

RADIO RETAILING

INCLUDING
SERVICE
AND
INSTALLATION
SECTION

★★ NEWS OF IMPORTANCE TO ALL DEALERS

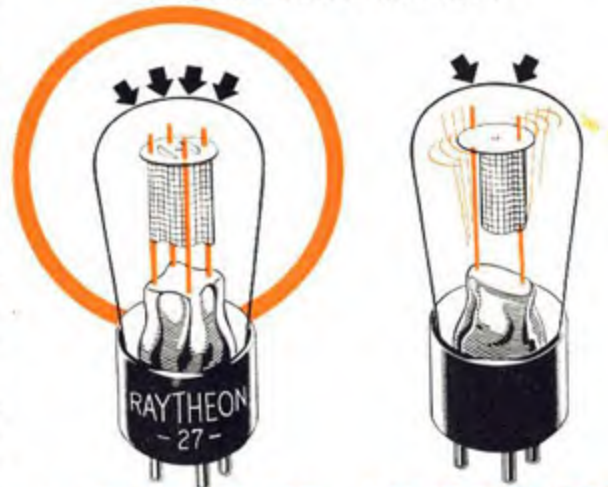
★★ BEGINNING April 1, 1933, Eveready Raytheon 4-pillar Tubes will be sold and distributed by their manufacturer, the Raytheon Production Corporation. They will be known as Raytheon 4-pillar Radio Tubes.

This change in sales and distribution will not mean a change of existing policy in the slightest degree. The sound, aggressive methods which to date have made Raytheon 4-pillar Tubes second to none in dealer and consumer acceptance will be pursued with full vigor through the same channels as before.

Among other epochal developments in radio, the Raytheon Production Corporation is responsible for the famous BH tube, which made possible the first commercial all-electric sets. With intensive engineering and research activities behind it, it will continue the manufacture of Raytheon 4-pillar Tubes with the same care and precision that have made them, in the past, pre-eminent among radio tubes for stability of performance and long life. Because of this, and their unique, patented four-support construction, you can continue to

recommend them as the one tube in which better performance can be proved over longer periods of time, at no extra cost.

RAYTHEON PRODUCTION CORPORATION
30 EAST 42nd ST. 55 CHAPEL ST. 445 LAKE SHORE DRIVE
NEW YORK CITY NEWTON, MASS. CHICAGO
555 HOWARD ST., SAN FRANCISCO, CAL.



4-PILLAR TUBE OTHER TUBES

RAYTHEON

④-PILLAR RADIO TUBES

NOW ★ ★ THE

ZENITH

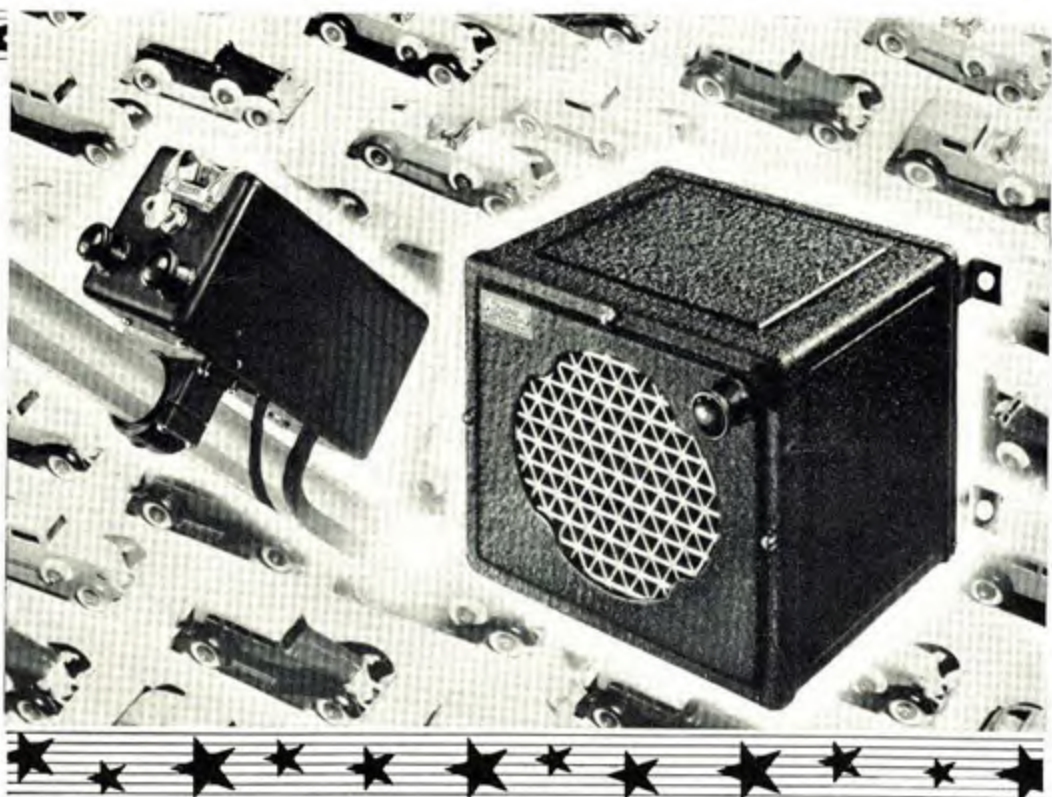
TRADE MARK REG

OF AUTO RADIO

MODEL 460

\$59⁹⁵

Complete, including installation equipment, but not installation (aerial equipment when required is extra).



★ Years of research, testing, improving . . . years of forgoing temporary profits which might have been made in the field . . . finally, engineers have produced the Auto Radio that can proudly carry the name, *Zenith*.

Simplicity of installation and brilliant performance have been achieved in the Zenith Auto Set.

External generators, eliminators, and batteries (excepting the one already in the car) have been eliminated. The ease of installation is indicated by the fact that there are but two units to install.

An exclusive Zenith engineering triumph—there is direct and positive drive on the tuning dial. The condenser, located in the control box, eliminates less efficient remote controls. Unique design eliminates vibration detuning after the dial is set. A seven tube superheterodyne with automatic volume control. A lock switch prevents the use of the receiver by unauthorized persons.

Fully tested under the most severe conditions, the Zenith set is now offered dealers with the assurance that it will produce both sales and satisfaction. Write for complete information.

★ ZENITH RADIO CORPORATION, CHICAGO ★

Now... *Hygrade Sylvania* Announces

A Complete Electronics Department

■ full production facilities ■ leading electronics engineers

FOR more than 30 years, the Hygrade Sylvania Corporation, and its predecessors have supplied the electric light industry with standard lamps of highest quality and uniformity. And since earliest days of radio, this company has pioneered in the development of radio tubes.

Now, with the formation of its new Electronics Department, the Hygrade Sylvania Corporation expands to meet the newer demands of electronics. In addition to lamp bulbs and radio set tubes, this company now produces radio transmitters, transmitter tubes, special receivers, industrial tubes and custom-built electronic devices of every specialized nature.

Ample production facilities are insured by a new fully-equipped plant devoted exclusively to electronics. Here, all electronics work will be coordinated. A technical staff composed of William Barkley, General Manager; D. F. Replogle, Chief Engineer; Victor O. Allen, Assistant Chief Engineer; and 22 other electronics engineers and executives . . . all formerly associated with the DeForest Radio Co. . . . adds to Hygrade Sylvania's resources the same skill and knowledge responsible for today's most important commercial applications of electronics.

The Hygrade Sylvania Corporation invites you to avail yourself of its technical experience, and vast production and research facilities. For consultations, write to:



THE HYGRADE SYLVANIA CORPORATION

Electronics Division

64 Lakeview Avenue

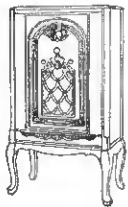
Clifton, N. J.

©1933, T. H. S. C.

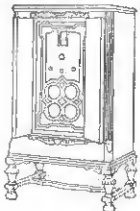
A CHORUS OF CONGRATULATION



*Latest Stromberg-Carlsons
convince all listeners
there IS something new in radio!*



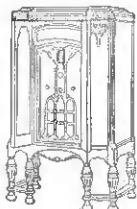
No. 48
Radio



No. 49
Radio



No. 50
Radio



No. 51
Radio and
Automatic
Phonograph

A flood of praise for the new radios is pouring into the Stromberg-Carlson offices at Rochester.

Six times the undistorted power delivered to the speaker—gained through a new circuit design using the new tubes, No. 2A3 and No. 5Z3, has opened the way to possibilities of radio reception far beyond what the industry had been expecting. Now—radio with far greater sparkle and life. An impression of “presence” beyond anything known in radio before.

Stromberg-Carlson is a most desirable line for dealers to handle. The merchandise—**SUPERB**. The prestige—**UNCHALLENGED**. The profit—**CERTAIN**, because there is a unit price large enough for you to pay expenses and have something left. Ask one of our representatives to explain the merchandising plan which dealers everywhere are calling the most sensible in radio.

Prices of Stromberg-Carlsons range from \$125. to \$567.50 (East of Rockies)

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



1894

Stromberg-Carlson

MAKERS OF VOICE TRANSMISSION AND VOICE RECEPTION APPARATUS FOR MORE THAN THIRTY-FIVE YEARS



1935

LESS "BLUE SKY"

LOOK AT ALL THESE FEATURES

The Marvelous, Force-Feed, Chilled Oil Lubrication System

Stewart-Warner's latest development

Two-Cylinder, Vibrationless Compressor

Built for trouble-free, lifetime operation.

Latest Type Pull-Out Shelves

Fully adjustable to any spacing.
Ribbon-type. Rust-proof finish.

Newest Type Defroster

Refrigerates while defrosting.

12 - Point Cold Regulator

Better regulation—faster freezing.

Compact Freezing Unit

Leaving more space for food.
Enclosed—no absorption of odors.

Plenty of Ice Cubes

Providing ice in abundance.

Special Double Depth Tray

For freezing desserts.

Automatic Interior Light

Built-in—uses standard socket bulb.

All Porcelain Interiors

Rounded corners for easy cleaning.

New Stream-Line Design

Simple, modern, smart.

Modern Chromium Hardware

Newest, semi-concealed hinges.
Invisible latch with finger-touch release.



STEWART-WARNER

MORE "LONG GREEN"

Here's a Refrigerator Proposition that Really Offers Something!

OUTSTANDING, UP-TO-THE-MINUTE MERCHANDISE—

Not SOME of the latest features, but ALL of them—Plus many more—
100% designed and built by Stewart-Warner.
Attractive prices—and profit-making discounts.

— PLUS —

A BUILT-FOR-THE-DEALER SALES PLAN—and a most
outstanding Finance Plan.

HERE'S SOMETHING WORTH INVESTIGATING... GET THE FACTS

LET'S GET DOWN TO COLD FACTS. Almost 800,000 electric refrigerators sold last year—over 16,000 dealers in the field—but mighty few of them paid an excess profit tax on their year's business.

Estimates show about the same volume for this year. Are you going to just get by—or do you want to make a real profit? If so, side-step the Arabian Nights tales, and get the facts on a refrigerator backed by a plan that is geared to your actual operations.

For 12 months we have studied the dealer's problems—what he had to do in order to make his refrigeration department profitable. For 12 months our engineers have worked on a 1933 line that would give him the merchandise—as women wanted it—at a price they would willingly pay.

The result is a new line of boxes, with new features, and every new improvement; a "point of sale" merchandising plan built up, not by arm chair theorists, but by practical retail men experienced in the field.

—And a dealer discount set-up, based on a working knowledge of his operating costs and profit needs.

Back of it all is a remarkable Finance Plan that permits an unlimited volume of time payment sales—a vital essential to maximum profits in a business where 90% of all sales are made on the "easy payment" plan.

OUTSTANDING DEALER RETAIL FINANCE PLAN

With such a "set-up"—on a refrigerator that is a stand-out in attraction, convenience and performance—your efforts this year will be repaid with "Long Green" instead of "Blue Sky." Coupon will bring you details of this profit plan.

Electric
REFRIGERATORS

STEWART-WARNER CORPORATION
1826 Diversey Parkway, Chicago

RR 4

Send me the facts on your 1933 Electric Refrigerator Set-up.

Name

Address

City State

1933's

TOP IN QUALITY BOTTOM IN PRICE

Single Unit Auto Radio

(INSTALLED IN 30 MINUTES)

at \$34⁹⁵

RCA Victor presents real auto radio quality with magnificent *tone*—installed in 30 minutes—contained in *Single Unit* at *lowest price* in history.

Everyone has been waiting for *this* automobile radio. Now RCA Victor produces it! This radio has quality. It has tone plus. Performance. *And price!* It's the first single-unit quality

automobile radio at a popular price. Just \$34.95.

Easily installed? Say—it's a cinch. Only two electrical connections. And they needn't be soldered. Only one hole to drill. Anyone can do the job in less than 30 minutes.

This is truly a *great* automobile radio! See, hear, compare it. It will win! And, finally, remember that price . . . only \$34.95

RCA Victor Co., Inc.

A Radio Corporation of America Subsidiary
Camden, N. J.



HERE IT IS... New Single Unit RCA Victor Automobile Radio. Complete set in one unit plus control. Mounted by slot on side or bolt in rear. Easily attached metal bracket on steering post.

Attention: Auto accessory dealers. Write us immediately for full sales program

RCA

BIGGEST SCOOP



LOOK AT THESE 10 FEATURES

- 1 Chassis, speaker and "B" eliminator all in one case. Size only 8 $\frac{1}{4}$ inches wide, 8 $\frac{1}{2}$ inches high, 7 $\frac{1}{2}$ inches deep.
- 2 Easily installed in 30 minutes—only one hole to drill.
- 3 Just two electrical connections—no soldering necessary.
- 4 Full electro dynamic speaker.
- 5 Only one in its price class with Tone Control.
- 6 New type, double shielded vibrator "B" eliminator without tubes.
- 7 Control box fitted for three-way steering post and dash mounting—no drilled holes necessary.
- 8 Efficient, automatic volume control.
- 9 Positive, flexible shaft from control box operates tuning without backlash; the only mechanical connection between control and receiver.
- 10 Non-glare illuminated dial, calibrated in kilocycles.



"His Master's Voice"—on the Road

Victor Auto Radio

A
KELVINATOR **\$97⁰⁰**
FOR **INSTALLED**
Plus Freight



HURRY!

This big news is not the announcement of a new model "built-to-a-price."

Kelvinator has picked from its brand new 1933 line a beautiful, full sized, full powered standard model,

- with more than 4 cubic feet of food space
- with a powerful standard compressor that runs only about a third of the time and at low current cost
- without any compromise on size, power or performance.

Kelvinator has said—"The price is \$97 until material prices go up."

Kelvinator believes that materials will go up—and should—for this will mean better times for all of us.

When material prices advance, the price of this model will be increased—for Kelvinator has already decided that there will be no cutting of quality to hold a price.

Hurry!

KELVINATOR CORPORATION, 14263 Plymouth Road, Detroit, Michigan. Factories also in London, Ontario, and London, England.

C O .

Majestic's

NEW POLICY

—to provide fast-selling, profit-making, quality merchandise to meet the demands of the times.

Radio—Home radios, portable radios and auto radios—every one a Majestic in tone, selectivity and sensitivity. Cabinets surpassing anything else in the field in design, character and sales appeal.

Refrigeration—with the exclusive Electro-Sealed principle, which minimizes service worries—plus a wealth of sales features of immediate consumer appeal including strictly modern cabinet design.

Profits—Margins for distributors and dealers geared to 1933 operating requirements.

We submit tangible results of this policy. They speak for themselves.

GRIGSBY-GRUNOW COMPANY, CHICAGO

G R I G S B Y - G R U N O W

THE NEW MAJESTIC

SUPER-SIX AC-DC PORTABLES

Operates on
AC or DC 110 volts
... Superheterodyne ... 6
tubes ... Dynamic Speaker ...
Receives Police Calls ... Self-Con-
tained Aerial ... No Ground ... Com-
pact ... Light Weight ... Sensitive ...
Selective ... Powerful ... Marvelous
Tone ... Most Distinguished Cabinet
Ever Given to a Small Radio ... Ideal
"All Purpose" Radio for Home ...
Office ... Hotel ... School ... Summer
Home ... Tourist Camp ... Sick Room.

*Dimensions 6 $\frac{1}{2}$ " high; 10 $\frac{1}{2}$ " wide; 5 $\frac{1}{2}$ "
deep. An attractive suede zipper
carrying case is available.*



THE AC-DC SUPER-SIX DE LUXE



A companion set with
all mechanical features of
the De Luxe in a
handy leatherette carry-
ing case. A big radio
in performance, com-
pacted to the size of an
overnight case.

*Dimensions: 6 $\frac{1}{2}$ inches
high; 10 $\frac{1}{2}$ inches wide;
6 $\frac{1}{2}$ inches deep.*



THE AC-DC SUPER-SIX KNOCKABOUT



MAJESTIC *ELECTRO-SEALED* REFRIGERATION

Model 900—The Lowest-Priced Two-Door Hermetically-Sealed Refrigerator Ever Offered (\$35 to \$60 Under Competition)



The entire trade knows the progress Majestic has made in the field of refrigeration. In its Electro-Sealed Models, Majestic has taken the only refrigerating principle that relieves the dealer of profit-wasting service, the only principle that permits a 3-year guarantee, and advanced it to new levels of engineering design and performance.

MODELS AND SIZES FOR EVERY NEED



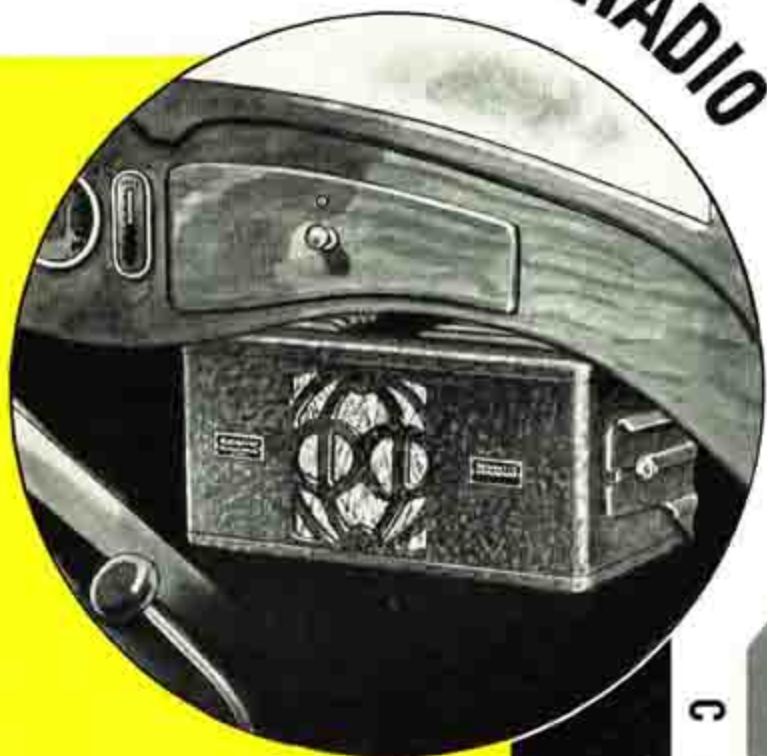
G R I G S B Y - G R U N O W

THE NEW "ALL-IN-ONE" AUTO RADIO

THE NEW ALL-IN-ONE AUTO RADIO

An all-electric, all-in-one radio which can be installed in half an hour. A superheterodyne with dynamic speaker and automatic volume control—all enclosed in a trim metal cabinet under the dash (except tuning control on steering column).

Another example of the new Majestic policy—fast-selling, profit-making, quality merchandise to meet the demands of the times.



C O .

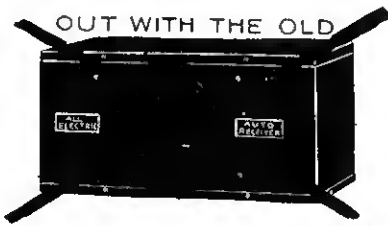
Majestic

Introducing **POWERACK**

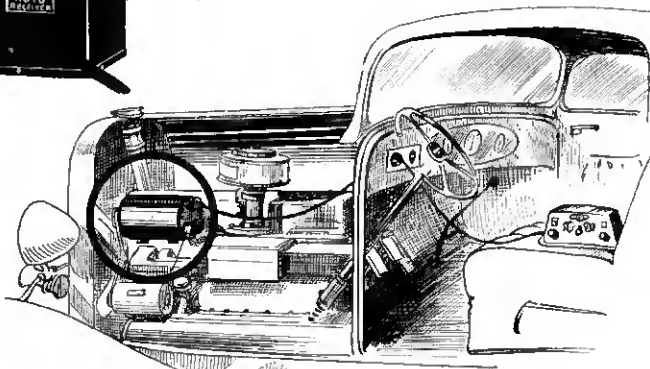
RADIO CHASSIS INC. NEW YORK CITY
TRADE MARK

MAKES YOUR CAR A POWER PLANT

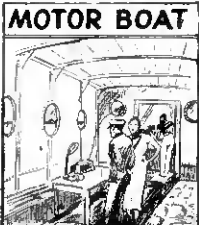
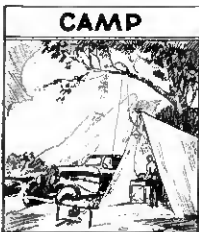
The Most Startling and Revolutionary Development in the Automobile and Radio Industries



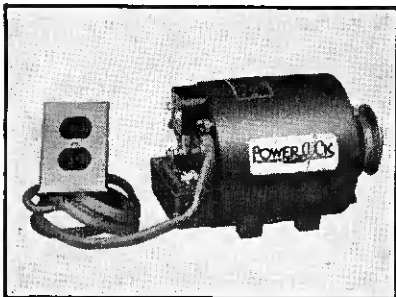
NEW...REAL ECONOMY...UNIVERSAL APPEAL



MANY USES!

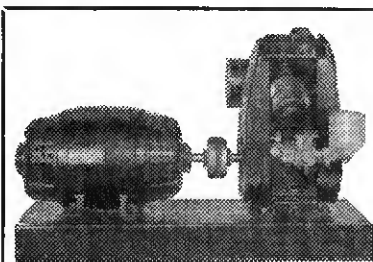


All Units Deliver 110 Volts, 60 Cycle AC



MODEL 21
50 WATT OUTPUT
LIST PRICE
\$38⁵⁰

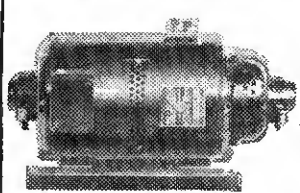
MODEL 23
100 WATT OUTPUT
LIST PRICE \$46.50



Gas Engine-Generators with filter for noise elimination

MODEL 41
200 WATT OUTPUT
LIST PRICE \$99.50

MODEL 43
300 WATT OUTPUT
LIST PRICE \$139.50



32 VOLT DYNAMOTORS FOR DELCO SYSTEMS

MODEL 31—150 WATT OUTPUT
LIST PRICE \$79.50

MODEL 33—200 WATT OUTPUT
LIST PRICE \$84.50

Sold through wholesale distributors only

RADIO CHASSIS, INC.

112 W. 18th St. Dept. R New York City
EXPORT DEPT.—1457 Broadway, New York City

- **DELIVERS 110 VOLTS AC!**
The universal current for radio and electrical appliances. Voltage constant under variable speeds.
- **POSITIVELY NO BATTERY DRAIN!**
Unit draws but a slight current from charging generator of car.
- **RUGGED CONSTRUCTION!**
No commutator or slip ring. Ball bearing rotor.
- **HOME RADIO IN YOUR CAR!**
Plug any 110 Volt AC or AC-DC receiver into dashboard outlet, and connect to car antenna. Additional outlet in dashboard permits added uses of electricity.
- **EASY INSTALLATION!**
Complete unit can be installed by the average radio mechanic in one-half hour. No unit cutouts, no complicated drilling.
- **FOOLPROOF—NO UPKEEP!**
No attention or care needed. Ball bearing rotor eliminates oiling. No wear or tear on car in any manner.
- **ELECTRICAL APPLIANCES!**
Upholstery vacuum cleaner, portable fan, cigarette lighter, emergency camp lighting.

Clip the Coupon

Add this fast-moving useful product to your summer line. Full territorial protection to dealers.

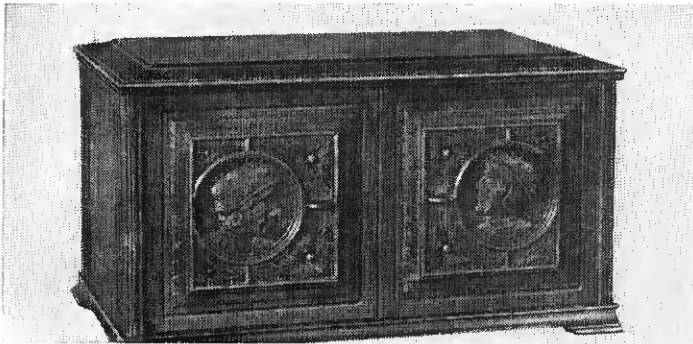
PRICES WEST OF ROCKIES SLIGHTLY HIGHER

Please send me full details on the Powerack and merchandising plan.

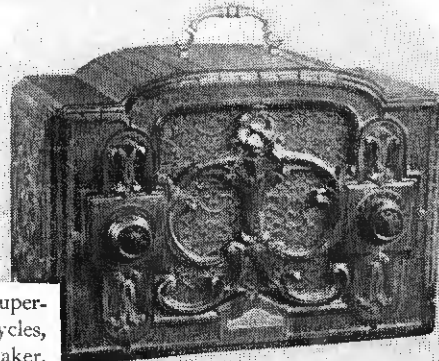
Name.....
Address.....
My jobber.....

THE NEW DEAL IN PROFITS

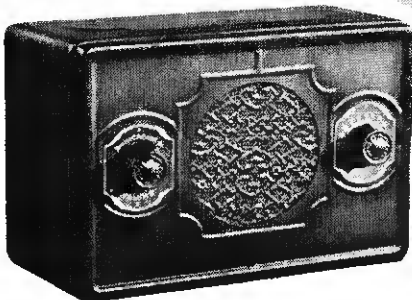
Here are 4 more models which, with Models K-40, K-50, K-60 and K-65, previously announced, give you the finest, most profitable line in Radio



MODEL K-51, table chest set. Five-tube superheterodyne, 110 volts, 60 cycles, A. C. Two-point tone control. Electrodynamic speaker. New type tubes. Good selectivity and sensitivity. Additional switch for police calls. Shipped in standard package of four. List price **\$3150**



MODEL L-50, table set. Five-tube superheterodyne, 110—125 volts, 25—133 cycles, A. C., or D. C. New tubes. Dynamic speaker. 25-foot attached antenna. Additional switch for police calls. Good selectivity and sensitivity. Shipped in standard package of four. List price. . . . **\$2500**



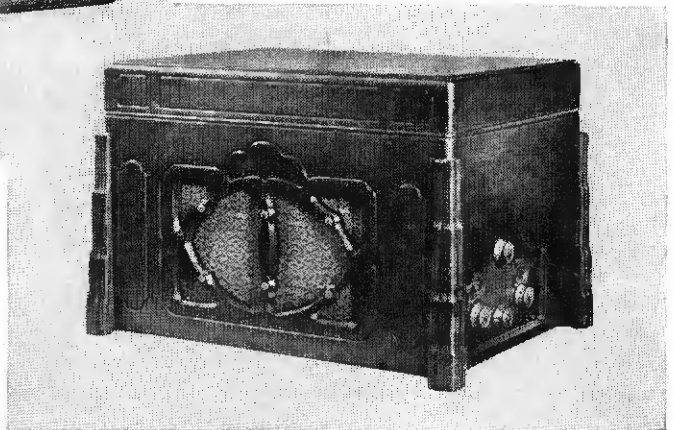
AN IDEAL PRICE LEADER—MODEL BX, table set. Four-tube tuned radio frequency circuit, 110 volts A. C., or D. C. Excellent tone for personal use. Control knob is combination on-and-off switch and volume control. Shielded steel chassis, handsome metal cabinet, lacquer finish. Covers police calls in many cities. Shipped in standard package of four. List price. . . . **\$1295**

GENERAL ELECTRIC has taken off the gloves in licking the dealers' profit problem, and is giving you a real bottom-price radio line that means business WITH PROFIT—because it embodies G-E quality at today's prices.

All these new, sensationally low-priced G-E models are brilliant, fit companions of the sets that win those famous tone tests.

So, with G-E you now can match the competitive field on price—lick the tar out of it on performance, and close the deal with a profit.

Your G-E Distributor has full details and prices of the new, low-priced G-E radio line. He can tell you all about your new, bigger-profit opportunity.



G-E MUSIC BOX—MODEL K-54, table radio-phonograph. Five-tube superheterodyne, 110 volts, 25, 50 or 60 cycles, A. C. Electric phonograph with two-speed turn table. Plays 10 or 12 in. records. Good selectivity and sensitivity. Additional switch for police calls. Shipped one to standard package. List price. . . . **\$4995**

GENERAL  ELECTRIC RADIO

NOW! ARVIN CAR RADIO

By the Makers of Arvin Hot Water Car Heaters



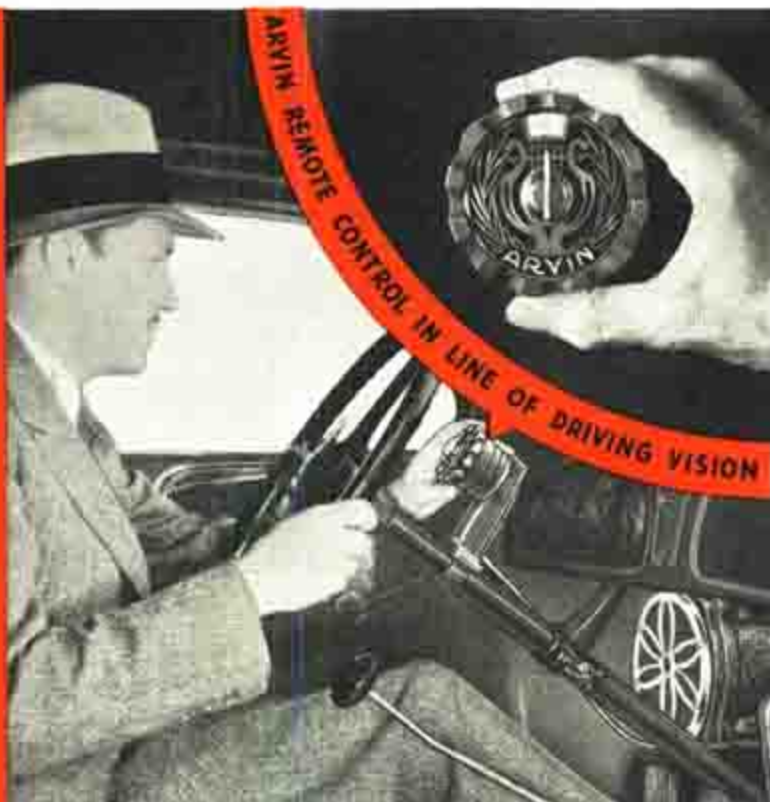
A Radio That Is
Really Designed and
Built for Motor Cars



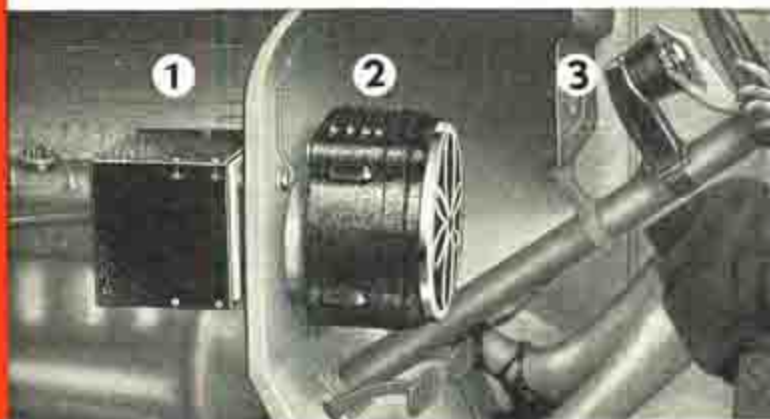
ALL-ELECTRIC
SUPERHETERODYNE
With Marvelous Performance



Many Features That
Simplify Installation
and Operation



These illustrations show how the Arvin goes on any car. There are only three parts. (1) The receiver unit on the engine side of the dash. (2) The speaker, amplifier and "B" battery eliminator, all combined in one small unit on the dash, right in front of the driver but well up and out of the way. (3) The remote control which clamps on the steering column in the line of driving vision.



Here is the car radio you want to make sales at a profit and cash in on a fast-growing market that offers you a big opportunity now . . . The Arvin is really designed and built for motor cars. It is an automotive accessory that goes on a car in much the same manner as the well-known Arvin Hot Water Car Heater. And one does not prevent the installation of the other . . . From the

standpoint of the trade as well as the consumer, the Arvin offers everything that is wanted in a car radio. First of all, it is easy to install and service. You're interested in that. And the Arvin has the consumer appeal you want—with its marvelous performance and many advanced features . . . The Arvin Car Radio is available in two models—6 and 7-tube all-electric, su-

perheterodyne sets to sell at popular prices. To thousands of automotive dealers who have been selling Arvin Car Heaters—and to countless radio dealers who have never been able to reap the benefits of an Arvin merchandising job until now—the new Arvin Car Radio means extra profits. You want full information now. Just sign and mail the coupon below.

MAIL COUPON FOR
PRICES AND FULL
INFORMATION NOW

NOBLITT-SPARKS INDUSTRIES, Inc., Columbus, Ind.

Send us prices and full information on the Arvin Car Radio.

Firm Name: _____

Address: _____

Check whether you are retailer () or wholesaler ().

WHY *Emerson* LEADS IN SALES...

Because:
In our "NEW DEAL" we did not forget THE DEALER!

Beauty-Performance-Profit

In creating these new and fast moving models, Emerson has embodied all the elements necessary to ensure immediate consumer acceptance, BEAUTY—PERFORMANCE—PRICE. We have not forgotten to count the dealer in too. Emerson is distinctly a long profit line. No short "Loss Leader" discounts.

The new Emerson AC-DC Universal Compact Sets have opened up a tremendous new market. Millions of homes, already equipped with "Big Sets" are ready prospects for the second and even third of these personal radios. The goal is, "A Radio For Every Room." Emerson makes it possible to go after this great new market on a profitable basis. We have not forgotten the Dealer.



DEALERS—Jobbers handling Emerson Radio are now located in every large center. If you don't know your nearest jobber, write us for his name and full particulars on the Emerson 1933 line.



Emerson Model 35

Most unusual radio cabinet, of Sheraton design. Solid walnut construction, with finest burl walnut veneers, hand rubbed finish. Circuit uses the following latest-type tubes: 3-78, 1-75, 1-43, 1-25Z5. Exceptional tone quality.

8 3/4" wide
 10 1/2" high—5" deep
 Weighs only 9 pounds

\$3250

COMPLETE with Cunningham tubes and Aerial.

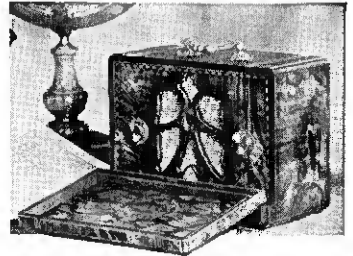
6-Tube SUPERHETERODYNE, Dynamic Speaker, 3-Gang Condenser, Automatic Volume Control

Operates from any lamp socket on either AC or DC current—110 volts—25 to 60 cycles.

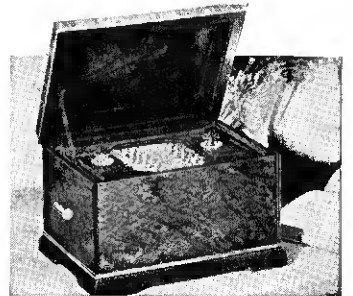
All Emerson Radio Sets are also adaptable for 220 volts.

5-Tube Superheterodynes with Dynamic Speakers

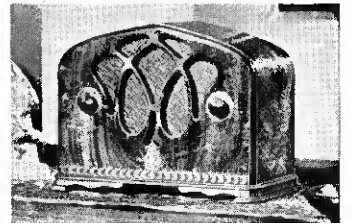
(Operate on both AC and DC—110 volts—25 to 60 cycles.)



MODEL 30—A smart Portable that's "at home" anywhere. Complete with tubes and aerial. **\$30**

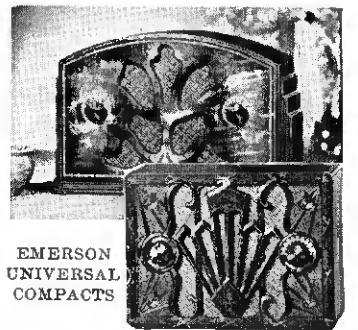


MODEL 300—Superb Radio Chest in Sequoia burl veneers. Complete with tubes and aerial. **\$30**



MODEL 250—Handsome design in modified Gothic. Burl walnut. Complete with tubes and aerial. **\$25**

Operate on ANY Current ANYWHERE —6 volt and 32 volt as well as 110 and 220—AC and DC—any cycle



EMERSON UNIVERSAL COMPACTS
 MODEL 25A—the radio that set a new style. Complete with 4 tubes and aerial. **\$25**

MODEL 20A—finest grade bakelite cabinet. Amazing value. Complete with 4 tubes and aerial. **\$1795**

EMERSON RADIO AND PHONOGRAPH CORPORATION
 641 Sixth Avenue :: NEW YORK, N. Y.

O. H. CALDWELL, *Editor*

RAY V. SUTLIFFE, *Managing Editor*
W. W. MACDONALD, *Technical Editor*
T. H. PURINTON, *Assistant Editor*

M. E. HERRING, *Publishing Director*
HARRY PHILLIPS, *Art Director*
P. WOOTON, *Washington*

AUTO-RADIO

Your *Depression Cure*

ATTRACTIVE as it has been for many dealers during the past year, recent developments in auto-radio have so enhanced this business that no longer should *any* radio retailer ignore its possibilities.

Six things have materially improved its complexion. They are:

1. Simplification of installation. (Eight jobs per day per man is now not unusual, although three hours was the average time required, per installation, in 1931.) This has been brought about by:

- (a) The assembling, in recently announced models, of the eliminator in the same case with the receiver; in some instances even the speaker.
- (b) Improved chassis shielding and circuit design, reducing ignition noise pick-up and simplifying suppression.
- (c) Stock equipment of more cars with factory-installed antennas—86 per cent of the new closed models have them.

2. Perfection of eliminators, removing the objection to B-battery replacement.

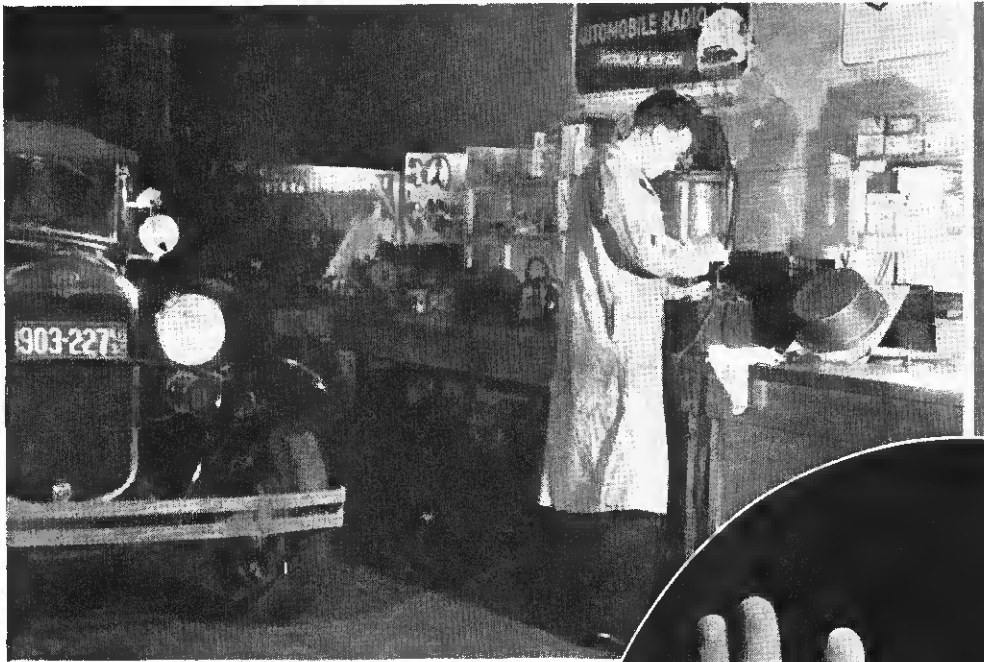
3. Widespread use of new, low-drain tubes greatly reducing the load placed on storage batteries.

4. Substantial list price reductions. (The average auto-radio sells for \$55, against \$75 a year ago.)

5. Increased consumer acceptance. A quarter of a million sets are now in the cars of satisfied customers, providing invaluable word-of-mouth advertising.

6. Establishment of service and installation stations everywhere, opening the field even to dealers who prefer to confine their efforts to sales.

Auto-radio is unquestionably the brightest spot on radio's 1933 horizon. *Get into it!*



*Take a short course in
suppressing ignition noises.
It pays*



AFRAID *to get* Your

Hands Dirty?

WILLINGNESS to soil one's hands is the test which separates the sheep from the goats in auto-radio selling, in the opinion of Jack Markwell, Chicago north side radio dealer. Ability to laugh off the grease and grime—the black badges that go with satisfactory installations—is two-thirds of the battle, he says. Nothing else holds back radio dealers from this profitable business in his estimation.

"I was always keen about automobiles, from chain-drive days on," he relates. "Naturally I wanted a radio in my car when I heard this could be done. Imagine my surprise when a radio dealer remarked to me, 'We don't go in for them—too dirty work.'"

Jack Markwell observed the horde of cars that swept along Broadway's red brick pavement, realized that his location was in automobile row, saw the ease of getting prospects from licenses—and tossed his hat in the auto-radio ring. Last year he sold 568 jobs and installed

more than 50 for nearby passenger automobile agencies. About half his business came from radio on wheels. Moreover, his service department is becoming known for its specialty work. From four to ten cars a day stop for radio repairs, often on sets not sold by him.

Markwell's activity in auto radio started with improvised sets. It seemed the thing to do at the time. Slowly it dawned on him that if automobiles went to pieces so much more quickly than other machinery of like complexity on account of the jolting and vibration, this was surely true of radios. Sturdier sets were necessary if endless service trouble was to be sidestepped. With this understanding the House of Markwell took up standard products (Philco and Majestic).

"I do not think dealers appreciate how these pick-up sets and bad installations have made customers wary," he said. "Last season no less than six of our prospects bought the sets out of our demonstration cars—refused

Jack Markwell

of Chicago sold

*568 Auto-Radio Sets
last year by special-
izing in installations*



Markwell puts the loud speaker on the running board of his demonstrator. "Attracts more attention, permits volume without blasting and enables other autoists to identify the source of their radio music"

the product out of the box, figuring our exhibition outfits had been 'souped up.' They weren't, of course, but this shows which way the wind blows."

Any dealer contemplating auto radio should attend a school for a few days, he advises. Learn about the various makes of cars and how to silence their noises.

The dealer should have at least two installations a day to run a profitable department. Where the size of the town or neighborhood forbids this, the dealer is ahead if he pools his jobs with another firm, says Markwell.

Every salesman of the Markwell Radio Company drives with a speaker mounted on his right running board. This wafts a soft flow of music into the car next to his. Previously experiments had been made with keeping the radio inside turned on at full volume, but the difficulty in discovering the direction from which the music was coming, and the confusion in the public mind with public address systems, caused the improvement to be necessary. A banner on the spare tire announces the make of auto radio and the down price. Anyone asking a question is cheerfully answered, and his license jotted down for future check-up. This method, together with some neighborhood newspaper advertising, is responsible for most of the leads.

Other channels used in getting volume business are:

1. Passengers car agencies. These houses are eager to see that their customers get satisfaction from radios sold as extra equipment on new cars and appreciate the limited radio judgment of their employees. While the mechanics can possibly install sets all right, they cannot give service, which makes any radio dealer a welcome link for installation business.

2. Parking places and garages. Literature passed out reaches prospects for sales and repairs.



3. Sales managers. Auto-radio has found a niche in the funny lion hunts and football game ideas that are used on sales forces as contest ideas. Since nothing is welcomed more by salesmen, making long drives as they do, sales managers like to offer auto-radios as prizes. One has bought fourteen from Markwell.

4. Truck drivers. The roads are full of trucks these days, running night and day. To while away the long hours, drivers buy radios. Instead of diverting their attention, as was expected, the entertainment keeps them awake, alert and unlulled by the sleepy hum of the motors. Longer runs can be made with radio.

Most of the Markwell auto-radio sales are for cash. While a \$12.50 down payment is advertised, few owners are willing to pay the \$14.75 carrying charge asked, or give a mortgage on their cars.

The purchasers of automobile-radio are intensely critical, Mr. Markwell has discovered, compared to home owners. They will not tolerate poor performance nor willingly permit the set to remain out of commission. However, it's father, who pays the bills, that must be pleased, and once his good will is won the entire family's radio business is tossed in the lap of the dealer who has won his gratitude.

Why Radio



By

Joseph
Salzman

*Amateur and commercial operator
Formerly Asst. Radio Mgr., Bloomingdale
Department Store, New York
Manager Set Dept. Liberty Chain
Store Manager, City Radio Stores
Mgr. Newark branch, Davega-City Chain*

SINCE 1927 millions of dollars have been poured into the operation of radio chain store systems. A large proportion of this money has been lost. A radio chain is organized, quickly does a booming business—and just as suddenly drops into the depths. Remember Rova, Liberty, Saul Birns, Modells, Landay, Walthall?

Why do the chains get into trouble?

Greed! That's the answer in one word. Greed which begets inefficiency—rather than intentional dishonesty. And which leads to too rapid a growth—and then to lack of control.

Much can be learned, as a guide to future progress, by studying the mistakes of the past . . . in this case the independent merchant, as well as his larger competitors, will profit. What, then, are the more specific reasons for the failures of the chains? There are nine principal ones.

NO. 1—THE SERVICE DEPARTMENT The service department in a radio chain system is, or should be, the very heart and nerves of that system. If the heart functions below normal and the nerves are on edge it is only a question of time when such an organization gets a poor reputation. A service department can make or break any concern. Unfortunately the service departments of radio chain store systems have weak hearts. The present methods employed by these departments are detrimental.

As an illustration: If a customer purchases a radio in one store of a chain, he generally goes to that store when he has a complaint. When he arrives he is told to get in touch with the central service department. When he attempts to call this department, he has difficulty getting it on the phone. After finally obtaining a connection, a busy young lady receives his complaint, and automatically informs him his set will be serviced two days later. He asks if it is possible to make the call sooner and is informed sharply, "It can't be done, our service department must conform with a schedule." The personal contact with the radio customer is lost.

Thousands of chain store customers have received untold abuse from service managers and service men. Considering the fact that these men handle innumerable complaints, they become erratic and inefficient and find it almost impossible to cope competently with the volume of service. The service manager usually is informed by his superiors to keep his service expense down. He strives to follow these orders—at the expense of efficient service. He employs less efficient service men, at smaller salaries. It is therefore not surprising that customers finally switch to another company.

The branch store manager of a radio chain has no authority to send a servicer to a customer. It is his orders to pass the buck to the central service department. Customers thus treated reach a point of disgust and commence the most effective and most injurious form of advertising, mouth-to-mouth, informing their friends and relatives of the exceedingly poor service given by the John Doe Radio Company.

NO. 2—DELIVERY DEPARTMENT Most of the deliveries in a chain system are made directly from a warehouse, also centrally located. In order to operate this department economically store managers are told not to make delivery promises sooner than two or three days. If a customer requests immediate delivery almost as much effort is applied to induce him to wait for delivery as to sell a new set. The chains have lost many radio sales because of the red tape required to make prompt delivery.

Economy preached to warehouse managers by their executives has prompted the overloading of one truck driver with too many deliveries, making it impossible to complete all deliveries in one day. This false economy has also caused many cancellations.

NO. 3—CREDITS Innumerable installment sales are lost because of the mechanical methods employed in the credit department of most chains. Neither the personal contact of the manager nor the human element is taken into consideration. Girls mechanically check up references and other sources of information on contracts. Because of their indifference and the pressure of work on hand they try to get through with a contract as quickly as possible, obtaining insufficient information and risking the loss of business to good credit risks. It is generally known by chain store managers that many contracts passed as N.G. by the credit department are actually extremely good credit risks.

NO. 4—EXECUTIVE HEADS It is true that there are very few executive heads of radio chain stores who know the radio business. In the opinion of experienced managers some of the requests made by their bosses are of asinine stupidity. However, as employees, they have to follow orders, right or wrong. In the past an executive would issue orders throughout the chain contradicting his fellow executives, thus bringing about a humorous situation in the minds of the employees as to the competence of their superiors. Managers of many chains are automatons. They have very little authority to use their own mental equipment. The main office grinds out a formula of business procedure, which must be put into practice to the letter by the store managers. Whether this formula will adapt itself

Chains FAIL

to a particular store and neighborhood is not given consideration. Orders must be followed. If the store manager disobeys his job is at stake. The question arises, "Can a chain store system be run with the same rigid discipline as an army?" It cannot be done.

The past history of the majority of the chains proves conclusively that poor management, inability to fit policies to local conditions, is the chief reason for the many failures which mar the business records of these enterprises.

NO. 5—NEPOTISM AND POLITICS Nepotism, or the favoring of relatives by owners, offering them responsible positions regardless of ability, is a practice which has played havoc in undermining the foundations of many a substantial organization. It demoralizes capable employees who are non-relations.

Politics exists in a radio chain store system similar to politics in government. The individual who may lack business ability but possesses an inborn trait to kowtow to superiors, usually makes good headway, particularly if his superior loves flattery. Chain store politicians ingeniously work up to high responsibility. It is then only a question of time when the company's business reaches a low ebb.

NO. 6—ADVERTISING The publicity department can be very helpful or very harmful. Gigantic newspaper campaigns, running into fabulous sums, have been too much a part of the merchandising programs of the radio chains. If effective, this money was not wasted. But, in the past, the chains have spent much money on space which did not produce. One chain would compete with a rival to see which could make the biggest splurge. Such measures tapped profits to new low levels.

Also too much money has been spent on fancy window displays. Expensive velours and silks were purchased by high-priced trimmers, without regard to the sales returns.

NO. 7—PURCHASING The radio chains constantly are approached with unusual buying opportunities such as jobber close-outs, factory clearances and bankruptcies. Many times the quantities involved are too great, with the result that capital is tied up and sacrifices must be made to get out from under. Sometimes a quantity buy refuses to move at all and must be disposed of at great loss.

Of all the industries in this country subject to frequent and radical price changes radio is outstanding. A set has been known to sell for \$200 one day and, two days later, to be quoted at \$89. The chains are peculiarly vulnerable to a situation of this kind.

NO. 8—COMMISSIONS AND CHISELING If radio chain store owners realized the harm that the uncontrolled allotment of commissions does they would give this matter more thought and work out a practical plan. The present method is to offer a commission on any merchandise

Independent Dealers and Group Store Executives Alike Can Profit from This Presentation of the Pitfalls Which Face the Large Operators

sold on which a substantial profit is made or on goods which are becoming obsolete. It is logical that the salesman will push such merchandise, suggesting to the customer an item that carries a "P.M."

Some salesmen use tact in "switching," but they are in the minority. Most clerks sell the commission items by using high

pressure methods. At times they are so rude as literally to throw out of the store customers who refuse to change their mind. Prospects are not given courteous attention when they inquire about something which does not involve a profit for the salesman.

Now the boss knows very little about these goings on, and about the true state of mind of his personnel, the majority of which care little for the store's welfare provided they can get theirs.

Then again, salesmen quarrel amongst themselves over commissions and try to annex the most likely looking customer or steal the other man's prospect. The opportunities for trouble are plenty under this "survival of the fittest" system, with the result that the store suffers in the long run.

NO. 9—STOCK MANIPULATION A radio chain of any size usually gets tangled up in Wall Street sooner or later. The past experiences with the stock brokers have been disastrous. Once listed on a stock exchange it is the beginning of the end. The wizards of finance start manipulating values. First high—then low. Effort that should be put on building sound merchandising policies is diverted to the "get-rich-quick" market. We all know the answer.

INDEPENDENT DEALER NEED NOT BE ALARMED

From the preceding it will be seen that the independent dealer need not be alarmed when chain store competition threatens. By applying energy and intelligence to the problem he can counteract the price inducements that is the one selling argument that the chains employ. Let him feature "Individual Service Without Red Tape" or "Personal Interest in Giving Each Customer What He Wants" or "Immediate Delivery."

These arguments will arouse the enthusiasm of the prospect to a pitch which will reduce sales resistance and help the dealer get his legitimate price.

The individual dealer is naturally more interested in his business. He can watch his personnel closely. He can build for permanence on the solid foundation stones of dependable service, expert knowledge and fair dealings.

Furthermore, the man who is in a position to formulate his own policies, quickly and in accord with local conditions, and who can develop that personal contact and personal reputation for fair dealings, so essential to long-time operations, has a fighting advantage that no chain store in the world can meet or take away from him.

With confidence in the nation's future rapidly returning, the lure of price will become less attractive—and the advocate of quality again will come into his own.

Put on the Brakes!

This cartoon and title appeared originally in the July, 1931, issue of "Radio-Retailing." Now, with the announcement of a four-tube set selling under \$13, another "milestone" (?) must be added to mark the downward path of radio price levels.



Another MILESTONE

THE Radio Corporation of America has announced a new radio set, to retail complete with four tubes and dynamic speaker for \$12.95. It has seen fit to put the hallmark of the RCA initials on a receiver for which the factory billing price is about \$6.40!

There are two points of view regarding this latest move by the presumptive leader of the radio industry. Such a low price undoubtedly will open up new markets for radio sets, reaching groups of the public hitherto unable to buy radios. And at such a casual price the convenient use of supplementary radio sets in rooms in the home will undoubtedly increase. We shall have more radio sets in more places.

But this move also means that the average of tone quality will be pulled down lower and lower. Furthermore, this \$12.95 figure sets a new low peg for radio price levels generally, for all price brackets eventually will be affected. In this respect many radio men regard this latest appeal to price as a body blow to the recent tendency toward higher quality which was just getting established (first quarter 1933 sales show a swing away from the \$18 trend toward the small set retailing in the vicinity of \$25). Now, however, other manufacturers must strive to meet this under \$13 figure, even though a quick survey of experienced production men indicates the practical impossibility of making a factory profit at this level.

Meetings of RCA licensees to protest the \$12.95 price movement, as one at which it will be impossible for either manufacturer or dealer to survive, were held, it is understood, the week the new set was announced to

the trade. Bitterness was expressed by RCA licensees that, after having involved themselves in investments in factories and raw materials, based upon their licenses to engage in radio production, the licensor itself should lead off in setting a low level to which all manufacturers would eventually be pulled down.

Retail leaders also felt that the new move marked the end of a profitable price structure on which present channels of distribution could be continued. They saw the \$12.95 announcement as throwing overboard all the recent efforts to win public appreciation of tone quality, undertaken by radio manufacturers, dealers, broadcasters, engineers, and musical leaders.

As we go to press, there is considerable excitement and a strong feeling in the radio industry, caused by the announcement of the \$12.95 set. But after this has subsided, and the radio trade gets back to its workaday selling job, it is likely that there will still be a radio business, despite the existence of this lower price level. The public will still be dissatisfied with anything short of good tone quality. Music lovers will still want full-range reception when they listen to Stokowski or Toscanini. Dollar watches have not killed the market for fine timekeepers selling from \$50 to \$100.

And out of the turmoil of \$12.95 radios, bringing to new millions even "\$12.95 broadcasting," it is inevitable that thousands of new friends and customers for quality reproduction and quality radio sets will be won.



Vital NEWS *is on the* AIR

President Talks to the Nation! Congress Passes Bank Bill! Earthquake on the Pacific Coast!

*And only one office set on the job—
Seven busy executives dropped in to listen
Sell these seven, Mr. Radio Merchant!*

THE President makes a proclamation in person . . . A stirring debate in Congress is put on the air . . . Hot news of a great city disaster comes across the Continent . . . Hourly dispatches trace important policy developments in Europe . . . Price changes in grain markets and other staples are reported morning and evening . . . Quotations of stocks and bonds are offered at opening, noon and closing.

All day long a steady stream of vital information is available to the business man via radio. Yet he shuts himself off from this information, important to his hour-by-hour decisions, unless he has an office set.

Of course he can rent a ticker service for \$100 a month. But even at such a price he will not hear the spot news of the day, exactly as it happens. He will miss the President's own ringing tones, the cross-currents of debate on the floor of the House at Washington, the personal touches that carry their own interpretation. And in comparison with \$1,200 a year to operate a ticker, an office radio costs less than \$5.

Look at the scene above, which actually took place in an Eastern office during the critical opening day of the

new administration. One busy executive, who knows the value of office radio, had reception facilities. Seven other busy men left their own offices to listen-in. Each of those other men is now sold on office radio and is a ready prospect waiting for a radio salesman to come in, install a set and collect his money.

So many important things are on the air all day long, that no alert business man can afford to be out of touch with radio for many hours at a time. He needs a radio set in his car, as he drives to business or comes home at the end of the day, to pick up late news and market reports. But most of all he needs an office radio, always ready to tap the day's events and the day's news.

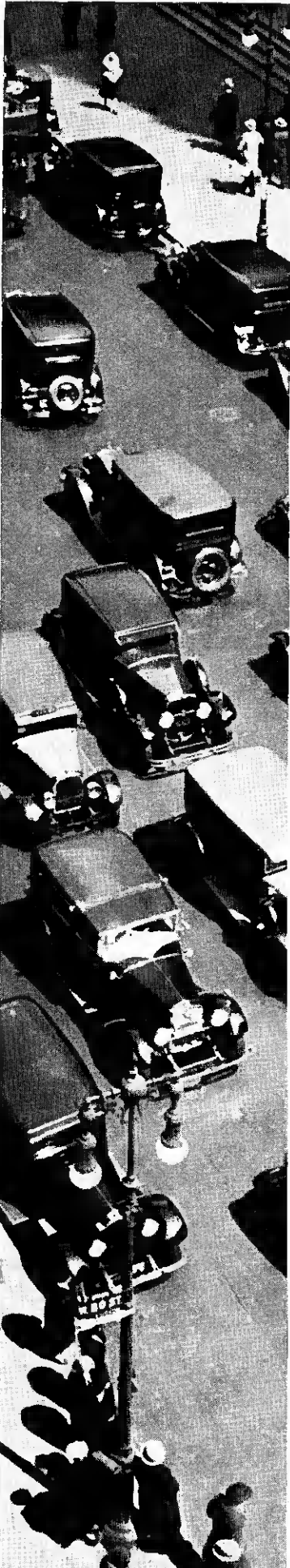
No business man would think of being without a telephone. Yet his phone enables him to talk with only a few individuals during the course of the day. His radio set, on the other hand, connects him with the entire country, vitalizes events that are making history.

And these radio sets for the business man are ready—midgets, concealed book models, desk models, combination clocks-and-radios. All that is now needed is to get the set into the business office.

AUTO-RADIO

Set prices include tubes, B-eliminator, suppressors, etc., unless otherwise stated. Battery set prices are less batteries.

Trade Name	Model No.	No. of Tubes	Type B-Power Supply	Circuit	List Price
Acme Mfg. Co., Miamisburg, Ohio					
Moto-Midget	.....	5	.....	.....	\$29.50
Moto-Midget	.....	6	.....	Superhet.	39.95
American Television & Radio Co., 1916 University Ave., St. Paul, Minn.					
ATR Duo-Radio*	.....	6	Built-in Elim.	Superhet.	\$39.50
* Can also be used on ac-de in the home.					
Atwater Kent Mfg. Co., Philadelphia, Pa.					
A-K	636	6	Dynamotor	Superhet.	\$59.50
A-K	756	6	Dynamotor	Superhet.	64.50
Audiola Radio Co., 430 S. Green St., Chicago, Ill.					
Audiola	S7	7	B-Elim.	Superhet.	\$69.95
Audiola	S6	6	B-Elim.	Superhet.	59.95
Automatic Radio Mfg. Co. Inc., 112 Canal St., Boston, Mass.					
.....	.....	4	.....	.....	\$19.95
.....	.....	6	.....	.....	39.50
Belmont Radio Corp., 1257 Fullerton Ave., Chicago, Ill.					
Freshman-Belmont	Working on an auto-radio — Information not available yet				
J. A. Brookman Co., 1341 S. Broadway, Los Angeles, Calif.					
Auto-Vox	66	5	Battery or Elim.	T.R.F.	\$39.75*
Auto-Vox	75	6	Battery or Elim.	Superhet.	47.75*
* Prices do not include batteries or eliminator. Eliminator is \$6 extra.					
Crosley Radio Corp., Cincinnati, Ohio					
Crosley	98	5	Vibrator B-Elim.	Superhet.	\$49.95*
* Installed					
Dumont Electric Corp., 42 W. 17th St., New York City					
Dubilier	603	6	Batteries	T.R.F.	\$59.50
El Rey Radio Mfg. Corp., 8408 S. Broadway, Los Angeles, Calif.					
El Rey	A	6	Built-in B-Elim.	Superhet.	\$49.50
El Rey	B	4	B-Batteries	T.R.F.	19.50
El Rey	C	5	Built-in B-Elim.	T.R.F.	29.50
Fada Radio & Electric Corp., Long Island City, N. Y.					
Moto Set	.....	8	Vibrator	Superhet.	\$79.50
Fischer-Smith, 1401 Station St., W. Englewood, N. J.					
.....	FS4	4	Batteries	T.R.F.	\$35.00
.....	FS6	6	Built-in B-Elim.	T.R.F.	79.50
Franklin Radio Corp., 88 Vermont St., Dayton, Ohio					
.....	200	6	Vibrator B-Elim.	Superhet.	\$54.50
Freed Television & Radio Corp., 2217 41st Ave., Long Island City, N. Y.					
Freed	A-6	6	Generator	Superhet.	\$49.50
Freed	A-7	4	.....	Superhet.	\$24.50*
* Less eliminator. † Provision for any standard type.					
Galvin Mfg. Corp., 847 Harrison St., Chicago, Ill.					
Motorola	55	5	Tubeless B-Elim.	Superhet.	\$49.50
Motorola	77	7	Tubeless B-Elim.	Superhet.	64.50
General Electric Co., Bridgeport, Conn.					
GE	B-40	4	Vibrator B-Elim.	Superhet.	\$34.95
Grigsby-Grunow Co., 5801 Dickens Ave., Chicago, Ill.					
Majestic	116	6	Built-in B-Elim.	Superhet.	\$49.50
Gulbransen Co., 816 N. Kedzie Ave., Chicago, Ill.					
Gulbransen	V6Z2	6	Vibrator with tube	Superhet.	\$46.50
Gulbransen	U6W1	6	Tubeless Vibrator	Superhet.	74.50
Howard Radio Co., South Haven, Mich.					
Working on auto-radio — Information not available yet					
J-M-P Mfg. Co. Inc., Milwaukee, Wis.					
Auto-Dial	.....	5	Batteries	.....	\$40.00
Auto-Dial	.....	5	.....	.....	40.00
Karadio Corp., 2600 Delaware St., S. E., Minneapolis, Minn.					
Karadio	52	5	Vibrator B-Elim.	Superhet.	\$42.50
Karadio	73	6	Vibrator B-Elim.	Superhet.	59.50
Karadio	214	6	Vibrator B-Elim.	Superhet.	69.50
Master Radio Products, 2416 S. Michigan Ave., Chicago, Ill.					
.....	E5	5	Rotary B-Elim.	Superhet.	\$49.50
.....	E6	6	Rotary B-Elim.	Superhet.	59.50
Melburn Radio Mfg. Co., 2876 West 9th St., Los Angeles, Calif.					
.....	30	4	Batteries	T.R.F.	\$19.50*
* With Batteries					
Mission Bell Radio Mfg. Co. Inc., 1455 Venice Boulevard, Los Angeles, Calif.					
Mission Bell	10A	6	Built-in B-Elim.	Superhet.	\$59.50
Mission Bell	19A	5	Built-in B-Elim.	Superhet.	39.50
Mission Bell	19B	5	Built-in B-Elim.	Superhet.	49.50
Moto-Meter Gauge & Equipment Corp., Toledo, Ohio					
Motovox	10F	5	Batteries	Moto-Tetradyne	\$38.50
Motovox	10A	5	B-Elim.	Moto-Tetradyne	58.50
Noblitt Sparks Industries, Inc., Columbus, Ind.					
Arvin	20A	6	Vibrator B-Elim.	Superhet.	\$49.50
Arvin	30A	7	Vibrator B-Elim.	Superhet.	59.50
Perfectone, Inc., 2005 S. Michigan Ave., Chicago, Ill.					
Perfectone	44	4	Batteries	T.R.F.	\$35.00
Perfectone	44R	4	Battery	T.R.F.	43.00
Perfectone	679B	6	Rotating B-Elim.	Superhet.	74.00
Philco Radio & Television Corp., Philadelphia, Pa.					
Philco	6	6	Vibrator B-Elim.	Superhet.	\$59.50
Philco	9	6	Dynamotor	Superhet.	89.50
Philco	12 (1 st sold)	6	Dynamotor	Superhet.	89.50
Pierce-Airo Inc., 510 Sixth Ave., New York City					
De Wald	52	6	B-Elim.	Superhet.	.....
De Wald	54	5	Bat. or Elim.	T.R.F.	.....
Pines Winterfront Co., 1135 N. Cicero Ave., Chicago, Ill.					
Pines	1	6	Rotary Transf.	Superhet.	\$59.50
This set available for 4 types of mounting.					



Specifications

Trade Name	Model No.	No. of Tubes	Type B-Power Supply	Circuit	List Price
Premier Electric Co., Grace & Ravenswood Ave., Chicago, Ill.					
.....	6B	5	Battery	Superhet.	\$34.50
.....	6E	5	Vibrator	Superhet.	43.50
RCA Victor Co. Inc., Camden, N. J.					
RCA-Victor	M34	4	Vibrator B-Elim.	Superhet.	\$34.95
Roots Auto Radio Mfg. Co. Inc., 2900 South Parkway, Chicago, Ill.					
Roots	79	8	Vibrator B-Elim.	Super Metron	\$69.50
Roots	69	7	Vibrator B-Elim.	Super Metron	49.50
Roots	55	7	Vibrator B-Elim.	Superhet.	55.00
Sentinel Radio Corp., 9705 Cottage Grove Ave., Chicago, Ill.					
Working on auto-radio — No information available yet.					
Sheldon Radio Co., 2631 W. Ave. 32, Los Angeles, Calif.					
Sheldon	A8	8	.....	Superhet.	.....
Sheldon	SA5	5	.....	Superhet.	.....
Simplex Radio Co., Sandusky, Ohio					
Simplex	T	6	Vibrator B-Elim.	Superhet.	\$45.00
Sparks-Withington Co., Jackson, Mich.					
Sparton	33	6	Vibrator B-Elim.	Superhet.	\$59.50
Stewart Radio & Television Co., 40 W. Milwaukee, Ave., Detroit, Mich.					
Stewart	Companion	6	.....	Superhet.	\$49.50
Stewart	Ariocrat	7	.....	Superhet.	59.50
Transformer Corp. of America, 2309 S. Keeler Ave., Chicago, Ill.					
Clarion	.....	7	Vibrator	Superhet.	.....
Tropic-Aire, Inc., 60 Eleventh Ave., N. E., Minneapolis, Minn.					
Tropic-Aire	Senior	6	B Elim.	Superhet.	\$74.95*
Tropic-Aire	Junior	6	B Elim.	Superhet.	59.50*
Tropic-Aire	Universal	6	B Elim.	Superhet.	44.00*
* Spark plug suppressors not included					
United American Bosch Corp., Springfield, Mass.					
American Bosch	100	7	B-Elim.	Superhet.	\$85.90
	100	7	Battery	Superhet.	59.95
New model now in process — information not ready at present.					
United Motors Service Inc., 3044 W. Grand Blvd., Detroit, Mich.					
	2035	6	Vibrator B-Elim.	Superhet.	\$64.50*
* Installed					
Wells Gardner Co., 816 N. Kedzie Ave., Chicago, Ill.					
Wells-Gardner	T6W	6	Vibrator	Superhet.	.....
Wells-Gardner	Z6Z	6	Vibrator	Superhet.	.....
Zenith Radio Corp., 3620 Iron St., Chicago, Ill.					
Zenith	460	7	Built-in B-Elim.	Superhet.	\$59.50

B-Eliminators

Model	Type	Rectifier	Battery Drain (Amps)	Output	Size	Price
Advance Elec. Co. Inc., 1260 W. Second St., Los Angeles, Calif. (Paick)						
.....	Vibrator	Merc. Vapor	.....	.....	.....	\$13.95
Carter Genemotor Corp., 361 W. Superior St., Chicago, Ill. (Carter)						
4680A	Rotating	.....	1.8	180 v.,	4½x6½x6½	\$21.00
1135	Rotating	.....	.8	135 v.,	4½x6x6½	26.00
Electronic Laboratories, Inc., 122 West New York St., Indianapolis, Ind.						
331	Vibrator	84 (6Z4)	2.3	180 v., 35 ma.	7½x6x2½	\$17.00*
331H	Vibrator	84 (6Z4)	3.2	200 v., 50 ma.	7½x6x2½	17.00*
333	Vibrator	I-V	1.5	120 v., 50 ma.	6x5½x2½	.....
* Kit, \$14						
Emerson Electric Mfg. Co. Inc., 2012 Washington Ave., St. Louis, Mo. (Emerson)						
DM4AE	Dynamotor	.....	2	180 v., 40 ma.	7½x4½x6½	\$21.95
Janette Mfg. Co., 553 W. Monroe St., Chicago, Ill.						
CU40	Rotating	.....	2.6	180 v., 40 ma.	12x6x5½	\$32.00
CU40	Rotating	.....	2.4	135 v., 40 ma.	12x6x5½	32.00
Karadio Corp., 2600 Delaware St., S. E., Minneapolis, Minn. (No Bee)						
.....	Vibrator	Tubeless	1½	180 v.	5½x5½x5½	\$16.50
.....	Vibrator	84	2	180 v., 40 ma.	5½x5½x5½	16.50
Kato Engineering Co., Mankato, Minn. (Kato)						
A68	Vibrating	84	1.7	184 v.	5½x9x3½	\$20.00
Mallory, P. R. & Co. Inc., Indianapolis, Ind. (Elkon)						
10	Vibrator	*Self	2.1	200 v., 43 ma.	2½x6½x7½	\$17.50
* No tube required. (Four other models with output range of from 200 v. 38 ma. to 200 v. 23 ma. Price same)						
Motor Car Devices Co., 1455 Venice Blvd., Los Angeles, Calif.						
D	Vibrator	KR1	1½	180 v.	6x6½x4	\$18.50
Oak Mfg. Co., 711 W. Lake St., Chicago, Ill.						
180	Vibrator	98, 84 or 6Z4	2.3	180 v., 40 ma.	3½x6x5½	\$16.95
Pines Winterfront Co. Inc., 1135 N. Cicero Ave., Chicago, Ill. (Pines)						
7339	Rotary Transf.	.....	2.6	135 v., 30 ma.	5½x8x6½	\$21.95
(Also nine other models 135 v. 30 ma. to 220 v. 40 ma. Prices \$21.95 — \$27.)						
Pioneer Gen-E-Motor Corp., 2251 Lawrence Ave., Chicago, Ill. (Gen-E-Motor)						
B135*	Rotary	.....	1.4	135 v., 30 ma.	4½x6½x6½	\$20.50
* Seven other models with output ranging from 135 v. 30 ma. to 200 v. 40 ma. Prices \$20.50 to \$35. Also new model 1 3½x5½x5½. With tap, \$16.45.						
Premier Electric Co., 1800 Grace St., Chicago, Ill. (Premier)						
180B	Vibrator	84	2.0	180 v., 35 ma.	3½x5½x5½	\$13.65
Utah Radio Products Co., 812 Orleans St., Chicago, Ill. (Utah)						
*	Vibrator	84	2.3	180 v., 40 ma.	6½x7½x2½	\$17.50
*	Tubeless	.....	1.9	.....	.....	17.50
* Have 12 different models						



If You Sell REFRIGERATORS Read This REVIEW of 1933 Features

WHEN General Motors announces no-draft ventilation in its new cars or when Chrysler talks about "floating power" everybody selling automobiles must be prepared to discuss these features, pro or con. Now that the new household electric refrigerators for the spring and summer of 1933 have made their bow, there's a similar need for a review of their features. So that radio distributors, dealers and salesmen may quickly get a picture of the new refrigerators and the probable talking points this season, *Radio Retailing* analyzed the specifications of 28 different makes.

In general the most noticeable feature of the new refrigerators is their added beauty this year—their **STYLE**. Also important are the many accessories, refinements and extra conveniences that are present on the 1933 models. Boxes of minimum size selling to the consumer at \$95, \$96, \$99.50, \$112, \$114.50 and \$120 are now added to the models of the leading manufacturers.

Guarantees on units are chiefly for one year, although Servel guarantees some of its units for two years. Majestic, Montgomery-Ward, O'Keefe & Merritt, Stewart-Warner and Challenger guarantee some of their units for three years. General Electric, on two of its lines, has a four-year guarantee. Cabinets are generally guaranteed for but one year. Challenger, Montgomery and O'Keefe & Merritt grant a three-year term on most of their boxes.

Mechanical changes include a tendency toward the smaller-sized, compact unit, permitting easier replacement and greater food-storage space in the same size cabinet employed in prior years.

Getting down to details here are the high spots, item by item:

Cabinet Appearance Practically all 1933 cabinets have been re-styled. The handwriting is on the wall for the severely plain box having sharp corners and edges. Rounded corners and edges are on the increase. Most apparent shifts from customary cabinets are the Copeland and Norge. Other makers have been more conservative but all appreciate the value of greater eye value.

Legs and Bases First rebellion from the usual refrigerator cabinet legs is led by the Copeland modernistic tier-effect supports, also the archway base introduced by Norge and available in either black or white porcelain. All other makers this year stick to conven-

tional legs. Broom-high cabinet legs are so universally used as to make them almost obsolete as talking points. "But how high is a broom?" a wag asks.

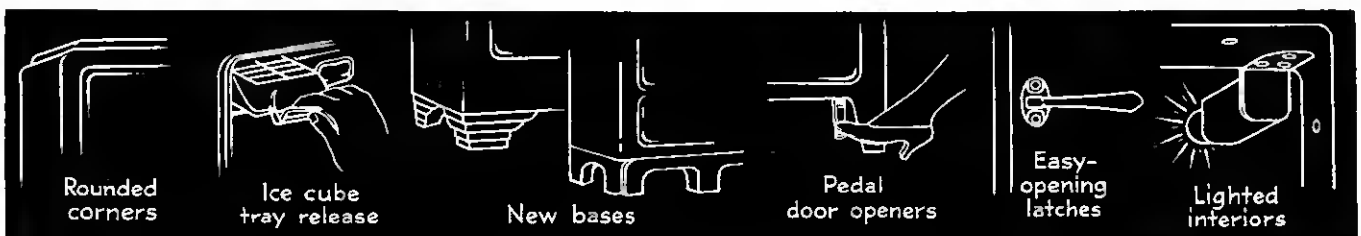
Cabinet Tops Since General Electric introduced its flat-top Junior Model last semester, all manufacturers this year can point to flat tops, table tops or buffet tops on at least some of their 1933 models. General Electric, of course, retains its famous Monitor Top on two of its lines. Williams Ice-O-Matic offers its dome-like unit either on top of the box or hidden inside.

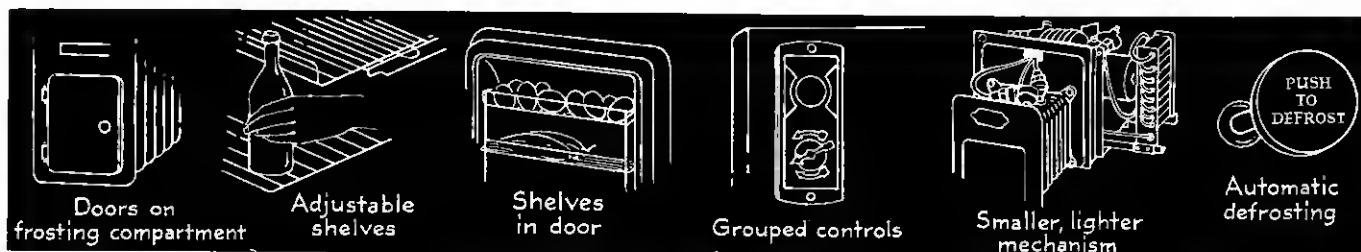
Cabinet Hardware It's going to be a three-cornered fight on refrigerator cabinet hardware this year. In the one corner "concealed hardware," in the other corner "semi-concealed hardware" and in the third corner "hinges and latches that don't care who see them." The concealed and semi-concealed hardware people together outnumber the refrigerator makers whose 1933 cabinet hardware is entirely visible. Mayflower has Colonial-inspired hinges and locks. Copeland has gone frankly modernistic on us and Williams uses a piano hinge—these are the chief non-conformists.

Door Openers This year manufacturers have tried to make it easy for the housewife to open the refrigerator door. More boxes have easy-opening latches than those without. Norge and Sparton are representatives of the school that says, "Push or pull our latch with any part of your body and presto! the door opens."

Speaking of "presto," 1933 sees the number of refrigerator models with foot-actuated door greatly increased. Leonard has its "Len-A-Dor"; Gibson its "Pres-Toe-Dor"; Mayflower has a "foot control self-locking door catch" and General Electric, on its deluxe models, has a new foot-pedal door opener. These foot-operated door openers are not to be found on all of these manufacturers' models, generally not on the cheaper ones.

Doors Refrigerators this year boast not merely the manufacturers' name on a little plate but usually a crest or coat of arms, probably a swipe from the auto industry. Panels in relief also decorate some doors, as in the case of Gibson and Frigidaire. Two manufacturers, Gibson and Grunow, differ from their competitors by having doors flush with the front of the cabinet. Arched doors are featured by Apex and others. Crosley deserves a special bouquet for its "Shelvador"—a series of shallow shelves, equipped with guard rails, fastened on the inside of the door.





Mechanism There is a marked movement toward compact, light-weight and easily replaceable mechanism. Copeland, Frigidaire and Sparton join in a trio, "Only three moving parts." Obviously engineers are working hard to evolve smaller, lighter, simpler, unit-type refrigerator mechanism that will not only lessen and facilitate service but which will allow more of the cabinet space to be used for food storage. Frigidaire strikes a new note in operation economy when, due to the new mechanism in its Standard line having a 1/20 h.p. motor, it offers "an electric refrigerator that uses no more current than an ordinary light bulb."

Location of Mechanism To the two older schools of mechanism placement—"unit-on-top" and "unit-in-the-bottom" comes a third—the Copeland school of "unit inside." Here the cooling chamber and the mechanism are wedded and placed in the cabinet through an opening in the back of the box. Factories with their units in the bottom exceed in numbers those who place the unit on top. Frigidaire departs from convention in its new Standard models by placing the condenser at the back of the cabinet.

Refrigerant The "Carrene" in Bill Grunow's refrigerator, the new non-toxic low-pressure refrigerant used in Frigidaire's Standard model and the new refrigerant in GE's de luxe box are probably the chief innovations in refrigerants this year, the other makers sticking to older, more conventional chemicals.

Insulation Last year Frigidaire gave us "Stataflex" insulation. This year Kelvinator presents "Kelvatex" insulation. Majestic offers for our approval its "Isolator Wall" construction, an insulation aid, and the G-E Junior incorporates "Thermocraft" insulation.

Defrosting Automatic defrosting and easy defrosting are features of the new 1933 refrigerators, many of which maintain a safe low temperature while operating on the defrosting cycle and then automatically turn on full-force after the defrosting job is done. Copeland, Frigidaire, General Electric, Gibson, Kelvinator, Leonard and Majestic are some of the manufacturers who offer these defrosting developments this year. The Potter refrigerators, on the other hand, employ a non-frosting coil in the food compartment.

Controls This year sees more of the refrigerator models with controls mounted inside than outside. There is also evident a disposition to group the controls and mount them on one instrument panel, possibly due to Radio's influence.

Lighted Interiors Electric lights in food compartments, automatically controlled by the opening and shutting of the door, are almost universally the vogue on the new refrigerators, especially on the models outside the lowest price class.

Cooling Unit or Compartment Getting away more and more from the unsightly in the interior of the refrigerator, more manufacturers are featuring partial-porcelain or all-porcelain cooling units and ice-tray chambers. General Electric differs from Kelvinator, Leonard,

Copeland, Grunow, Mayflower and Westinghouse in this move by using a stainless steel freezing chamber.

Doors on Ice Chambers To prevent food odors from being frozen into the ice cubes for Papa's high-ball, many refrigerator makers this year put a door over the freezing chamber, these doors being porcelain or chromium finished. Mother, too, will be pleased.

Shelves Folks get a break this year on refrigerator shelves. Factory designers realize that greater flexibility is needed by the housewife. Hence Frigidaire and GE features in some of their boxes adjustable shelves, much as the shelves in bookcases. Sliding shelves that permit easy loading and unloading are featured by Apex, General Electric, Gibson, Kelvinator, Leonard, Merchant & Evans, Servel, Sparton, Westinghouse and some others. Telescoping shelves that take care of gawky milk, ginger ale, and beer bottles are found on over half a dozen 1933 models. Shelf supports have been improved, both in the rubber and porcelain mounts.

Dairy Baskets and Hydrators Stronger grows the disposition to place separately in dairy baskets eggs and other products. Here again about half a dozen manufacturers are using this accessory in 1933. Not content with one "hydrator" for fruits and vegetables, Frigidaire on its de luxe boxes gives the housewife two.

Other Features Refrigerator designers wouldn't hold their jobs if they all turned out the same standardized products. So-o-oh—we see some special features on practically all 1933 lines. Copeland has its small compressor unit and its novel base. Crosley has its unique "Shelvador." Frigidaire has its low-current-consuming motor of 1/20 h.p., its 25 lb. unit, its automatic ice-tray release and special features in the trays themselves. General Electric has its famous Monitor Top. Gibson has a lock on the door to stop the kiddies from eating the family out of house and home. Grunow has the Carrene refrigerator. Kelvinator has four temperature zones in one box. Majestic is "Electro-sealed" and has "Isolator Wall" construction. Norge has its "Rollator" and the new arched base. Potter has a separate compartment and door for ice cubes. Westinghouse is "Dual Automatic." Williams' Ice-O-Matic has piano hinges. And so on.

Before the spring selling season gets under way, those refrigerator producers who have not yet unveiled their new products will undoubtedly contribute many new sales appeals and eye-dazzlers.

At the time this summary is written, scant information is available from some manufacturers and no details on their 1933 lines from other manufacturers. Even were the entire galaxy of 1933 household electric refrigerators available for inspection, they would be so crowded with features that the reviewer's task would not be easy.

This much, however, can safely be said: The new lines represent the greatest advance in design ever registered from one year to another; they give the public more and better value than ever before. Certainly electric refrigeration deserves the best sales promotion that radio dealers and distributors can give it.

A Washington Jobber



Makes *the Most* of A-R

WASHINGTON is leading the rest of the country in auto radio sales. One reason is that this city, supported by the Federal government's payroll, has not been so hard hit by the depression. The other reason is James H. Simon, Motorola distributor. Simon started in June, 1931, by offering installation service on all makes to dealers, relieving them of the 90-day free service obligation. Since then he has installed 3,200 auto radios.

With letter endorsements by the local distributors of Philco, Crosley, Majestic, Bosch and other makes, Simon's shop became installation headquarters for downtown stores. All of them wanted to sell auto radios but few of them were equipped to handle installation and service, which then required a garage, a technician, an installer and an upholsterer.

Today Simon has 75 dealer service accounts and installs all their new sets for \$5, or \$7.50 including plate aerial and \$10 including top aerial—three months' free service included. He still has plenty of competition on this installation business but last July he stepped out in front with a new idea which proved to be what the dealers had been waiting for. Having to pay installation cost out of their customary discount gripes dealers.

They like to know exactly what they are making. Simon's discount, therefore, included the set *installed in the customer's car*. Within eight months his sales had tripled those of the former distributor.

To win over skeptical department store buyers to auto-radio he installed sets in their own cars at cost. He has boosted sales by other clever merchandising stunts until price-cutting by competitors has become an advertisement for him.

But the foundation on which Simon's business is built is fine mechanical work. His shop, just outside the congested downtown area, employs a regular staff of six factory-trained men. Thirty-five sets recently were installed in one day. Time per installation now averages 45 minutes, including elimination of motor noise.

Simon is confident that the present saturation of 5 per cent of the automobiles in the District of Columbia can be raised to 70 per cent. He is not particularly worried by the prospect that automobiles may be equipped with radio at the factory. The servicing business will be enormous and, incidentally, is much more desirable than the servicing of house sets because it is drive-in business performed within easy reach of the work bench.



Since June, 1931, Simon has installed 3,200 radio sets in automobiles. Present day sets have been so simplified that it is not unusual for one mechanic to install as many as ten in one day

Spotlighting the ADS (March)

BOSTON

Jordan-Marsh cut loose on St. Patrick's Day with Majestic Pirate Chests at \$9.95, drove some of the snakes out of the depression by moving the entire first shipment and howling for more . . . World took a flyer in Crosley superhet midgets (model ?) at \$14.99, urged buyers to kick in "before inflation drives prices up" . . . Gilchrist bragged about a \$69.95 list, Bosch 8-tuber, for \$39.95, pushed a mighty but unknown peewee at \$9.95, gave Roosevelt a friendly vote of confidence in passing . . . Davis Hardware offered "Jellope" table models for \$8.65, popular replacement tube types at a quarter, 60-day guarantee included.

CHICAGO

The Boston Store threw a "limited number" sale on one of Philco's early X models, cutting from \$80 to \$59, accepting receipt vouchers from Cook County and City Corporate employees to tide over "no pay" days . . . Wiebolt's generously offered a \$20 old set allowance against the purchase of \$69.50 six-legged Philco . . . Lyon & Healy ran several "class" ads on RCA-Victor, Stromberg, Howard and Capehart sets ("Radios as Modern as Tomorrow") . . . Walgreen Drug dumped Aristocrat tubes at 43c. to 83c. . . Eveready-Raytheon gave local sheets a slice of its co-op copy on four-pillar superiority.

CLEVELAND

Wurlitzer splashed \$36 consoles bearing the famous "?" brand all over the Press' program page early in the month, changed the tune to fourteen bucks later . . . Buescher's put its entire 1933 stock of radios under the hammer ("No reasonable cash offer refused") . . . Atlas-assembled Majestic 381's went for \$13.95, Pirate Chests for \$9.95, Stewart-Warner converters for \$6.95 . . . The May Company tried Philco's 71X at \$59.50, 80B at \$14.75 and 71L at \$39.95 . . . May & Company's exchange store ran this cryptic line in a rummage sale ad, "Electric Radios, \$6.75" . . . Kresge ballyhooed RCA 01As, 27s and 45s at 39c. . . Eveready-Raytheon broke several of its co-op columns.

NEW YORK

Metropolitan department stores helped keep the presses running with a healthy volume of copy . . . Gimbel's featured Stewart-Warner "books" at \$26.50, wound up the month with fireworks on a 10-tube super of unknown origin at \$29.95 . . . McCreery's joined in the Stewart-Warner chorus . . . Wanamaker presented the

J.W.55 universal model with a flourish at \$20 . . . Macy, not to be outdone, boosted a "Cameo" at \$21.89 . . . Ludwig Baumann celebrated its 75th anniversary with a \$25 six-legged console, a universal ("Sorry Ludwig-Baumann can't mention the name in print") at \$10.94 . . . Davega's ads ran the gamut from quality to mediocrity, Stromberg quality appeal, Emerson universals at \$17.95 and \$25, Majestic Pirate Chests at \$9.44, Westinghouse Columaires at \$49.95, midget leader straight, from a local loft, at \$8.44, and Victor tubes at 29c. . . Vim upheld the honor of Cortlandt Street by splurging on G.E.'s grandfather clock of none too recent vintage at \$59 . . . Nussbaum's vied for downtown space honors by broadcasting a 17c. price on RCA (licensed) tubes . . . Cunningham and RCA gave their dealers a hand with a number of the intriguing radio star "minute biography" ads.

KANSAS CITY

Jenkins Music gave Stromberg's new models a send-off, praised quality to the sky . . . Mace-Ryer resurrected the venerable dollar-sale idea, offering Philco's 71X (\$80) and the Junior (\$18.75) together for \$81 . . . Davidson's did a little plain and fancy copy-writing on a \$27.50 Philco superhet highboy.

MINNEAPOLIS

The Leader store pulled a new one, ran a combination Marvin tube and jig-saw puzzle sale, 27 or 45 plus puzzle for 29c., 01A's, 26's, 71A's and 80's, at 49c. . . Walgreen Drug fished Aristocrat bottles out of the hat, 43c. to 83c., solociting trade-ins as bait.

NEW ORLEANS

Walther gave the Philco Lazy-X 14 and 19 a play at full list, induced Jessie DeBoth to demonstrate the sets at the *Times-Picayune* cooking school.

ST. LOUIS

Famous-Barr rode Zenith 103s at \$54.50 to a fair month's business . . . Union-May-Stern retaliated with Philco 71X at \$59.50 . . . Scruggs-Vandervoort-Barney pinned its hopes on newly-minted Freshman 10-tubers at \$39.50 . . . Star Square tacked a \$12.95 midget and RCA-Cunningham tubes to its automotive supply column . . . Walgreen Drug slapped the usual half-price ad on Aristocrat tubes in with Palmolive, Bromo-Quinine and Pebeco copy . . . Wurlitzer unloaded used stuff at \$9.85 and up through the want-ad section . . . Eveready-Raytheon ran a co-op.

SUMMARY

Price practically monopolized the spotlight . . . AC-DC peewees continued to bowl 'em into the aisles . . . the palm for best "sell-up" effort of the month divides between Lyon & Healy of Chi, Walther Brothers of New Orleans and Jenkins Music of K.C. . . . booby prize award for give-away tactics too split up to permit winner's (plural) mention . . . manufacturer co-op leaders: Eveready-Raytheon, RCA-Cunningham, Stromberg . . . most conspicuous set: Philco.

W. MacD.

More Sales Ideas

Store—Service Specialist Records

By William P. Saunders

Gimbel Brothers, Philadelphia department store, has used a coupon book for complete control of service routine since 1929, with excellent effect. The result has been the holding down of costs. Fully 85 per cent of the store's sales are made on the time-payment plan.

The routine operation of the coupon system provides for mailing the book together with a form letter to customers on the day the credit department approves the account. Deliveries are ordinarily made the following day and the coupon book is mailed to arrive before the set. Coincident with the mailing of the coupon book and form letter we insert an indexed envelope in our service files. All supplemental complaints, coupons, etc., etc., are filed in the envelope under the customer's name. The serial numbered coupons with identifying letter sequence gives a clear indication of whether a customer has demanded abnormal service. If, within ninety days, more than two coupons are used, a special investigation is automatically made as a matter of routine.

Outside service work is done on a contract basis and this routine provides an excellent check on the general conduct of the servicing organization doing our work. The service specialist's bills are rendered in such a manner as to indicate the coupon number, date of previous complaint and so forth. The coupon number and letter is reconciled to the invoice for charges.

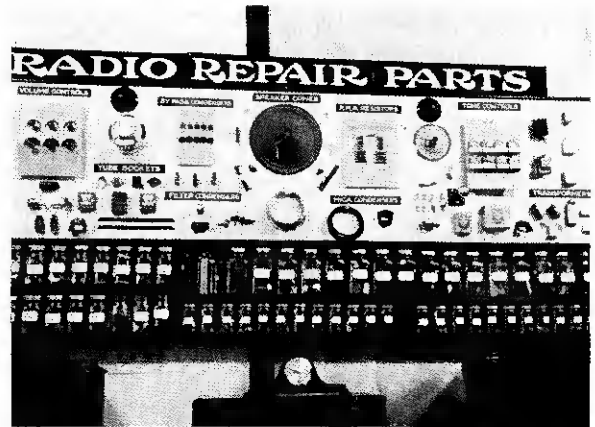
The prevailing decline of set prices has been such that Gimbel has not been able to supply coupon books in all cases without charge. On \$29 and \$39 promotional sets a charge of two dollars is made. In the concern's profit accounting system this charge represents about six per cent of the prevailing promotional prices and goes toward "prepaying" the burden of the extra service costs incident to the department store sale of sets. On catalog list price receivers, in direct competition with other stores, the service book is supplied free of charge.

B	504	A	SERVICE COUPON
Please sign and tender this coupon to service man as a receipt for his work.			
The radio adjustment requested by me has been adjusted to my entire satisfaction.			
Signature: _____			
Date: _____			
Service man:—Make detailed report on reverse side.			

And a detailed report of the trouble and remedial measures gives the manager a chance to check work against bills

SERVICE MAN'S REPORT	
Kind of Set	Date Sold
Assigned to	Date
Adjustment Completed	Date
Trouble	
How Adjusted	
Remarks	

The customer's signature on this side assures the store that the repairman has not merely "talked" a set into shape



Well Displayed Is Half Sold

A 70 per cent increase in replacement parts sales is attributed by Lake View Radio to this excellent display mounted in the store window. A duplicate board is now being made up to keep on the floor.

Radiation Shows Up Cheap Sets

By Morris Chernow

Many of the cheap supers now on the market radiate and prospects can often be sold better models if the salesman proves that the cheap set can annoy the neighbors.

I use a simple radiation indicator consisting of a 0-1 mil. meter in series with a coil and variable condenser circuit which can be tuned to resonance with the broadcast band. Connect the instrument in series with the antenna lead of the radiating set, or couple it tightly to the antenna without making direct connection, and show your prospect how the meter hops when the set is tuned.

"No-Pay-On-Call-Back" Sells Good Tubes

By E. W. Leroy

We have been selling about 5,000 tubes a year for the past three years. We have been able to do this by, first, selecting the brand of tube that seemed to be the best and putting most of our effort on it.

Servicemen are encouraged to sell this brand in preference to all others by a "no-pay-on-call-back" plan. If they have to call back within sixty days after putting in a tube, because of tube trouble, they are not paid for the initial call. Naturally, they push the best tubes we have. The result has been no call-backs for the last three months.

We also post a permanent offer to pay any person who buys one of these tubes \$10 if he can prove that he has another brand that is better, that will last longer. So far there have been no "takers."

for SERVICEMEN

Swap Sets for Advertising

By Charles R. Buckley

I secured \$100 worth of advertising in my local newspapers last year by swapping radios for space.

This is the way it is done: Most set manufacturers give dealers a 50-50 advertising allowance. And the trade discount on sets I sell is almost 50 per cent. I went to an editor in town and offered him a radio for his summer camp in exchange for space. He not only accepted the proposition but told the editor of a competitive paper, who approached me to duplicate the deal.

The same stunt works well with electrical appliances, too. The plan works out to everybody's advantage.

If you are troubled with
RADIO NOISES
call or write
BELLE TETE'S RADIO SERVICE
 71 MAPLE STREET **A SQUARE DEAL** WINCHENDON, MASS.
 Telephone 236-W

They Paid Their Own Way

A 103 per cent increase in sales; 50 per cent increase in customers is reported by Charles E. Belletete, serviceman, following distribution of penny-postcards such as these. Truthful diagnosis of trouble resulted in profitable jobs

Paper Triangles Keep Panels Clean

By G. R. Campbell

Floor sets have a nasty habit of becoming smeared up because of constant tuning. The panels become unsightly with fingerprints, injuring the impression made on prospects.

Cut a piece of heavy paper, or light cardboard, to a triangular shape, remove the knobs from the receiver and insert the triangle under them. Triangles can be replaced when they get dirty and it will not be necessary to refinish panels before selling your demonstrators.

I have found that the triangles do not hurt the eye-value of a set display, in fact add to it. Their unique appearance, especially when seen from a distance, attracts attention, many people walking over to the sets just to see what the queer-looking panels are all about.

This Ad Stopped 'Em

Here's a service ad that clicked for the Madison Radio Shop . . . and no wonder. It has originality, pep. And it plays up the company's interest in repair work

Madison People PROTEST "Minnie Ha Ha Ha" Screeching Over WOW!
 We Answer Protest Against "Minnie"
 Minnie Ha Ha Ha sings over WOW every night in a warbling lullaby presentation—coast to coast all work—she must be stopped say Madison people. We'll plug her like we fix up other undesirable radio defects.
Just Phone B. 2444 MADISON RADIO SHOP
 1805 Monroe St. Madison, Wis.

Detective Agencies Buy Amplifiers

By Robert H. Lebfeldt

Some time ago we had the opportunity of listening in on a microphone pickup circuit used by a local detective agency in its work of tapping conversations. It was pretty bad.

We offered to build a new pickup device on radio principles which would be more sensitive and more easily understood. The agency, though skeptical, told us to go ahead at our own risk. A two stage, resistance-coupled amplifier using type 30 tubes, potentiometer control of volume through variation of input to the second stage, one 22½ and one 1½ volt battery and a lapel mike was quickly constructed and gave such improved performance that the agency instantly bought.

They paid only half as much for our instrument as for their old device and we made a handsome profit.

Your life may depend on this piece of paper—clip it out now — paste it in on the cover of your phone book—

police - - 3-1119
J. P. KENNEDY RADIO SERVICE
 418 West LaSalle Avenue 3-2414
fire dept. - 3-2119

It Attracted Attention

On his toes as usual, contributor J. P. Kennedy noticed that the telephone company had neglected to print emergency numbers on the cover of South Bend's new phone book. So he ran this ad weekly, for a month, in a local paper

News of the Month

ELMER T. CUNNINGHAM NOW PRESIDENT RCA VICTOR CO.

*"Step Toward Consolidation with RCA Radiotron"—David Sarnoff
McDonough Elected Executive Vice President of Radio Corporation*

Elmer T. Cunningham, president of RCA Radiotron Corporation, Inc., was, on March 17, elected also to the presidency of the RCA Victor Corporation, Camden, N. J. He succeeds J. R. McDonough, who formerly held that position.

"It is a step toward the consolidation of two of the Radio Corporation of America's wholly-owned subsidiaries," states David Sarnoff.

The RCA Victor and RCA Radiotron companies are engaged in radio research, engineering, manufacturing and sales activities, the former in the field of radio broadcast receiving instruments, phonographs and other radio equipment, and the latter in the radio tube field.

At a meeting of the board of directors of the Radio Corporation of America, held on the same date, J. R. McDonough, assistant to the president of the company, was elected Executive Vice-President of the Radio Corporation of America. Both of these appointments became effective April first.



ELMER T.
CUNNINGHAM

President of RCA-Radiotron who recently was elected also to the presidency of the RCA-Victor Co. Inc.

Dealers Endorse Editor Caldwell's Broadcasts

From Akron, Ohio, an appreciative radio dealer writes as follows: "Allow me to commend you for this (January 26th WEAFF Better Radio Reception Period) program. It was a well presented effort to help raise the radio to a higher level on which it justly belongs.

"As a radio dealer for the past nine years this was the first program the writer ever listened in on in which a real reason was given the listening public for the purchase of new and better radio receivers. In this day of radio receivers selling from nothing up, very little is being done or said over the radio broadcasting systems which would justify a person of even thinking that there is something desirable in a radio which was not built into the old type radios

or which cannot be built into a low price radio so prevalent on the present day market."

Radio Retailing wishes to announce that it will continue, during April and May, its series of popular science programs—over National and Columbia chain hook-ups—under the auspices of Editor O. H. Caldwell. The purpose of this campaign is to induce listeners to call upon their local radio dealers for frequent set and installation inspections and to educate them to the wisdom of owning a set of recognized quality.

COLUMBIA ELECTS NEW OFFICERS

At a recently held special meeting of the board of directors of the Columbia Phonograph Company the following officers were elected: president, John F. Ditzell; vice-president, Le Roi J. Williams; secretary and treasurer, M. D. Harrison. Resignations of Herman E. Ward and A. E. Garmaize, president and export manager respectively, were received and accepted.

Mr. Ditzell announced the appointment of E. B. Shiddell as general manager. Mr. Shiddell has been connected with Columbia Phonograph Company

for over 24 years and assumes his new office with a most complete knowledge of all matters pertaining to the company's activities.

Extensive changes in policy in the manufacture and distribution of records and plans for enlarging the scope of operations of the Columbia Company are contemplated.

Prices on Six Tubes are Reduced

Arcturus, RCA Radiotron and E. T. Cunningham, Inc., announce reductions in the list prices of six tube types of approximately 17 per cent. The old and new schedules are as follows:

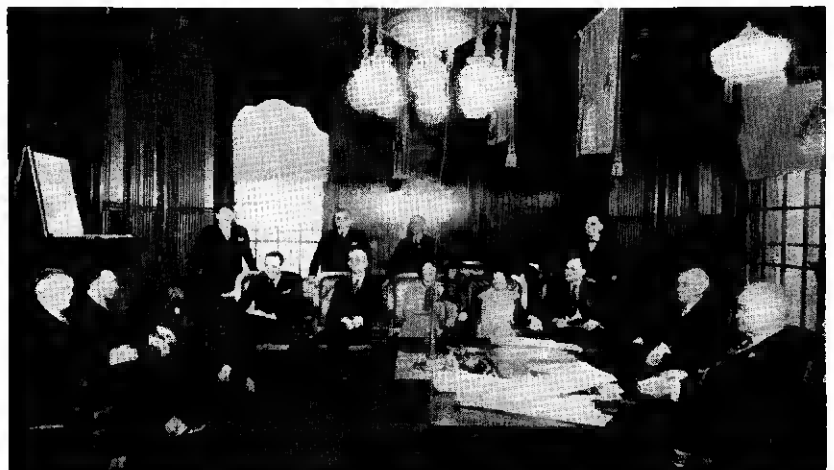
Type	Old Price	New Price
01A	\$0.80	\$0.70
26	.85	.75
27	1.05	.80
45	1.15	.85
71A	.95	.85
80	.90	.80

Adelman, Sales Manager for Atlas

Leon Adelman, formerly sales manager for Fleethim & Co., is now sales manager of the Atlas Resistor Co., 423 Broome St., New York City, manufacturers of wire wound resistors for replacement parts.

"THE RADIO ENGINEERING HANDBOOK," by twenty-two authors, edited by Keith Henney; McGraw-Hill Book Co., Inc., New York, 1933; 583 + X pages; 489 figures, with many charts, tables and bibliographies.

Alabama's Governor Listens to the President's Address



Hats off to the Mathews Refrigerating Company! This progressive distributor for CLARION saw to it that the Hon. B. M. Miller, Governor of Alabama, heard the President's message to Congress. Just another illustration of the "business" market possibilities for radio. See page 23.

This "sale," yes, real money actually changed hands, was the direct result of an advertisement, placed by J. G. Mathews, in a Montgomery newspaper the day preceding the inaugural.

MAJESTIC GEARS FOR GREATER SALES

LeRoi Williams Succeeds Don Compton as General Manager

Personnel changes which, according to President B. J. Grigsby, should exert a constructive influence on every branch of the company's activity, have just been announced by Grigsby-Grunow. These announcements were made at the close of a week-long meeting of factory field men held at the Edgewater Beach Hotel in Chicago, March 6-11.



LEROI
WILLIAMS

who assumes the positions of executive vice-president and general manager of Majestic

Most important is the appointment of Le Roi J. Williams as executive vice-president and general manager, succeeding D. M. Compton, resigned. Also the appointment of M. E. Paradise as general works manager succeeding R. C. Roling, and the enlargement of the duties of Dr. C. M. Blackburn to include all radio engineering as well as tube engineering.

When asked the underlying reason for the change in executive control, Mr. Grigsby stated that it was due to a feeling of the board of directors that it would result in a further coordination of activities, greater harmony within the organization and a closer relationship with its distributors and dealers.

Following Mr. Grigsby's introduction at the meeting of field men, Mr. Williams outlined some of the results he will attempt to accomplish. He spoke optimistically of the company's splendid financial position and of the value which will now be derived from a wholly unified and concerted effort by all departments of the company which have in the past been in a position of near competition, one with the other.

March 15—At the annual stockholder's meeting held today, Le Roi J. Williams was elected as a director of this corporation.

The board membership is now as follows: B. J. Grigsby, Le Roi J. Williams, J. R. Cardwell, A. F. Mecklenburger, Sheldon Clark, C. L. Schmidt and N. C. Mather.

Wisconsin U. Offers Radio Course

The University of Wisconsin announces that, April 10, 11, and 12, it will offer day and evening sessions for a short course in new circuits, tubes, testing equipment, etc. This course will be given at the University Extension Center, 623 West State St., Milwaukee, Wis. Details may be obtained by writing to Sam Snead, at the above address.

RMA CONVENTION WILL BE HELD AT CHICAGO, JUNE 6

The ninth annual convention of the Radio Manufacturers Association, including meetings of its divisions, committees and board of directors, will be held at Chicago, June 6, according to arrangements made by the Association's board at its meeting in New York March 21. Tentative reservations for the annual industry gathering, but without the usual trade show this year, have been made at the Stevens Hotel.

Business and industry promotion will be the keynote of the convention. Constructive projects for the industry will be presented at the business sessions. The Association will not encourage radio exhibits this year.

The convention will be held during the opening week of the Century of Progress Exposition and coincident with meetings of the National Association of Music Merchants, also at the Stevens Hotel, and of the Edison Electric Institute.

Preceding the convention will be meetings of the Association's Receiving Set Division, A. T. Murray chairman; of the Tube Division, headed by S. W. Muldowny; of the Parts and Accessory Division of which Leslie F. Muter is chairman and of the Amplifier and Sound Equipment Division under Chairman Richard A. O'Connor. These divisions will elect their proportion of directors to compose the new Board for the year 1933-34. President Fred D. Williams will preside at the annual convention.

I.R.S.M. Plans N. Y. Show

The success of the Institute of Radio Service Men's January convention and exhibit in Chicago, has induced this organization to plan another. It will be held in the Hotel Pennsylvania, New York, sometime in October.

New York Radio Show September 22-30

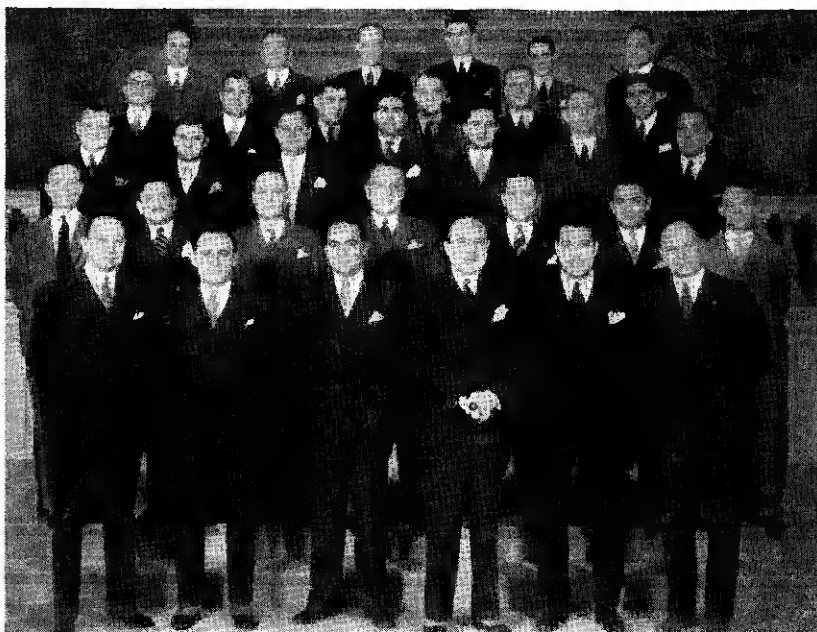
At a meeting on March 16, between the officers of the Electrical Association of New York and officials of Madison Square Garden, it was decided to hold the annual Electrical and Radio Exposition at the Garden, September 22-30. This affair will be held under the sponsorship of the Electrical Association and will be produced and managed by Madison Square Garden's Exposition Department.

In addition to the regular display booths for manufacturers and their representatives the show will feature the newest and most modern developments in the entire electrical world. In the radio field, short wave and broadcasting will be featured.

New Parts Standards

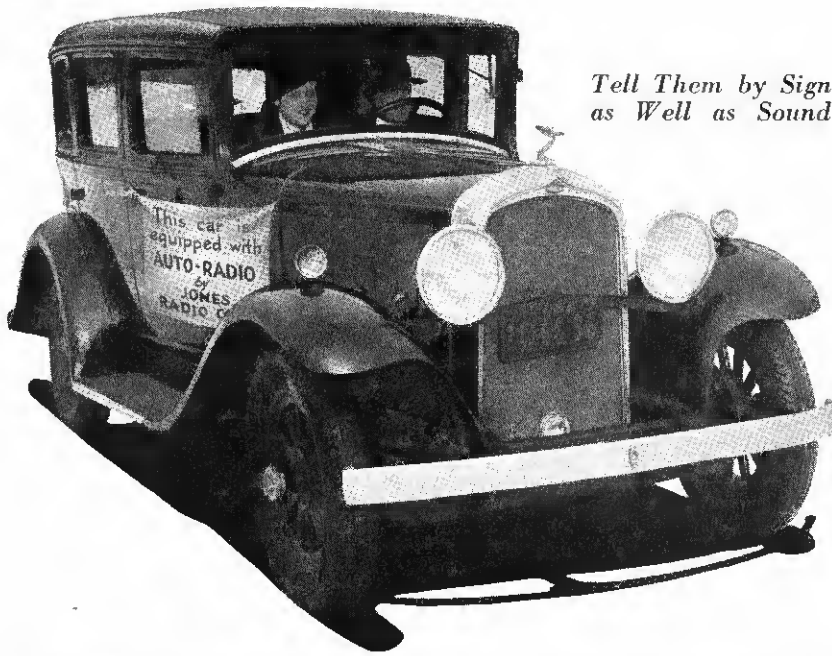
Progress is being made on the development of new commercial standards for parts and accessories. Through Leslie F. Muter, Chicago, chairman of the RMA Parts Division, and Floyd C. Best, Standards Committee chairman, parts manufacturers are contributing proposals and data to develop new and simplified commercial standards and thus effect substantial savings for receiving set manufacturers as well as makers of parts.

Majestic Field Men Take Sales Course



For a full week, starting with Monday, March 6, the Grigsby-Grunow Co. conducted a sales-school and general conference of all factory field men. This affair was held at the Edgewater Beach Hotel, Chicago, and addressed by prominent executives and department heads.

First line "offensives," left to right: Earl L. Hadley, advertising manager; Harry Alter, ass't general sales manager; M. E. Paradise, production manager; John Ditzell, general sales manager; Charles Klopp, field sales manager and Ray Erlandson, auto radio sales manager.



Tell Them by Sign as Well as Sound

Although on-the-job auto-radio dealers operate a set in their own car and play it whenever there is a chance of attracting prospects, it is not always an easy matter to locate the source of this radio music. One retailer, Jack Markwell, Chicago, places the loud speaker on the running board—see feature article elsewhere in this issue. A simpler way is to tie a canvas sign to the side of the car, as illustrated

Special Programs This Spring for Auto-Radio Users

Merlin Aylesworth, president of the National Broadcasting Company, is another booster for automobile-radio. To promote further interest in "rubber-tired" reception, Mr. Aylesworth is planning a special series of programs of outdoor interest with the requirements of the motorist especially in mind.

Short Wave Sets in Motor Cars Banned

Police authorities in several states have recently inspired legislation to prohibit civilian use of short wave receiving sets in automobiles. Such legislation has been enacted by the Indiana legislature and has progressed in New York, Texas, and a few others. This legislation has received serious attention by the RMA through Paul B. Klugh of Chicago, chairman of the association's Legislative Committee, and was considered further by the RMA Board of Directors at their meeting March 21.

The Indiana law and other similar proposals do not affect equipment of automobiles with regular broadcast receivers but are limited in their prohibitions to short wave sets, capable of receiving police broadcasts. Licensing by local authorities of short wave sets in automobiles used by civilians is required.

Engineers Improving Auto-Radio

RMA engineers are exchanging much data with the automotive industry toward rapid improvement of automotive radio and wider sales of receiving

sets for motorcars. Under Chairman Wells, of the RMA Engineering Committee, and Virgil M. Graham, chairman of the Association's special committee on automotive radio, improved installation and operation of automobile receivers is being developed. The special committee of the Society of Automotive Engineers has been given data on operation of electrolytic capacitors in automobile radio equipment and the RMA committee is developing additional data on trend of development regarding size of chassis and speakers. Further work also is being done on mounting dimensions for chassis and loud speakers, together with information for guidance of automotive body builders in arranging for antenna.

The problem of additional current demand required by the public to secure better results from automobile radio receivers also is being given the serious attention of this group.

Two New RMA Directors

W. S. Symington, president of the Colonial Radio Company and LeRoi J. Williams, newly elected executive vice-president and general manager of the Grigsby-Grunow Company, are new directors of the RMA. They were elected at the meeting, March 21, of the Association's governing body.

Mendels Made President of Balkeit

Irwin J. Mendels, who has been general manager of the Balkeit Radio Company for several years, has been elected president. He will continue his duties as general manager. The factory has been moved from North Chicago to new and large quarters at 904 Blackhawk Street, Chicago.

Pennsylvania Auto-Radio Bill to be Fought

Radio and automotive interests are uniting to defeat a bill introduced in the Pennsylvania State Legislature to prohibit use of radio receiving sets in automobiles. The RMA, broadcasting and automotive organizations are all active through their Pennsylvania associates in opposing the bill which would provide a fine and imprisonment for persons operating radio sets in automobiles. The bill was introduced at Harrisburg by representative Louis Schwartz of Philadelphia.

The Pennsylvania bill is the only instance in many years in which there has been any effort to ban automotive sets. Official investigation by authorities in many states has definitely determined that automotive radio actually is a highway safety factor, by reducing driving speed.

RMA has decided that no opposition will be made to legislation, offered in a few states, regulating and requiring licensing of short wave sets in automobiles which are capable of receiving police broadcasts, but will vigorously oppose restriction of regular broadcast receivers in automobiles. The Association, however, will oppose federal regulation of short wave automotive sets, as proposed in a bill in the House of Representatives at Washington.

Set Designers Discuss New Stylings

At the invitation of the National Alliance of Art and Industry, Inc., many radio executives and set designers met recently at a luncheon at the Hotel White, New York City, with leading "stylists" for the purpose of consideration of the development of new designs in radio furniture which might prove more attractive and increase the demand for 1933 consoles. This meeting was arranged at the instance of O. H. Caldwell, editor of *Radio Retailing*, who presided and introduced the speakers. So keen was the interest in this subject that the meeting did not adjourn until 4:30 that afternoon.

It was agreed that there was considerable room for improvement in many of the designs of consoles now on the market, and that simplification of line and modernization would be reflected in consumer acceptance.

Electrical Progress Exposition

E. P. Zachman, president of the Radio Division, Cincinnati Electric Club, has been chosen as chairman of the Electrical Progress Exposition, to be held in Music Hall, Cincinnati, May 8 to 13. The Exposition, sponsored by the Electric Club and the Cincinnati Times-Star, will include displays of all electrical devices for home or commercial use. Such an arrangement is expected to be of interest, not only to the general public but also to electrical dealers in the Cincinnati trading territory.

H. C. Blackwell, president of the Cincinnati Electric Club, is head of the general show organization, with Zachman, of the Cincinnati Radio Corporation, Sparton distributor, as show chairman. C. H. Bayer, of the Cincinnati Times-Star, is show manager.

April Music in wax

By Richard Gilbert

BRUNSWICK liked the results of the Show Boat album experiment. This company's latest venture, in a similar project which should net good sales, is a complete Negro artist presentation of the famous hits from Lew Leslie's success of several years ago—*Blackbirds*. The best of the Race singers and orchestras gathered in the Broadway recording studio and set down in wax some sizzling interpretations of *I Can't Give You Anything but Love Baby*, *Doin' the New Low Down*, *I must Have That Man*, *Porgy, Baby*, *Bandanna Babies*, *Shuffle Your Feet*, *Diga Diga Do* and, for good measure, the famous *St. Louis Blues* and *Dixie*. The educated toes of Harlem's most adroit exponent of the tap dance, Bill Robinson, appears on one disc; Duke Ellington leads off the torrid parade with a tempting pot-pourri; Ethel Waters, Adelaide Hall and the Mills Brothers, accompanied by Ellington, Cab Calloway, Don Redman or the Cecil Mack Choir, do the torch singing, moanin' low, crooning and what have you. Of course, the orchestras—Harlem's pride and joy—do a little interpreting all by themselves. The complete presentation is under the direction of Brunswick's canny chief musician, Victor Young.

Six ten-inchers are enclosed in an attractive album, gilt paper-covered, backed in black and decorated inside and out. Retailing at \$4.50, this little package of music, as only tone colorists from up along the Harlem river confect, will make a desirable item for all sorts of customers, especially those who go in for the single discs of the above-mentioned exclusive Brunswick artists.

Ha-cha—you'll have no trouble in placing Anson Weeks and His Orchestra's rendition of music from Jimmy "Schnozzle" Durante's peppy Broadway show—"Strike Me Pink"—Jimmy supplies the comedy for this popular vehicle, and Lupe Velez furnishes the pep and—oh lots of things. They aren't on this record, but all the swell Brown-Ray-Henderson tunes are. A \$1.25 sale—No. 20120.

Up to the minute in timeliness are the two discs by the Brunswick Military Band featuring four stirring marches by the new Secretary of the Treasury, William H. Woodin: *The Fire Chief March* (with necessary apologies, I suppose, to Ed Wynn), *The Police March*, *Franklin D. Roosevelt*, and *National Melodies March* (Nos. 6529 and 6530).

Two old Jolson favorites, sung by the original mammy crooner, are on the list, accompanied by Guy Lombardo's orchestra: *Rock-A-Bye Your Baby with a Dixie Melody* and *April Showers* (No. 6502). Hal Kemp, Ted Fio Rito, Wayne King, Bing Crosby, the Mills Brothers, Arthur Tracy, The Three Keys, Borrah Minevitch and his Harmonica Rascals, Nick Lucas and Ben Bernie fill out the April lists with scintillating music.

COLUMBIA This company's Masterwork and Celebrity records, now at reduced prices, are exceptionally inviting this month. Darius Milhaud (a young modern French composer) visited America several times during the war and in 1923; he was greatly impressed by jazz and went back to Paris and straightway concocted a delicious Negro ballet called *La Creation du Monde* (The Creation of the World—after African legends). This was in 1923. The



Eddy Duchin and his famous Central Park Casino Orchestra are now recording for Victor.

music is full of the same identical jazz effects which made the *Rhapsody in Blue* famous when it appeared a year later. Listen to these records and play them for those interested in hot jazz as well as the classics.

Dance discs are on the order of the staple Columbia variety: Rudy Vallee and his Connecticut Yankees playing *Meet Me in the Gloaming* and *Maybe I Love You Too Much* (No. 2756D) heard on the air a lot recently; Ted Lewis, now playing at Broadway's Hollywood cabaret—lets go of more optimism—*There's a New Day Comin'* and *Have You Ever Been Lonely?* (No. 2753D). Freddie Rich's smooth reading of *There's a House on a Hill* (Looks like a new "There's a —" trend) and *You Are Too Beautiful* (from Al Jolson's latest picture) (No. 2752D). Also, *Why Can't This Night Go On Forever* and *A Tree Was a Tree*, by Mark Fischer and his Edgewater Beach Hotel Orchestra (No. 2754D). Don't stock heavily on No. 2755D, which presents a new singer, Phil Regan, who to these ears doesn't as yet know much about putting songs across—even the variety of *Close to My Heart* and *You're Beautiful Tonight My Dear*.

VICTOR Eddy Duchin, leaving Brunswick, made a half-dozen Victor records the other day: *I Dream of Indiana*, *Hold Me*, *Anything Your Little Heart Desires*, *Kiss in the Moonlight*, *Remember Me* and *I Can't Remember*—for the last, Irving Berlin's lyrics were rushed from his pen to the recording studios just in time to make the record. Look for their appearance. Duchin plays in a highly sophisticated manner and is a great favorite with the high steppers of society . . . Some mighty fine populars to push are: *Forty-Second Street* and *Shuffle Off to Buffalo*, from the hit picture "42nd Street," played by Don Bestor (No. 24253), good train and traffic effects; Ramona and Roy Bargy, of the Whiteman troupe, offer a darb, *My Cousin in Milwaukee* (Gershwin) and *A Penny For Your Thoughts* (from "Walk a Little Faster"—Vernon Duke's music), a good novelty record (No. 24260); the Four Southern Singers' first disc, *Be Ready and Mammy Lou* (No. 24264)—favorites over the NBC network; Reisman's interpretations of the Romberg tunes from "Melody," *Give Me a Roll on the Drum* and *Melody* (No. 24259) and Berlin's *Maybe I Love You Too Much* (vocal chorus by the *Night and Day* man, Fred Astaire) (No. 24262); Ted Weems' novelties, *H'ya Duchess* and *Juggling a Jig-Saw* (No. 24265); Greta Keller with *One More Night* and *Mary Make Believe*, the last a Noel Coward tune (No. 24228).

TUBE TIDINGS

April, 1933

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

Harrison, N. J.

Prices Reduced On 6 Tube Types

JIG PUZZLES BRING 900% RISE IN PHILADELPHIA STORE SALES

A Philadelphia department store advertised in the Sunday newspapers that it would give a jig saw puzzle free with every purchase of a Cunningham Radio Tube. Monday's Cunningham Radio Tube sales were 900 per cent above sales for a normal day.

The puzzles used were of the general type. The new Cunningham and RCA Radiotron jig saw puzzles, designed especially for this purpose, should, according to T. F. Joyce, Advertising and Sales Promotion Manager, enable any dealer to show results as good or better. A sample puzzle has been mailed to all dealers on the Cunningham-Radiotron lists.

Frames Included With Puzzles

Four puzzles are available, each using two famous radio stars as subject matter. Each puzzle has approximately 120 pieces and is shipped in a 10-by-12-inch glassine-covered frame.

"The attractive pictures of the radio stars," commented Mr. Joyce, "will have the effect of further stimulating radio interest, in keeping with the aim of our successful Almighty Dollar Sales Activity."

Two methods of distribution are suggested: giving a puzzle free (1) with each RCA Radiotron or Cunningham Radio Tube purchased, or (2) to each person bringing in tubes to be tested.

Puzzles are packed 25 to a carton, six

Parade-of-Stars Display Wins Compliments

Gentlemen:

We are proud of your "Parade-of-the-Stars" Window Display. It certainly will lead to a long reign of Radiotrons.

STRAND RADIO SERVICE,
349 Eighth Avenue,
New York, N. Y.

* * *

Gentlemen:

I want to thank you for the very attractive window display. It is certainly attracting attention.

JEROME S. HAAS,
3606 Atlantic Avenue,
Atlantic City, N. J.

of each design, with one extra. Price per carton, \$1.20, delivered. With each carton is included a window streamer. Literature describing other puzzle promotion material was enclosed with samples.

"Careful attention has been given to developing interesting and appropriate designs from the viewpoint of the puzzle fan," Mr. Joyce said. "Furthermore, we have insisted on a really high quality printing and die-cutting job."

RCA Radiotron - Cunningham Dealers Make Real Gain, Says Executive

Effective March 22, E. T. Cunningham, Inc., and RCA Radiotron Co., Inc., announced list price reductions on six popular types of radio tubes, as follows:

Type	Old Price	New Price
01A	\$.80	\$.70
26	.85	.75
27	1.05	.80
45	1.15	.85
71A	.95	.85
80	.90	.80

E. T. Cunningham, President of Radiotron, said: "It is practically impossible for a dealer or distributor to lose on this reduction. On the contrary, it represents a real gain for most of the trade."

"Consider these points:

"1. All of our dealers were fully protected on the tubes they purchased during our Special Bonus Activity last January. According to our promise, we are enabling distributors to extend 60-day price protection on tubes shipped and billed during the period January 9 to January 23. Dealers are similarly protected on tubes shipped and billed during the three weeks prior to the reduction.

Gain in Equivalent Discounts

"2. It is a fair assumption that the dealer has sold 50 per cent of the tubes obtained during the January 9-23 period at the old list prices. His costs have been adjusted, based on today's prices. This has increased his equivalent discount on those special tubes substantially.

"3. These new prices are in keeping with today's requirements for quality merchandise at fair prices. Lower prices for merchandise are inevitable, and the dealer must expect to adjust his operations to lower margins, in order to preserve his position as a dealer."

New Low Prices Featured in Display Material

An assortment of display material featuring the new low prices has been sent to Cunningham and Radiotron dealers.

Reports indicate that dealers giving the reduction material prominent space are benefiting by increased sales. W. H. Thompson, Eastern Division Sales Manager for Cunningham and Radiotron, expressed the opinion that the reduction, affecting as it does six of the most popular tube types, cannot fail to stimulate tube movement, provided an honest attempt is made to inform the public of the bargain prices—lowest in history!

HEAR FAMOUS RADIO STARS AT THEIR BEST

EDDIE CANTOR
Born on New York's lower east side, the son of a poor violinist, Eddie Cantor was discovered when a singing waiter in a Coney Island saloon. Rose to stardom on stage, screen and radio.

RUTH ETTING
At 16, Ruth went from David City, Nebraska, to Chicago, danced in a chorus. Ziegfeld heard her phonograph records. Engaged her for the Follies.

REPLACE WORN-OUT TUBES TODAY

One of the Cunningham puzzles. The Radiotron puzzles are similar.

Advertisement

More Stations Join "Check Set and Tube" Movement

Other stations have joined in the movement to urge listeners to have their sets checked and their tubes tested, launched last month by the 42 stations of the NBC Red and Blue Networks.

The NBC Pacific Coast Gold Network carried the announcements twice daily from March 17 to March 24.

WAAW, Omaha, made announcements twice daily until March 26.

WRHM, Minneapolis, began advising check-ups on March 21.

WCAH, Columbus, Ohio, made two announcements a day from March 15 to April 3.

WSEN, Columbus, is making the announcement before and after a sustaining program every morning during March and April.

RCA TUBE FACTORY EXPANDS—

Doubles Harrison Production Capacity

Extensive alterations and improvements to provide for increased production and greater efficiency are being made in the Harrison, New Jersey, plant of E. T. Cunningham, Inc., and RCA Radiotron Co., Inc.

Citing the expansion program as proof of his faith in the future, E. T. Cunningham, President, also stated that about 1,000 more people are in the employ of the companies than this time last year.

The renovation and expansion program includes work in all of the ten buildings of the Harrison plant—new lighting, new floors, new heating—in addition to rearranging departments to make room for additional factory equipment to double the production capacity.

Through purchase of new equipment and work given to outside contractors, thousands of hours of work are being provided labor generally, covering lighting, heating, painting, and other activities which are part of the extensive alterations.

New Dealer Publication Named "Good News"

RCA Radiotron dealers last month welcomed an old friend in new garb—GOOD NEWS—now in tabloid form. Cunningham dealers also received copies, noted that the publication now is devoted to both brands. GOOD NEWS, according to the publishers, will be just that—a timely sheet dedicated to increasing dealer sales and profits.

Severe Tests Best Guarantee of Quality, says Smith

"The extremely rigorous series of tests to which all RCA Radiotrons and Cunningham Radio Tubes are subjected, is the best possible guarantee of customer satisfaction with the product," says J. M. Smith, Vice President in Charge of Manufacturing of RCA Radiotron Co., Inc. and E. T. Cunningham, Inc.

"When we consider that a grid wire one one-thousandth of an inch out of line will cause a tube to be rejected, we begin to realize the meaning of 'perfection tests.' Our product must pass 35 such tests according to the most conservative calculation."

DEALERS JOINING ACTIVITY AT RATE OF 1,090 A WEEK

Dealers are showing their confidence in the current sales activity of RCA Radiotron and Cunningham by enrolling at a rapid rate.

On March 28, five weeks after the activity began, a total of 5,451 Cunningham and Radiotron dealers had enrolled under the banner of the Almighty Dollar Sales Activity, according to G. K. Throckmorton, President of E. T. Cunningham, Inc., and Executive Vice-President of RCA Radiotron Company, Inc.

Thus, the enrollment is proceeding at the rate of better than 1,090 dealers per week.

"We are particularly pleased with this record in view of the fact that the Almighty Dollar Activity got started in the trying period of the bank disturbances," Mr. Throckmorton said.

"We anticipated, and are realizing, an even greater rate of enrollment at this writing. With the country in a refreshed state of mind, the Almighty Dollar Activity presents a real opportunity."

Mr. Throckmorton stressed the \$200,000 newspaper and magazine advertising campaign being conducted by Radiotron and Cunningham to win greater public appreciation of the million-dollar radio programs.

He described the National Broadcasting Company's series of announcements urging people to check their sets and test their tubes as "a real contribution to the radio trade, and a timely background for the selling efforts of dealers participating in the Almighty Dollar Campaign."

He said the Parade-of-the-Stars Display, together with Radio Logs, post cards, and

associated material, provided the dealer with possibly the most effective equipment for merchandising radio ever supplied by a radio manufacturer.

Dealers who have not been contacted are referred to their distributors for information regarding participation terms in this powerful drive.

What NBC Told Listeners Seventy-Six Times

From Monday, March 6, to Friday, March 24, the forty-two stations of the National Broadcasting Company Red and Blue networks reminded set owners twice daily to check their sets and renew their worn-out tubes.

A representative announcement—

"The National Broadcasting Company and others engaged in broadcasting spend one million dollars each week in bringing to your loudspeakers the finest talent available anywhere in the world. When the voices, or the music, of such superb performers as Jessica Dragonette, Lawrence Tibbett, Jack Pearl or Eddie Cantor, leave this studio they have that certain something that makes a star a star. But when they reach your set . . . ? What about it? Is that glamour lost? Does noise, distortion or feeble signal strength indicate that something is wrong? Why not take your radio tubes to your dealer for free testing? Why not have a reliable dealer or service man inspect your radio set and aerial installation? Today!"

15 "HANDFUL" RADIOS EQUIPPED WITH RCA OR CUNNINGHAM TUBES



C. R. KING

C. R. King, Equipment Sales Manager of E. T. Cunningham, Inc., and RCA Radiotron Company, Inc., reports that 15 manufacturers of the currently popular microscopic set models are using either Radiotrons or Cunningham

Radio Tubes as standard equipment.

"We are proud of the fact that an impressive percentage of the outstanding names in radio now producing these tiny models are sticking to the best in tube equipment," said Mr. King.

"Naturally the universal feature of these sets, added to their extreme compactness, forces a heavy burden on the tubes. Good tubes are essential.

"This is in addition to the recognized selling advantage of the names 'RCA Radiotron' and 'Cunningham'. Every dealer recognizes that standard tubes in a little radio set allay a possible suspicion on the customer's part that the set is unreliable because of its size and price.

"Indications are that the little radio sets are opening a new radio market. Dealers who get in now will reap profits from this new field. Remember—little radios use replacement tubes, too."

Popularity of Tube Stickers Earns Rank of Ace Aid

The Radiotron-Cunningham organization reports an enormous sale of Tube Test stickers, one of their ace sales aids. The stickers are available, imprinted, in roll form—2,000 to a roll. Priced at \$1.00 per roll, leading dealers claim they have no equal for sales-making value. Radiotron Item No. 242. Cunningham Form No. 1172.

The popularity of the stickers entitles them to a ranking with the other Cunningham-Radiotron "ace sales aids"—Radio Logs, Tube Carrying Cartons, Post Cards and Service Forms. The Service Forms and the sensational new "Eddie Cantor" Radio Log (now available for Radiatron also, Item No. 223) were reported in the last "Tube Tidings."

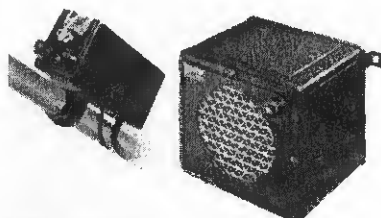
Dealers are referred to their distributors for information regarding special combination offers on Logs, Stickers, Cartons and Post Cards during April, in connection with the Almighty Dollar Sales Activity.

DEALER'S NAME AND ADDRESS HERE	
We Recommend RCA RADIOTRONS	
Date Sold.....	
Date Tested.....	
Satisfactory	<input type="checkbox"/>
Doubtful	<input type="checkbox"/>
Unsatisfactory	<input type="checkbox"/>

Advertisement

NEW MERCHANDISE

Auto-Radio Equipment



Zenith Auto Radio

An automobile radio set is now being made by the Zenith Radio Corp., 3620 Iron St., Chicago. The set has a direct and positive drive on the tuning dial, and the condensers are located in the control box for more efficient remote control.

The set incorporates a 7-tube superhet circuit using the latest type pentode tubes throughout, autodyne first detector, two sets of i.f. amplification, push pull output tubes and specially designed dynamic reproducer. A stabilized a.v.c. holds output volume constant. The B-eliminator is built in.

This set has a black crackle finish with chrome plated speaker grille. Provision is made for transverse or parallel steering column mounting of control head. The set is adaptable for installation in motor boats, airplanes, etc. List price, \$59.50.

Zenith is also now making an a.c.-d.c. set known as Model 701 and listing at \$24.95. The set measures 11½ in. wide by 7½ in. high and 5 in. deep.—*Radio Retailing*, April, 1933.

RCA-Victor Auto-Radio

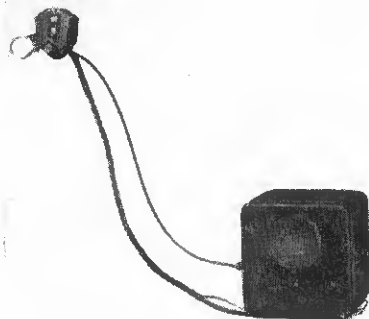
The chassis, eliminator and speaker are mounted in one compact unit, and installed in the car by one bolt through the firewall. The set is known as model M-34 and can be obtained from the RCA-Victor Co., Inc., Camden, N. J.

It is a four tuber with performance equal to 7 or 8 tubes because of the use of the new tubes—Pentagrid converter (6A7) and duo-diode pentode tubes used in new superheterodyne circuit.

The tone control has two positions and the B-eliminator is of the vibrator type. Only two electrical connections are required (antenna and ammeter) neither of which need soldering. Output approximately 2.0 to 2.5 watts; current consumption 5.5 amp.

Tube complement: 78 for RF; 6A7 Pentagrid converter; 6B7 Duo-Diode pentode, 89 audio output tube.

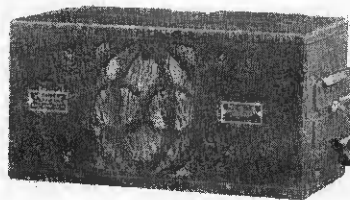
The list price is \$34.95 with tubes and necessary suppressors, etc.—*Radio Retailing*, April, 1933.



Majestic All-in-One Auto-Radio

The "all-in-one" auto-radio of Grigsby-Grunow Co., 5301 Dickens Ave., Chicago, incorporates many unique features. The set, speaker and Duro-Mute B-eliminator are housed in a metal case measuring about 6x6x11½ in. The set is a superheterodyne with a.v.c. It uses six tubes but gives 8 tube performance due to dual operation of two of the tubes.

Due to the compactness and simplicity of the set, it is quickly installed in less than a half hour, it is said. The price is \$49.50 including tubes, suppressors and tax but less antenna.—*Radio Retailing*, April, 1933.



Fischer-Smith Auto-Radios

A popular priced, compact, dash-board set, finished in green, black or walnut baked "crinkle" enamel, is available from Fischer-Smith, 1401 Station St., West Englewood, N. J.

The tubes used are two 39's, 36, 89. A dynamic speaker and all installation equipment completes the outfit which lists at \$35.

The companion "all-electric" set has a built-in full wave B-eliminator. Tubes used are: 2—39, 1—36 and 3—89 (in class "B" amplification). The set has steering column remote control, 8 in. dynamic speaker and a.v.c. The set complete lists for \$79.50, installed.

An all-electric short wave radio for installation in police cars has also been developed. It uses 2—39, 36, 89. The set is "locked" in position at the given frequency of the central station.

Standard equipment includes necessary installation equipment, remote control volume and switch assembly, speaker, built-in B-eliminator and a.v.c. Complete unit lists at \$59.50, f.o.b. factory.—*Radio Retailing*, April, 1933.

ATR Duo-Radio

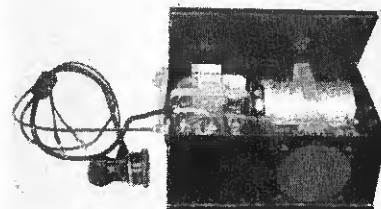
A combination all-electric auto-radio and a.c.-d.c. home set is offered by the American Television and Radio Co., 1916 University Ave., St. Paul, Minn.

It is a 6-tube superheterodyne with a.v.c., dynamic speaker, and receives police and amateur calls.

No external B-batteries or eliminators are required as the B-eliminator is built in. It will operate on any voltage or any current, the statement announces.

The receiver comes in a chromium plated, black enameled metal cabinet, small and compact in size, measuring 10½x8½x5½ in. It can be easily installed in the car and taken out for operation in the home. The price complete is \$39.50.

This company also makes a d.c.-a.c. converter for use in automobile B-eliminators.—*Radio Retailing*, April, 1933.



Pines Auto-Radios

Four auto sets and a B-eliminator are just being announced by the Pines Winterfront Co., 1135 N. Cicero Ave., Chicago.

The radio is a 6 tube superhet with a.v.c. It has a double drive tuning control with full hand size tuning knob. The eliminator is of the rotating type.

Model 1 is designed for mounting in floor opening or under the car; Model 2 is for mounting through the floor opening of the car; Model 3 is a compact unit in which the radio, eliminator and speaker are all assembled in a single unit for mounting under the cowl; Model 4 is also for mounting under the cowl, but the set and eliminator are in one case with separate speaker. All models list at \$59.50.

The eliminator separately lists at \$21.95.—*Radio Retailing*, April, 1933.

Universal Battery Converter

A newly developed battery converter is now available for supplying 110 volts a.c. from a storage battery source. It is especially applicable for use in connection with sound amplifiers for trucks, in parks, and for all portable uses where commercial current is not at hand. It will also operate standard a.c. sets, as well as auto-radios. This converter is made by the Universal Microphone Co., Englewood, Calif. It is available in two models.

Model 60 operates from 6 volts d.c. and has an output of 60 watts.

Model 150 operates from 12 volts d.c. with an output of 150 watts.—*Radio Retailing*, April, 1933.

Roots Auto-Radio

The latest set of the Roots Auto-Radio Mfg. Corp., 2800 South Parkway, Chicago, is a superhet using 7 tubes, namely: 6A7, 2-78, 75, 79, 41, 84. The set includes a B eliminator of the vibrator type and the eliminator and speaker are built together. The model number is 55.—*Radio Retailing*, April, 1933.



Auto Radio Accessories

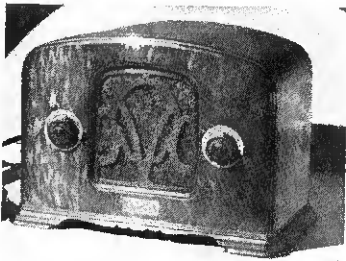
Insuline Corp. of America, 23 Park Place, New York City, makes auto radio silencer kits for 4-8-8 cylinder cars. These kits are supplied complete with generator silencer, distributor and spark-plug silencer. The list prices are \$3, \$4 and \$5.

This company also makes spark plugs and distributor silencers designed to fit all makes of cars as well as motor boats, etc.; a generator silencer, a flexible automobile aerial and an adjustable metal auto aerial with ingenious sliding arrangement.—*Radio Retailing*, April, 1933.

Empire Set

Model 30, five tube superheterodyne a.c.-d.c. table set of the Empire Electrical Products Company, 102 Wooster St., N. Y. C., lists at \$29.50. The tubes used are two 77's, 78, 25-Z-5, 43.

This company also makes a line of universals, midgets and consoles.—*Radio Retailing*, April, 1933.



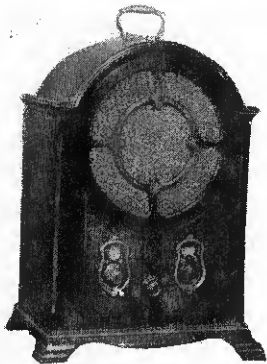
GE Line

Model K-65, a 6-tube console; K-60, a 6-tube table set; and K-50, a 5-tube table set, have been added to the General Electric line made by General Electric Co., Bridgeport, Conn.

Model K-65 is an apartment size console, with a.v.c. and tone control. Uses the new tubes.

Model K-60 is a 6-tube table set, which takes its design from a mantel clock. It also has a.v.c.

Model K-50 is a 5-tube table set, the lowest priced of the three new models. The cabinet is Gothic.—*Radio Retailing*, April, 1933.



Electromatic Record Changer in Cabinets

For dealers who wish to install their own radios in combination cabinets, the Electromatic Record Changer Corp., 203 N. Wabash Ave., Chicago, announces a line of six cabinets in which a self-contained automatic motor-driven phonograph record changer is housed.

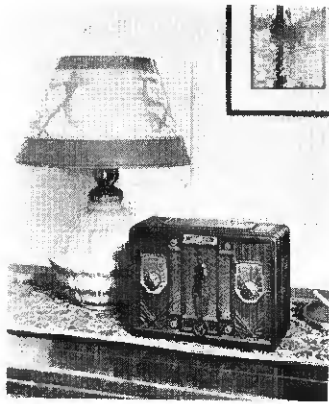
This record changer automatically starts, stops, plays and changes all makes of ten in. records—ten of them. Any 10 or 12 in. records can be automatically repeated as many times as desired, and 12 in. records can be played manually and repeated. It plays both the standard 78 and 33½ r.p.m. records.

The list price of the changer alone is \$90. The prices in cabinets range from \$121 to \$155.—*Radio Retailing*, April, 1933.

Multi-Coin Timer

For attachment to console or midget radios, Coin Devices, Inc., 203 N. Wabash Ave., Chicago, offers its multi-coin timer under the trade name "Miller." This timer may also be adapted to other devices such as washing machines, phonographs, vibrating machines, etc.

It is finished in two-tone Italian bronze; will take nickels, dimes, or quarters separately or in combination and operates on a.c., d.c. or battery current. The time ratio may be quickly changed.—*Radio Retailing*, April, 1933.



Crosley AC-DC Sets

A five tube superhet a.c.-d.c. set, Model 163, is announced by the Crosley Radio Corp., Cincinnati, Ohio. It retails at \$19.95 and may be obtained in two cabinet styles: the "Companion," a wooden cabinet, and the "Travette," a compact metal cabinet which comes in three colors, walnut, green with silver trimmings and black with chromium trimmings. A carrying case is provided for the Travette.

The tube complement includes: 77, 2-78, 33, 12Z3.—*Radio Retailing*, April, 1933.

Microphone

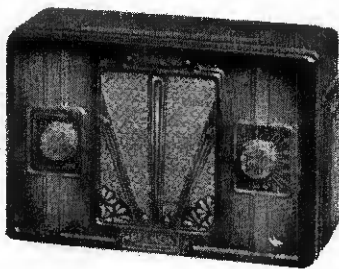
A new type of microphone, known as the Universal "torpedo-type," has come from the plant of the Universal Microphone Company, Inglewood, Cal.

Another new member of the Universal family is the "bullet-type" line, a close relation to the firm's torpedo-type. This two-button mike is especially recommended for P. A. systems.

This company has brought out two new models of its "Watch" mike which is especially suitable to be used when it is desirable to hide the mike as a detectophone, and as a coat lapel device.—*Radio Retailing*, April, 1933.

Silver Arc Sun Lamp

A carbon arc lamp, the "Silver Arc," retailing at \$5 can be obtained from the Allied Corp., 122 W. Perry St., Baltimore, Md. It is a small (10 in. high) compact, portable lamp. Extra carbons are 25 cents a pair.—*Radio Retailing*, April, 1933.



Freshman-Belmont Personal Radio

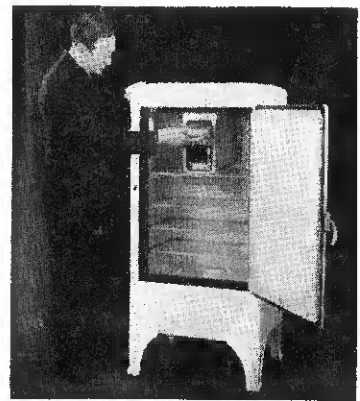
A really "personal" radio because the owner's name is engraved on a plate on the panel is featured by the Belmont Radio Corp., 1257 Fullerton Ave., Chicago, Ill. The set carries the Freshman-Belmont trade mark. It is a 5 tube a.c.-d.c. superheterodyne, using 2-78, 75, 43, 2-5-Z-5. The set will also receive police calls.

It may be had in three attractive finishes—duo bronze tone, two-tone green, and two-tone combination ivory. The list price of the set is \$25. The green and ivory finishes are \$1 additional.—*Radio Retailing*, April, 1933.

Frigidaire

A completely redesigned line of Frigidaire was introduced at the end of March by the Frigidaire Corp., Dayton, Ohio. Lower prices on all models also announced. A new principle of refrigeration has been developed by Frigidaire lowering the operating cost of refrigeration to that of one ordinary electric light bulb, according to the statement. This unit will be used only in the company's two lower priced models selling at \$96 and \$138.

Some of the features of this line are: automatic defrosting, new type of ice tray handle that automatically releases trays from freezers, increased hydrator storage, adjustable shelves, interior lighting, "quick-ube" trays, and increased ice and freezing capacity. The two low priced models make up the "Standard Series" and six all-porcelain models with all deluxe convenience features make up the "Super Series."—*Radio Retailing*, April, 1933.



Acra-test Antenna Coupler

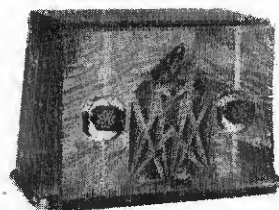
The Acra-test antenna coupler of Federated Purchaser, Inc., 23 Park Place, New York City, is easy to install. This system can be used to couple as many as 30 sets to a down lead, two down leads can be obtained from every antenna of 150 ft. or more. It can also be used in small buildings for as few as 6 or 10 apartments. This coupler unit No. 6613, has a list price of \$1.50.—*Radio Retailing*, April, 1933.

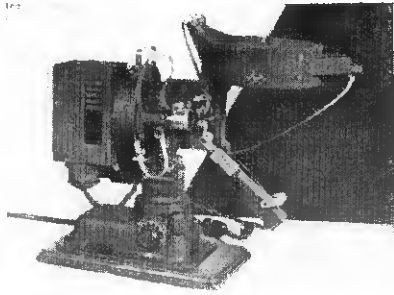
Moving Coil Instruments

A line of D'Arsonval moving coil instruments has just been announced by the Triplett Electrical Instrument Co., Bluffton, Ohio. Two sizes are made—in three case models. Furnished in low reading microammeters, milliammeters, voltmeters up to 2,000 volts, millivoltmeters and ammeters. No. 321 has a 3½ in. case with 2½ in. scale. Model No. 223 has a 2-in. case with 1½ in. scale.—*Radio Retailing*, April, 1933.

Gulbransen A.C.-D.C. Set

Five tubes in a superheterodyne circuit, dual wave reception, automatic volume control, dynamic speaker, all are incorporated in the new Model M5A1 "Super Compact" radio of the Gulbransen Co., 816 N. Kedzie Ave., Chicago. The set operates on a.c. or d.c. with a range of from 530 to 4,000 kilocycles (545 to 75 meters). The tube complement includes one each of the 75, 77, 78, 43 and 25Z5 types.—*Radio Retailing*, April, 1933.





Victor Camera Products

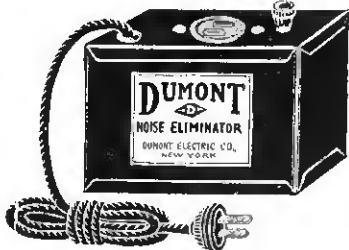
A continuous projection attachment said to be the first in which film breakage has been eliminated and surface abrasion reduced to a minimum can be obtained from the Victor Animatograph Corp., Davenport, Ia. The Victor "Continuous" will be supplied in a standard model which will accommodate 400 ft. of film and in special models to accommodate even greater footage.

Victor also announces a 1,600 ft. 16 mm. projector which gives a full hour showing.

A new type of Spreader lens has been adopted for use in the Model 10 Series, said to result in a great increase in illumination of still projections of single frames.—*Radio Retailing*, April, 1933.

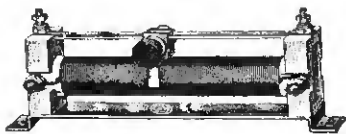
Dumont Line Filter

To eliminate disturbances made by oil burners, motors, refrigerators, etc., the Dumont Electric Co., 453 Broome St., New York City, offers its "Superior" line filter.—*Radio Retailing*, April, 1933.



Cordohm Resistors

Ohmite Mfg. Co., 636 North Albany Ave., Chicago, is now making a resistor unit to be used on a.c.-d.c. sets. It is said to entirely eliminate from the set the heat produced by the voltage reduction needed for the tube filaments. It is furnished in several standard resistance values adaptable for use on four and five tube sets.—*Radio Retailing*, April, 1933.



Slide Wire Rheostat

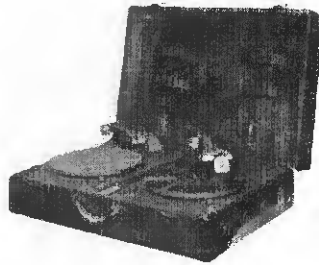
A small, high quality, inexpensive slide wire rheostat for service men is announced by G-M Labs., Inc., 1735 Belmont Ave., Chicago. It is known as their type R Rheostat, wound on a one piece porcelain form, with adjustable contact for varying the resistance. It will dissipate 75 watts continuously, the announcement states. These rheostats are also available in a special kit assortment comprising 6 of different ratings.

Binding screws at each end of the winding permit the use of any type R Rheostat as a potentiometer.—*Radio Retailing*, April, 1933.

RCA Portable P.A. System

The development of a portable public address system which provides improved quality of reproduction, simplicity of operation, and is housed in a single self-contained carrying case has been announced by the RCA Victor Company, Camden, N. J. The new "velocity" ribbon microphone, is an integral part of this system. Heretofore this microphone has been available only in connection with motion picture and disc recording work.

The amplifier is an exceptionally high gain unit utilizing Class B amplification and providing an output of 20 watts. Two electro-dynamic speakers are mounted behind grilled openings in the front half of the carrying case, with a 30-ft. extension cable. The system is provided with volume and tone color controls, a microphone transfer switch, and a special voice-music switch for accentuating voice pick-up alone or with musical background. Single and double turntable units in individual carrying cases are available as auxiliary equipment. Both will operate at 33 $\frac{1}{3}$ or 78 r.p.m.—*Radio Retailing*, April, 1933.



"Unesco" Generator Remote Control

To bring the control of the charging rate to your fingertips, the Hutch-Gard Corp., Ltd., Monahanock Bldg., San Francisco, Calif., offers the "Unesco" generator remote control which is easily installed on the dash of the automobile. A turn of the knob gives any charging rate required to suit driving conditions. It is connected to the grounded side of the field circuit and regulates the charging rate by increasing or decreasing the field current. A fuse is incorporated to prevent the generator from burning out in case of a break in the main circuit. The price is \$2.50.—*Radio Retailing*, April, 1933.

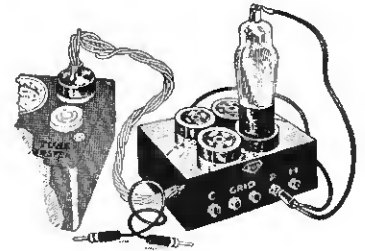
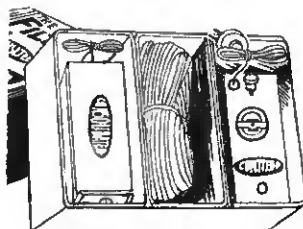
Radi-Aerial

Said to have the capacity of the average 75 foot outside aerial, the "Radi-Aerial" of the Western Coil & Electric Co., Racine, Wis., is easily installed in back of the radio by connecting three wires.

Briefly, this is how it works: a radio-frequency choke coil is so arranged in connection with a capacitor that the ground signals are fed through to the antenna part of the set even though the receiver itself actually is still grounded. The list price is \$2.50.—*Radio Retailing*, April, 1933.

Filttron

The Filttron eliminates man-made static, radio noises and line interference. Made by the Consolidated Wire and Associated Corp., Peoria and Harrison Sts., Chicago. The set consists of a Filttron A unit for the lead-in, a B unit for the power line, and 75 ft. of shielded lead-in wire.—*Radio Retailing*, April, 1933.



Bud Universal Adaptor

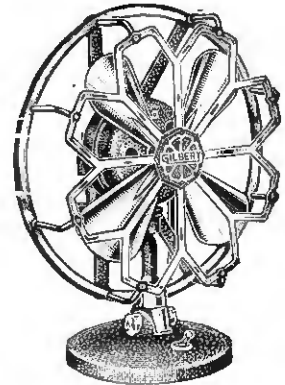
The new universal adaptor of Bud Radio, Inc., 1923 E. 55th St., Cleveland, Ohio, enables the dealer or service man to test all new types of tubes with present tube checker or analyzer. As new tubes are announced, information is sent to owners showing connections to be made on the outside of the adaptor by the use of connecting cords. This adaptor is complete in every respect and low in price. At present a chart is furnished enabling the testing of 72 of the newer types of tubes on the market.—*Radio Retailing*, April, 1933.

Variable Condensers for Amateurs

Three new special model variable condensers designed for radio amateur use, are announced by the Allen D. Cardwell Mfg. Corp., 81 Prospect St., Brooklyn, N. Y. One is a featherweight band-spread condenser, available in two stock sizes; another is a type 516 double end condenser, and the third is the type 519 neutralizing condenser for 852 tubes.—*Radio Retailing*, April, 1933.

Gilbert Fans

Dealers who carry fans in the summer as a side line will be interested in the new line of the A. C. Gilbert Co., New Haven, Conn. Fifteen models are offered. The sizes vary from 6 in. to 16 in. in both stationary and oscillating types. A ventilator model is also available.—*Radio Retailing*, April, 1933.



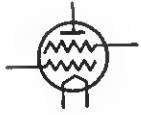
Burglar Alarm

Suggested by the Coronado Mfg. Co., 367 Grand Ave., St. Paul, Minn., as a side line, is its burglar alarm. This alarm explodes a tear gas bomb, rings a gong on the interior as well as the exterior of the building, and turns on the lights inside the store. All operations are simultaneous and immediate. This alarm is easily installed and lists at \$32.50 f.o.b. St. Paul. Tear gas bombs are replaced free of charge.—*Radio Retailing*, April, 1933.

Auto Speaker Housing

A molded auto-speaker case of special acoustical material which combines the advantages of wood and metal with the defects of neither is being made by the Hawley Products Co., St. Charles, Ill. It is of one-piece construction containing no seams.—*Radio Retailing*, April, 1933.

SERVICE AND INSTALLATION SECTION



CIRCUITS of the MONTH

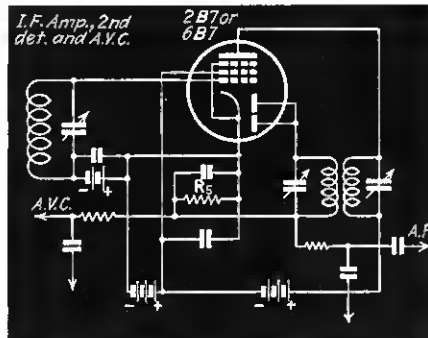
Duo Diode-Pentode Applications

The new duo diode-pentode 2B7's and 6B7's have many applications, most of which are readily grasped by men who are already familiar with the various uses of individual diodes and pentodes. The two diode plates, for example, may be employed as follows: (a) Both plates in full-wave detection circuit, with or without a.v.c. (b) Both plates in half-wave system, with or without a.v.c. and (c) One plate as half-wave detector, the other functioning as separate time-delay a.v.c.

The pentode portion of the tubes will most frequently be encountered working as a conventional a.f. stage but it can also be used to amplify a.v.c. voltage developed in the diode detector circuit before it is applied to r.f. grids or as an i.f. amplifier preceding the detector.

The basic amplified a.v.c. (RR39Mar) circuit is quite easy to understand. Signals are applied to the diodes through the usual transformer and a.f. voltage developed across R_1 fed to the a.f. system through R_3 and C_1 . D.c., which varies in proportion to the strength of the incoming carrier, is also developed across R_1 and is applied to the grid of the pentode through R_4 .

tively coupled to the diode plates are converted into a.f. and passed to the power



stage. D.c. obtained from carrier rectification also appears across R_5 and is used in the usual manner to automatically control the gain of preceding r.f. stages.

R. F. Silencer

In RCA's table model RE-40 phonograph-combination the pickup, wired in the second detector cathode circuit, is shunted by a 5,000 ohm volume control equipped with an auxiliary switch. The switch, which is closed when the pickup control is in the extreme counter-clockwise position (phonograph off), shunts a 3,000 ohm fixed resistor included in the common r.f. and first detector cathode lead of the receiver.

The instant the phono volume control is advanced the resistor cuts in, raising the r.f. and first detector bias to a value which produces virtual plate current cut-off, effectively silencing radio pickup.

Gaseous Discharge Relay

A combined visual tuning indicator and gaseous discharge relay which can be used to automatically mute a receiver between stations has been devised in the Duo-Vac laboratory by the addition of a fourth elec-

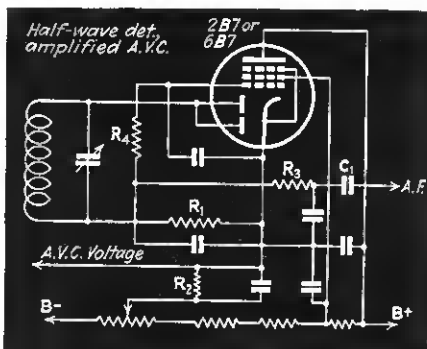
trode (E) to the familiar tune-a-lite tube used by A-K and others.

The device is designed for use in receivers utilizing the variable r.f. stage bias method of a.v.c. and is connected as shown. With the set tuned between stations the r.f. stages are naturally "wide open," plate current high and the drop across series resistor R great. Inasmuch as R is also in series with the voltage applied across anode A and cathode K this drop holds down gaseous discharge across the two elements. N is adjusted until noise surges are just insufficient to raise cathode glow to the level of electrode E .

At this instant the a.f. tube grid is at ground potential by virtue of the path through R_5 , R_7 and R_4 . Its cathode is connected to a point on the divider sufficiently positive to cause complete cut-off for even the highest signal voltages which may be developed across R_5 and the tube consequently does not function.

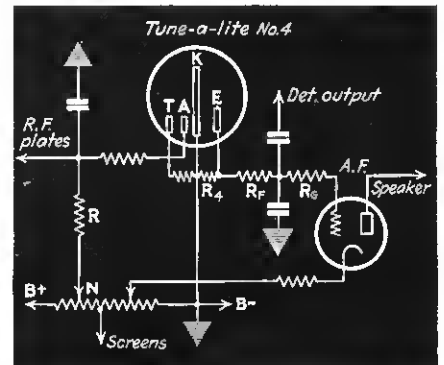
When the receiver is tuned to a carrier, however, the a.v.c. system decreases r.f. plate current, which in turn reduces the voltage drop across series resistor R , causing the voltage applied to K and A to rise. A discharge takes place between these two elements and K glows.

When the glow climbs on K to the level



Amplified, it appears across the pentode's cathode resistor R_2 and is then "piped" to preceding r.f. stages.

When used as an i.f. amplifier, second detector and source of a.v.c. voltage i.f. signals are fed first to the control grid of the pentode portion of a 2B7 or 6B7. They reappear, amplified, in its plate circuit and inasmuch as this circuit is induc-



of electrode E the theory boys explain that there is a physical motion of glow-ions between K and E , which produces a voltage across external resistor R_4 . This voltage is so polarized that it bucks the abnormally high negative bias on the a.f. tube to an extent that the tube receives proper grid supply and goes back to work.

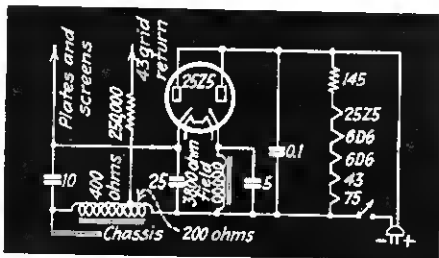
The glow continues to rise on K until

exact resonance is reached, having little further effect on *E* once the initial discharge takes place.

Split-Cathode Rectifier

Interesting use is made of a 25Z5 rectifier in Belmont's new a.c.-d.c. superhet model 525. The plates are tied together in the usual fashion, the tube functioning as a half-wave device, but d.c. is taken from one cathode for plates and screens while the other serves the 3,800 ohm speaker field exclusively.

As in most universal type receivers (RR35Feb) all tube cathodes are connected to chassis through suitable bias resistors but the chassis remains ungrounded. Plate current for detectors, oscillator and i.f. amplifier flows through a 600 ohm filter choke placed in the negative supply lead.



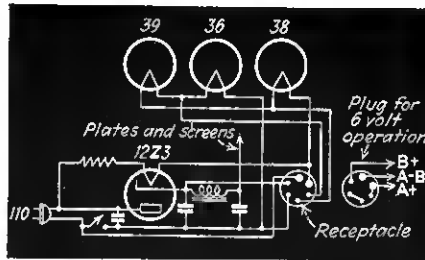
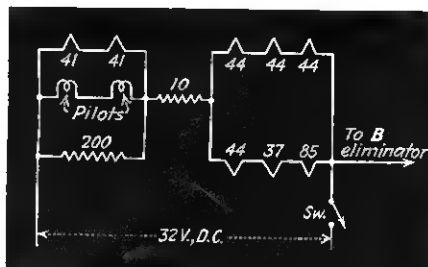
The output 43 grid is biased 16 volts negative with respect to its cathode by tapping the choke at 200 ohms.

A 6D6 is used as a conventional oscillator and electron-coupled first detector. Another 6D6 is used as an i.f. pentode, which is not quite so conventional.

Series-Parallel Heaters

An interesting arrangement of heaters is found in L. Tatro's new 32-volt d.c. model F913. Six 6.3 volt, 0.3 ampere tubes (r.f., i.f., oscillator and detectors) are operated in series-parallel. Output 41's work in series with the string and a 10-ohm resistor, in shunt with 200 ohms. Two series 6-volt pilot lights operate on the drop across the 41's.

Seven tube model E83 uses 0.3 ampere 38's in place of 0.4 ampere 41's. Six tubes are connected in series across the 32 volt supply while the seventh is separately heated through a 100-ohm resistor.



6-Volt D.C. Adaptor

Several "Universal" models (RR35Feb) are now equipped with a plug which permits them to be used in cars, the 6-volt battery operating heaters, B-batteries or eliminator providing plate current. Stewart-Warner chassis' 10 to 20, for example, have such a plug, use of which con-

The 'phone people neglected to print emergency fire and police members so Serviceman Kennedy filled the breach. See page. 31.

nects heaters in parallel.

The 12Z3 rectifier is eliminated and the 110 power circuit left open. High-voltage filter and switch function normally.

Where to Find TUBE SOCKET DIAGRAMS

(Dates refer to published RADIO RETAILING "Black & White" Charts)

Type	Issue	Column	Type	Issue	Column
00A	Feb., 32	3	50	Feb., 32	5
01A	Feb., 32	3	(HZ) 50	Feb., 33	1
01AC	Feb., 32	4	51	Feb., 32	3
1	April, 33	1	52	Sept., 32	4
(KR)	Feb., 33	3	53	April, 33	2
10	Feb., 32	5	55	Sept., 32	5
2A3	Feb., 33	3	56	Sept., 32	1
2A5	Feb., 33	1	57	Sept., 32	2
2A7	April, 33	2	58	Sept., 32	3
2B7	April, 33	3	59	Sept., 32	4
5Z3	Feb., 33	2	64	Sept., 32	5
6A7	April, 33	4	(8) 64	Sept., 32	1
6B7	April, 33	1	65	Sept., 32	2
6C6	April, 33	2	67	Sept., 32	3
6D6	April, 33	3	68	Sept., 32	4
6Z3	April, 33	4	69	Sept., 32	5
6Z4	April, 33	1	70	Sept., 32	1
6Z5	April, 33	2	71A	Feb., 32	5
(WD) 11	Feb., 32	1	74	Feb., 32	1
(WX) 12	Feb., 32	2	75	April, 33	3
12A	Feb., 32	3	77	Feb., 33	3
12Z3	April, 33	3	78	April, 33	4
15	Feb., 33	1	79	Feb., 33	1
18	April, 33	4	80	Feb., 32	2
19	Feb., 33	2	81	Feb., 32	3
20	Feb., 32	4	82	Sept., 32	2
22	Feb., 32	1	83	Sept., 32	3
24	Feb., 32	2	84	Feb., 33	2
24A	Feb., 32	2	85	Sept., 32	2
25Z3	April, 33	1	(9) 85	Sept., 32	5
25Z5	Feb., 33	2	(9) 86	Sept., 32	1
26	Feb., 32	3	89	Sept., 32	2
27	Feb., 32	4	90	Feb., 33	3
29	Sept., 32	1	92	Feb., 33	1
30	Feb., 32	5	(2) 95	Sept., 32	3
31	Feb., 32	5	95	Feb., 32	4
32	Feb., 32	1	96	Feb., 33	2
33	Feb., 32	2	98	Feb., 33	3
34	Sept., 32	2	(UV) 99	Feb., 32	1
35	Feb., 32	3	(UX) 99	Feb., 32	2
36	Feb., 32	4	BA	Feb., 32	5
37	Feb., 32	5	BH	Feb., 32	5
38	Feb., 32	1	BR	Sept., 32	4
39	Feb., 32	2	GA	Sept., 32	5
40	Feb., 32	3	LA	Sept., 32	1
41	Sept., 32	3	PA	Sept., 32	3
42	Sept., 32	4	PZH	Sept., 32	2
43	Sept., 32	5	Wund.		
44	Sept., 32	1	A (5)	Sept., 32	3
45	Feb., 32	3	Wund.		
46	Sept., 32	2	A (6)	Sept., 32	4
47	Feb., 32	4	Wund.		
48	Feb., 33	3	B	Sept., 32	5
49	Sept., 32	3			

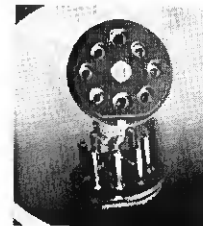
LAB. FORECASTS

THE "TRIPLE-TWIN" IS BACK again in 3½ and 5½ watt styles. A New Jersey manufacturer is behind it; a Chicago set maker reported to be considering use in new models. The tube is driver and power output stage in one. High sensitivity as well as plenty of sock.

"THE" CORPORATION IS REPORTED to be knocking out 20 by 24 inch midjets having front panels modelled after the "Wings" cigarette package. The sets have electron-coupled oscillators, all dials concealed on the side, speaker spouting out the top. These may be destined for cigar-store distribution. The American Legion is reported to be angling for a similar set to be sold by unemployed Legionnaires for about \$12.

HERE'S ONE HOT OFF THE griddle. Three tube "peewees" are slated for early production, new diode-triode-pentode's used as detector, driver and power output stage making this possible. Bigwigs are playing dope on the triple-purpose bottles close to their vest but we suspect that they will have 8 prongs.

SPEAKING OF PRONGS. WE saw 8 and 9 prong sockets in a moulding plant the other day. The holes were arranged heart-shape, the 9 having a center locking pin. Can't say definitely what tubes these are for but the sad news will be forthcoming soon enough!



Top and side views of an 8-prong socket

"UNIVERSAL" SOCKETS ARE IN the wind. Several manufacturers are squawking about the high cost of tooling up again every time someone adds another prong to a tube. A type that will accommodate 4, 5, 6, 7, 8, 9, etc., pins will be a darned fine thing.

SOME SWEDISH OUTFIT IS PUTTING out a new kind of steel or iron that can be used for tube plates without affecting performance, materially cutting costs. Manufacturers are said to be going for it in a big way, a sad, sad blow to the Nickle boys.

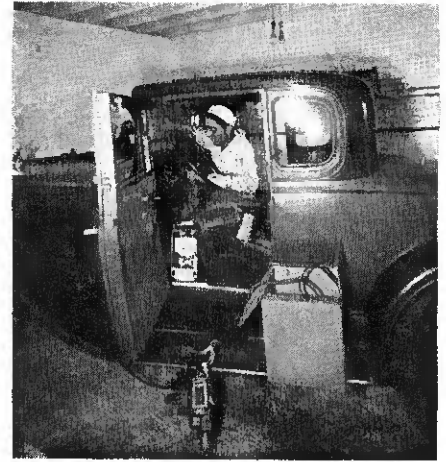
BAYONNE, NEW JERSEY, IS trying out a 5-meter police communication system which may make 120 and 175 meter rigs as obsolete as a last year's birds nest. The cars can communicate with the dispatcher, as well as the dispatcher with the cars.

Elimination of Noise in Car Installations

How to combat accumulative discharge, brake "static", chassis pickup, eddy currents

By ELMER WAVERING
and MURRAY YEOMANS

Galvin Mfg. Corp.



THE elimination of motor noise in any car is, as a rule, accomplished easily and quickly by men having a thorough understanding of the various types of interference encountered. The best plan is to segregate them and then combat each one individually. This is advisable because interferences frequently combine in such a manner that a modern, highly sensitive receiver interprets them as one signal.

The various types of interference may be classified as follows:

1. Ignition interference. (Originating at the spark plugs and distributor rotor and caused by arc occurring at these points while the motor is running). This type will evidence itself in the form of a steady beat exactly in step with sparking at the plugs.

2. Generator interference. (Occurring at the generator brushes or the commutator) showing up at the speaker as a loud whirring which increases in pitch as motor speed rises.

3. Accumulative discharge. This a peculiar form of interference which generally shows up only after ignition and generator noise has been reduced to a minimum. It occurs at the primary breaker points of the distributor and is caused by surges built up in this circuit and discharged at irregular intervals. Accumulative discharge sounds much like static but is noticeable only when the motor runs. (This is most common in Chevrolets.)

4. Brake interference. (Caused by brake bands dragging lightly on the drums). This shows up when the car is moving forward with the gears in neutral and ignition switch off.

There are two ways in which these forms of interference are picked up and reproduced by the receiver, namely chassis pickup and aerial pickup. Chassis pickup may be the placing of the set itself in such a dense field of interference that noise is sprayed directly through the joints in the shield-housing or unshielded openings such as plugs and receptacles. It may also be picked up by such parts as the speaker, control panel, batteries or eliminator, or by the A battery which is common to set and ignition system.

As a general rule ignition interference is the only type which is sufficiently strong

to develop within the set itself. Aerial pickup is also caused when the collector system or lead in is in the field of interference, within the arc of the roof or under the chassis. Aerial pickup should be checked only after all chassis pickup has been eliminated.

Interference Travel-Paths

There are three major paths over which interference may reach the receiver chassis or aerial. These are:

(a) Direct radiation. This is caused by radiation of noise by ignition sparks or arcs in much the same manner as light rays emanate from a lamp.

(b) Conduction. Interference is lead from spark plugs or distributor back into the primary circuit, carried along primary (battery) wiring to the various parts of the car.

(c) Eddy currents. These are produced in the metal body and frame of the car by ignition-generated signals flowing in the metal. Since the body metal has a relatively high resistance to r.f. currents it allows them to build up to very high values.

In the foregoing paragraphs we have given as completely as possible the types of interference encountered in car installations, also noted the points at which they enter the set. It is suggested that installation men study these fundamentals as they are essential to intelligent handling of all jobs.

Noise Elimination Methods

Now let us consider the methods by which noise may be eliminated or materially reduced, ways of keeping interference from penetrating chassis shielding direct and ways of blocking other paths over which it travels.

Our recommendations are; first, suppress ignition interference by:

1. Place suppressors on spark plugs and in common high tension lead.

2. Clean connections on high tension leads so that no arcs occur between suppressors and the coil.

3. Clean and adjust breaker points.

4. Remove primary lead running from

coil to distributor from the ignition cable manifold and place it as far away as possible from the high tension wires.

5. If the coil is mounted on the driver's side of the bulkhead move it to the motor side, using the same mounting holes. If it is mounted on the instrument panel shield the high tension wire from the coil to the bulkhead, grounding it at one point only. When shielding this lead it is well to slip a piece of insulating loom over the lead before the braid is applied and before the grounding band is soldered in place. This avoids damage to the insulation on the lead while soldering.

6. When coil is on the instrument panel shield the primary ignition lead connection coil to distributor from bulkhead to distributor, grounding it at both ends.

7. Place condenser from hot primary side of coil to ground.

Now, reduce accumulative discharge by:

1. Place a .002 to .006 mfd., high-grade mica condenser across the distributor breaker points as close to the points as possible, preferably within the distributor housing. Take care when so mounting a condenser that the rotor does not touch it when the motor is started up. This condenser, it will be seen, is in parallel with the larger condenser already on the distributor. Its purpose is to provide a better radio frequency path.

2. Shorten the connecting wire on the distributor condenser.

Brake interference is the third problem to be tackled. Do this by:

1. Readjusting the brakes.

2. Bonding the brake rods to the frame with flexible bands.

In checking a set for chassis pickup it will be necessary to disconnect the aerial at the point where the lead-in enters its shield, tucking the wire within the shield carefully to avoid a short.

Proceed as follows:

1. Shield all wires entering the set.

2. Clean and brighten all joints in the set housing.

3. Cover and shield all plugs and receptacles on the receiver.

4. Connect the A supply leads from the set directly to the battery.

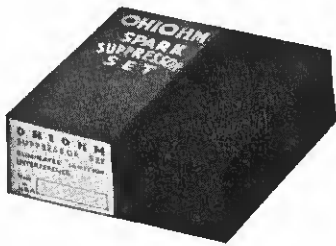
5. Insert 20 turn, No. 12 wire choke in the hot A lead, right at the battery.

Aerial pickup may be taken care of effectively by using the hints suggested in our earlier discussion of interference paths.

Direct radiation of noise may generally be overcome by shielding. Try these methods:

1. Ground the hood of the car thoroughly

New **LOW** Prices
on these **HIGH** Grade
OHIOHM
Spark Suppressor Sets



JUST in time with the spring opening, Ohiohm Spark Suppressor Sets are reduced in price — permitting greater profits and increased sales.

FOR ELIMINATING IGNITION INTERFERENCE ON RADIOS INSTALLED IN AUTOMOBILES.

Furnished for 4, 6 and 8 cylinder cars. Condensers designed to withstand unusual conditions of temperature and vibration. Spark suppressors enclosed in glazed porcelain tube eliminating accumulation of dirt. Porcelain made of special non-moisture absorbing material to prevent shorting.

**WRITE
TODAY!**

This is the time to get under way. The fastest growing market in radio today.

THE OHIO CARBON CO., 12508 Berea Rd.
Cleveland, Ohio

Ohiohms are made in Canada by C. C. Meredith & Co., Ltd.
Bay St., Toronto.

**Coming...
A New Deal
for the Forgotten
Service Man!**

- a new sales and service plan combining greater cooperation . . . more business . . . and increased profits for radio service men . . . will be announced next month by the makers of Aeracon Condensers. Watch for it!

Jobbers: Some desirable territories are still available. Write for details.

CONDENSER CORP. of AMERICA

259 Cornelison Ave., Jersey City, N. J.

Factory Representatives In:

Chicago Cincinnati St. Louis San Francisco Los Angeles Toronto

And Other Principal Cities

On the Spot in emergencies

AD-A-SWITCH
is the Emergency Control!

With a skeleton stock of CLAROSTAT AD-A-SWITCH Controls over 70% of volume control replacements can be handled.

because

One control can serve either for plain or switch type.

because

The shaft is completely insulated from the contact arm.

because

The combined length of shaft (with the mounting bushing) is 1 1/8" — sufficient to take care of most requirements.

because

Standard AD-A-SWITCH Controls are available in all tapers and electrical characteristics.

because

AD-A-SWITCH is recognized and adopted as THE ONLY EMERGENCY CONTROL rendering maximum service with minimum investment.

A helpful VOLUME CONTROL and RESISTOR GUIDE is available upon request.

TERRITORIES OPEN FOR AGGRESSIVE JOBBERS

CLAROSTAT Mfg. Co., Inc.

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

"AD-A-SWITCH" was originated by Clarostat

SHOP SHORTCUTS

by cleaning and brightening the hasps on the side and removing grease.

2. If distributor is near rear of motor and near floor boards place a copper screen on the floor board and ground it to the bulkhead.

3. If coil is on instrument panel shield it by placing a tin can over the bakelite end. This may be done by punching a hole in the bottom of the can to admit the high tension lead and then dove-tailing the other end so that it may be slipped over the bakelite and the dove-tails drawn around the case with a length of wire.

Conduction by any wire may usually be stopped by connecting a $\frac{1}{2}$ to 1 mfd. condenser at the point where the wire leaves the field of interference, grounding the other condenser lug. In extreme cases a small series-choke may be required. Conduction by a control rod or pipe passing through bulkhead may be blocked by grounding the rod to the bulkhead.

Eddy currents may be overcome by bonding with heavy copper braid the parts of the body effected to the bulkhead or motor block. Bonds may also be tried as follows:

1. Bond the instrument panel to bulkhead at each end.

A 103 per cent increase in work is attributed to distribution of the postcard reproduced on page 31 by Charlie Belletete.

2. Bond metal aprons at top of car body to bulkhead. If the lead-in is shielded from the set to the aerial use shield as the bonding medium, grounding it to the apron and again at the bulkhead.

3. In cars having rubber mounted motors run a heavy band from the ground side of the battery directly to the car frame.

It will be found convenient to have several 1 mfd. condensers with leads and clips attached, also various lengths of flexible bands with heavy clips at both ends. These may be clipped in place wherever trouble is suspected until noise pickup ceases, then removed one at a time until the minimum number is found. Permanent condensers may later be securely mounted in place.

Static from Brakes

By Murl Ed. deBeauchamp

It sometimes happens, especially on Packards, that the brake-lining friction against the drum causes static disturbances which disturb auto-radio. This can be overcome by mixing a small amount of graphite with any good lining dressing and applying this sparingly. Too much graphite will make the brakes slip.

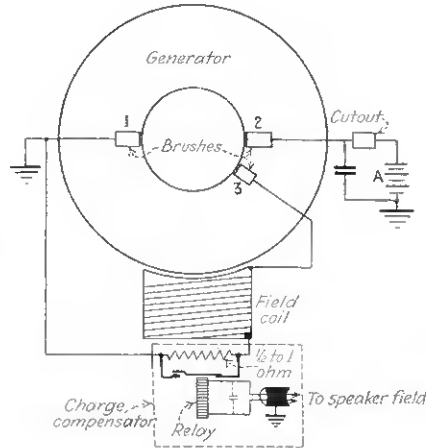
When installing battery-boxes in cars it is important that they are made completely watertight. I place holes, if there are any in the box, toward the back of the car and run wax into the gaskets with a hot soldering-iron to make sure they are completely sealed.

Boxes should be suspended from the inside of the car, using the flanges provided, wherever possible. All holes, no matter how small, below the car should be sealed.

Charge Compensator for Auto-Radio Installations

By S. Bend

A device which will automatically increase the charging rate of a car generator from 3 to 6 amperes when the auto-radio receiver is turned on can be easily constructed of an old B-eliminator trickle-



charger relay of the double-pole, double-throw type and a $\frac{1}{2}$ to 1 ohm, 15 watt resistor.

Rewire the switch so that the two poles operate in parallel. (The pole contacts formerly needed to turn on the charger are not used. Wire a 1-ohm resistor onto the fibre deck of the switch, connected as shown in the diagram. Locate the wire of the generator that runs between one end of its field-coil and the chassis and connect the resistor in series. Heavy, flexible wire is recommended and all joints should be well soldered and taped. I mount the unit on top of the generator in a protective wooden box.

With the radio off, advance the generator by moving the third brush until the rate is nearly the same as it was before the resistor was wired in the field circuit. If even full advance of the brush does not permit this change the resistor to a $\frac{1}{2}$ -ohm size. Connect the actuating coil of the relay switch, through a shielded cable, in series with the dynamic speaker. Shunt a 0.5 mfd. condenser across the coil if noise-pickup is experienced.

Now, when the radio is turned on and current flows in the speaker field the relay short-circuits the resistor, increasing the charging rate. And when the set is snapped off the resistor goes back in the circuit and rate is restored to normal.

Cure for "Flaking" Condensers

By V. W. Hodge

To burn away the metallic flakes which sometimes short variable condensers or

make them noisy, disconnect the gang from the shunt coils and connect the offending sections in series with a heater element from a "sunbowl" and the 110 line. Rotate the condenser until all signs of flashing disappear.

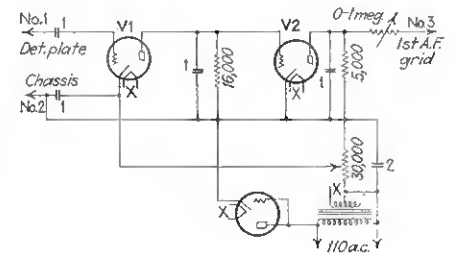
Inter-Station Muting Accessory

By Morris Chernow

A self-powered, inter-station a.f. muting accessory which may be operated from a receiver by means of tube prong adaptors is easily made and performs satisfactorily in connection with a majority of receivers. Part values are not critical and the entire cost can be less than \$5 to the serviceman, at current prices.

The circuit is not difficult to understand. V1 and V2 are v.t. voltmeters, V1 controlling V2 in a reverse manner. V1's grid is set at cutoff by means of a cathode resistor which is variable up to 30,000 ohms. The setting varies with each locality, depended upon the degree of suppression desired. 3,000 ohms is the usual setting. Once adjusted, this control is not again disturbed.

Now, with wire 1 connected to the plate prong of the detector tube, or under an audio plate prong, and wire 2 carried to the chassis there is no current flow through V1 due to its grid bias value until a signal is impressed on the input. This causes the grid of V2 to lose its negative bias voltage, obtained from the 16,000 ohm resistor drop. With the grid of V2 thus made more positive the current flowing in its plate circuit through the 5,000 ohm resistor produces a voltage drop in the order of 50 volts. (10 mils. through 5,000 ohms). This is applied to the grid of the first audio



tube via wire 3, which is connected to its grid prong, causing complete cutoff of the first a.f. plate current, killing signals.

As soon as a signal is tuned in energy flows through the blocking condensers via wires 1 and 2 to V1, causing plate current to flow again through the 16,000 ohm resistor. The voltage drop so produced is applied to V1, biasing it to cutoff and eliminating voltage drop across the 5,000 ohm resistor. This relieves the first a.f. stage of excessive bias and it proceeds to function again.

The power transformer with which the accessory is equipped is an ordinary filament type with center-tapped secondary (X). The voltage across the primary is

Put No. 711 on Your Payroll!



Only
\$22.50
Net to Dealers

List
\$37.50

"A Remarkable
Instrument at a
Remarkable Price"

Readrite

Tester No. 711

NO MATTER how many testers you now have, you can afford to put No. 711 on your payroll because it *brings in more money with less effort* . . . enables you to do a quicker, better testing job!

New, Improved Features

Readrite Tester No. 711 is similar to the famous Readrite No. 710, but *better*. It is equipped with the new Triplett D'Arsonval Voltmeter, having 1000 ohms per volt resistance. The reading is 0-15-60-300-600 volts which covers a complete range for testing control grid, screen grid, cathode and plate voltages.

It is equipped with a practical selector switch for checking all parts of the tube circuit by connecting to the set sockets. It is so designed that selection can be quickly and accurately made for testing voltages of plate, grid, cathode, suppressor grid and screen grid. Plate current, filament volts, line and power supply volts are also measured.

Both A.C. and D.C. filament voltages are accurately measured. Contains new wiring and socket for taking care of new small 7-prong tube as well as larger 7-prong tube. It is equipped with a small diameter plug-adaptor for testing in new sockets. Try this amazing tester one day and you'll wonder how you ever got along without it.

Your Jobber Can Supply You

Your jobber can supply you at the dealer's net price of \$22.50. Send coupon for more details.

Mail for Details NOW

Readrite
Meter
Works
59 College Ave.
Bluffton, Ohio.

Gentlemen:

Please send me information about Readrite No. 1000 Resistance Continuity and Capacity Tester. Also catalog of other servicing instruments.

Name
Street Address
City State

**READRITE
METER
WORKS**

59 College Ave.
BLUFFTON,
OHIO

\$5.00
Complete Kit

More Profit
Lower Price
Easier to Sell
Easier to Install
Better Results

LYNCH "NO-STAT" ANTENNA SYSTEMS

Eliminates
Man-made
static and per-
mits the use of
several re-
ceivers on a
single antenna.

LYNCH ANTENNA PRODUCTS
for Broadcast and Short Wave

Have been increasing in popularity ever since their introduction. Jobbers and dealers everywhere are benefitting by this new business. Write for sales proposition if you are not selling our popular line now.

LYNCH MFG. CO., INC.
1775 Broadway, New York, N. Y.

Only Reliable
Products Can Be
Continuously Advertised

don't pass up
this spring!

SPRING'S the big chance for dealers and service men to put on a real drive for radio service business. Remember, the warm summer days will soon be here. Folks will spend more and more of their time outdoors. Now is the time to get them to have their radio sets inspected, repaired and replaced. When summer comes, the emphasis may well be shifted to auto radio, sets for summer camps, cottages and bungalows. But now's the big opportunity to make money servicing regular home radio sets. And don't forget that quality radio parts, used in your repair jobs, will do much to insure customer satisfaction and build repeat business.

Radio Retailing

A MCGRAW-HILL PUBLICATION

half-wave rectified but not filtered other than by the 2 mfd. condenser shown. All three tubes are type 27's. The 1 megohm resistor shown is variable but a fixed type may be used. Its main purpose is to prevent reducing the input impedance of the audio tube and for this reason a variable resistor assures a more perfect match in all types of receivers.

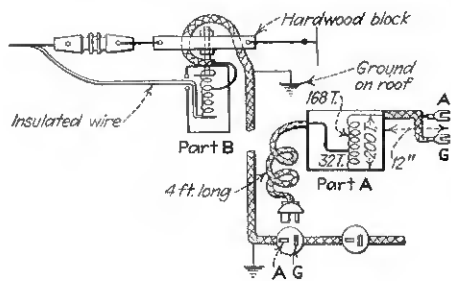
Just three wires are connected to the receiver and once the device is adjusted for the particular neighborhood in which it is to be used no further attention is required. Compact mounting ideas are left to the ingenuity of the reader.

Low Voltage Transmission Line Antenna for Stores and Apartments

By J. P. Kennedy

In the August, 1932, issue of "Radio Retailing" I described a low voltage transmission line antenna system. Since then I have improved the scheme so that seven sets may be operated. Theory is fully outlined in the original article.

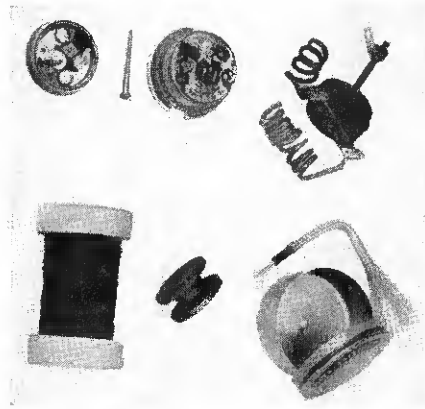
The multi-set system uses the originally



described stepdown auto-transformer at the aerial but it is coupled to seven handy-tap d.c. polarized type receptacles near the sets to be operated. Each set has its own length of shielded wire, a stepup auto-transformer and a plug for the receptacle. The auto-transformers must be shielded. Either have a tinsmith make neat containers of copper or sheet tin or secure small baking-powder or adhesive tape cans, remove the labels and lacquer. To prevent moisture shorting the coils fill the cans with black wax, tar, paraffin or a mixture of rosin and beeswax.

When constructing the auto-transformers prepare eight forms, either as described in August or as follows: Eight wood spools, each 1 1/4 inches in diameter and 3/4 inches in thickness should have a 3/8 inch slot cut 3/8 in. deep. A hole large enough for an 8/32 bolt should be drilled through the centers. Wind the coil labelled part B with a total of 108 turns tapped at the 18th, using No. 24 d.s.c. wire. A thin fibre or bakelite strip across the end of the spool held in place with the 8/32 bolt will provide an anchoring for the tap and the end of the coil. The start of the coil is brought out near the core and soldered to a lug making contact with the center bolt.

The seven remaining spools, labelled part A, should be wound with No. 28 enameled wire. Each should have 200 turns with the tap at 32 turns from the



center, or start of the coil. The illustration shows the actual appearance of the auto-transformer coils and the author's shielded can container.

No. 14 shielded lead-in may be used up to 150 feet. If a set happens to have a special antenna circuit which does not match the stepdown transformer connect a small neutralizing condenser between the aerial post of the set and the hot shielded line from the auto-transformer, then adjust for best results.

The lead-in shield covering should be grounded at as many points as is practicable and the conductor tested for shorts before placed in use. Shorts sometimes occur in fastening the down-lead in place under knobs.

Modulating the Jewell 563

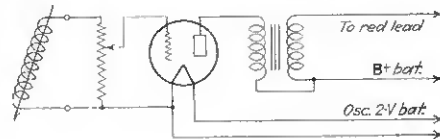
By W. T. Golson

Jewell oscillator model 563, factory designed with a high-pitched buzz note, may be sound-modulated quite easily so that it can be used to check speaker rattle and distortion suspected of being in either r.f. or audio circuits.

Add a simple modulator stage diagrammed herewith, powered by the oscillator battery and fed from a standard phonograph pickup. It is only necessary to remove the red wire leading to the B positive connection in order to modulate the

On page 30 Bill Saunders of Gimbel's Department Store describes a mutual record system worked out with a service specialist.

plate current of the oscillator. Frequency is adjusted in the usual manner. The red wire is connected to the audio transformer of the modulator unit and return lead connected in its place to the battery.



Corkscrew Removes Condensers

By A. W. Dugan

To remove defective condenser sections from a bank, disconnect the two leads to it, screw a corkscrew into the center of the section and pull.

TRICKS of the TRADE

ZENITH 70. Intermittent reduction in volume accompanied by sharp click and ragged tone. Replace first audio plate blocking condenser with 300 volt, .5 mfd. paper type.

KELLOGG 533-536. Sudden or gradual decline in volume, returning to normal with sharp click. Check small blocking condensers mounted on variable condenser gang. Replace with identical values.

RCA 80-82. Loss of volume and poor tone. Examine black enamelled bias resistor for 45's, under chassis, for bad soldered joint.

ERLA, BRANDES. Cutting out often caused by defective local-distance switch. Contact material becomes loose in spring. Put contact in tapered hole and centerpunch around edge to retighten.

CROSLEY 148. If set cuts out or works poorly on low line voltage replace 2.5 volt pilot with a 6-volt bulb. The pilot is wired across the 6.3 volt tube circuit and sometimes reduces heater voltage to below normal.

BRUNSWICK 15. Full reception when set is first turned on, gradually fading out. Look for open 25,000 ohm orange resistor in screen-grid supply circuit.

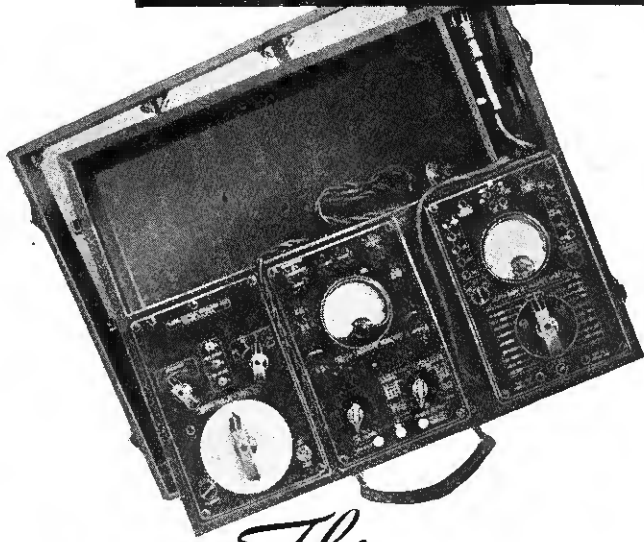
MAJESTIC 100B. Cutting in an out. Check by-pass condensers across cathode resistors to ground. There are two in metal containers. Replace defectives with 1 mfd. units.

GLORITONE 26. Cutting in an out, accompanied by oscillation or howling. Usually caused by open screen-grid or cathode resistor by-passes. These are all in one can beneath r.f. coil shields. Cut old leads off to condensers and mount separate .25 mfd. unit between r.f. cathodes and screen to frame. When making this repair it will be necessary to run a new wire direct between cathode terminals on the sockets and another wire between screens on sockets.

COLONIAL C-995. A hi-lo sensitivity switch, which will cut down interstation noise when tuning locals with this a.v.c. model, may be added by removing wire lead between lugs 1 and 2 of the Candohm resistors, connecting a 100 ohm type between the lugs, cutting the ground connection to lug 1 and grounding lug 2. Drill a hole in the right side of the cabinet to receive a switch and connect the switch across the new 100 ohm resistor so that it may be either shorted out or placed in the circuit.

TUBES. A new "Black & White" chart, showing socket connections of the latest tubes appears on page 49.

Ask your jobber!
FOR A DEMONSTRATION



This Compact Kit

A COMPLETE
SERVICE SET

MANY service men prefer the Analyzer-Tube-checker method of trouble shooting. For their convenience and profit Weston offers a combination of Standardized Service Units—Model 660 Analyzer, Model 661 Tubechecker and Model 662 Oscillator.

They are illustrated above in the case designed by Weston especially for the combination. All three instruments may, however, be bought separately and used independently. When all three have been secured they can be mounted as shown, and in this way a complete, compact Weston service kit can be acquired without interfering with present equipment.

You should have complete information on the complete line of Weston-Jewell Radio Instruments. They are the last word in profit-producing service. The coupon is for your convenience. Fill in and mail it to the Weston Electrical Instrument Corporation, 581 Frelinghuysen Avenue, Newark, New Jersey.

WESTON-JEWELL *Radio Instruments*

For those who prefer the Point-to-Point method the Weston Service Kit containing Oscillator, Volt-Ohmmeter, Capacity Meter is recommended.

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

Please send me further information on Weston-Jewell Service Equipment.

Name.....

Address.....

*Dealers, Service Organizations,
Service Managers & Service Men:*

Are You Cashing In on O. H. Caldwell's Broadcasts?

A UNIQUE service is being supplied you by O. H. Caldwell, editor of *Radio Retailing* and the magazine *Electronics*. Under the auspices of the Electrical Association of New York, Radio Division, Mr. Caldwell has been broadcasting over the Columbia and NBC national networks a series of interesting, educational talks to radio listeners, telling them about the wonders of radio and urging them to regularly call upon their local radio dealers, service organizations and radio service men for inspection service men. Mr. Caldwell has pointed out that much of the pleasure of receiving the costly programs sent out over the air is missed if the radio set in the home is not functioning properly or is obsolete.

WATCH your local chain station programs for other broadcasts by O. H. Caldwell. Tell your customers and prospects about them, urge radio listeners to tune in on Mr. Caldwell. You'll find, as have many other dealers and service organizations that these broadcasts done by the editor of your magazine, *Radio Retailing*, will help you get business.

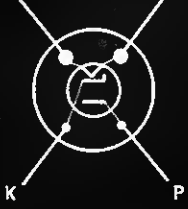
Radio Retailing

A MCGRAW-HILL PUBLICATION

New Tube Connections

(Seen from below)

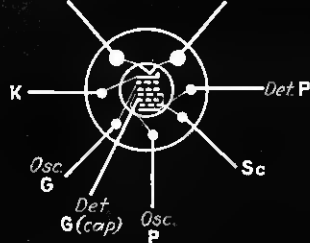
H-6.3V, 0.3A, A.C. or D.C.-H



1

(Half-Wave M.V. Rect.)

H-2.5V, 0.8A, A.C. or D.C.-H



2A7

(Det. and Elect. Coupled Osc.)

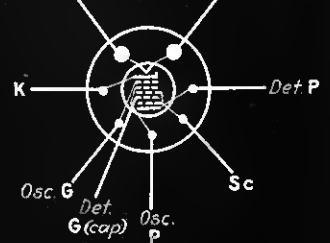
H-2.5V, 0.8A, A.C. or D.C.-H



2B7

(Duo Diode-Pentode)

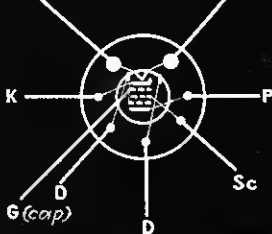
H-6.3V, 0.3A, A.C. or D.C.-H



6A7

(Det. and Elect. Coupled Osc.)

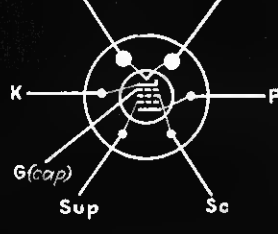
H-6.3V, 0.3A, A.C. or D.C.-H



6B7

(Duo Diode-Pentode)

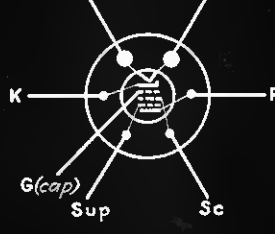
H-6.3V, 0.3A, A.C. or D.C.-H



6C6

(Det. Pentode)

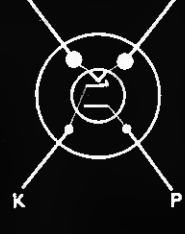
H-6.3V, 0.3A, A.C. or D.C.-H



6D6

(Var. Mu. R.F. Pent.)

H-6.3V, 0.3A, A.C. or D.C.-H



6Z3

(Half-Wave Rect.)

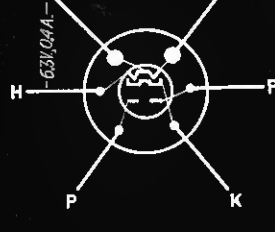
H-6.3V, 0.5A, A.C.-H



6Z4

(Full-Wave Rect.)

H-6.3V, 0.4A, A.C. or D.C.-H



6Z5

(Full-Wave Rect.)

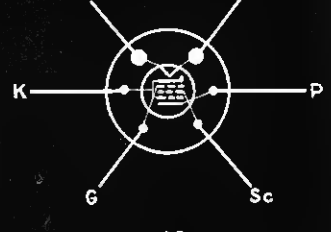
H-12.6V, 0.3A, A.C. or D.C.-H



12Z3

(Half-Wave Rect.)

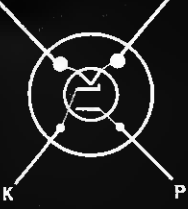
H-14V, 0.3A, A.C. or D.C.-H



18

(Power Amp. Pentode)

H-2.5V, 0.3A, A.C. or D.C.-H



25Z3

(Half-Wave Rect.)

H-2.5V, 2A, A.C. or D.C.-H



53

(Class B Twin Amp)

H-6.3V, 0.3A, A.C. or D.C.-H



75

(Duo Diode-Triode)

H-6.3V, 0.3A, A.C. or D.C.-H



78

(Var. Mu. R.F. Pentode)

Another RADIO RETAILING "Black and White" Chart prepared especially for Servicemen

Now
Gives You
the Smartest
of all Personal
Models
for AC·DC·Operation



U. S. RADIO



TONE quality and performance never before achieved within such limits of size are combined in a finely figured genuine walnut cabinet which captures instant admiration. Here, at last, is a personal radio worthy of the name, carefully engineered, employing tubes of brand new type. Check the specifications—see it—hear it. In every detail U. S. Radio Model 3092 bears the hallmark of quality. Price complete with tubes . . . **\$19.95**

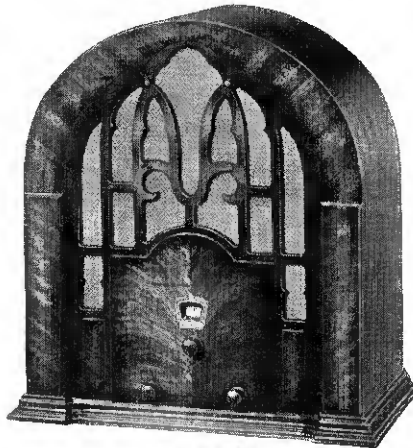
U. S. Radio, Model 3092

(Illustrated above at right)

Genuine superheterodyne circuit . . . for AC or DC operation, 115 volts . . . five tubes, every one brand new type . . . dynamic speaker . . . built-in antenna . . . no ground required . . . dial calibrated in kilocycles . . . combination switch and volume control . . . Tuning range covers all regular broadcasting stations and one police channel . . . cabinet of beautifully figured stump walnut, with genuine inlay, hand rubbed; solid walnut back . . . resistor type cord dissipates heat . . . Dimensions: 7 $\frac{1}{4}$ " high; 9 $\frac{3}{4}$ " wide; 5" deep . . . Tube equipment: 1 No. 6F7 Triode-Pentode; 1 No. 78R.F. Pentode; 1 No. 75 Diode-Triode; 1 No. 43 Power Pentode; 1 No. 25Z5 Rectifier. Weight less than 7 $\frac{1}{2}$ pounds.



U. S. Radio Battery Ensemble



Pioneer in supplying receivers complete with tubes, U. S. Radio again blazes a new trail with the Battery Ensemble. The new U. S. Radio Model 3086, shown at left, is furnished complete with necessary batteries, which are included in the specially designed table type cabinet. Standard Burgess batteries are supplied as follows: 1 No. 1254 A battery, 3 No. 2308 B batteries, 1 No. 5156 C battery.

Five tube superheterodyne chassis gives performance comparable to AC sets of similar size. Specially engineered for sensitivity and selectivity; splendid tone quality. Voltage control compensates for decrease of A battery with use. Dial calibrated in kilocycles.

Tube equipment: 1 No. 230; 2 No. 232; 1 No. 234; 1 No. 233—all 2-volt. Cabinet dimensions: 20 $\frac{3}{8}$ " high; 19" wide; 8 $\frac{3}{8}$ " deep. **\$29.95**

Price **\$29.95**
 Complete with tubes and batteries



U. S. Radio Battery Model 3084

Chassis identical with model 3086 except this receiver is supplied without batteries. Tube equipment: 1 No. 230; 2 No. 232; 1 No. 234; 1 No. 233—all 2-volt. Cabinet dimensions: 14 $\frac{1}{2}$ " high; 13 $\frac{1}{2}$ " wide; 7 $\frac{1}{4}$ " deep. **\$19.95**

Price **\$19.95**
 Complete with tubes, less batteries

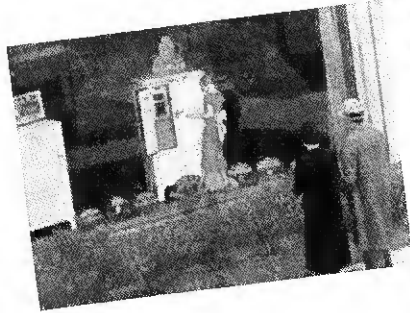
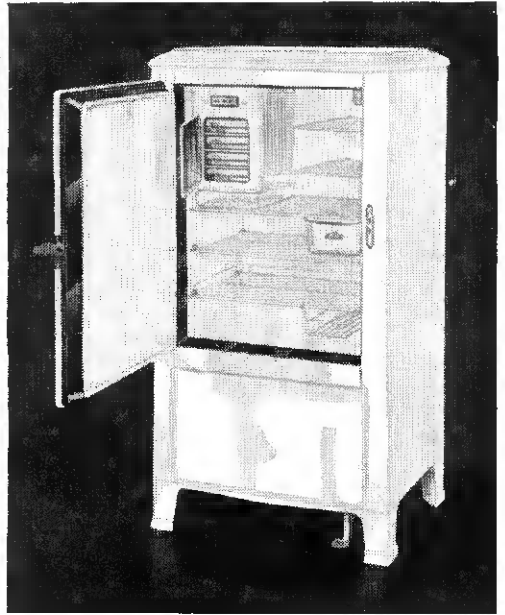
Another battery receiver in the U. S. Radio line (not illustrated) Model 169, 9-tube battery console with latest engineering features including new two-volt tubes, Class B Amplification, Permanent Magnet Dynamic Speaker, Automatic Volume Control and Tone Control. Encased in a beautiful six-legged console cabinet. Price . . . **\$69.50**

Price **\$69.50**
 Complete with tubes, less batteries

Write or wire your Distributor now!

United States Radio and Television Corporation
 Marion, Indiana





This Plan Puts Added **PUNCH** in Leonard Salesmanship

Leonard has a line of electric refrigerators second to none. That's one third of this franchise story.

Leonard is represented by wholesale and retail outlets far above the average in experience, ability and aggressiveness. That's another third.

The final factor in Leonard's sensational record of success is the Leonard advertising and selling *plan*. It's unique, we believe, in the industry—complete, balanced, carefully aimed at a definite target, and timed to lend its strength to individual sales effort in every local territory.

Leonard executives do not stop with writing sales manuals and letters of suggestion. With the aid of capable district managers and the distributor organization, they carry the Leonard program in person to dealers and their salesmen—explaining in word and picture every sales, advertising and sales promotion activity.

National magazine advertising, national newspaper advertising, direct mail, outdoor display, window display, local newspaper advertising, merchandising helps, plus the most advantageous retail financing plan in the industry! Everything that will help Leonard sales outlets in their work is there.

Every distributor or dealer who has investigated electric refrigeration at all is familiar with the Leonard line—its 52-year background of experience, its reputation, its quality, and its unusual features, including the step-saving *LEN-A-DOR*.

The Leonard advertising and selling *plan* deserves equal consideration. You can profit from it, as others are profiting. Write or wire the factory for details of this franchise opportunity.

LEONARD REFRIGERATOR COMPANY
14259 Plymouth Road, Detroit

LEONARD

ELECTRIC REFRIGERATOR

(553)

Please send me details regarding the new Leonard franchise.

Name _____

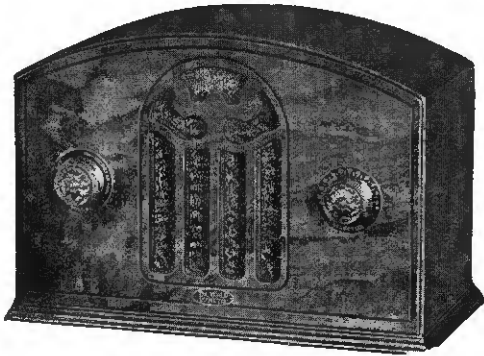
Address _____

City _____ State _____

(14259)

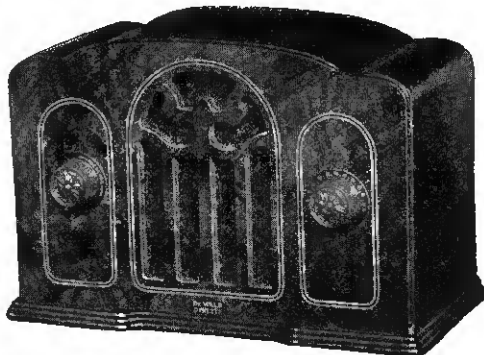
PRICES START AT \$112 F. O. B. FACTORY • INSTALLATION AND TAX PAID

OUTSTANDING in Auto Radio too!



THE VERSATILE NEW **\$1795**
Model 414

The Everywhere-Set that works wherever there's electric current—home, office, hotel, camp, college, yacht, steamship and automobile—on 6, 32, 110 or 220 volts—AC-DC—25 or 60 cycles—four tubes that sound like six. (Carrying case available.)



THE GREAT NEW **\$2500**
Model 550

Identical in chassis with Model 551—it has the same astonishing performability as that new "giant among the midgets." Cabinet only is different.



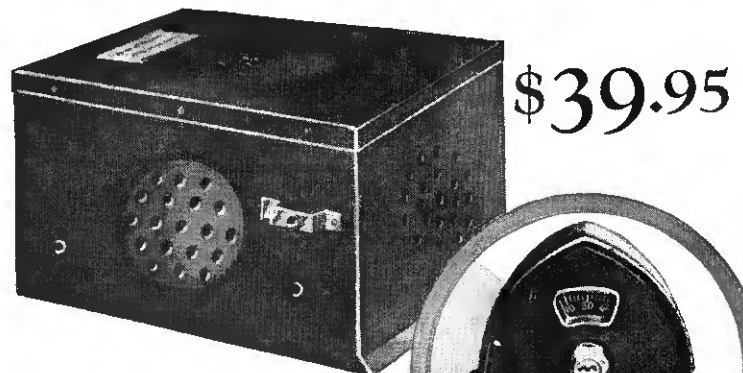
THE SENSATIONAL NEW **\$2750**
Model 551 Deluxe

Leader of the compacts—superheterodyne—hair line tuning to 10 kilocycles—110-220 V.—AC-DC—25-60 cycles—new type tubes—circuit-matched aerial—new tone dynamic speaker—new heatless chassis—beautiful, distinctive cabinet.

The DeWald Motortone dominates in auto radio. The original single unit receiver—this six-tube high gain superheterodyne—100% full A.V.C.—it *deserves* its leadership. No engineer needed to install it. Three holes to drill—two wires to connect. And one wing nut instantly removes it for service. Hair line tuning—distortion-proof reception—console tuned dynamic speaker—remote control—a matchless money's worth to car owners.

DeWald dealers don't worry about competition. They *are* the competition. They get the business. And keep it.

DEWALD



\$39.95

SIX TUBE MOTORTONE

Trade Mark Reg.

a product of

PIERCE-AIRO, Inc.

520 Sixth Avenue

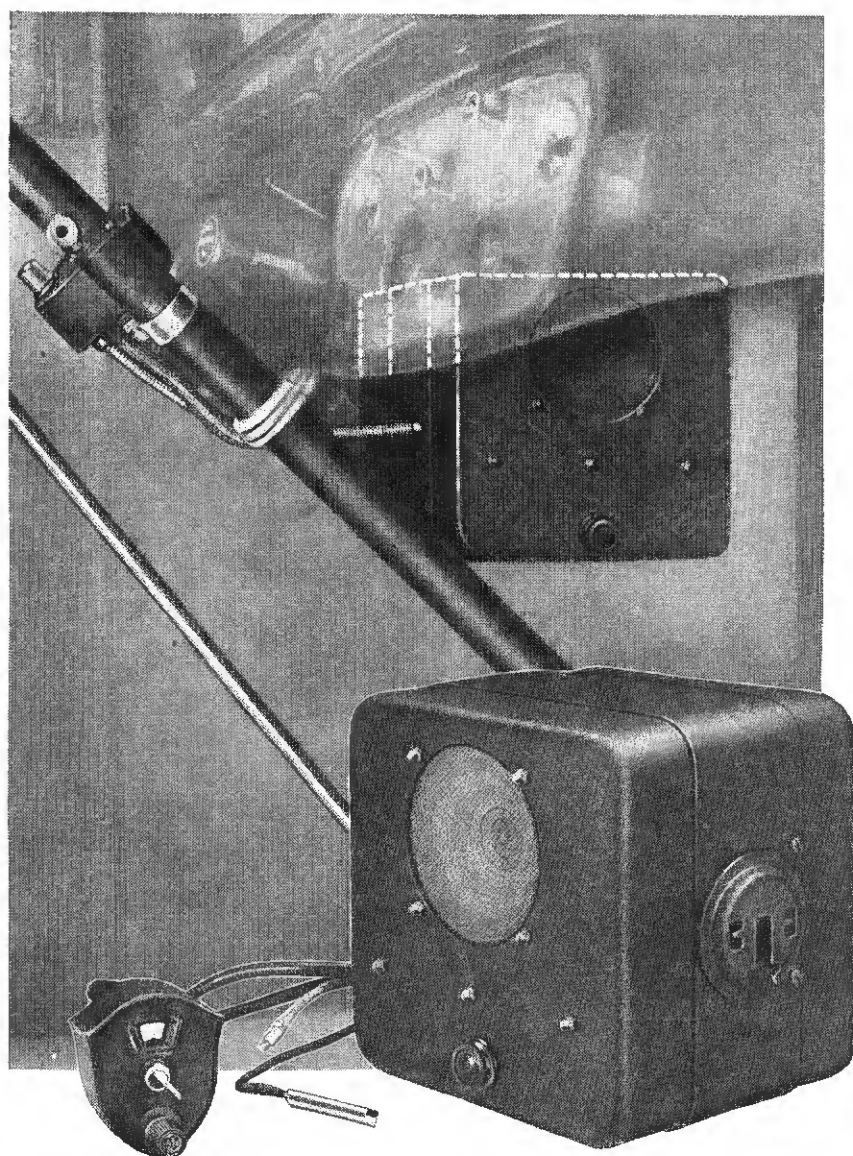
New York, N. Y.

R. C. A. TUBES ON ALL MODELS

G-E offers you

A NEW AUTO RADIO

to retail for only **\$34⁹⁵**



HERE is the biggest Auto Radio profit offer of 1933! Think of it—this remarkable set, fully guaranteed by General Electric, embodying absolutely new advances, for only \$34.95!

It is the set you've wanted, that you've been waiting for—single unit, compact, fits any type car. Easily, quickly installed, astoundingly low priced! And it's a G-E product!

Here are additional features that shout real value:

1. One compact unit.
2. Easily installed—single mounting stud. Can be mounted from back or side. Fits all type cars.
3. Remote control box for either dashboard or steering post mounting.
4. Automatic volume control.
5. New improved electrodynamic speaker.
6. Two-point tone control on speaker—minimizes interference.
7. Combination lock switch and volume control on control box.
8. Service reduced to a minimum. Entire set quickly removed by loosening six easily accessible screws.
9. Illuminated dial marked in kilocycles.
10. Remote control cable can be easily shortened to desired length.

Write for complete details of G-E's new Auto Radio dealer merchandising plan and franchise—and learn how you can share in 1933's bigger Auto Radio profits! Address Section, R-444A, General Electric Company, Merchandising Dept., Bridgeport, Conn.

GENERAL  ELECTRIC
AUTOMOBILE RADIO

FADA
Radio

Priced to retail
at only

\$24⁹⁵

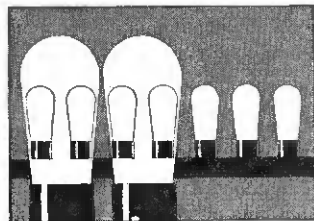
COMPLETE WITH TUBES

The only receiving set — regardless of size — that combines: A *Fantom Dial for Short and Long Wave-Length Reception*, AND *7-tube Operation in a 5-tube Set*, AND *Super-Heterodyne Circuit*, AND *Full Dynamic Loud Speaker*, AND *Automatic Volume Control*, AND *Genuine Art Leather Finish Cabinet*.



FADA adds the "Fourth Dimension" to Radio Reception with the brilliant new *Super FADALETTE*

Here's news — spot news — *hot news!* News that ushers in an entirely new era in miniature radio performance! . . . With the introduction of the amazing new SUPER FADALETTE, Fada puts the whole Radio Universe at the command of listeners — adds to general long wave-length reception the mysterious "*Fourth Dimension.*" The industry has long been asking for "something new." Here it *is* . . . and beyond anything dreamed of in miniature radio before!

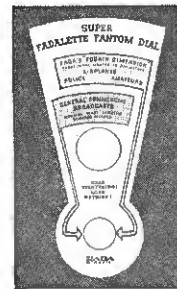


"FOURTH DIMENSION"
Reception of Short Wave-Length Broadcasting!

Switch the Fada "Fantom Dial" to the right. Tune in on Police Calls, Aircraft Stations, Amateur Voice Transmissions, Steamship Phones and all broadcasting on 75-200

meter wave-lengths.
7-Tube Performance in a 5-Tube Set!

The new SUPER FADALETTE is equipped with only five tubes. But two of these tubes have a



dual set of elements, making possible a clarity of tone and reception of distant stations equalled only by a 7-tube set!

In addition to these exclusive SUPER FADALETTE features, this amazing new radio boasts a Full Dynamic Loud Speaker, self-contained antenna, and automatic volume control. It operates on both A. C. and D. C. current — 90 to 130 volts. Choice of vari-colored Genuine Art Leather finishes. Or in Genuine Walnut at a slight increase in price. Outside dimensions 9 3/4" x 7" x 4 3/4". Write or wire now for information.

FADA RADIO AND ELECTRIC CORPORATION, LONG ISLAND CITY, N. Y.

Make Your 1933 Profits



from the GREBE QUALITY LINE

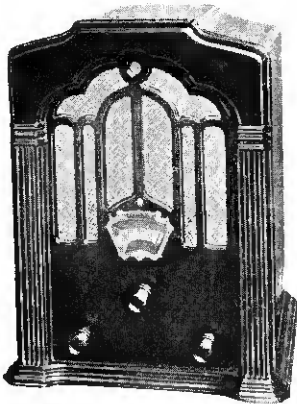
From the Model 84 console with 12" dynamic speaker to the "Synchronette Superhet" Grebe meets the trend of the times for a line of quality radio sets at the right price.

And Grebe is selling direct to dealers, eliminating all "in-between" handling. Now you can get the "break" in discounts you've been waiting for and an opportunity for profits directly in proportion to your efforts in handling and pushing the Grebe line of beautiful, styled, and attractively priced quality radio sets.

Use the coupon below in asking for details concerning the Grebe Sales Plan and the entire Grebe QUALITY Line.



Grebe 84. Six legged console with sliding doors of matched Oriental walnut. Pilasters of two piece highly figured Butt walnut. Chassis is the 8-tube Superheterodyne used in Model 80. Equipped with 12" dynamic speaker. List Price \$69.50 complete. Tax Paid.



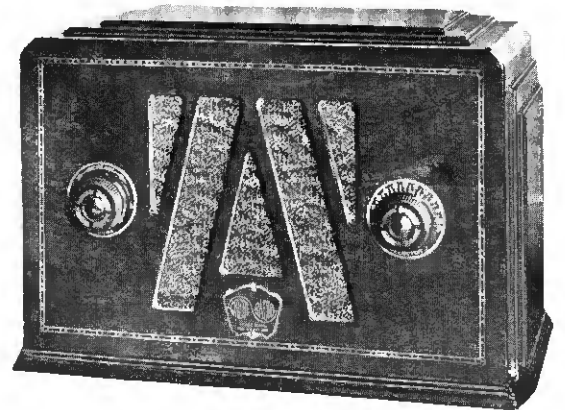
Grebe 80. An 8-tube Superheterodyne employing the new fifty series RCA Amplifier and Detector Tubes. Double Pentode Tone Control. Chassis and condenser rubber mounted in beautiful walnut cabinet. New improved 8-inch dynamic speaker. List Price \$44.50 complete. Tax Paid.

A. H. GREBE & CO.
Metropolitan Sales Division
117 Liberty St., New York



Grebe 60. A six-tube T.R.F. Midget, employing the new super triode. Triple grid super control amplifier. Pentode. Full floating moving coil, 8-inch dynamic speaker. Power detection. Tone control. Walnut cabinet. List Price \$34.50 complete. Tax Paid.

Grebe "Superhet Synchronette"—the newest in AC-DC midget radios, featuring 3-gang condenser and 5 tubes. Unsurpassed in volume and selectivity. Modernistic cabinet with Marquetry inlay. Built-in aerial. List Price \$27.50 complete. Tax Paid.



The GREBE Synchronphase RADIO

Mail the coupon today

A. H. GREBE & COMPANY,
117 Liberty St., New York

Gentlemen:

Please send complete information about the Grebe Sales Plan and the entire Grebe Quality Line.

Name

Company

Address

Good
News!!!

GULBRANSEN
ESTABLISHES A NEW
YARDSTICK OF
RADIO VALUE

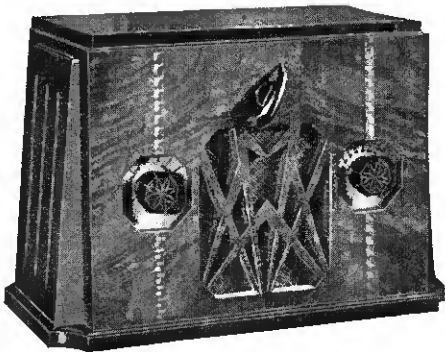
Model V6Z2

"Auto-Compact"

ALL ELECTRIC
Steering Column Control
AUTO RADIO



GULBRANSEN
"Super-Compact"
RADIO



LIKE the "Auto Compact", the new Model No. M5A1 "Super Compact" represents in its field, a new criterion. Five tubes, superheterodyne circuit, universal for either AC or DC 110 volt current, full dynamic speaker and dual wave band range 75 to 550 meters; all these features are incorporated in a beautiful, hand-rubbed cabinet of selected veneers—size, 11½ x 7½ x 6 inches.

Price complete with five tubes,
\$25.00 Tax paid.

Exceptional in performance and moderate in price—outstandingly simple in installation and—above all—assuredly minimum in servicing requirements, the "Auto Compact" offers a new measure of auto radio value.

Chassis, dynamic speaker, "B" power supply and relay switch are all housed in a single rugged container of only 12½ x 5½ x 7 inches. The new "Mono" steering column control assures ease of tuning and except for the pilot light, has no electrical connections.

Six latest development tubes are used in the advanced superheterodyne circuit. Triple point automatic volume control makes steady reception certain. Only two leads to connect—one for the antenna, the other for the dial. Motor noise problems practically removed by special filter circuit and improved shielding.

The extreme ability to bring in stations, the splendid tone, the compact construction and the many new features recommend the Model No. V6Z2 "Auto Compact" to car owner and dealer alike.

Price complete with six tubes, **\$49.50** Tax paid.

IN developing these two masterpieces, Gulbransen didn't guess—Gulbransen sought to establish new standards. These two modern numbers had to be exceptional; new high marks had to be reached.

Previously, eye appeal, small size and price have been stressed with little attention paid to Performance. Now, Gulbransen has given detailed attention to that all-important requirement and as a result, there has been added—A Performance that sells and satisfies—A Performance that increases sales and profits.

Write at once for complete information on the comprehensive Gulbransen proposition. Remember, everyone who has sold Gulbransen has made a net profit.

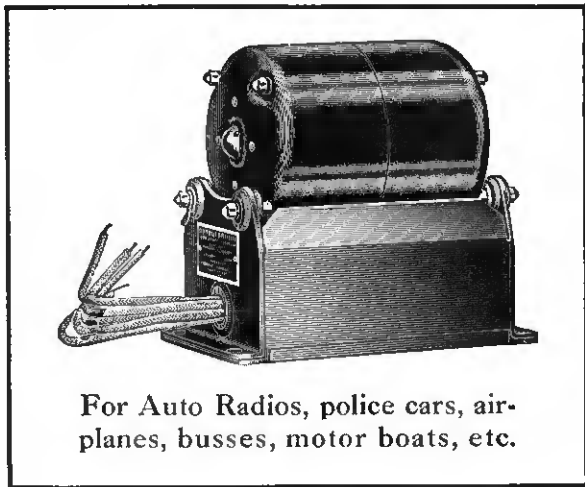
GULBRANSEN COMPANY
816 No. Kedzie Ave. Chicago, Ill.

EMERSON

"B" POWER UNIT

Replaces "B" Batteries. Maintains Original Volume, Tone and Reception Qualities

for Auto Radios



For Auto Radios, police cars, air-planes, busses, motor boats, etc.

Now—
\$19⁵⁰
LIST

THE WIDELY known Emerson "B" Power Unit introduced last year, used as standard equipment by many leading set makers, now offers new sales possibilities for you at this new low price. Operates from standard 6 volt "A" battery. Low voltage tap provides "B" voltages for 180-90 volt or 135-67½ volt sets.

Uses only about 2 amperes current and only when set is in operation—about as much current as small parking light. All working parts enclosed. Unit

occupies less space than "B" batteries. Saves money by ending battery replacements and all servicing except oiling once a year.

All leads shielded. Dynamotor is rubber mounted to base containing filter pack, eliminating all vibration and noise. Filter pack eliminates commutator interference. Made by the makers of the well-known Emerson motors and fans. Guaranteed free from electrical and mechanical defects for a period of 90 days.

A New Unit to Operate from 32 Volt, Farm Lighting Plants \$24⁵⁰ List

For suburban homes, farms, summer cottages, club houses, etc. Adjustable sliders supply voltages of 22½, 45, 67½, 90, 135, and 180 volts as required by set. Current consumption only about ½ ampere or about 15 watts. Unit is complete and easily installed in place of "B" batteries.

SEND COUPON FOR FULL INFORMATION AND DISCOUNTS

THE EMERSON ELECTRIC MFG. COMPANY
2018 Washington Avenue, Saint Louis, Missouri

Gentlemen: Please send me full information and discounts on
 Emerson "B" Power Unit for auto radios
 Emerson "B" Power Unit for 32 volt, D. C.

Name _____ Address _____

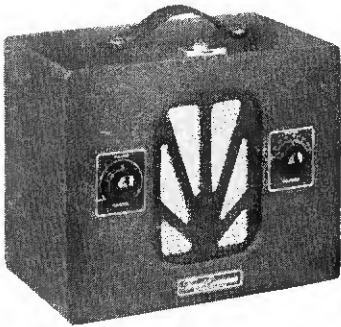
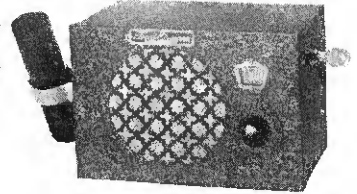
City _____ State _____

Freed-Eisemann

SURE SUMMER PROFITS WITH LOW PRICED AUTO and PORTABLE COMPACT RADIOS

The same high qualities of Engineering Design and performance always found in "FREED-EISEMANN" apparatus are embodied in these new sets.

THE NEWEST DEVELOPMENT IN AUTO RADIO. Compact receiver. Anyone can install—clamps on to steering column with single screw mounting. Superheterodyne circuit. Latest type tubes. Electrodynamic speaker. Illuminated kilocycle vernier tuning dial. Gets police alarms. Lock and key switch. Operates with any standard type of "B" Supply. Only 8" wide x 5 3/4" high x 5" deep. Weighs about 6 lbs. **\$24.50**
Model A-7. Auto Radio Receiver, with tubes. List price.....



A STYLE LEADER IN REALLY PORTABLE COMPACTS. 5 tube super-heterodyne circuit. Electrodynamic speaker. Works on A.C. or D.C. Gets police alarms. Self contained antenna. Set is built into waterproof, washable leatherette carrying case, with detachable front cover. A real summer item for the vacationist, camper, traveller and business man. Made in 5 colors: black, brown, green, blue and red. Size only 9 1/2" x 7 1/2" x 6". Weight about 7 1/2 lbs. **\$27.50**
Model 55 PORTABLE complete with tubes. List price

\$27.50

Same set available in walnut veneer cabinets with marquetry inlays, for home use..... **\$25.00**
De Luxe Walnut veneer cabinet model..... **27.50**

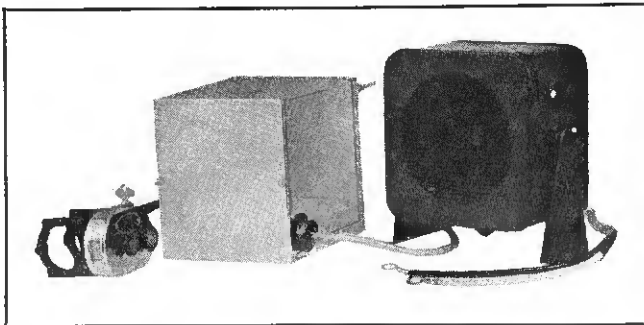
RCA Licensed

[Write or wire for details of Freed-Eisemann's new products.]
Distributors appointments now being made.

FREED TELEVISION AND RADIO CORPORATION
LONG ISLAND CITY NEW YORK

ROOTS Auto Radio

The Biggest Value in Auto-Radio
Priced to sell » » »
built to out perform



Two New Models

Model 55—illustrated above—super-heterodyne—7-tubes—2-78; 1-6A7; 1-75; 1-41; 1-79; 1-84. Compact chassis measuring 5 1/2 x 6 1/2 x 6 1/2—self-contained—all electric—automatic volume control—remote, illuminated steering column control—dynamic speaker. The newest and finest in auto-radio.

COMPLETE **\$54.50**

Model 69—7 latest type tubes—all electric—automatic volume control—dynamic speaker—remote, illuminated steering column control. Beautiful tone, extreme sensitivity—amazing pick-up of distance—complete \$49.50.

Roots auto-radio is built to pay you profits — profits on sales — and profits through customer good-will and satisfaction.

Roots auto-radio licks the installation problem — cuts installation time in half. Its simplicity and design was developed through our close co-operation with dealers and service men.

No wires or cables to connect — tuning control and speaker each plug into chassis — two leads to A-battery.

ROOTS AUTO RADIO MFG. CORP.
2800 S. PARKWAY CHICAGO, ILL.

Roots Auto Radio Mfg. Corp.
2800 South Parkway, Chicago, Illinois

Please send complete information, details, and literature on "the finest auto radio line money can buy,"

Name.....

Address.....

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

distributor

dealer

PIONEERS IN AUTO RADIO — four years of sales and engineering experience.

LOOK!

This Radio Sales Curve is Going UP, UP, UP!

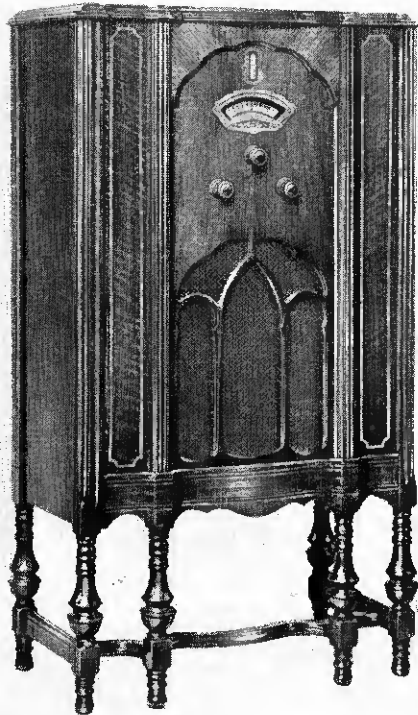
MODEL 310

The newest American Bosch Vibro-Power Radio. A 10 tube Superheterodyne—the only radio to have *all* these ALL-STAR performance and selling features:

- Electric Line-O-Lite Tuning
- Between Station Silence
- Automatic Volume Control
- Noise Level Adjustment
- Sensitivity Control
- Tone Control
- On-the-Station Quietude
- Newest Tubes
- Vibro-Power
- Hooded and Shielded Chassis
- American Bosch Tone
- Six Leg Console
- Dual Vibro-Blended Speakers

\$89⁹⁵

Complete with Tubes
U. S. Tax Paid



YOU have heard many mournful tales about the radio business. Here is a success story for a change—in the record of orders for American Bosch Radio this year.

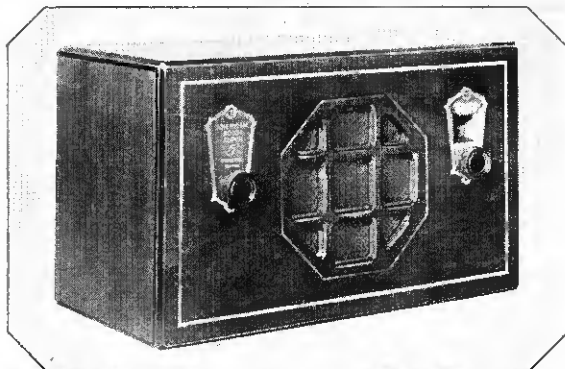
More sets were shipped out of our factory in January '33 than January '32; 23% more in February '33 than in '32. What's more, the orders on hand for those two months in 1933 exceeded shipments of January and February 1932 by 46%. Total March figures not yet available indicate even better performance.

Now American Bosch introduces a new and complete line of radio models with which you can greet any type of prospect who walks in your door. Whether he says: "I want a good small set" or "I want the latest all around good console at a reasonable price" or "I want the best long and short wave set I can buy" or "I want the utmost in radio performance" you can sell him out of this line of new models and sell him at a profit, too. You can afford to trade, too.

You meet the four existing customer-demands with one well known line of six radio models in a price range from \$24.95 to \$178.95 and 5 to 12 tubes.

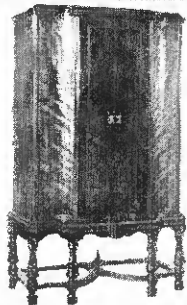
If you are tired of listening to gossip; if you want to meet the landlord with a check; if you want to do your banking at the "Deposit Window" again—write for information on this new American Bosch Vibro-Power line of radio. Greet the returning prosperity with something your customer wants to buy and you can sell at a profit.

UNITED AMERICAN BOSCH CORP.
SPRINGFIELD, MASS. Branches: New York, Chicago, Detroit
Manufactured under Patents and Applications of R C A

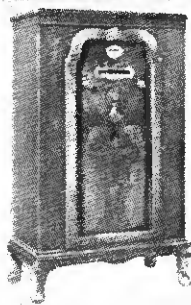


LEFT The Super 5 Popularity Model. The lowest priced radio American Bosch ever offered. 5 tubes, superheterodyne, *Automatic Volume Control* . . . \$24.95.

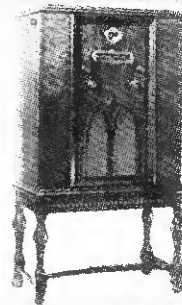
AMERICAN BOSCH VIBRO-POWER RADIO



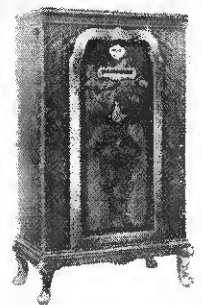
GRAND OPERA—Model 312G Vibro-Power 12 tube Triple-Action superheterodyne in Cabinet de luxe . . . \$178.95.



GRAND CONCERT—Model 312C Vibro-Power 12 tube Triple-Action superheterodyne in magnificent walnut cabinet . . \$147.95.



WORLD ROVER—Model 260R Vibro-Power 10 tube Double-Action multi-wave superheterodyne for long and short wave broadcasts . . . \$119.95.



WORLD CRUISER—Model 260C Vibro-Power 10 tube Double-Action multi-wave superheterodyne for long and short wave broadcasts, in Cabinet de luxe . . \$139.95

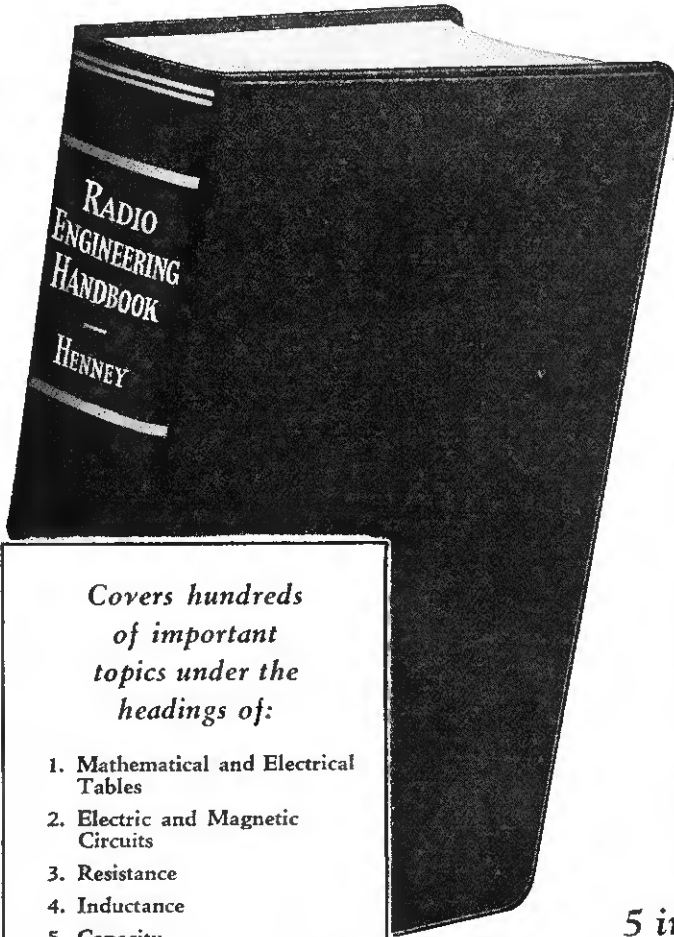
Now available to the radio field

a comprehensive, up-to-date, and
authoritative handbook of engineering
principles, standards and practice

—Just published—

Henney's RADIO ENGINEERING HANDBOOK

Prepared by a staff of 22 specialists
Editor-in-Chief, **KEITH HENNEY**, Associate Editor, *Electronics*
583 pages, 4½x7, 507 illustrations, \$5.00



*Covers hundreds
of important
topics under the
headings of:*

1. Mathematical and Electrical Tables
2. Electric and Magnetic Circuits
3. Resistance
4. Inductance
5. Capacity
6. Combined Circuits of L, C, and R.
7. Measuring Instruments
8. Vacuum Tubes
9. Oscillating Circuits
10. Detection and Modulation
11. Audio-frequency Amplifiers
12. Radio-frequency Amplifiers
13. Receiving Systems
14. Broadcasting
15. Rectifiers and Power-supply Systems
16. Loud-speakers and Acoustics
17. High-frequency Transmission and Reception
18. Code Transmission and Reception
19. Television
20. Facsimile Transmission
21. Aircraft Radio
22. Photocells
23. Sound Motion Pictures

NOW there is made available to the radio field an engineering handbook measuring up to all the standards of competent authorship, careful and thorough selection of material, and accuracy of presentation, to be found in other McGraw-Hill hand books in various fields of engineering.

Within the covers of a convenient 583-page volume has been compressed a great deal of constantly needed reference material covering all fields and aspects of radio engineering, from fundamentals to latest practical applications.

5 important features of this book

- 1 The book is thoroughly technical in nature—written by engineers for engineers—gives emphasis to design data rather than descriptions of apparatus.
- 2 Every section has been written by an engineer or physicist chosen because of his expert knowledge of a particular phase of the subject matter. In many cases the authors are daily engaged in the design, manufacture, or operation of the apparatus they describe.
- 3 The scope is broad, ranging from fundamentals to discussion of newest tubes, newest circuits, class B amplifiers, power supply systems, short-wave systems, etc.
- 4 The book is right up to the minute, covering television, sound motion picture, facsimile transmission and aircraft applications.
- 5 The book abounds in circuit diagrams, tables, charts, formulas, design equations and data. The circuits described quantitatively are those in use today, or soon to be widely used.

10 days' Free Examination

Not only the radio technician, but every man interested in the design or manufacture of radio or television transmitters and receivers, sound motion picture apparatus, and apparatus utilizing vacuum tubes and photocells, will want to see this book. Send for it today, for 10 days' examination without cost. Mail this coupon.

McGRAW-HILL FREE EXAMINATION COUPON

McGraw-Hill Book Company, Inc., 330 West 42nd St., New York, N. Y.
Send me Henney's Radio Engineering Handbook, postpaid, for 10 days' free examination. I will send \$5.00 or return the book within 10 days of receipt.

Name

Address Position

City and State..... Company..... F-RR-4-33
(Books sent on approval in U. S. and Canada only.)

NOTICE!

To All Radio Manufacturers
— Jobbers — Dealers. *This Is
To Notify The Trade Generally That*

U. S. PATENT No. 1,900,629

Has Been Granted to R. P. Wuerfel
Covering a Radio Set Which Can
Be Operated From EITHER A.C.
OR D.C. MAINS and WITHOUT
REQUIRING THE USUAL
POWER TRANSFORMER

The INTERNATIONAL RADIO
CORPORATION
of ANN ARBOR, MICHIGAN,
is and has been manufacturing the

INTERNATIONAL KADETTE

Under License From The Patentee And
It Is The Patent Owner's Intention to
Protect Licensees By Prosecuting In-
fringers By Way of Patent Infringement
Suit. This Notice Is Given Under The
Provisions of Sec. 4900 U. S. Revised
Statutes.

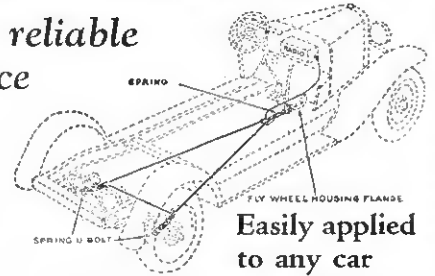
R. P. WUERFEL, Patentee
Chief Engineer

INTERNATIONAL RADIO CORP.
Ann Arbor U. S. A. Michigan

*Originators and Manufacturers of the
International Kadette*

AUTOMOBILE AERIAL OUTFIT

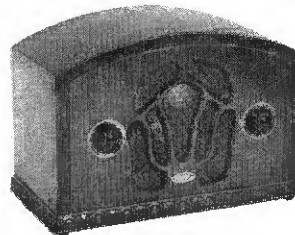
*Tested for reliable
performance*



This outfit in-
cludes complete
equipment for
a automobile
aerial installa-
tion. It uses a special alloy
cable with indestructible
Bakelite insulation. A quality

**Easily applied
to any car**

product to produce real
profits on automobile installa-
tions. Write for description.
M. M. Fleron & Son, Inc., 113 Broad St., Trenton, N. J.



AC-ROYAL-DC UNIVERSAL

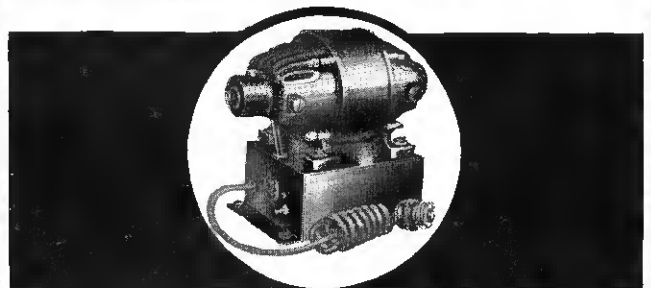
\$9.95
net
f.o.b. N.Y.

Complete with
Sylvania Tubes
90-day Guarantee

4-tube set—uses 78-77-43-25Z5—\$9.95 complete
5-tube set—uses 78-77-43-two 25Z5—\$10.95 complete

8-lb. model—has full dynamic speaker—hand rubbed walnut
cabinet—automobile outlet—self-contained aerial—can be used
on 110 V. AC and DC—all cycles, 6 and 32 volt farm systems.
These fast moving values have earned quick profits for live
dealers. Sell two to a customer at this low price. Direct-to-
dealer policy insures full dealer profits. Order sample now.

ROYAL RADIO, Inc., 215 W. 125th St., New York City



JANETTE ROTARY CONVERTERS

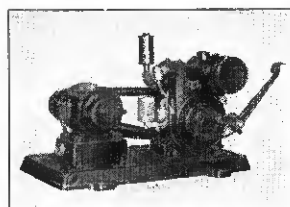
For Farms—Ships
—City Apartments
—Automobiles

Wherever the current supply is
D.C. use JANETTE Rotary Con-
verters to operate your AC re-
ceivers.

JANETTE Converters are filtered
to give radio results as good as,
or better than, that obtained
with central station AC. Built
to outlast the radio set.

Available in 15 sizes. Capacities
from 20 to 2500 watts. Input
voltages of 6, 12, 32, 115 or 230
volts. Standard machines deliver
110 volts, 60 cycles AC.

*Below: Gas engine-operated JANETTE
110-volt, 60-cycle generator. Ca-
pacities: 300 to 2250 watts. Ideal
for sound-trucks, amplifiers, P.A.
systems, etc.*



MAIL COUPON FOR DETAILS

JANETTE MFG. CO.
355 W. Monroe St.
Chicago, Ill.

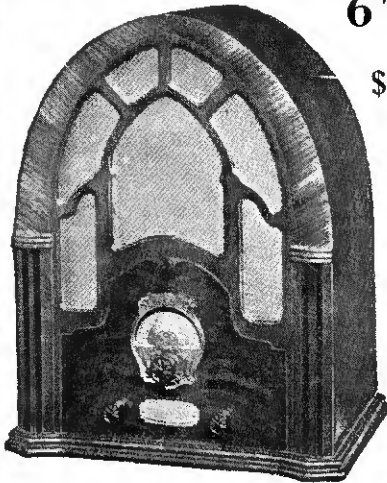
Gentlemen: Please send prices and
details on your:

- Rotary Converters.
- Auto-B-Power (B-eliminator for
auto-radio)
- Gas Engine Generators.

Name

Address

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



6 Tube Super

LIST PRICE

\$18⁵⁰ Complete with
Cunningham
Tubes
F.O.B. NEW YORK

Licensed by R.C.A. and
Hazeltine

A three-gang, ultra-selective receiver, complete with 2—C58, 1—C57, 1—C56, 1—C47 and 1—C80. Rola Dynamic Speaker, high grade nationally advertised parts used throughout. Tone Control. Full Vision Dial. Power output 2.5 to 3 watts. Shipping Weight 22 1/2 lbs.

Cabinet measures: 17 1/4 in. high, 12 1/4 in. wide, 8 1/4 in. deep. Oriental Walnut with Butt Walnut front overlay makes this a charming two-toned cabinet. Satinwood used for trimmings. The side pilasters are heavily fluted with black lacquer.

CHASSIS, SPEAKER & TUBES Only: \$12.95

15 Day Trial Offer: Receiver may be returned within this time and full money refunded.

Purchasing Information: A postal money-order will insure immediate delivery. Otherwise a 25% deposit is required, with balance C.O.D. Do not include shipping charges.

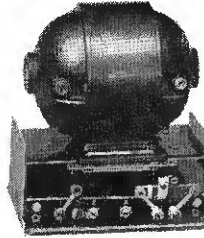
83 Other Models. Write for special price on this and other specials and also for literature on our complete line of receivers for every purpose.

RADIO CHASSIS, INC.

116 West 18th Street

New York City

CARTER GENEMOTOR



Increase your profits by selling Auto Radios with Carter Genemotor Power Plant. It eliminates B batteries and provides more volume, better tone, with greater selectivity and distance.

The Carter Genemotor is not hard to sell. It is finding a big market wherever offered.

The improvement of Carter all electric operation is easily demonstrated. You can sell one to many of the thousands of present auto radio owners now using batteries. Cash in on this new market and increase your profits.

Price \$21.00.
Size, with cover on, 6 3/4" height, base 6" wide, 4 1/2" deep. Weight 13 lbs. Ball bearing. No oiling. Guaranteed for one year.

Special Carter Genemotor model for operating 32 volt farm lighting radio equipment. It has a wide market among the 700,000 users of 32 volt power plants.

Send for details and literature.

A. J. CARTER, PRES.

CARTER GENEMOTOR CORP.

361 W. Superior St.

Chicago, Ill.

Only Reliable
Products Can Be
Continuously Advertised

SEARCHLIGHT SECTION

REPRESENTATIVES WANTED

FACTORY representatives, distributors to sell real hot well known Universal receivers listing \$13.50 up. Unusual proposition. London Radio, 130 West 17th Street, New York.

SALESMEN WANTED

SALESMEN wanted by established manufacturer selling directly to dealers portable radio and Dynaphone. Our original developments are welcomed by high class merchants. Qualified men will obtain exclusive territories with substantial commission on all business. No objection to a few side lines. Write complete details including history and reference to E. R. Fiske, Ansley Radio Corporation, 240 West 23rd St., New York City.

FOR SALE

SENSATIONAL Microphone Value—Universal Model "Y" — Experimenters single-button, watch model type. 200 ohms. Pure gold spot center diaphragm. Only \$2.00, including valuable 1933 general catalog with diagrams. Universal Microphone Co., Ltd., Inglewood, Calif.

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 Tom Crawford, Dept. R.R., McGraw-Hill Book Co., 330 West 42d St., New York City.

Bids Wanted

Radio Set manufacturer desires specifications and quotations from sources of all component units and parts entering into the construction of midget, universal, portable and automobile radio sets. Cabinets, chassis, speakers, gang condensers, resistors, coil assemblies, etc., etc. Write

BO-176, Radio Retailing
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.)

MANUFACTURERS' AGENTS WANTED

CONDENSERS

A few sales territories open to established sales organizations actively contacting wholesalers or distributors. High quality product with good sales and income possibilities.

MORRILL AND MORRILL
34 Church St., New York

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.

HUGE SAVINGS IN USED PUBLIC ADDRESS EQUIPMENT

Send for bargain lists. Motion Picture and Sound Systems

SALES ON SOUND CORP.

Dept. RR, 1600 Broadway, New York

Happy Days are here again



- Sound Banks
- Balanced Budget
- Constructive Legislation
- Renewed Confidence

Now we all know where we're going—headed for business—more Radio business.

Here's how we can make it profitable for you.

Buy economically, by taking advantage of Federated Purchaser's tremendous Buying Power—Make any one of our seven conveniently located branches your source of supply. Save 24 hours in transit and many dollars in shipping charges—Send your orders to Federated Purchaser, Inc.

Federated Purchaser Inc.

25 PARK PLACE NEW YORK, N. Y.

The Following Distributing Units Maintained for Your Convenience:

JAMAICA, L. I.
92-26 Merrick Road
PHILADELPHIA
2909 Broad Street

CHICAGO, ILL.
1331 S. Michigan Ave.
BRONX, N. Y.
534 E. Fordham Road

NEWARK, N. J.
273 Central Avenue
ATLANTA, GA.
631 Spring Street, N.W.

Fill in and mail this coupon back to us at once for a Free copy of Radio Bargain News.

Name

Address

City State.....

CONTENTS for APRIL, 1933

Copyright, 1933, by McGraw-Hill Publishing Company, Inc.

	Page
Auto-Radio—Your Depression Cure.....	17
Afraid to Get Your Hands Dirty? By Tom Blackburn	18
Why Radio Chain Stores Fail. By Joseph Salzman	20
Another Milestone.....	22
Vital News Is on the Air.....	23
Auto-Radio Specifications.....	24
1933 Trends in Refrigeration Design.....	26
How a Washington Jobber Makes the Most of A-R	28
Reviewing the March Newspaper Ads.....	29
More Service Sales Ideas.....	30
News of the Month.....	32
April Music in Wax.....	35
New Merchandise.....	38
New Auto-Radio Equipment.....	38
SERVICE SECTION	
Circuits of the Month.....	41
Elimination of Noise in Car Installations By Elmer Wavering and Murray Yeomans	43
Shop Shortcuts.....	45
New Tube Socket Connections.....	49

INDEX TO ADVERTISERS

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

Carter Genemotor Corp.....	Page 62	Scott Pump Co.....	Page 3
Clarostat Mfg. Co.....	44	Stewart Radio & Television Co.....	64
Condenser Corp.....	44	Stewart-Warner Corp.....	4-5
Crosley Radio Corporation, Inside Back Cover		Stromberg-Carlson Tel. Mfg. Co..	2
Cunningham, Inc., E. T.....	36-37	Tung-Sol Radio Tubes, Inc. Back Cover	
Emerson Elec. & Mfg. Co.....	57	United American Bosch Corp.....	59
Emerson Radio & Phono. Corp.....	16	United States Radio & Television Corp.....	50
Fada Radio & Elec. Corp.....	54	Weston Elec. Instr. Corp.....	48
Fleron & Son, Inc., M. M.....	61	Zenith Radio Corp. Inside Front Cover	
Freed Television & Radio Corp.....	58		
General Electric Co.....	14-53		
Grebe & Co., A. H.....	55		
Grigsby-Grunow Co.....	9-10-11-12		
Gulbransen Co.....	56		
Hygrade-Sylvania Corp.....	1		
Insuline Corp.....	64		
International Radio Corp.....	61		
Janette Mfg. Co.....	61		
Kelvinator Corp.....	8		
Leonard Refrigerator Co.....	51		
Lynch Mfg. Co.....	46		
Noblitt-Sparks Industries, Inc.....	15		
Ohio Carbon Co.....	44		
Pierce-Airo Mfg. Co.....	52		
Radio Chassis, Inc.....	13-62		
Raytheon Production Corp. Front Cover			
RCA Radiotron Co.....	36-37		
RCA Victor Co., Inc.....	6-7		
Readrite Meter Works.....	46		
Roots Auto Radio Co.....	58		
Royal Radio Co.....	61		

SEARCHLIGHT SECTION

Classified Advertising

Classification	Page
Employment	62
REPAIRING	62
RADIO STOCKS	
Federated Purchaser, Inc.....	63
Grebe Radio Sales & Service Co.	62
Morrill & Morrill.....	62
Sales on Sound Corp.....	62

McGraw-Hill Publishing Company, Inc., 330 West 42d Street, New York, N. Y. Branch offices: 520 North Michigan Ave., Chicago; 883 Mission St., San Francisco; Aldwych House, Aldwych, London, W. C. 2; Washington; Philadelphia; Cleveland; Detroit; St. Louis; Boston; Greenville, S. C. James H. McGraw, Chairman of the Board; Malcolm Muir, President; James H. McGraw, Jr., Vice-President and Treasurer; Mason Britton, Vice-President; Edgar Kohak, Vice-President; H. C. Parmelee, Vice-President and Editorial Director; Harold W. McGraw, Vice-President; C. H. Thompson, Secretary. Member A.B.P. Member A.B.C. Printed in U. S. A.

It's Here!

America's Finest Sales Builder!

Stewart

ALL-ELECTRIC AUTO RADIO



The Only Radio With The New Patented* **Floating TONE CONTROL**

Stewart blazes away with the greatest array of super-features ever offered in any auto radio! We invite inquiry so that you may enjoy a demonstration of this powerful all-electric superheterodyne—the marvel of the radio world!

STEWART "COMPANION"—\$49.50 (Tax Paid)
STEWART "ARISTOCRAT"—\$59.50 (Tax Paid)

Priced Complete Ready To Install Slightly Higher Denver and the West

STEWART RADIO & TELEVISION CO.
Dept. 200
42 Milwaukee West, Detroit, Mich.
*Pat. Applied for

Stewart takes the "DRIVE" out of Driving!



Short-Wave SCOUT

An A.C.-D.C. Converter that operetas with any radio — even the tiny universal midgets

LIST PRICE **\$16⁵⁰** WITH RCA TUBES

Contains its own power supply—using the 237 as rectifier and the new 6A7 Pentagrid Converter tube as amplifier.

Range 60 to 200 meters. For experimentation in European band an extra plug-in coil—20 to 60 meters—supplied if desired at \$1.00 list.

Attractive burl walnut cabinet—6 3/4 in. high, 7 3/4 in. wide, 4 1/2 in. deep. Vernier tuning control, on and off switch, switch for changing from Short Wave to Regular Broadcasting.

Rush your order to us. Additional information on the Scout and the entire ICA line on request.

Manufactured by **INSULINE CORP. OF AMERICA**
23-25 PARK PL. NEW YORK, N. Y.

Again CROSLLEY sets the pace . . . 2 BRAND NEW A. C. - D. C. Transportable Receivers



Companion

Details of the COMPANION

CABINET . . . Walnut, hand-rubbed finish . . . in design and finish the most beautiful cabinet of this type on the market. Pilot light gleams like a jade-green jewel when set is in use.

CHASSIS . . . Five-tube superheterodyne. New heater type tubes. Operates from 110 volts, either D. C. or any cycle A. C. Equipped with 25-foot antenna. No ground required. Combined volume control and on-off switch. Dial calibrated in myriacycles. Full floating moving coil dynamic speaker.

TUBE COMPLEMENT (all new heater type) . . . 1 type 7B Oscillator Modulator, 1 type 7B Intermediate Frequency Amplifier, 1 type 77 Detector, 1 type 3B Output, 1 type 12-Z-3 Rectifier.

DIMENSIONS . . . Height 7½ inches; Width, 11¼ inches; Depth, 4¾ inches. Weight, only 8 pounds.

A MARVELOUS little set, weighing only 8 pounds, housed in a beautifully designed walnut cabinet. It operates on 110 volts, D. C. or any cycle A. C. Hand-rubbed finish comparable with that of fine, high-priced home sets.

As a second set in the home; as a proud ornament to the office desk; in home, camp, lodge, hotel—wherever there is 110-volt D. C. or A. C. current of any cycle . . . here is a set that does more than any other set of this type.

Think of it: Full five-tube superheterodyne performance, no matter whether

used with direct or alternating current; real full-floating moving coil dynamic speaker; five of the newest heater type tubes!

See it. Hear its tone. COMPARE. Then consider the price! Here's what your trade has been wanting for so long—a set that can be carried in one hand anywhere; one that can be taken along to parties if desired . . . an ideal set for bedroom, nursery, kitchen or even bath room. A splendid set for every office. At the low price that represents today's most amazing radio value, these sets will establish new sales peaks for you.

\$19⁹⁵
Complete with Tubes
Tax Paid

Travette

Details of the TRAVETTE

CABINET . . . All metal. Unbreakable. Beautifully designed. In choice of three smart finishes: Black with chromium trimmings. Walnut with brown trimmings. Green with antique silver trimmings. Handsome carrying case of Kemi-Suede included in price.

CHASSIS . . . Five-tube superheterodyne. New heater type tubes. Operates from 110 volts, either D. C. or any cycle A. C. Equipped with 25-foot antenna. No ground required. Pilot light of pleasing green shade. Combined

volume control and on-off switch. Dial calibrated in myriacycles. Full floating moving coil dynamic speaker.

TUBE COMPLEMENT (all new heater type) . . . 1 type 7B Oscillator Modulator, 1 type 7B Intermediate Frequency Amplifier, 1 type 77 Detector, 1 type 3B Output, 1 type 12-Z-3 Rectifier.

DIMENSIONS . . . Height, 6½ inches; Width, 10 inches; Depth, 4¾ inches. Weight, only 3¼ pounds.

SMART and small metal cabinet in a choice of three colors—walnut, black and green. The low price, includes, also, a handsome carrying case of Kemi-Suede.

The Travette is the most compact, the most powerful, selective, beautiful-toned set of the A. C.-D. C. type ever produced. It may be used wherever there is 110-volt direct or alternating current. It fits the traveling bag, yet its volume is great enough for dancing when local or nearby high-powered stations are tuned in.

When not traveling, the Travette may be used in home or office. With

the choice of colors it will harmonize with any surroundings.

Think what a comfort the Travette is for tourists. They can enjoy it in tourist camp or hotel room. It will while away the hours for them virtually wherever they go.

Full five-tube superheterodyne performance with full-floating moving coil dynamic speaker and heater type tubes. Examine the Travette, note how easily it may be carried about with you. Imagine the convenience of having this fine radio with you wherever you go.

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

THE CROSLLEY RADIO CORPORATION

Powel Crosley, Jr., President

CINCINNATI

Home of "the Nation's Station"—WLW

YOU'RE THERE WITH A CROSLLEY

CROSLLEY RADIO

THE
TUNG-SOL
RADIO TUBE
CONSIGNMENT
PLAN permits...



... Tung-Sol Dealers to stock — without any investment — sufficient quantities of all types of tubes to meet requirements. This results in increased sales, particularly of slow moving, but profitable high list types, which retailers are reluctant to stock under the outright purchase plan. This is only one of the reasons why Tung-Sol Dealers made real money on radio tubes last year. Why not make real money for yourself this year? Find out now how the Tung-Sol Consignment Plan helps you do it.

TUNG-SOL RADIO TUBES Inc.
NEWARK, N. J.



Atlanta
Boston
Charlotte
Chicago
Cleveland
Dallas
Detroit
Kansas City
Los Angeles
New York
St. Paul