL**  **ELECTRIC**  
**RADIO**



# ATWATER KENT

## RADIO



788 R

*New  
all-wave  
8 tube chassis  
in either of  
these Successful  
Cabinets*

**\$99<sup>50</sup>**  
F. O. B.  
PHILADELPHIA



788 J

AMERICA is hot on all-wave radio. They're sparking at the mention of London, Buenos Aires, Calcutta . . . they are awake to a new thrill . . . they are presenting you and presenting us with a new chance for new sales.

Model 788 was created to hit this market right in the middle. Below the price of the 711 which we believe to be the finest instrument of its kind in the world—and only slightly above the price of the 808 which, in

our opinion, is the lowest price consistent with quality for a radio that is truly "World-wide sensitive."

### FEATURES

TUBES: 1 type 2A5 Output. 1 type 80 Rectifier. 1 type 2A6 2d Det. A.V.C. 1st Audio. 5 type 58 Osc. 1st R.F. 1st Det. 2 I.F.

Four-gang condenser—All four used on broadcast band—three on short wave.

All eight tubes function throughout entire tuning range. The 788 is TRULY an eight-tube short wave receiver.

Automatic volume control. Four-point tone control, silent tuning control, visual shadow tuning.

Four tuning ranges—Covering from 540 to 23000 kilocycles.

Full-vision compensated dial—very accurately calibrated.

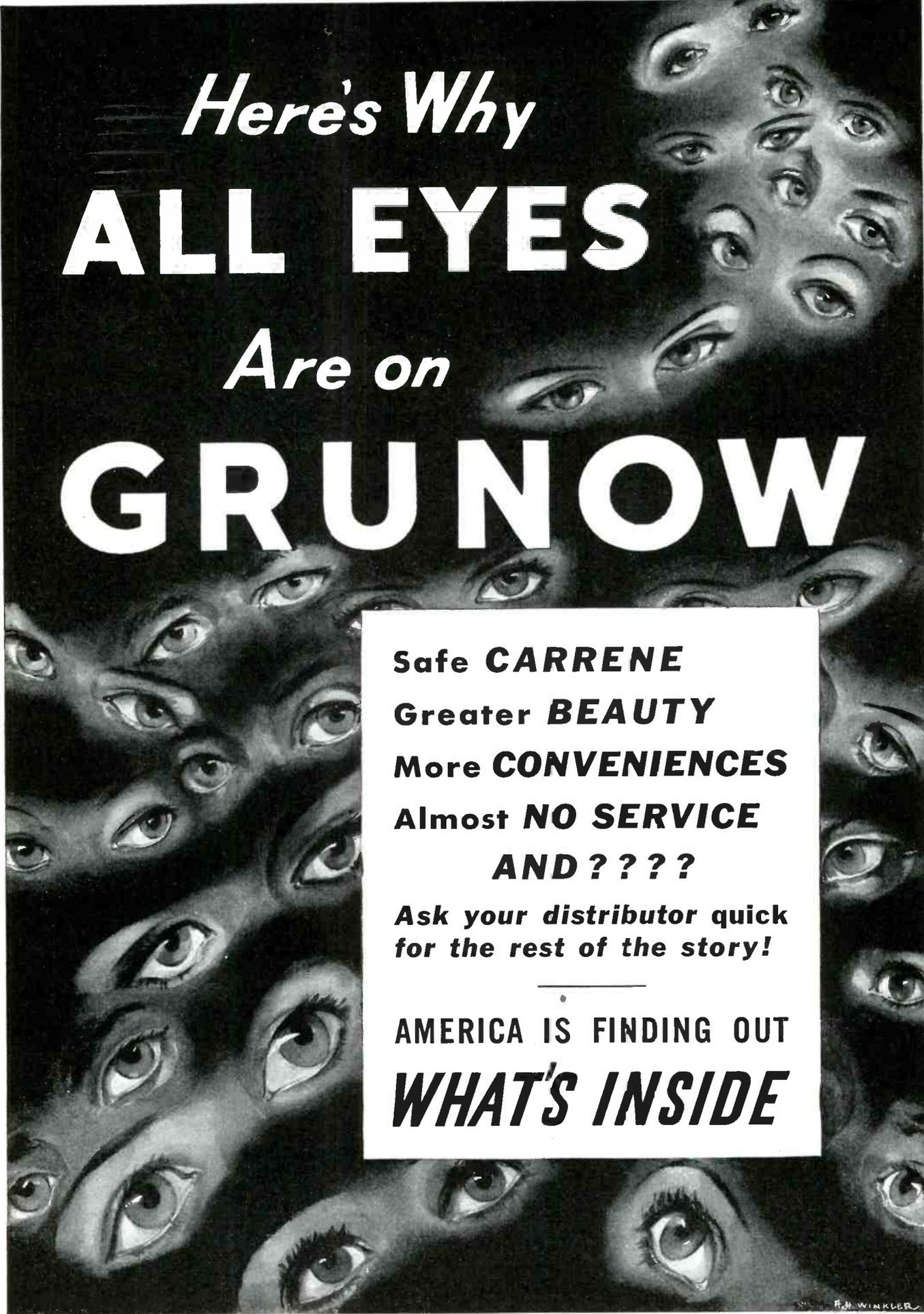
Large 11 inch electro-dynamic speaker.

Built and assembled with extreme care and precision. Heavy duty transformers and filters. High gain, low loss radio frequency circuits.

Read the features of this remarkable new value listed on this page. Look again at the cabinets that have already proved their eye-value in sales.

That is the radio that Atwater Kent adds today to its present famous, successful all-wave sets.

Remember: "If you are talking ALL-WAVE you are talking ATWATER KENT."



*Here's Why*  
**ALL EYES**  
*Are on*  
**GRUNOW**

**Safe CARRENE**  
**Greater BEAUTY**  
**More CONVENIENCES**  
**Almost NO SERVICE**  
**AND ? ? ? ?**

**Ask your distributor quick  
for the rest of the story!**

---

**AMERICA IS FINDING OUT**  
***WHAT'S INSIDE***

# SETTING UP

## *to Better*

. . . . Our own estimate is that increased purchasing power directly traceable to governmental spending will amount to \$77.50 for every man, woman, and child. It will be \$387.50 per family—or rather, it will be somewhat less than this for city families, and about \$416 for each farm family.

. . . . Our figures include the indisputable items of \$867 millions direct payment to farmers; \$2½ billions in direct relief through CCC, CWA, and loans to states; \$3 billions for Public Works; 1 billion in RFC loans for construction projects not duplicating PWA; and \$175 millions for emergency housing, subsistence homesteads, and TVA. Our estimates also include something more than \$1½ billion of increased prices on farm products, due to the AAA program.

*The Business Week*  
February 3, 1934

SOMEWHERE in this hectic land of ours there may be industries that know just where they're going. Somewhere there may be industries that need no guidance, because time has set a pathway, straight and easy to follow. But Radio is not one of those perhaps non-existent industries.

The years have rolled on since those early days of 1922 and Radio is still in somewhat of a turmoil, to put it lightly . . . . No one will gainsay Radio's big opportunity but few can predict its exact course. This much is certain, however: Radio as an industry must get on a firmer foundation to take advantage of the better business that 1934 has in store for many other industries. Business generally in America will, by all indications, be better this year. (See the material in the box at the left.) But many industries other than radio are out after the consumers' dollars.

TO SET the signposts for the radio industry in its search for better business in 1934, Radio Retailing will publish in March its first "Marketing and Statistical Issue." True, for many years we've had an annual *Statistical Issue*. But this year, better to serve radio dealers, distributors, service men and

# RADIO RETAILING

a McGraw-Hill publication, 330 West 42nd St., New York, N. Y.

# *the* SIGN POSTS

## *Radio Business in 1934*

manufacturers, we are including a marketing review of radio and we are indicating those trends that are likely to affect 1934 radio marketing.

Editorially, the important March "Marketing and Statistical Issue" of *Radio Retailing* includes the following subjects:

**Future Markets in the Light of Past Performances  
Set Sales—By Types (Statistics)**

**Replacement Business in '34—A Major Volume  
Producer and How to Get It**

**The Tube Situation**

**Tube Sales (Statistics)**

**The Parts Picture**

**Recapitulation All Radio Sales for 1933—(Sets,  
Tubes, Parts, Accessories, Batteries, Auto Radio,  
etc.)**

**Sales by States**

**Electric Refrigeration Sales for '33**

**Feature Article—"How Good Is Good Tone?"**

**Feature Article—"The Fidelity Campaign and Its  
Relation to Super-Power Set Installations and  
Improved Broadcasting Technique"**

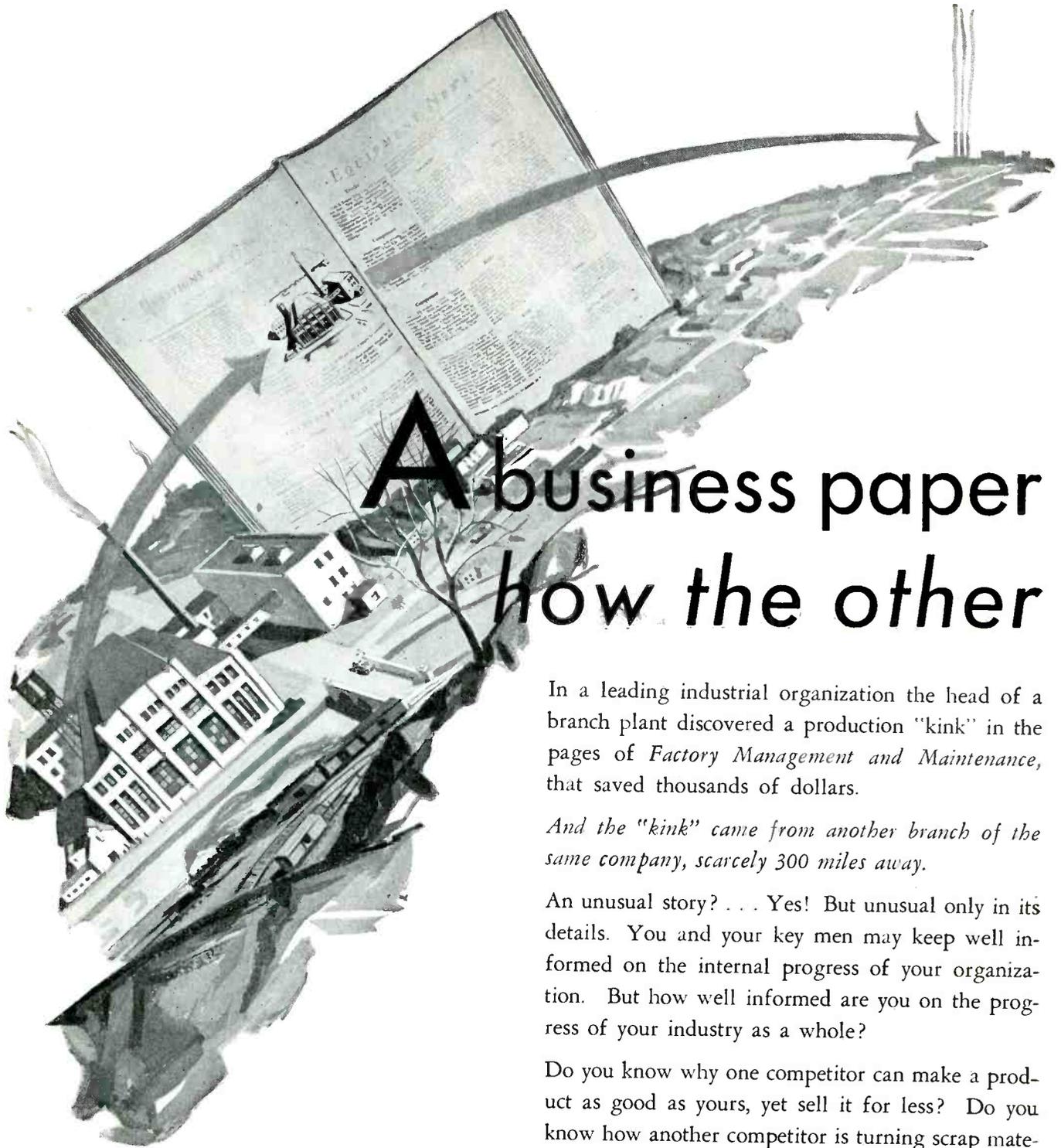
**O**BVIOUSLY this important issue of the radio industry's premier business magazine will have an immense value to its 20,000 readers—dealers, service managers and men, distributors and manufacturers. Equally important to advertisers is the excellent opportunity offered by the advertising pages of this issue. Logically, at no time will the trade be thinking more carefully in terms of merchandise to buy and sell than at the time when it reads and studies *Radio Retailing's* "Marketing and Statistical Issue." There is a real need in the advertising pages of this issue for a statement by every manufacturer of radio equipment covering his plans to help the radio industry build profitable business in 1934. There is a need for a showing of merchandise and a discussion of its features.

Let's hope that when 20,000 readers study their copies of *Radio Retailing's* March "Marketing and Statistical Issue", you, if you are a manufacturer, will not be conspicuous by your absence from the advertising section.

Prudent advertisers will remember that advertising forms for this number will close in New York on March 1st.

## *Marketing and Statistical Issue*

### MARCH 1934



# A business paper how the other

In a leading industrial organization the head of a branch plant discovered a production "kink" in the pages of *Factory Management and Maintenance*, that saved thousands of dollars.

*And the "kink" came from another branch of the same company, scarcely 300 miles away.*

An unusual story? . . . Yes! But unusual only in its details. You and your key men may keep well informed on the internal progress of your organization. But how well informed are you on the progress of your industry as a whole?

Do you know why one competitor can make a product as good as yours, yet sell it for less? Do you know how another competitor is turning scrap material into profitable specialties? Are you up on all the new materials, the new cost-saving machines that are revolutionizing your industry? Or the important political changes affecting all industry?

The progressive executive *is* keeping up—and he



McGRAW-HILL PUBLISHING COMPANY, Inc.



# showed them half worked!

sees that his key men are, too. He keeps in touch with every new development by reading his business papers and by having his subordinates read theirs.

## Put Yourself and Your Company on a "Keep Alert" Program

No company can rest on its oars today. Conditions are changing too rapidly. To keep up with the field, you have to keep up with this progress. Alertness is the word for it. And the best "Keep Alert" program for any company is:

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- American Machinist** . . . for machinery and metal product manufacturers . . . business and technical magazine of the metal-working industries.
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- Bus Transportation** . . . for executives of transportation companies operating and maintaining buses in common carrier service.
- Business Week** . . . gives the busy executive all important and significant business news in one publication . . . quickly . . . accurately . . . tersely.
- Chemical and Metallurgical Engineering** . . . for the chemical engineer . . . covers production, technology, marketing, finance, economics, and management.
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- Construction Methods** . . . an illustrated review of current field practice and equipment used in all general and special construction activities.
- Electrical Merchandising** . . . serves the electrical appliance trade . . . electrical retailers and wholesalers . . . helps them become better merchants.
- Electrical West** . . . serves the specific interests both of engineering and of selling in the electrical industry of the eleven Western States.
- Electrical World** . . . for electrical engineers . . . weekly business and technical coverage of electrical industry activities, including all phases of generation, distribution, and utilization of electricity.
- Electronics** . . . industrial design, engineering and manufacture of radio, sound, and communication equipment. Features new applications of electronic tubes.
- Engineering and Mining Journal** . . . complete and authoritative technical and market publication of mining, milling, smelting and metal refining industries.
- Engineering News-Record** . . . leading weekly publication of civil engineering and construction, covering news and technical performance.
- Factory Management and Maintenance** . . . all phases of plant operation . . . management, production and services including maintenance of electrical and mechanical equipment.
- Food Industries** . . . production, operation, engineering, and distribution in food manufacturing and processing plants of all kinds.
- Power** . . . every phase in the production and transmission of power in any form, including all prime movers, and auxiliary equipment.
- Product Engineering** . . . for engineers and executives who create, design, and develop machinery and "engineered" metal products.
- Radio Retailing** . . . home entertainment merchandising . . . for retailers and wholesalers of radios and allied products, and their service men.
- Textile World** . . . business and technical, edited generally for the textile industries, and specifically for cotton, wool, silk, rayon, knit goods, and processing.
- Transit Journal** . . . engineering and business magazine of local transportation, electric cars, rapid transit, buses, trolley buses, and taxicabs.

### Mail the Coupon Today!

McGRAW-HILL PUBLISHING COMPANY, INC.  
330 West 42nd Street, New York, N. Y.

Please enter my subscription to the following publications and bill me with the first issue.

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Catalog of McGraw-Hill Books

NAME.....

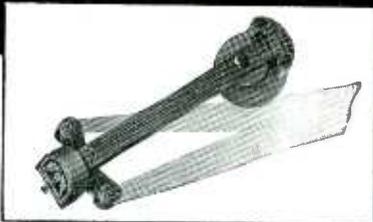
TITLE.....

COMPANY.....

ADDRESS.....

"The Standard by Which Others Are Judged  
and Valued"

Leading broadcast stations, universities and radiolaboratories everywhere are using AUDAK CO. Pickups . . . because they MUST have only the very best.



**The Audak Company**  
**305 E. 46 St.,**  
**New York, N. Y.**

"Creators of High Grade Electrical and Acoustical Apparatus Since 1915"



## The Fit Still Survive

Did you ever compare the classified section of the 'phone book with the directory of the year before? It's an interesting if somewhat disheartening pastime. You find every year that some merchants have fallen by the wayside. The causes are usually bad management and poor merchandise.

Fortunately each trade has antidotes for business disaster and failure. Not the least of these antidotes are the business magazines of each trade. The editorial pages tell a merchant how to manage his business profitably—the advertising pages help a man buy good merchandise.

Try *Radio Retailing* as a prescription. Use its pages as a cure for failure, as a stimulant to business survival.

*Radio Retailing*

## An Opportunity for Profit

DEPENDABLE and unvarying quality that satisfies is built into Ken-Rad Radio Tubes. The best grade materials, expert workmanship and the highest standard of excellence makes them thoroughbreds in the radio tube field. Their dependability and long life makes them favorites with the public. Cash in on this profitable merchandise. Write for details.



**Ken-Rad**  
**Radio Tubes**

**DEPENDABLE LONG LIFE**

THE KEN-RAD CORPORATION, Inc., Owensboro, Ky.  
Division of The Ken-Rad Tube and Lamp Corporation  
Also Mfrs. of Ken-Rad Incandescent Electric Lamps

## R. R. will be at the I. R. S. M. Convention

*Radio Retailing* will have a booth at the convention and exhibit of the Institute of Radio Service Men, which will be held in the Hotel Sherman, Chicago, on February 23rd to 25th, inclusive.

We'll be glad to chat with radio service men, dealers, distributors and manufacturers who will be in Chicago during any of the three days.

At our booth Mr. W. W. MacDonald, Technical Editor of *Radio Retailing*, will be in attendance. He'll be glad especially to discuss service and installation problems with dealers, distributors and service men.

Also Mr. D. H. Miller, *Radio Retailing's* Western Manager, will be in our booth and will be glad to discuss merchandising problems with manufacturers and others.

**Radio Retailing**  
a McGraw-Hill Publication

# SEARCHLIGHT SECTION

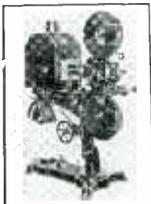
EMPLOYMENT and BUSINESS OPPORTUNITIES—SURPLUS STOCKS—DISCONTINUED MODELS

**UNDISPLAYED—RATE PER WORD:**  
*Positions Wanted* (full or part-time salaried employment only), 10 cents a word, minimum \$2.00 an insertion, payable in advance. (See ¶ on Box Numbers.)  
*Positions Vacant* and all other classifications, 15 cents a word, minimum charge \$3.00.  
*Proposals*, 40 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).

**DISPLAYED—RATE PER INCH:**  
 1 inch.....\$7.50  
 2 to 3 inches..... 7.25 an inch  
 4 to 7 inches..... 7.00 an inch  
*Rates for larger spaces, or yearly rates, on request.*  
*An advertising inch is measured vertically on one column, 3 columns—30 inches—to a page.* Radio Retailing

## Easily Sold—Easily Served Motion Picture Sound Today's Best Bet



Exceptional Bargains in New, Used, and Rebuilt Motion Picture Apparatus. Recent Government Surplus and Liquidation of other manufacturers such as PACENT, ROYAL AMPLITONE, POWERS CINEPHONE, TONE-O-GRAPH, BIOPHONE, RCA PHOTOPHONE and others now offered to our trade.

Write for Our New Illustrated Catalogue  
**S. O. S. CORPORATION**  
 Dept. R.R.2, 1600 Broadway, New York, U. S. A.  
 EXPORT: 120 Liberty St., New York  
 Cable Address: "SOSOUND" New York. All Codes.

## DEALERS

Save 10 to 30% On Your Purchases  
 This Tested and Successful  
**MERCHANDISING PLAN**

Has made millions of dollars for the leading mail order houses and chain stores.  
 We, as electrical-radio specialists, offer to one high calibre dealer in each town or community exclusive participation in the benefits of mass purchasing power that saves 10 to 30% on well known products and enables rock bottom costs on Parts, Tubes, Batteries, Lamps, Appliances, Equipment, Specialties, Wire, Motors, Washers, Refrigerators, etc. Exclusive territories are going rapidly. Write your application immediately.

Electrical Purchasing Syndicate  
 240 W. 23rd St., New York, N. Y.

## SPECIAL NOTICE

### To the Radio Industry

Advertising in connection with legitimate offers of surplus stocks and discontinued models of radio merchandise is acceptable in this section of "Radio Retailing."

Extreme care will be exercised by the publishers to prevent the use of advertising in the Searchlight Section to encourage price cutting on current models of merchandise or equipment. Nor will advertising which invites violation of the dealer's contract with the manufacturer be acceptable.

All merchandise offered in the Searchlight Section must be accurately and fully described and must be available on order.

## CORRECTION

In the January issue of Radio Retailing—Searchlight Section—Page 55, there appeared an advertisement of the

**DUMONT ELECTRIC COMPANY, INC.**, of 453 BROOME ST., NEW YORK CITY, MANUFACTURERS OF FULL LINE OF CONDENSERS, ELECTROLYTIC AND PAPER, ALSO RADIO ACCESSORIES.

Through error this advertisement was published under the classification "For Sale" instead of "Representation Wanted." The publisher is advised by the Dumont Electric Company that this publication has been misconstrued by some of its customers to mean that the company was for sale. The publisher regrets that this error was made, and is pleased to take this opportunity to advise its readers that the Dumont Electric Company is not for sale.

The correct advertisement of the Dumont Electric Company appears on this page under the heading "Representation Wanted."

## REPRESENTATIVE AVAILABLE

EXPERIENCED, aggressive sales executive designs connection with well established manufacturer or distributor radios and or refrigerators covering territory embracing Florida and Georgia. RA-187, Radio Retailing, 330 West 42d St., New York City.

## REPRESENTATION WANTED

SUCCESSFUL manufacturer of full line of condensers, electrolytic and paper, also radio accessories. Write Dumont Electric Co., 453 Broome St., New York City, New York.

## AGENTS WANTED

**MEN WANTED.** We require a man in every community, and every industrial plant, full or spare time. The work pays well, from \$1 to \$3 an hour. You simply recommend and call to the attention of business men and fellow employees business and technical books published especially for them so they can make more money. No experience required. You can make a substantial extra income quickly and easily by simply showing our lists. Complete equipment free. Write T. Crawford, Dept. R.R., McGraw-Hill Book Co., 330 West 42d St., New York City.

## DEALERS and SERVICE MEN

Genuine Grebe factory made parts in stock for all model Grebe receivers manufactured prior to 1933. Power transformers for sets using from 4 to 12 tubes. Also audio transformers and filter chokes. Write for descriptive data and parts price list.

**GREBE RADIO SALES & SERVICE CO.**  
 137-28 Jamaica Ave., Jamaica, N. Y.  
 (Owner former Gen. Fact. Mgr. of A. H. Grebe & Co., Inc.)

## SERVICEMEN!

YOU MAY NOT BE A "Coupon Clipper" . . . BUT HERE'S ONE YOU CAN'T AFFORD TO MISS

**F. L. SPRAYBERRY**, 132 Bryant St., N. W. Washington, D. C.

Please rush—FREE—complete details of PRACTICAL MECHANICS OF RADIO SERVICE—your new ADVANCED TRAINING system for servicemen.

Name ..... RR-2  
 Address .....  
 City .....

If a recognized authority told you he could save you time, money and help you build a better, more profitable service business, you'd surely spend the price of a stamp to learn the facts. And that is exactly what F. L. Sprayberry is telling you now. His ADVANCED TRAINING system covers EVERY TYPE of servicing. It explains the easiest way of doing hard jobs—testing parts—modernizing all kinds of Set Analyzers. It covers super-hot circuits, auto radio, A.V.C., public address, latest tubes—EVERYTHING met with in your daily work. At the introductory price of only \$10, it will more than pay for itself in **INVESTIGATE!** short order.

## NEW 1934 CATALOG

For Dealers, Servicemen, Amateurs and Set Builders

RADIO— } SAVE  
 ELECTRICAL— } 50%  
 HARDWARE— }  
 Send for FREE copy

Wholesale Merchandisers, Inc., 624 B'way, N. Y. C.



**RADOLEK CO.** (Dept. 514) Chicago, Illinois  
 Gentlemen:—I am a Dealer  Serviceman .  
 Please send the New Radolek Profit Guide immediately and put me on your mailing list to receive your literature regularly.

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

Please attach coupon to your letterhead or enclose your business card. We sell only to the trade.  
**RADOLEK - CHICAGO**

# NO SUPPRESSORS

Audiola created a sensation with its powerful exclusive engineering feat,—no spark plug suppressors.

Have you seen this amazing engineering coup,—eliminating motor noise without the use of spark plug suppressors?

Suppressors cripple motor performance,—waste gasoline, cause loss of power, reduce speed, and cause motor grief. Audiola's new invention has made suppressors obsolete.

If you are open for the distribution of a hot volume line, with no competition, wire for exclusive jobber franchise and territory.

Dealers and Auto Radio Specialists: Write us for the name of your nearest jobber, and our profit-making merchandising plan.



MODEL 346



AUDIOLA'S new 1934 models with marvelous performance and beautiful tone quality are ready:

List: \$39<sup>95</sup> \* \$54<sup>95</sup> \* \$69<sup>95</sup>

Illustration shows Model 346, with magnificent tone quality, beautiful illuminated aeroplane dial, sensitive and selective, brings in distant stations with power, full range tone control, special lock feature, 6" Jensen built-in speaker, 6 RCA tubes including tube rectifier. List \$54.95.



## AUDIOLA RADIO CO.

430 South Green Street  
Chicago, Ill., U. S. A.

Cable address: Audiorad

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This index is published as a convenience to the reader. Every care is taken to make it accurate, but *Radio Retailing* assumes no responsibility for errors or omissions.

# WHO BUT NORGE

WOULD THINK OF IT?

Right at a time when already there is a wide gap of distinction between Norge and ordinary refrigerators, comes **A NEW, FINER NORGE**

## NEW NORGE FEATURES

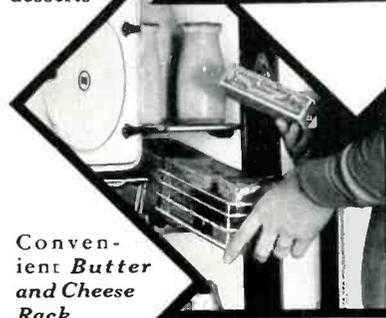


An improved Door Latch, opens at a touch

STANDARD IN LEADING MODELS



Frozen-dessert Tray for making delicious desserts



Convenient Butter and Cheese Rack

Improvements that you can demonstrate—new, practical convenience features—distinctive beauty—everything your customers could want in an electric refrigerator is built into this new 1934 Norge Rollator Refrigerator. It's going to be easier than ever to sell this new improved Norge.

The famous Rollator cold-making mechanism alone has been enough distinction to create enviable sales records for Norge dealers. Now Norge has all these other features, plus outstanding beauty, leadership in cabinet design, and proved economy. Write, wire or phone today for details.

## NEW CONVENIENCES

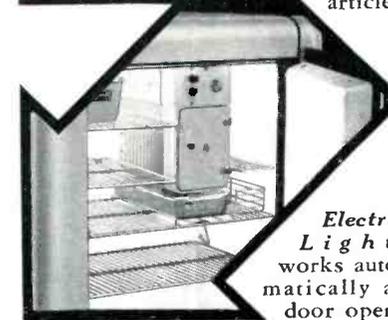
STANDARD IN LEADING MODELS



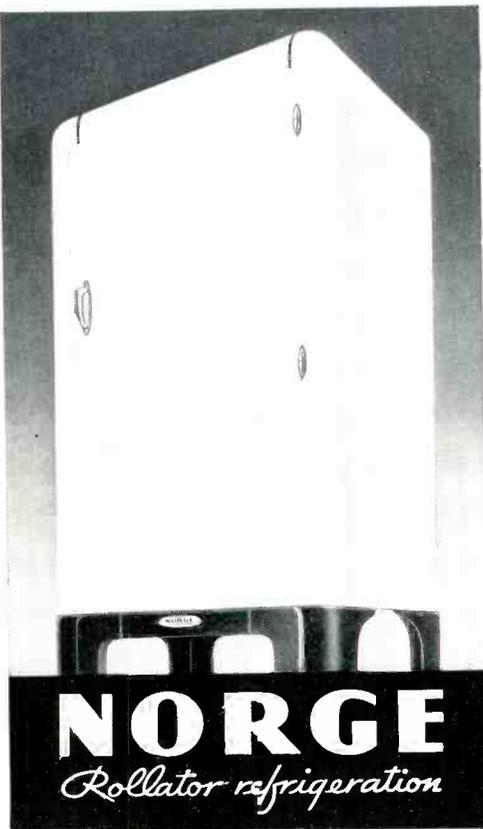
Egg Basket. Holds sixteen eggs safe from cracking



Adjustable Shelves easily arranged for large articles

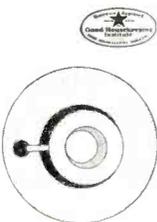


Electric Light, works automatically as door opens



**NORGE**  
Rollator refrigeration

**THE ROLLATOR**  
The powerful Norge cold-making mechanism, the Rollator, is simple, with only three moving parts. A roller rolls and there's ice.

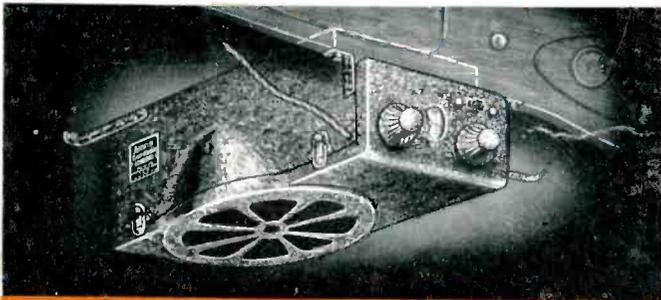


**NORGE CORPORATION;**  
Division of Borg-Warner Corporation,  
606-670 E. Woodbridge Street, Detroit,  
Mich. • Manufacturers of Rollator Re-  
frigeration • Electric Washers • Broila-  
tor Stoves • Aerolator Air Conditioners.

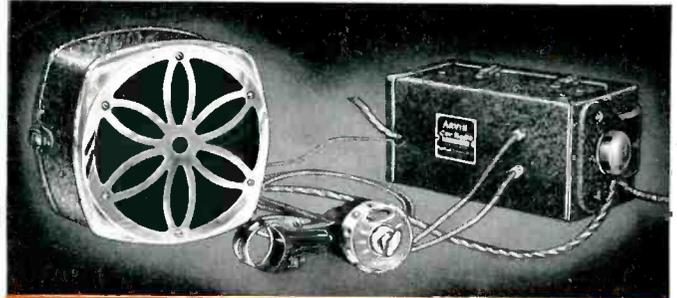
B R SCHOFIELD  
PALOS PARK ILL

# HERE THEY ARE!

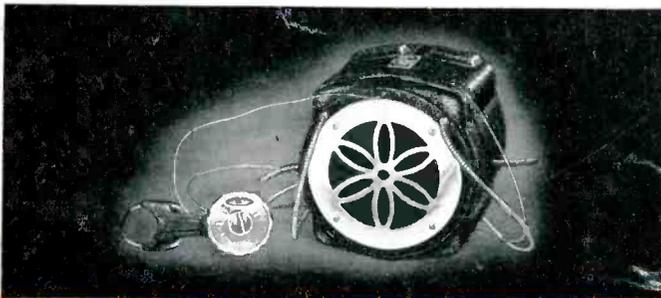
## THE NEW 1934 SUPER-POWERED MODELS



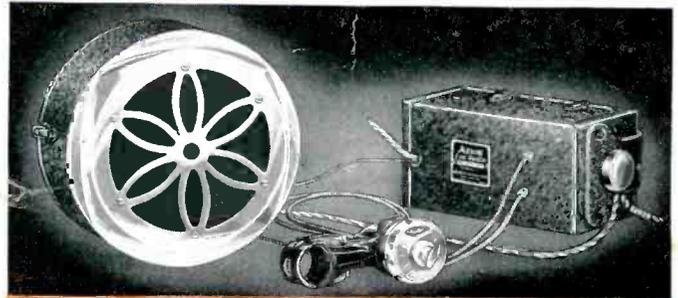
**No. 15** SINGLE UNIT WITH DIRECT CONTROL  
5 TUBES • 6-INCH SPEAKER • LIST \$44.50



**No. 35** DOUBLE UNIT WITH REMOTE CONTROL  
8 TUBES • 8-INCH SPEAKER • LIST \$69.50



**No. 25** SINGLE UNIT WITH REMOTE CONTROL  
6 TUBES • 6-INCH SPEAKER • LIST \$54.50



**No. 45** DOUBLE UNIT WITH REMOTE CONTROL  
9 TUBES • 10-INCH SPEAKER • LIST \$110.00

Arvin entered the car radio field last year with the determination to build the foundation for a big sales structure in 1934. The foundation work was done well—last year's Arvin record is evidence of that. And now—Arvin is ready with a complete new car radio line and a sales-building program that

will get the business for Arvin dealers. Each of the new super-powered Arvins is the biggest value you can offer at its price. Improved in performance and appearance—more powerful—marvelous tone—easier installation—and many distinctive new features will win consumer preference for Arvin. And

big national advertising campaign in magazines, newspapers and on the billboards will make Arvin the big-profit car radio line to sell. See your jobber or write us for full information now.

NOBLETT-SPARKS INDUSTRIES, Inc.  
Columbus, Indiana

# ARVIN

## Car Radio

BY THE MAKERS OF ARVIN HOT WATER CAR HEATERS