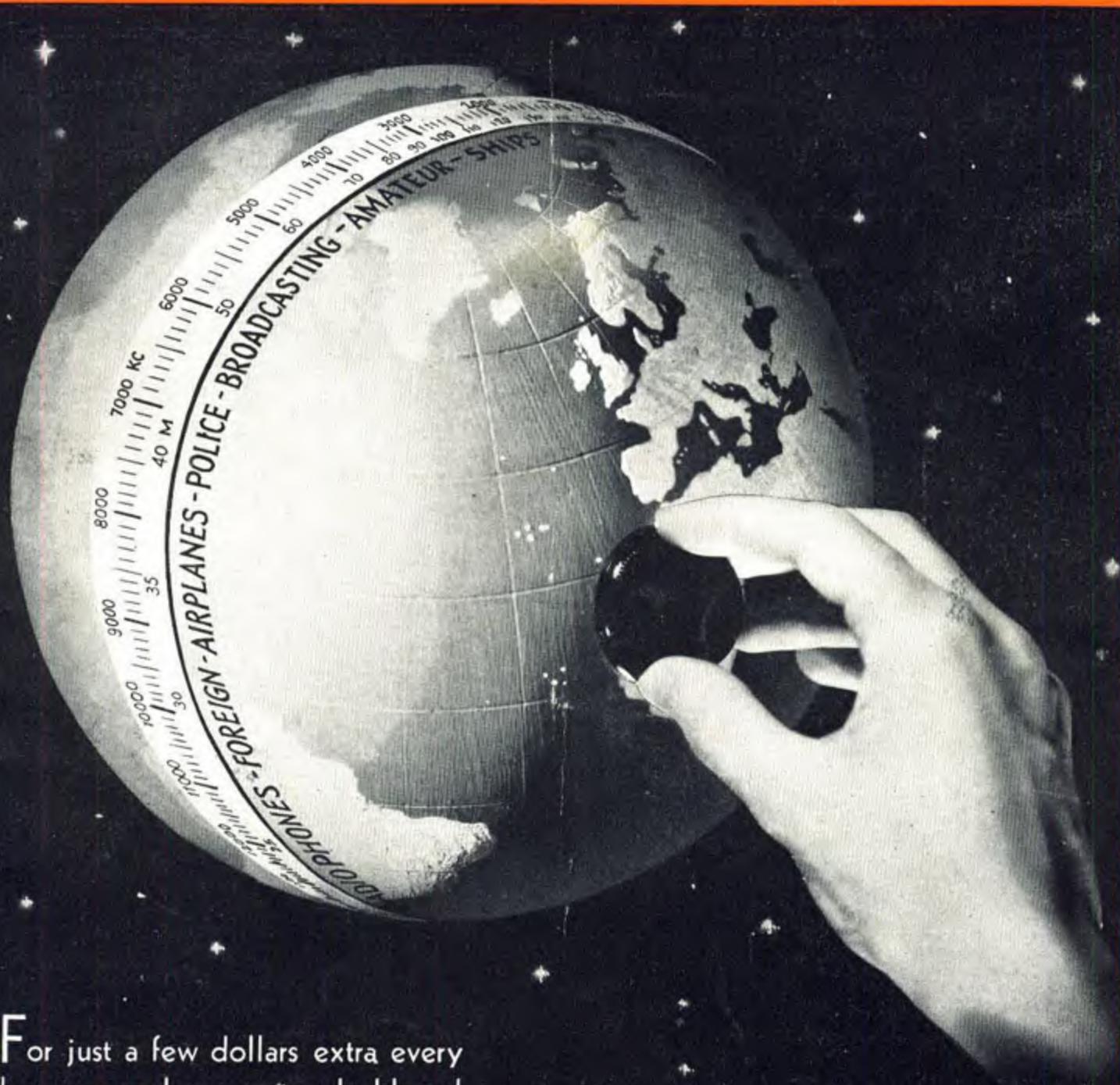


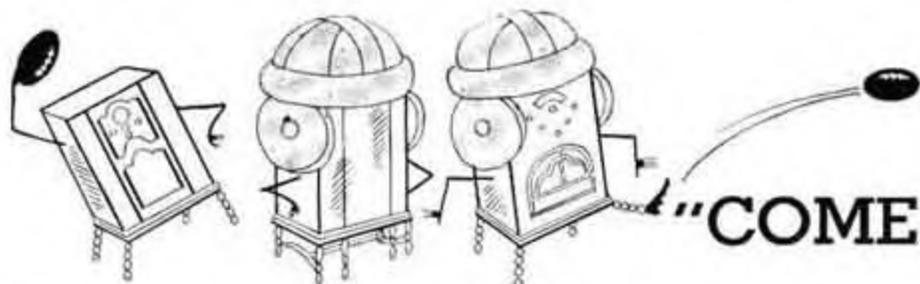
RADIO RETAILING

INCLUDING
SERVICE
AND
INSTALLATION
SECTION

Home Entertainment Merchandising



For just a few dollars extra every buyer can have extended-band reception the best "sell-up" feature available to the radio dealer this season



"COME ON, TEAM!...

Now we're goin' places!"

WHAT a line-up G-E Radio has this year!

Popular-priced but distinguished table models for thrifty buyers . . . Smartly styled consoles, loaded with thrills for both the eye and ear . . . Spectacular radio-phonograph combinations, packed, from legs to lid, with quality . . . beauty . . . prestige.

And a group of all-wave and dual-wave sets that range the whole wide radio world for entertainment . . . bringing in foreign and American stations, police calls, aviation calls, amateur calls—everything!

Every one a champion . . . famous for all-round performance . . . noted for brilliant reception.

Thousands upon thousands will see them . . . thrill to them . . . give them a golden cheer that will echo through the cash registers of dealers from Maine to California.

They've already started to pile up a winning score—and the season's only just opened.

Get behind this G-E line-up. Give it all you've got. Back it to the limit. How can you lose when you're riding along with a sure-fire winner?

See your nearest G-E distributor today. Or write for complete information. General Electric Company. Section R-4411, Merchandise Dept., Bridgeport, Conn.

Here are Three Stars of the All-Star G-E Line-up for 1933-34



MODEL K-85—All-wave console. A-c, super-heterodyne. Covers American and foreign stations, police calls, aviation calls, amateur signals. Lists at \$128.75. Also available in table model at \$92.50.

"Now is the time to buy"



MODEL K-64—Dual-wave table model. A-c, superheterodyne. Brings in American and foreign stations, aviation and police calls. Smartly styled mantel clock design. Walnut veneer and oriental wood. Lists at \$54.50.



MODEL K-66—Standard-range de luxe console. Police call switch. Airplane-type dial. Renaissance design. Walnut veneer-zebra wood cabinet. Lists at \$72.50. Other standard-range consoles at \$119.50 and \$149.50.

All prices F. O. B. factory. Slightly higher in West, Mid-west and South. Subject to change without notice.

GENERAL  **ELECTRIC RADIO**



RADIO RETAILING, November, 1933, Vol. 18, No. 5. Published monthly (price 25c a copy). Subscription rates—United States and Central and South American countries, \$2.00 a year; Canada, including duty, \$2.50 a year. All other countries, \$3.00 a year or 15 shillings. Entered as second-class matter April 10, 1925 at Post Office at New York, N. Y., under the Act of March 2nd, 1879. Printed in U. S. A. Cable address: "Metranbil, New York." Member of A.R.F. Member of A.R.F. Copyright 1933 by McGraw-Hill Publishing Co., Inc., 320 West 32nd Street, New York, N. Y.

Printed by The Schenker Press, N. Y.

DON'T BE WITHOUT THESE 3 HOT MODELS ... in the Fast-Moving Zenith Line!



Here's proof that Zenith designers are sales minded!

Every set in this fast-moving line is made for a market. Don't overlook these three beauties. They are made specifically for people of certain needs and tastes.

For instance, Model 765 appeals to women who prefer the semi-highboy type of cabinet. Millions of people will always prefer this style of furniture to full-console.

Model 740 has instant appeal for the small-town, farm, and rural-outskirt market which still buys battery sets. Here is a fine Zenith creation taking extreme low battery drain.

And remember, variety in cabinet models means more sales! Challenger Model 712 gets a quick response from women who want tall lines in small appointments.

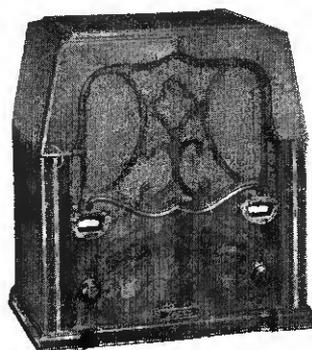
Every item in the Zenith line is designed for a purpose—for a definite market. That's why Zenith dealers enjoy the biggest percentage of floor sales to store traffic of any dealers in the industry.

Write us for your distributor's name.

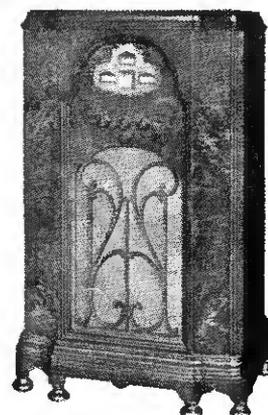
ZENITH RADIO CORPORATION
3620 Iron Street, Chicago, Illinois



CHALLENGER MODEL 765—Many people prefer a semi-highboy design in a radio and here is one very sturdily built with full length sliding doors. The top is of heavy lumber core plywood for added depth and resonance of tone. It has a 9-tube superheterodyne chassis with twin 8" speakers, a dash-type escutcheon with Shadowgraph tuning, visual volume and tone control. Size: 43" high, 25" wide, 16" deep.



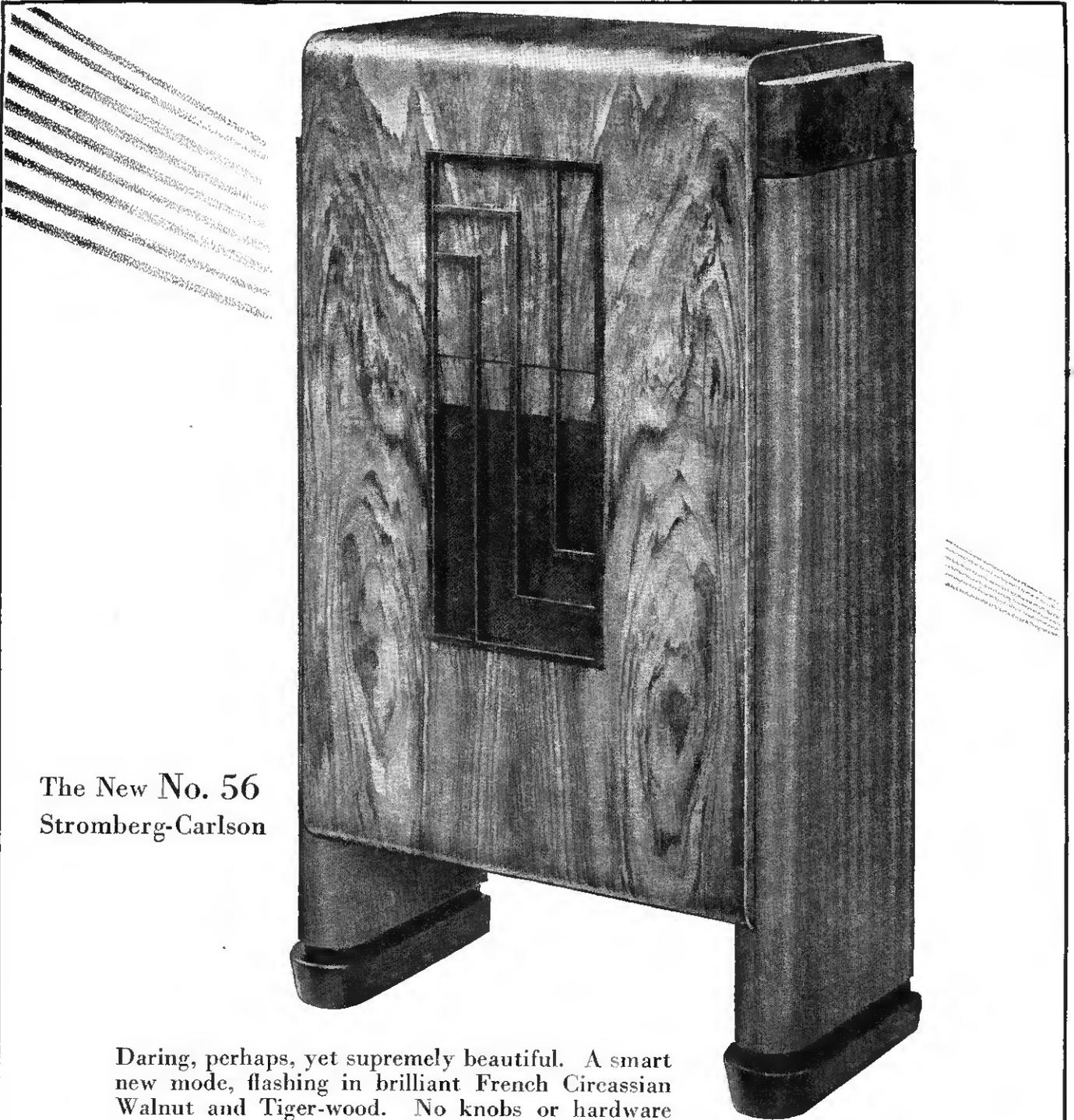
CHALLENGER MODEL 712—There's a friendliness about the design of this handsome cabinet which will make it fit into any surroundings. Finished in light walnut color, it is trimmed with other beautifully grained woods and imported marquetry with a wood carving motif. It has a 6-tube advanced type superheterodyne chassis. Shadowgraph tuning and automatic volume control with an 8" speaker.



CHALLENGER MODEL 740—Battery radio—same cabinet as Model 769 ten tube superheterodyne circuit—8 1/2" dynamic permanent magnet speaker. Automatic volume and tone control. Extremely low battery drain. Complete, less batteries.

ZENITH

MADE IN U.S.A.



The New No. 56
Stromberg-Carlson

Daring, perhaps, yet supremely beautiful. A smart new mode, flashing in brilliant French Circassian Walnut and Tiger-wood. No knobs or hardware visible. A real discovery for one who is seeking an effective piece for a handsome room.

All the perfected tone which the name Stromberg-Carlson signifies. And — Touch Tuning — a feature as advanced as is the cabinet, so that favorite stations may be tuned through “feel” alone.

The No. 56 is a magnet that is drawing customers into dealers’ stores.

“There is nothing
finer than a
Stromberg-Carlson”



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

Stromberg-Carlson

A Complete Car Radio Line

Complete Advertising Support

Complete Merchandising Help

DEALERS selling Arvin Car Radio have every advantage. They have a complete line to offer—three fine sets with quality and price to meet all requirements. And they are supported by advertising and merchandising which is as complete as the Arvin line.

Big consumer advertising campaign in leading magazines has created national acceptance which Arvin dealers are cashing in on now. Full page in Sat-



Attractive demonstrator display board sent to Arvin Registered Dealers FREE. One of many merchandising helps Arvin gives dealers.

urday Evening Post December 9 makes powerful Christmas appeal on Arvin Car Radio and other Arvin products. Arvin really helps you sell—with aggressive advertising and merchandising which build volume and profits for dealers.

With this one complete line you can sell all the car radio prospects in your community and make more money. There is an Arvin jobber near you. Get in touch with him for full information.



No. 30-A • DELUXE MODEL

7-tube, double unit set—the finest of all Arvins. All-electric superheterodyne with remote control. Marvelous performance. Receiver unit mounts on engine side of dash. Speaker, amplifier and "B" power unit goes on dash inside the car and directly opposite the receiver unit as shown above. Remote control clamps on steering column. Full range tone control, automatic volume control and all the latest quality features.

\$64.50
LIST



No. 20-B • STANDARD MODEL

6-tube, single unit set. All-electric superheterodyne with remote control. The finest single unit Arvin. A marvel of compactness, simplicity and sturdiness. Has power, selectivity and tone quality at most beyond belief. Automatic volume control and two-point tone control. Amazingly simple mounting. Just bolt plate to dash and radio slips on. Easy to remove for service.

\$54.50
LIST



No. 10-A • SPECIAL MODEL

5-tube, single unit set. All-electric superheterodyne with remote control. A low-priced set with exceptional performance. The power, tone and selectivity compare favorably with many higher priced sets. A remarkable value. Mounting is so simple that you can install this set in no time at all. Simply bolt plate on dash and radio slips on in any position desired. Easy to remove for service.

\$44.50
LIST



CONVENIENT REMOTE CONTROL on All Models

All Arvins have the distinctive remote control shown at left. It clamps on the steering column, at any angle, in the line of driving vision. You don't have to take your eyes off the road to tune the set. Just a simple twist of the wrist brings in the station you want. Key controls volume, turns set on and off—and locks it. Dial is illuminated.

COMPACT AND EASY TO INSTALL

All Arvins are easy to install—and they take up no needed space in the car. Illustration at right shows how No. 20-B and No. 10-A single sets mount on dash. A plate is bolted to the dash and the radio slips right on. Up and out of the way. It does not interfere with leg room or foot room. Stabilizing bracket holds radio rigid.



NOBLITT-SPARKS INDUSTRIES, INC., COLUMBUS, INDIANA

Also manufacturers of Arvin Hot Water Car Heaters and Fan-Forced Electric Room Heaters

ARVIN CAR RADIO

Comparison Chart PROVED *that I could make more money with Westinghouse*"

● Let's come right to the point. *You* want to make money selling electric refrigerators. We feel that the Westinghouse franchise gives you the best opportunity for volume, net profit, and lifetime customer satisfaction — that the Westinghouse proposition offers you the finest product line, the greatest prestige, and the best selling plans and equipment.

Will you give us the opportunity to prove it? There's a new, simplified way by which you can compare the facts. Send NOW for the FRANCHISE COMPARISON CHART, which gives you at a glance every important question to consider in selecting a money-making refrigeration proposition . . . supplies the Westinghouse answers . . . and permits you to compare these answers with those of others. The final score will tell our story — better than we could tell it ourselves.

The Franchise Comparison Chart is offered to you without cost or obligation. Why not send for it now — on the coupon below or your own letterhead? It's well worth the few minutes it will take to study.

**GET YOUR
COPY NOW!**
mail coupon

Westinghouse Electric & Mfg. Co.,
Refrigeration Dept. (R.R.-11)
Mansfield, Ohio

Send me a copy of the Franchise Comparison Chart. I understand that it costs nothing and puts me under no obligation.

Name

Address

City State



The Ultimate in Design ...



THREE SUPERB COLOR COMBINATIONS

Black and Gold, and Maroon and Gold at \$59.50—Old Ivory and Gold at \$62.50.
Complete with Radiotrons. Prices slightly higher on West Coast.

5-tube AC-DC Dual-Wave Superheterodyne receiver with 7-tube performance in power and natural tone. 3-gang condenser, automatic volume control, double-grille dynamic speaker base—all of unusually substantial, shock-proof

construction. Height, 16 inches. Globe and base design covered by U. S. Patent, Licensed under patents of Radio Corporation of America. Fully guaranteed by the Colonial Radio Corporation.

COLONIAL RADIO CORPORATION, BUFFALO, N. Y.

The Selling Sensation!

Colonial presents the



NEW WORLD



RADIO

A brilliant, all-surpassing achievement of designing and engineering genius . . . giving the recognized highest quality radio a magnificent modern revolving world globe setting in heavy moulded bakelite and actual gold-plated metals.

Nothing in radio has ever created such an overwhelming sensation . . . or won such an immediate response from the trade and the public as has the NEW WORLD Radio by Colonial. Here is a merchandising "NATURAL"—a selling FORCE which stops the crowds and SELLS—which is, above all, the perfect radio in construction and performance.

Be the first in your city to feature this new leader. Our literature, newspaper mats, publicity and other sales promotion will help you to get the utmost from this outstanding opportunity.



Distributed exclusively by the 73 Branch Houses of the Graybar Electric Co., Inc. Ask your nearest branch for discounts and terms—or write direct to Graybar Electric Co., Inc., Graybar Bldg., New York, N.Y. *Get Demonstration Models NOW. Make Early Reservations for Shipments.*

COLONIAL RADIO CORPORATION, BUFFALO, N. Y.

—but what customers say!

WHAT radio dealers say about any manufacturer's line is usually a darn sound estimate of how that line will go that year.

Dealers say, "Atwater Kent is hot."

There is only one other court that is a higher authority than the opinions of dealers. *And that is the radio buying public itself.*

You know what they think—or you can find out for yourself in your own store.

Stacked up side by side—price for price—the average radio buyer today will pick an Atwater Kent Radio in preference to anything else in the field.

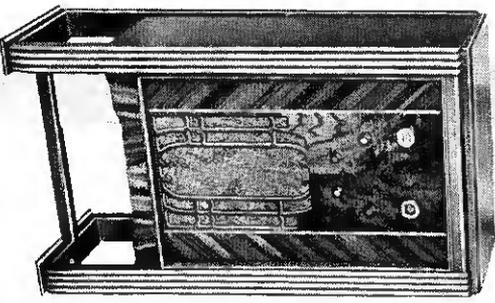
Already this year that statement has been proved hundreds of times.

Waving aside all evidence of technical superiority, Atwater Kent Radios have tone quality that the public appreciates—cabines that the public likes—and prices that the public is willing to pay. And Atwater Kent has these three vital things in larger measure.

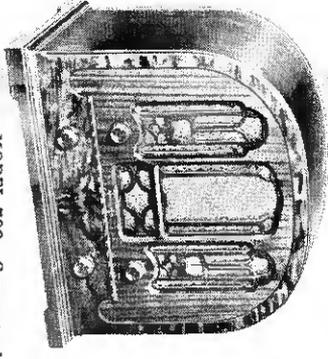
That's not just our opinion, or even dealers' opinions—it's something you can prove for yourself. Try it—and watch profits grow.

ATWATER KENT MANUFACTURING COMPANY

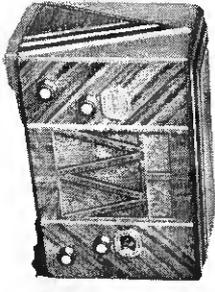
A. Atwater Kent, President 4700 Wissahickon Avenue, Philadelphia, Pa.



MODEL 667—Same 7-tube chassis as in model 427 but in modern, striking cabinet of smartest design. Both radios hear police, amateur, etc. F.O.B. price is \$69.50.

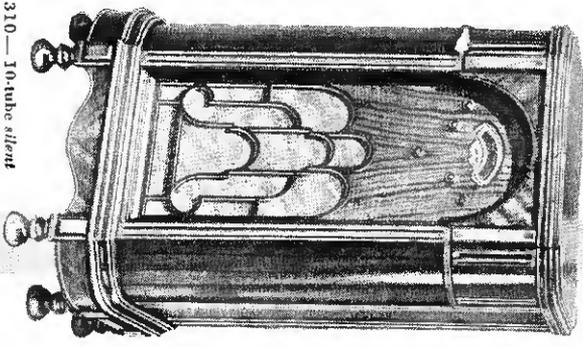


MODEL 708—Compact cabinet for Atwater Kent's famous 8-tube ALL-WAVE receiver. Full-size speaker also. F. O. B. \$68.50.

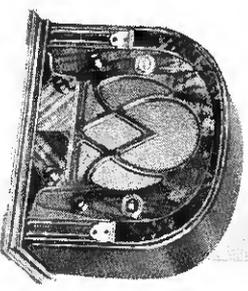


MODEL 275—Smart, small, modern, 5-tube A.C. or D.C. large speaker of improved design gives excellent tone. F.O.B. \$34.90.

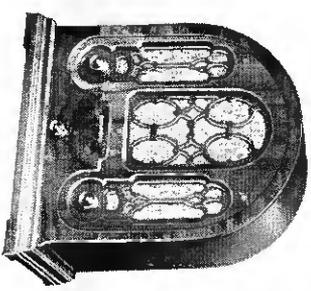
MODEL 165—The finest tone of any 5-tube radio ever built. Gothic style cabinet accommodates full-sized speaker. F.O.B. \$34.90.



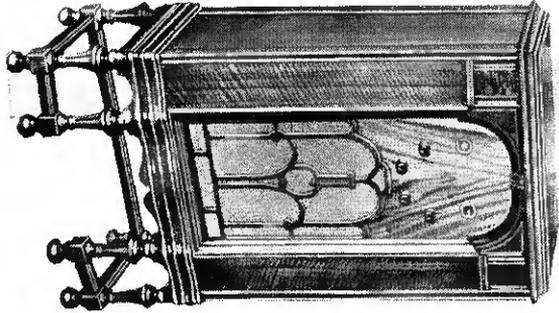
MODEL 310—10-tube silent superheterodyne circuit, shadow tuning, 4-point tone control, 4-gang condenser, pointer, etc., of course. F. O. B. price is \$99.00.



MODEL 217—Full 7-tube chassis and full-sized speaker are in this small cabinet. F.O.B. \$52.50.

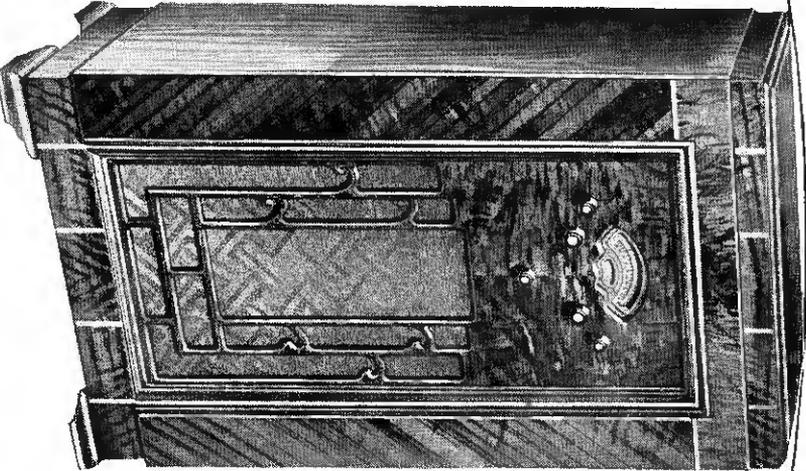


AWMANTNER KENT RADIO

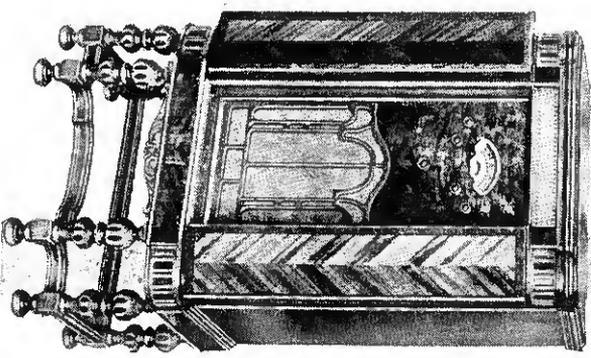


MODEL 510 (at right)—America's most beautiful radio—with a magnificent 10-tube chassis inside that is surpassed in performance and tone quality only by Awater Kent model 711. F.O.B. price is \$109.00.

MODEL 427 (at left)—Full performance, full-sized Awater Kent 7-tube chassis in popular cabinet style at the sale-making price of \$69.50 F.O.B.



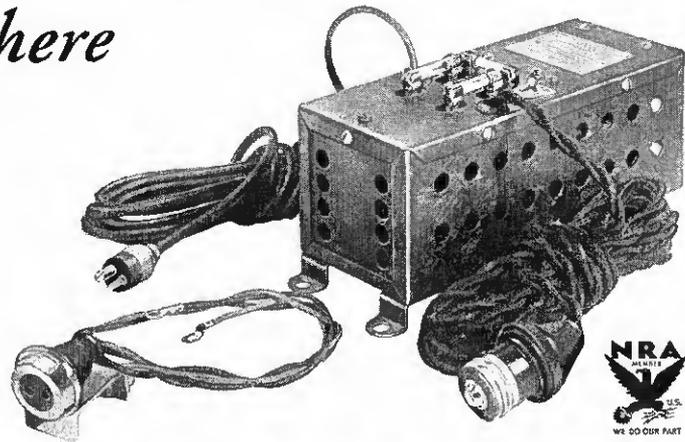
MODEL 711 (at right)—the supreme radio of 1933! Awater Kent's finest. 11-tube all-wave receiver, silent superheterodyne circuit, twin push-pull audio stage producing four times the volume of the average good radio, auditorium type speaker, silent tuning, shadow visual tuning, 4-point tone control, and 4-place switch for different wave lengths. \$160.00 F. O. B.



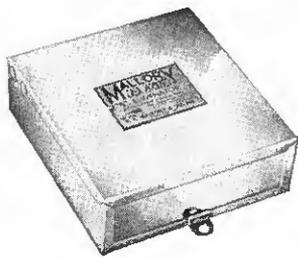
Not WHAT WE SAY—OR YOU SAY



There should be one  in every garage in your community  ... and somebody's going to put it there 



LIST
PRICE
\$11.50



The New Mallory-Elkon
"B" Eliminator with Self-
Rectifying Elkonode . . .

LIST PRICE \$17.50

Complete—Including cable—
Nothing else to buy! Provides
every advantage of last year's "B"
Eliminator—all the demonstrated
performance and economy of the
Mallory-Elkon principle—in a
small, compact form.

The MALLORY BATTERY CHARGER

meets a newly awakened need that is felt by motorists throughout America. Automobile radio, advances in starting and lighting, free wheeling and other important and justly valued developments have put a greater drain upon the battery and resulted in a nation-wide demand for just such service as the Mallory Battery Charger provides.

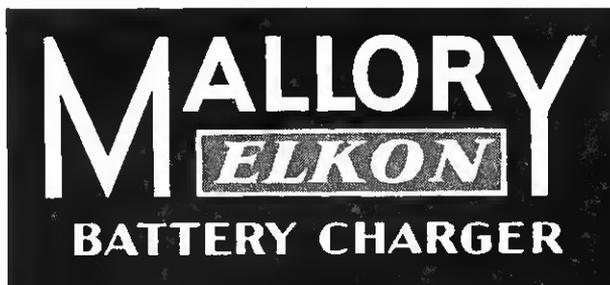
Every owner of a modern automobile—every purchaser of an automobile radio—is a logical prospect. Every Mallory Battery Charger—which lists at \$11.50—pays a worthwhile profit.

The Mallory Battery Charger is compact in size, requires practically no installation, and offers transformer features of acknowledged superiority. Its fuses are externally mounted and easy to change—its rectifier needs no soldered connections and requires no wire.

Write today for full details. Somebody is going to sell Mallory Battery Chargers to the car owners of your community—and it might as well be you!



in RADIO, ELECTRICAL,
AUTOMOTIVE AND
INDUSTRIAL FIELD



P. R. MALLORY & CO., Incorporated, INDIANAPOLIS, INDIANA

HE SCRAPPED EVERYTHING BUT EXPERIENCE

TO CREATE THE ONLY 100% NEW RADIO!

W. C. GRUNOW Leads the Return to Quality and Dealer Profits with the Miracle of LIVING TONE . . .

Amazing self-tuning Si-Lec-Trol featured in sensational line with more improvements than any other radio offers

A GAIN W. C. Grunow, America's most spectacular radio genius, lifts radio from the commonplace . . . leads the trend in radio back to quality . . . and restores the glamour and thrill that brought a harvest of profits to the nation's dealers a few years ago!

Discarding everything but experience, this wizard of radio has created the *only 100% new radio!* With no old parts to salvage, no old methods or machinery to force a compromise in a single detail of his new masterpieces, he has been free to apply every advancement known to science . . . to carry radio 10 years ahead in a single, revolutionary stride!

In the 10 beautiful models included in the new Grunow line, more actual new developments are included than in any other radios among this season's offering. They're improvements you can demonstrate . . . that the buyer can *see and hear and feel* . . . that give *newness* and appeal radio has lacked since Mr. Grunow left radio at its sales peak.

The GRUNOW NAME . . . *synonymous in the public mind with all that's best in value and performance.*

Grunow LIVING TONE . . . *a revelation in reality that frees radio at last from the last taint of mechanical harshness. The combined result of a score of new, exclusive improvements that create "radio that actually lives"!*

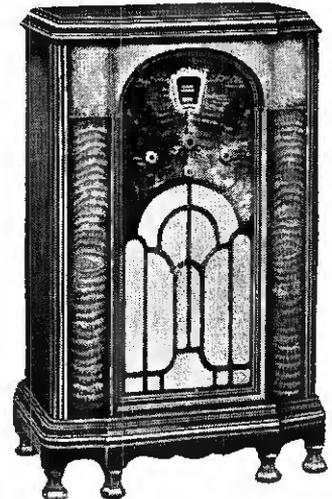
Grunow SI-LEC-TROL . . . *so simple a blind-folded child can use it. Selects favorite stations at a touch . . . without between-station noise. You hear nothing until the station flashes in, tuned to hairline precision.*

Grunow JEWEL BOX REMOTE CONTROL . . . *the first genuine "distant dial" . . . with full command of every station carried right to the listener's easy chair.*

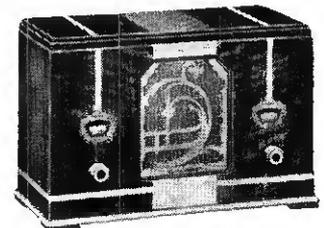
Grunow's NEW Automatic Volume Control, NEW Synchrodynamic Speaker, NEW Automatic Tone Compensator and other genuine improvements . . . *give performance new to radio.*

In your showroom, these astounding new Grunows will supply selling punch, buying appeal . . . PROFITS . . . that you lack now. Everything the buyer wants . . . the price range, the choice of styles, the definite and provable perfection missing in present-day radios . . . is here. Phone or wire your Grunow distributor now for complete franchise information.

GENERAL HOUSEHOLD UTILITIES CO.
2650 North Crawford Avenue, Chicago, Illinois

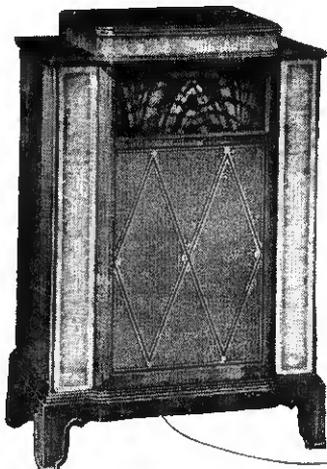


GRUNOW CONSOLE MODEL 701—Matched bull walnut, burl maple and walnut, with tulipwood inlays. 7 tubes with improved automatic volume control, 2-range tuning to 3800 kc., automatic tone compensator, stepless tone control, 10-inch synchrodynamic speaker, and illuminated controls.

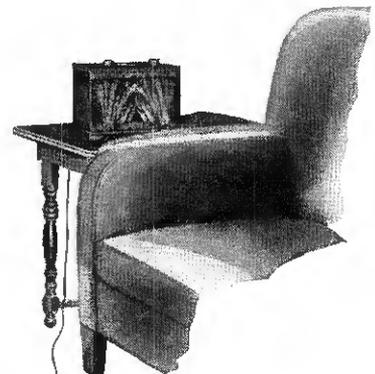


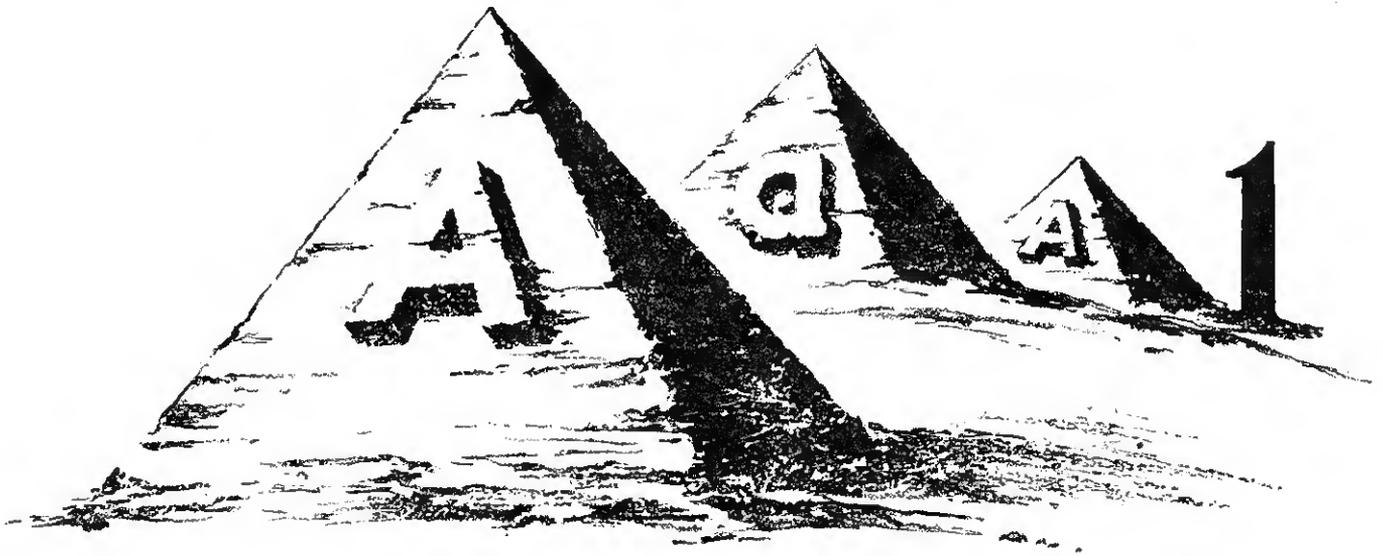
GRUNOW AC-DC MODEL 501—5-tube superheterodyne with improved automatic volume control, pentode power tube, 6-inch synchrodynamic speaker and illuminated controls. Modern cabinet has matched bull walnut front panel with satinwood inlay and burl maple overlay.

GRUNOW CONSOLE MODEL 1101 with Jewel Box Remote Control and Si-Lec-Trol. 11-tube receiver with 12-inch synchrodynamic speaker, push-pull-parallel second power stage and all other Grunow improvements. Remote control cabinet of imported matched faux-satine and burl maple. Console of matched faux-satine, burl maple, olive burl and walnut, with tulipwood inlays.



Grunow
THE MODERN MIRACLE OF RADIO





UNCHANGING

IN THE past decade of fluctuating values, few old standards have remained unchanged. Almost alone in this respect, the financial ratings published by leading financial directories have stood as reliable standards of any organization's stability.

Throughout both booms and depressions, the financial rating of the Hygrade Sylvania Corporation has remained consistently AaA1! Hygrade Sylvania's farsighted engineering, fair dealer policies, and willingness always to cooperate with set manufacturers in solving circuit and design problems have proved

a sound basis for longtime, stable operation!

Add to this the Hygrade Sylvania Corporation's freedom from lost motion . . . and you get a business associate of the most desirable kind! The men who own the major portion of Hygrade Sylvania stock are all directly active in the management. They put the reputation of their company and the success of those who distribute its products . . . above all else!

A letter places you under no obligation. Write for product information. Hygrade Sylvania Corporation, Emporium, Penna.



Sylvania

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



THE SET-TESTED RADIO TUBE

© 1933, H. S. C.

RADIO RETAILING

HOME ENTERTAINMENT MERCHANDISING

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Let's

Make It

LAST

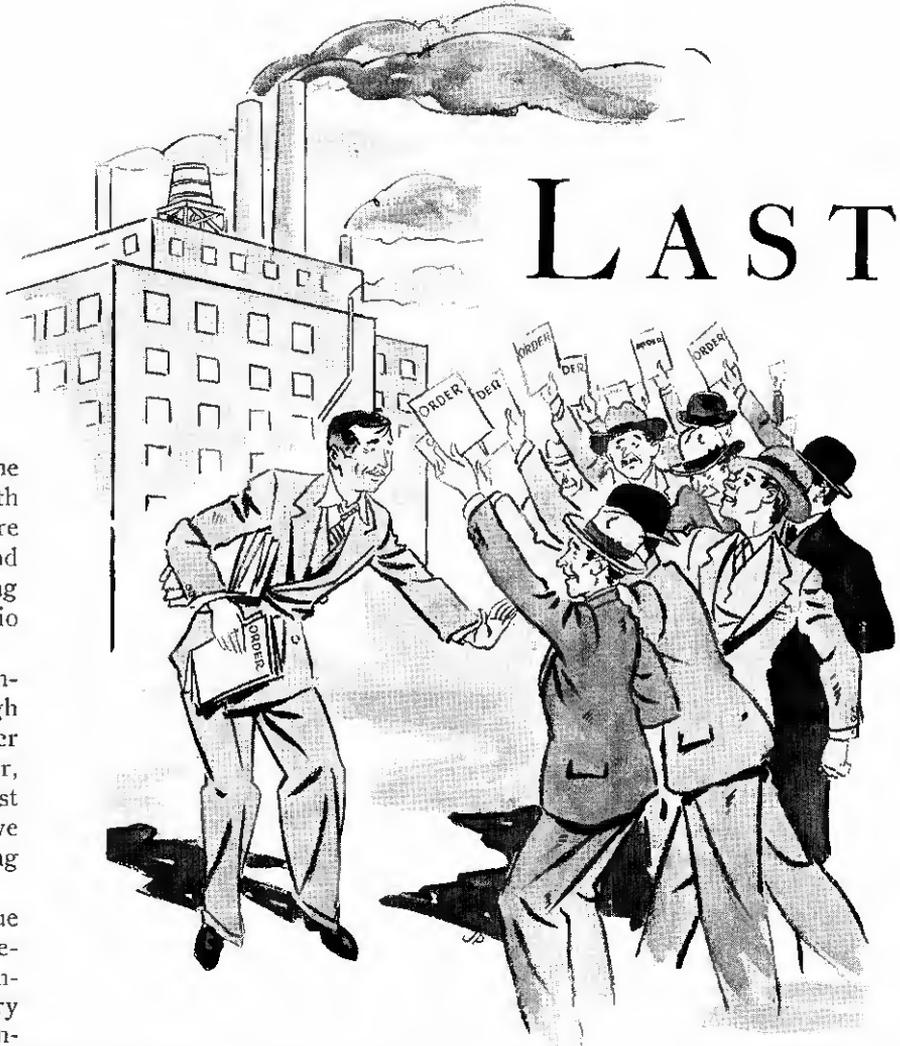
FOREWARNED is forearmed. The radio business is in excellent health right now. The manufacturers are working at top speed, with jobbers and dealers clamoring for sets and selling most of them as soon as received. Radio is having its first harvest in four years.

If good judgment is exercised this condition can be continued. Only through the constant scrutiny of actual consumer demand and of field inventories, however, and by the balancing of output to just equal actual market requirements, will we avoid overproduction and its distressing aftermaths.

As pointed out in last month's issue and confirmed by *Radio Retailing's* telegraphic survey of the country, just concluded, there are unusual, inter-industry reasons for this intensive (jobber to manufacturer) demand for sets, apart from improved buying power.

With these special conditions clearly in mind and fortified by these telegraphic reports of stock movements throughout the country, herewith presented, the set, tube and parts makers are cautioned to "trim ship" accordingly. We must not again maneuver ourselves into a position where dumping and bargain price offerings will embarrass ethical dealers and perplex the public as to the true market value of radio receivers. Let's make this prosperity last!

As we go to press, the total number of sets being manufactured throughout the country (October output) is at the rate of 600,000 per month (*Radio Retailing's* personal check with the manufacturers). Set sales for the entire year, 1932, were 2,620,000. For the industry's peak year, 1929, the figure was 4,438,000.



Our best estimate of consumer consumption, based on an analysis of the many telegrams just received from dealers, jobbers and radio association executives, indicates that radio set sales for the entire year of 1933 may reach 3,000,000. The correlation of these facts—and the lessons to be drawn from them—are obvious.

Here is the telegram which was dispatched to the radio trade in all parts of the country on October 25:

RADIO FACTORIES ARE RUNNING OVERTIME. WHAT PROPORTION OF YOUR REQUIREMENTS ARE FOR CONSUMER ORDERS AND WHAT FOR STOCK. HOW MUCH BETTER IS OUTLOOK FOR OCTOBER NOVEMBER BUSINESS THAN LAST YEAR. SHOULD MANUFACTURERS BE CAUTIONED.

Replies were received from over 90 per cent of the

My requisitions are 25 percent for customer orders balance for stock. Expect to double my radio business this year. Caution set makers against too rapid price increases and not to change models before June 1934.

DES MOINES, IOWA

50 percent of our orders for immediate requirements. Future looks 25 percent better than last year. Manufacturers—don't overproduce.

NEW ORLEANS, LA.

Find normal interest on consumers part. Jobbers have large back orders and dealers naturally are without stock. Check of St. Louis shows 50 percent undelivered merchandise is for consumer orders balance for inventories. Prospects for November business look good.

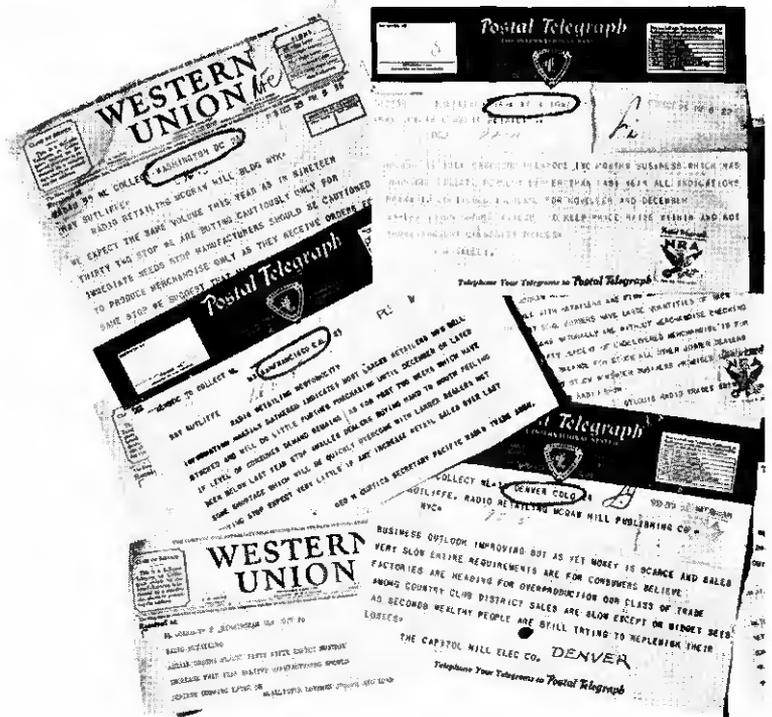
ST. LOUIS, MO.

Retail orders now placed on fifty-fifty requirements basis. 100 percent increase this year.

BIRMINGHAM, ALA.

Most larger retailers now fairly well stocked. Consumer demand remains normal, a little above last year. Trade still buying hand-to-mouth.

SAN FRANCISCO



TRIM

Telegraphic survey reveals healthy but not abnormal consumer demand for sets—Manufacturers cautioned to balance production with market requirements—Too rapid price increases held detrimental

(Continued from preceding page)

recipients. With few exceptions, they appear to reflect an intelligent analysis of the local situation and warrant, therefore, serious consideration.

Dealer Commitments 50/50

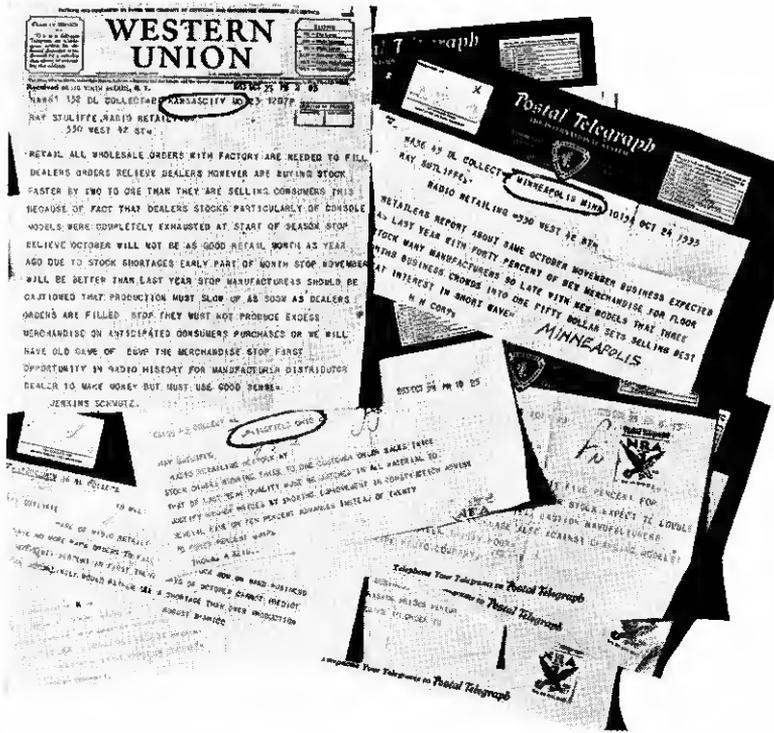
With respect to the first question, "What proportion of your requirements are for consumer orders and what for stock?" the answers were varied but seldom conflicting. New England is enjoying better business than the rest of the country, it appears. Dealers cannot get enough stock—and a very large percentage of their commitments is for immediate customer demand.

With this exception, it is evident that a fair proportion of dealer requirements are still to replenish inventories. It is impossible to weigh accurately this situation but our best average—based on the telegrams—would place this, as of October 25, at 50 per cent for customer orders and 50 per cent for stock.

Manufacturers should bear in mind that there has been some pyramiding of orders, dealers placing requisitions on more than one jobber in the hope of somewhere getting service—and with the intention of cancelling the others.

Twin brother to this first question was the matter of October sales. Consumer demand, with the first touch of cold weather, gathered momentum rapidly until about the middle of last month. It has now steadied down; in some sections of the country it has even fallen off. Middle class earning power has not improved materially as yet. Many banks are still closed, the farmers are worried again. On the other hand many highly optimistic opinions were received: "Sales twice that of last year"; "Business 25 per cent higher than '32"; "Outlook 50 per cent better now."

Despite the flood of orders factoryward, an honest cross section of the field reports indicate that the public, while buying radio well in excess of last year, is still



SHIP!

feeling its way. It is showing every inclination, however, to number radio, and good sets at that, among its first purchases.

As to Balance of Season

Dealer opinion as to the sales outlook, while everywhere optimistic, invariably included this thought: "Caution the manufacturers to control output—not to over-produce—and so avoid 'dumping' later on." In other words, we need sets now, we are enjoying a normal consumer demand—but "keep your shirt on."

Another viewpoint was expressed again and again: "Do not jump prices too radically. A ten or fifteen per cent increase is all we can masticate at a time. The set makers will kill this awakening market if they lay it on too heavily."

The trend is toward consoles. But here, again, deductions must be made for special factors other than consumer demand. We doubt if the console buying power, from the user angle, is quite as marked as the manufacturer thinks. Equipped primarily for big set production, mutually more profitable to set maker and retailer than midgets, it is but natural to make and ship the consoles first. And the dealer sells what he has. In this instance the dealer also is selling what the customer wants—and will buy if the family income continues to improve.

The lesson here is that those manufacturers who build both large and small sets must more than ever help the dealer to merchandise the better numbers. The fundamental job still remains to be done—to sell the public on radio as a high class musical instrument.

With the coming of Indian Summer came also a sud-

Business conditions here not too good. Consumer demand dropping off somewhat. Public still afraid to buy.
CLEVELAND, OHIO

Radio receivers here not moving into hands of consumers rapidly. Dealer stocks still low. At present rate manufacturers should be cautious about first of December.
NASHVILLE, TENN.

80 percent of my requirements are for immediate consumer orders. Outlook 50 percent better than last year. Caution factories to control production. Hold prices at present level. Want no new models for ten months.
DUBUQUE, IOWA

Strong public demand for sets. Believe most Massachusetts and Connecticut dealers way behind orders. General business much improved.
NEW ENGLAND

Consumer requirements 60 percent and stock 40 percent. 65 percent of sales in table models. October and November outlook parallel with last year. Prices now increasing faster than market can absorb them. Too many models in same price range.
COLUMBUS, OHIO

Our requirements 25 percent orders balance stock. Business about 15 percent higher than last year.
AKRON, OHIO

Requirements here mostly for stock. Outlook fair but people not spending much money yet. Expect normal demand only.
MILWAUKEE, WIS.

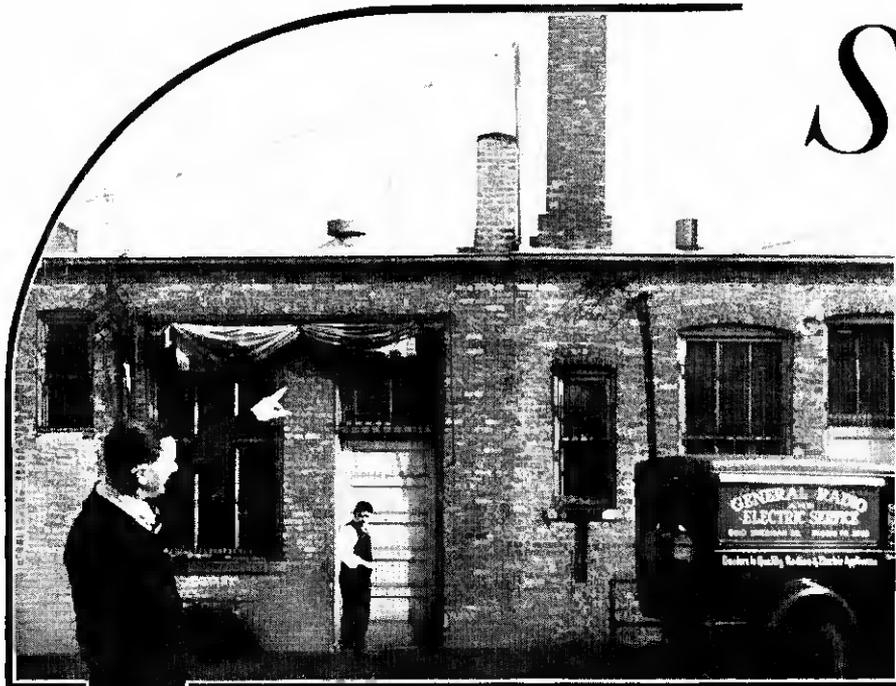
Radio business will be good if banks open. Avoid multi prong tubes and tuning meters in sets as far as possible.
PASSAIC, N. J.

den and voracious clamor for radio merchandise. This excess demand may, or may not, subside just as quickly as it arose. While many of the factors making for this present rush of business are beyond the control of the radio industry, it can, to a workable degree, stabilize list prices to within confidence-sustaining limits. It can if its manufacturer members will keep factory output well in hand and if its dealer members will stick to their guns. Former "feast or famine" conditions are getting a bit irksome. Let's strive for three square meals a day . . . every day in the year.

Ray V. Sutcliffe
MANAGING EDITOR

Selling

*With employment
and deluxe models
dealers are
policies suggested
Retailing" in 1931
DOLLAR*

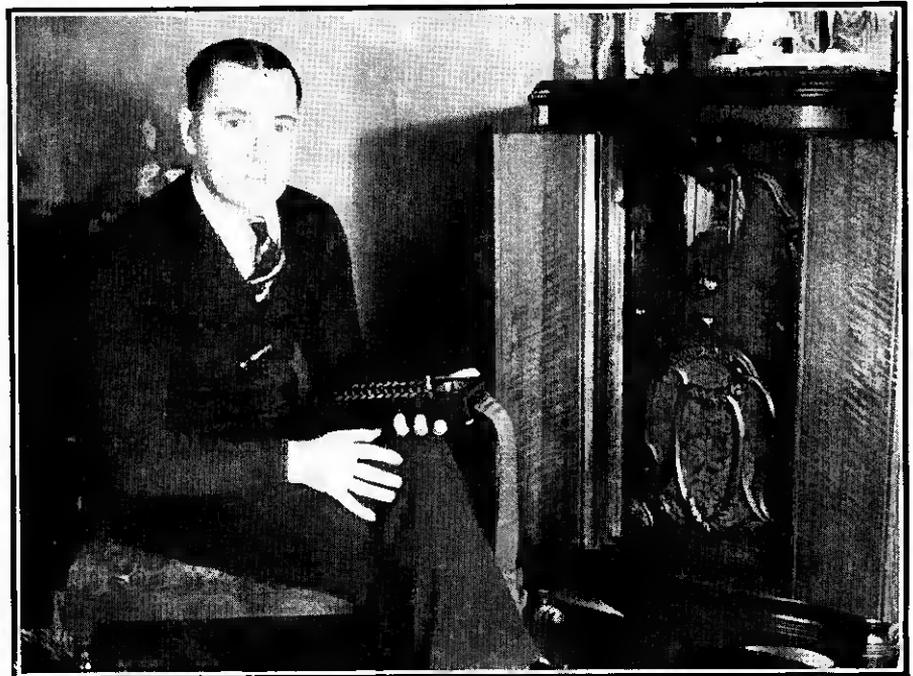


ALLWAVE RADIOS

carrying higher lists, are best sold with an efficient store demonstrating antenna, General Radio & Electric Service has found.

REMOTE CONTROL,

gaining popularity this season, is a useful sell-up weapon in the capable hands of Jack Miller, Chicago



SINCE 1931, *Radio Retailing* has seen the handwriting on the wall . . . cheaper sets, declining unit volume . . . hence the necessity for "Selling Up." In December of that year we reported a Detroit cooperative campaign which "created a marked increase in the demand for good sets." Again, in January, 1932, dealer Sam Lind told how he increased profit by distinguishing between "midget" and "quality" reception in advertising. In June, three Worcester, Mass., merchants described methods which enabled them to keep their average sale above \$170. In August, a step-by-step "Demonstrate the Difference" article appeared. And, in September, R. G. Sceli, of Hartford, Conn., verified the practicability of this plan by actual trial.

The trade's selling-up efforts in 1931 and 1932 accomplished much, considering the low ebb of earnings and employment. Today, the opportunity for selling up is

greater than ever. "Sell Up" should be adopted as the radio industry's slogan for 1934.

Secretary of Labor, Miss Frances Perkins, reports the return of more than 620,000 workers in September. This continues, for the sixth successive month, the rise in employment and payrolls from the low of March. According to the Bureau of Labor statistics, the total gain in workers is about 2,700,000 and in weekly wages nearly \$64,000,000. In conformity with this brighter picture, the set makers have wisely included more deluxe models in their present lines—and have built enough advantages into these receivers to place them definitely above the midget class.

Here is a recount of some of the modern features now incorporated in the higher-priced, better-toned models, which should enable dealers to successfully demonstrate these against cheaper sets:

UP 1934 *Style*

*and earnings up
in more lines,
effectively reviving
by "Radio
... TO BOOST
VOLUME*

Quiet automatic volume control
Remote control
Allwave reception
Full-size speakers
Heavy-duty power tubes
Automatic record-changing
Superior furniture value

Add to these things the many little tuning and other conveniences found in 1934 quality models, and it is obvious that the dealer has more sell-up arguments than ever before.

DEALERS everywhere are already applying every bit of sales ingenuity they possess to the job of inducing prospects to spend more for new sets. Jack Miller of General Radio & Electric Service, Chicago, is a typical example. Here, in Jack's own words, is a selling routine which uses dx as a means of demonstrating the difference in a convincing fashion:

"When a prospect comes in and asks for a midget we sell it to her. However, before she leaves the store we point out that it is a good radio, but by no means the best. 'The set is worth the money,' we say, 'but before you leave the store we want you to listen to the very last word in radio.' Then we lead her to the demonstrating room and a chair before a console of exquisite dimensions and workmanship. We tune in a chain broadcast from KFI in California. When the announcement is made the prospect invariably expresses astonishment that it is not a local.

"'We wanted to show you that when you pay more money you really get value,' we explain. 'This set has enough power to bring in the Coast like a local and this reserve power makes it more efficient on locals. A car capable of attaining 90 miles an hour rides smoother at 40. Also, lack of hum or even these extremely weak signals is conclusive proof that you will have no trouble from this source at any time.'

"We also make a point of compensated volume control. 'People don't like to play their radio loud,' we tell the prospect. 'And at low volume levels the small set, which is not compensated, does not reproduce musical tones as accurately as the larger, compensated models.'"



QUIET AUTOMATIC VOLUME CONTROL

is a console feature which H. D. Harrison, of Waxahachie, Texas, uses to good advantage in moving quality receivers

Not more than a fifth of Miller's sales are high-priced consoles, but this is enough to keep his average sale above \$89. Buyers of the better models are usually well-to-do, middle-aged people who have period furniture. This class of trade is unusually free from collection grief. When selling the better models it is this dealer's opinion that surroundings are important. His shop is tastefully, richly furnished and \$150 to \$400 receivers do not look nearly so much out of place as would the cheaper variety.

H. D. (SPEC) HARRISON, of Waxahachie, Texas, is another dealer who has had a satisfactory experience with the sell-up plan. "The \$20 set has a definite place in the picture," says this merchant, "but I use it as a stepping-stone to better things. If I am to make a livable profit it is absolutely necessary for me to sell some radios that will give me a margin of \$30 or better.

"My windows always contain cheap midgets. These bring prospects in. When they ask about the sets on display I tell them that they are fine little receivers. We are proud of them. But I make sure that they listen to a model that retails for at least \$10 more."

"Spec's" sell-up method differs somewhat from Miller's. He lets people who come in for a midget take it out. But he keeps a record of the sale and follows up with a larger instrument. This must be done within a few days after the sale is closed, he contends, if the dealer is to get any benefit. People, apparently, are in a much more receptive mood just after they buy a new set than they would be after the novelty has worn off.

People who have old console sets are especially good prospects for new consoles, Harrison finds. They have

(Please turn to page 51)

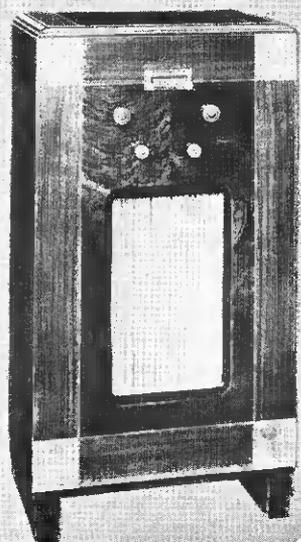
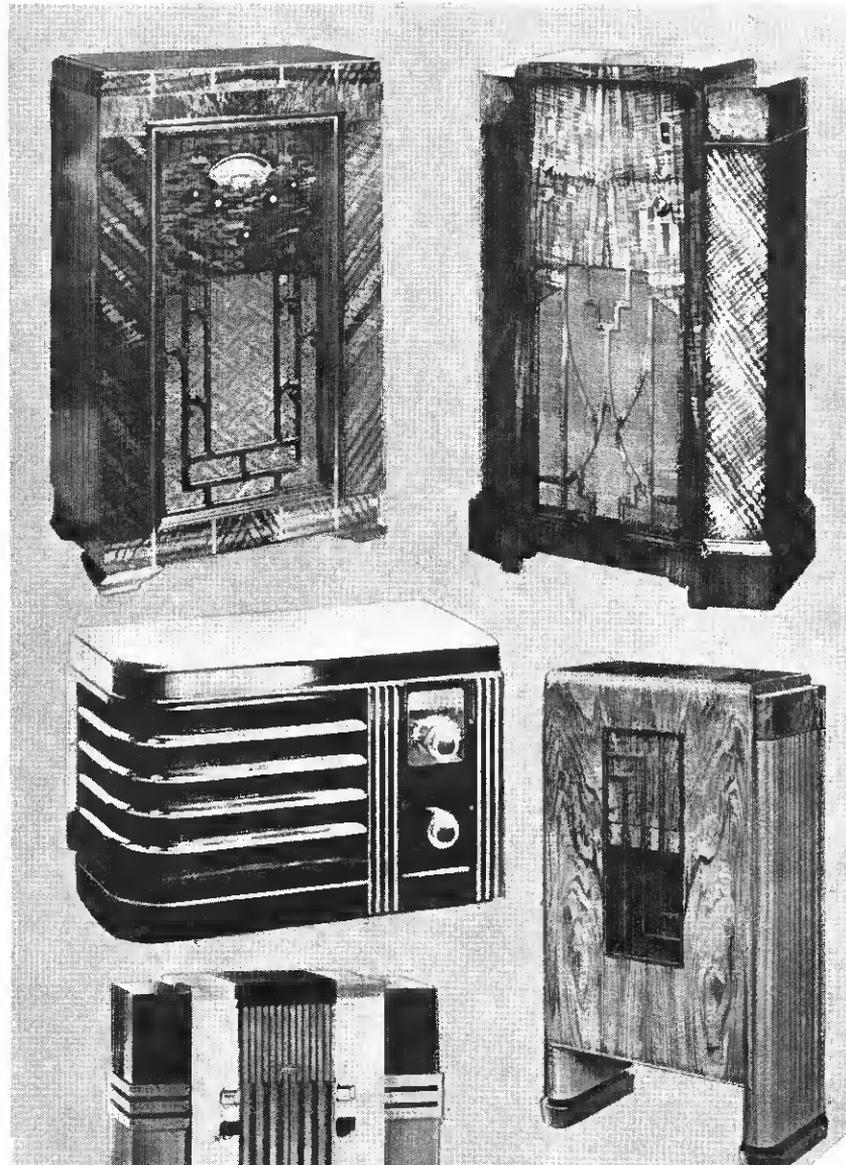
WHAT THE PUBLIC
IS BUYING THIS YEAR



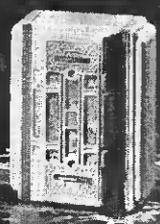
FURNITURE

RADIO furniture design is now abreast of the times. The set makers have met the public's demand for the modern; for harmony of line and for special purpose and novelty receivers.

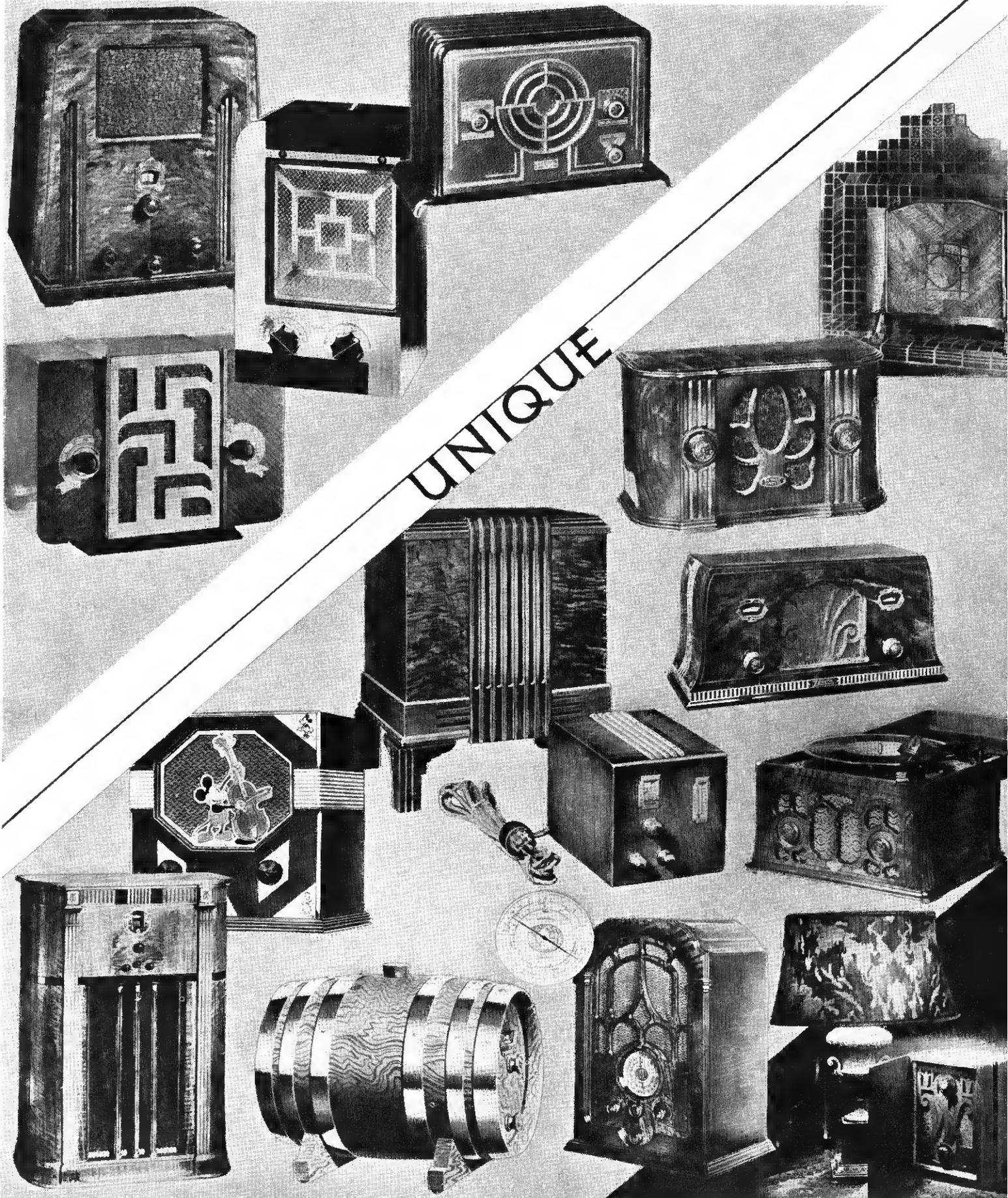
Here are typical examples of salable, business producing offerings for the 1933-34 season. Many more models of similar character are available in the lines of every representative manufacturer. Sets, this year, are unusually attractive in appearance. They are different, but not too extreme. They were well received at all the radio showings this Fall. Give them a big whirl.



MODERNE



IN ULTRA DESIGNS



UNIQUE

Soliciting SERVICE

BECAUSE most radio servicemen also know how to repair other types of domestic devices and because the extra overhead involved is slight, it frequently is the part of wisdom to solicit the servicing of all types of electrical appliances. Here are two examples of the successful use of reference cards for this purpose:

The Colony Radio Company, Washington, D. C., distributed the card, here illustrated, from door to door. It is printed on heavy, blue card stock and measures 7 by 9 inches.

"This distribution took three months," writes Harold Stoll, "because we did not propose to accumulate a bunch of repair orders that we could not fill at once. Business came streaming in immediately and continues to come even though we placed the last of these 10,000 cards two months ago. This shows that they are being kept and posted in the home for reference."

The appliance most frequently in trouble was found to be the vacuum cleaner—and the one from which the biggest volume of repair profit was made. Next in order was the radio set. Stoll employs three service men. They have been kept busy all summer because of this simple little advertising stunt.

FISCHER & SMITH
RADIO SERVICE
Automobile Service

1401 Station St.
24 Hour Service
Station
W P C H \$7.00
W W P A 6.00
W E A T 6.00
W J Z
W N Y C
W A I M
W A A
W E

Do You Need One Of These?
Just check desired service and mail card, or phone TEAneck 7-4133.

RADIO—A.
Voltage on all sockets tested. Tubes all checked. Aerial and ground inspected. Radio tuned up \$1.50
(No extra charge for minor repairs.)

RADIO—B.
Complete overhaul at factory. Condensers air cleaned. All parts brush dusted. All connections resoldered. Tuning condenser re-calibrated. Bearings adjusted \$6.00
Includes all of Item A.

WASHING MACHINE—C.
Seasonal Service.
Clean motor brushes. Oil and grease all gears and bearings. Inspect electric cord, switch and plug. Make minor adjustments \$1.50

WASHING MACHINE—D.
Five Year Service Period.
Complete overhaul at factory. Replace worn or leaking bearings. Change oil. Tighten all couplings and pulleys \$7.50
Include all of Item C.

REFRIGERATOR.
Serviced \$1.50

VACUUM CLEANERS.
Overhauled \$2.75

Please call at my home for item checked on Day
A. M. P. M.
NAME
ADDRESS

Note the two types of radio service offered: a general "tune up" for \$1.50 and a complete shop overhaul for \$6

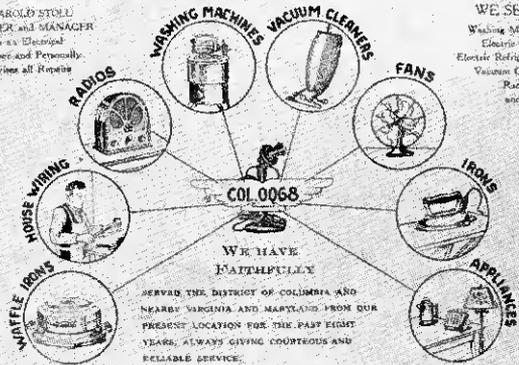
REPAIR SERVICE

ON ALL
ELECTRICAL HOUSEHOLD APPLIANCES

AS NEAR TO YOU AS YOUR PHONE



HAROLD STOLL
OWNER and MANAGER
Was in an Electrical
Business and Personally
Supervises all Repairs



WE SELL
Washing Machines
Electric Irons
Electric Refrigerators
Vacuum Cleaners
Radio Sets
and Fans

WE HAVE
FAITHFULLY
SERVED THE DISTRICT OF COLUMBIA AND
NEARBY VIRGINIA AND MARYLAND FROM OUR
PRESENT LOCATION FOR THE PAST EIGHT
YEARS, ALWAYS GIVING COURTEOUS AND
RELIABLE SERVICE.

FREE
INSPECTION
ON ALL REPAIRS

COLONY
RADIO CO.
4033-35 GEORGIA AVE. OPEN 7 Days
COLUMBIA 0068

FREE
ESTIMATES
ON ALL REPAIRS

RETAIN THIS CARD FOR READY REFERENCE

THE "card" campaign put on by Fred F. Fischer of Fischer & Smith, West Englewood, N. J., cost but \$20 for printing and distribution and resulted in approximately \$200 extra business.

Five thousand cards were made up in bright colors. On one side, Fischer listed the various types of repairing and servicing he does: two types of radio calls—a general check and "tune up" for \$1.50 and a complete shop "overhaul" for \$6—as well as service on refrigerators, washing machines and vacuum cleaners. The price of the call and the specific things done for that amount were given.

At the bottom of the card is a place for the customer to fill in his name and address and the time to call. This card was to be mailed back, the reverse side being ready for mailing. However, as Fischer found all requests for service came by phone, it was decided to eliminate the return mailing card system on the next print, substituting instead a log as an incentive for the customer to keep the card on hand.

The cards cost \$10 to print; \$10 to distribute. The \$200 worth of business traced directly to this stunt was felt to be so satisfactory that the second print was ordered.

IT WILL be noted that both these concerns solicit service for all kinds of electrical appliances. When a dealer specializes in sets his story may be made more specific.

Real Radio Service, Brooklyn, N. Y., for example, gets out a card which features free inspection as follows: examination of antenna and power pack, testing of tubes, speaker, voltages and noises. This card also provides a place for the prospect to sign his name and address.

Another smart servicer, in Kokomo, Indiana, telephones his list of set owners the day before "big" programs are scheduled. "Don't miss this feature, at four tomorrow afternoon, Mrs. Brown," he advises. "By the way, how's your set working?"



—and
to
the TUBE
BUSINESS

ONCE in a while a tube window that's different comes along. This one by Butler & McCall, Sylvania dealers in Wilkinsburg, Pa., is decidedly so. An attractive young lady dressed as a Red Cross nurse "operated" on sick tubes from 3 to 6 o'clock from Monday to Friday and from 3 to 9 p.m. on Saturday. The window ran for two weeks and created a tremendous amount of attention, favorable comment—and sales. Frequently the owners of the defective tubes were induced to step into the window with the nurse and this made for further "human interest." There is nothing like action in a window trim and if this can be supplied by a personable girl, so much the better.

Obviously the purpose of the window was to encourage tube testing both in the store and in the home. During the two weeks this window was in, Butler & McCall more than doubled their tube business and in addition collected a number of good prospects for sets and electric appliances.

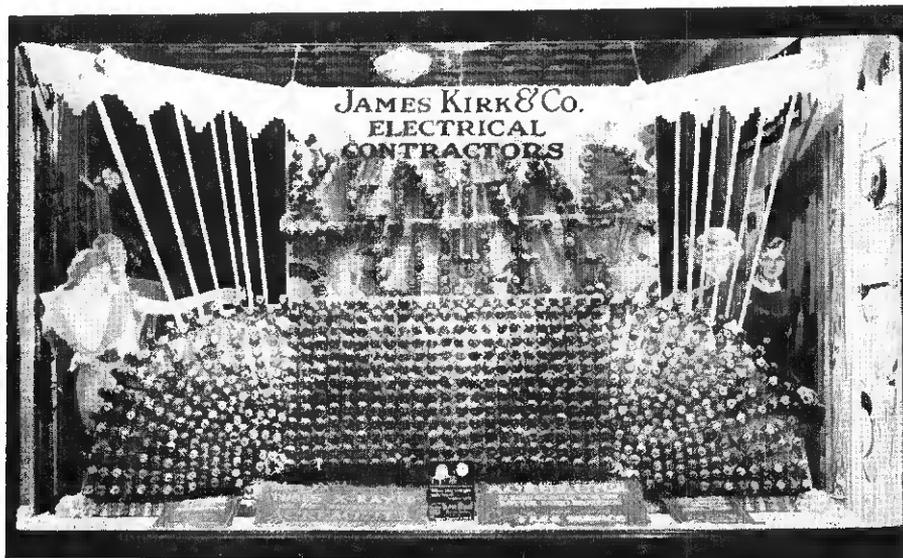
This firm plans to re-run this window at a later date. A good idea of this kind can be used more than once. Two separate periods are better than a lengthy display, as the novelty wears off.

Standing behind the nurse are Paul Butler, a genial Irishman, and Chall McCall, a canny Scot. Both were former service managers for

two well known Pittsburgh, Pa., radio concerns.

A window idea of this character is comparatively inexpensive in proportion to the results obtained. With a little persuasion perhaps the bookkeeper can be induced to double as the nurse. The trim cost \$25.

This window was run during Wilkinsburg's first Radio Show, inspired by the RMA Sales Campaign.



Another "Sick Tube" Trim Theme

There are over 850 defective or worn out tubes in this window—count 'em. This striking way of telling the public that tubes need to be replaced occasionally is better than the original idea of throwing all the old tubes in a tub.

Kirk & Company also play up the trade name of the favorite brand handled (Ken-Rad) and call attention to the store's scientific tube testing equipment.

That Sure-Fire Sister

EVERYWHERE radio retailers are now merchandising electric refrigerators—not as a side line, but as an integral part of their business. “I am a radio-refrigeration dealer. My thinking falls just as much along the lines of promoting my refrigerator activities as that of my first love, radio. I encounter no difficulties whatsoever in handling—and pushing—both products, nor do my salesmen.”

This sentiment, echoed time and again to the managing editor of “Radio Retailing” during a recent trip, was confirmed by the fact that a large majority of the most successful radio dealers in every town and city visited had been handling refrigerators for at least one year and were equally successful with this appliance. It was also apparent that these radio-refrigerator dealers were in an especially advantageous position to do a good refrigeration job and that they were profiting thereby. The fact that their service men have ready access to the home and that they have very valuable and extensive lists of radio customers has meant the sale of many a refrigerator.

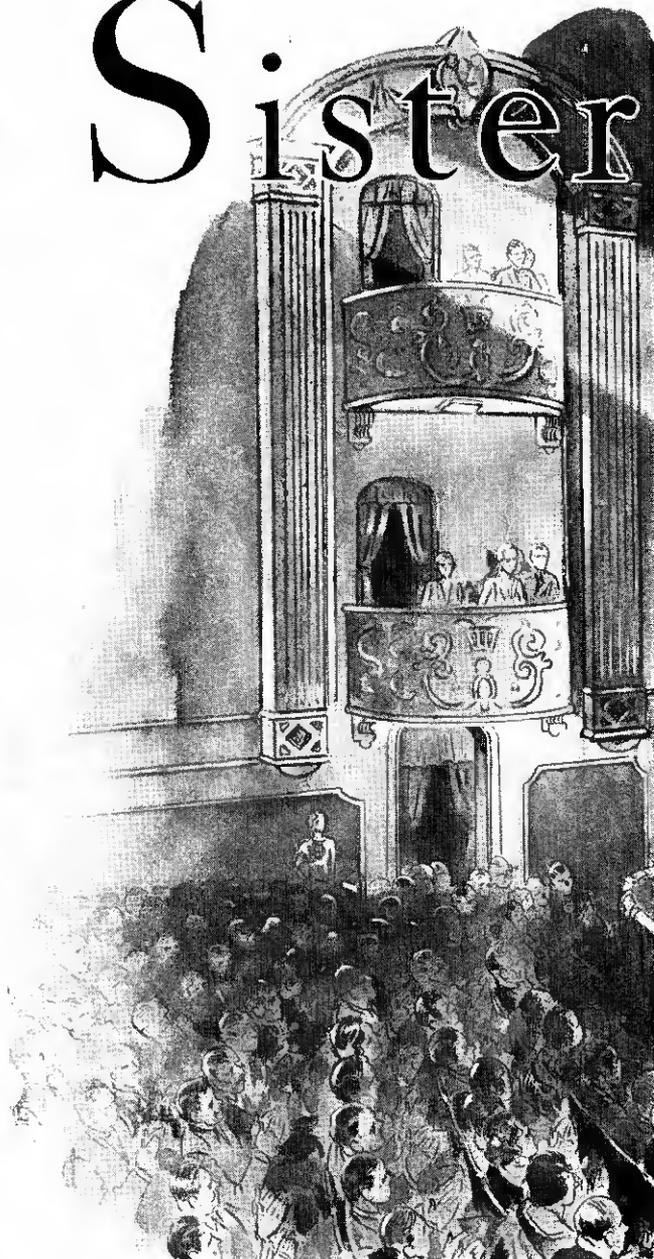
Furthermore, not one dealer, during this trip, intimated that he would discontinue handling refrigerators. On the contrary, it frequently was stated that sales effort during the coming year would be greater than ever—and that it was planned to start promotional activities very early in 1934.

The season will open earlier. There is every reason why refrigerators should be pushed during November and December.

It is now an established fact that, to preserve food, a constantly maintained temperature is just as essential from November to March as during the warmer months—and that this correct temperature can only be obtained by artificial refrigeration.

The public will buy more elaborate Christmas presents this year. The electric refrigerator always has been very popular as a gift de luxe.

Radio sets and electric refrigerators are ideal companion lines. This we have many times stated. Radio dealers are now thoroughly refrigeration-minded. That’s why we are running this refrigeration reminder theme in November; the peak of the radio season.

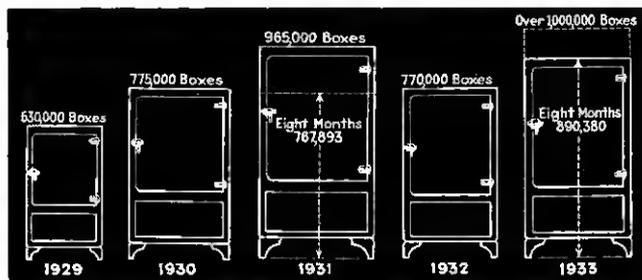


By Arthur P. Hirose

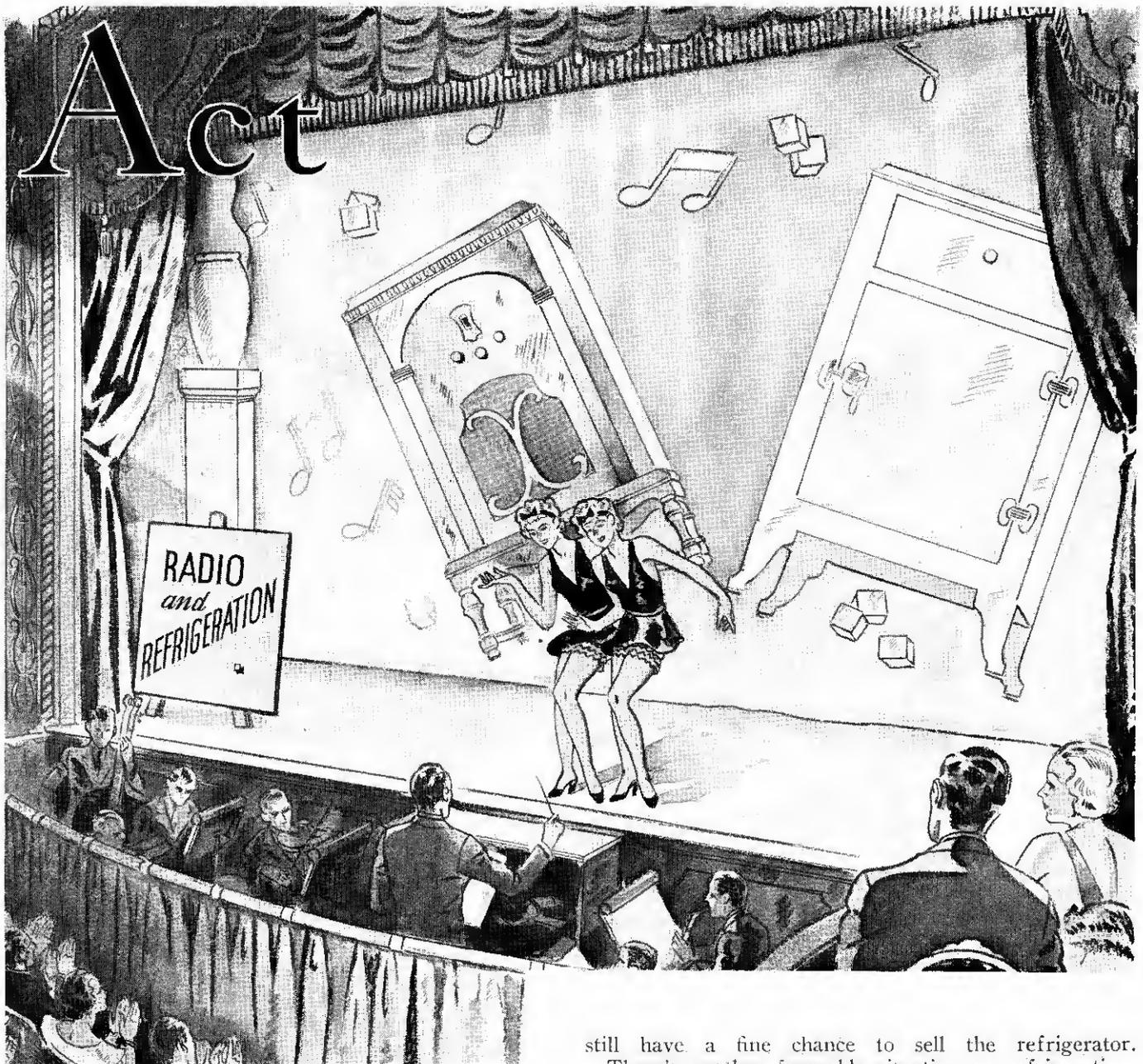
REMEMBER those sister acts in the days when the talkies hadn’t quite backed vaudeville off the boards? Two girls who looked as though they might possibly have had the same mother would team up together. Smart salesmanship—those sister acts. Individually the gals may not have been so hot. But together they got by. Why? Because if one girl’s turn didn’t appeal to some of the customers the other partner’s specialty would.

So it is with radio and refrigeration—each by itself may be a good bet, but together they make a sure fire sales hit for the radio dealer. Most radio dealers also sell refrigeration. And the wise ones will not forget refrigeration sales now that summer is over. They will continue their sales effort through the winter months. Let’s see why.

If your experience checks with most radio dealers’, you’ve had a good spring and summer on auto radio!



Refrigerator Sales For The First Eight Months This Year Exceed The Same Period in 1931 And Any Other Entire Year in History



What to do with all that fine sales enthusiasm that has been generated? Apply it to selling consoles, to be sure, but carry it over on refrigeration also. Successful refrigeration salesmen devote a major part of their day and a good part of their evenings to outside selling. That's a splendid method for any radio dealer to follow. A good refrigeration salesman thinks nothing of making 30 calls a day. To the radio dealer and his men that's 30 prospects for *both* refrigeration and radio. The carefully planned day that characterizes the refrigeration salesman, with his territory to cover and his quota to beat, is a good habit for the radio man to get into.

Refrigeration does more for radio men than keep them on their toes. It gives them two chances for a sale. Many homes are prospects for both devices. Many of your customers will be called on this winter to see if they haven't reached the point where they can be sold a new radio to replace the old set. But don't stay in the parlor after you've done your sales work. Edge out into the kitchen. Find out if there isn't a chance of selling a refrigerator, too. If you miss the radio sale you

still have a fine chance to sell the refrigerator.

There's another favorable situation on refrigeration. The past few years have seen a great many shoddy mechanical refrigerators dumped on the market. Many of their purchasers are sick and tired of these "bargain" boxes and are waiting for an aggressive salesman to talk them into buying a new, standard, reliable machine.

In selling refrigerators capitalize on the fact that you're a radio dealer. Remind Mrs. Prospect that both radio sets and refrigerators are electrical devices. Point out that your installation and service men are skilled in the maintenance of complicated electrical instruments (radio sets) and they can do a better job keeping an electric refrigerator running efficiently and economically than the furniture or hardware dealer without radio servicing experience.

USE RADIO SERVICE MEN TO GET REFRIGERATOR LEADS

This brings up the sales help your radio service men can give you in refrigerator selling. Offer them commissions on leads for refrigerator sales. Remember, the radio service man goes into the home as an invited guest. He doesn't have to stick his foot in the door. Get him, after the radio repair job is finished, to find out if the

(Please turn to page 28)

Now—Follow Thru to CHRISTMAS

Profit by the lessons of the Campaign—Continue those cooperative ads and use your local stations to tell the story of Radio

OUT of the Prosperity Campaign, viewed in retrospect, three major sales activities emerge: the wide use of cooperative publicity; the first time employment of "spot" broadcasting announcements by radio dealers and the synchronous holding of well attended radio shows.

Next month Holiday buying begins. Why not profit by the lessons of the campaign? Why not utilize the momentum generated in September and October, through cooperative effort, to put across the message of the radio trade to the Christmas shopper?

The first two sales ideas mentioned above were favorably reported from many places. They should be used again next month. We refer to cooperative advertising and local station publicity. In December many other products will compete with radio for the consumer's dollar. There will be a real necessity for cooperative action.

The little city of Fargo, North Dakota, sets the pace—with its masterful handling of the sales opportunities which the RMA Prosperity Campaign suggested. The work of the Fargo and Moorhead Radio and Home Appliance Association challenges the best efforts of every other radio group in the country.

"We formed our association August 14, with 15 dealers," states vice-president E. A. Powellek, of the Leo Johnson Furniture Company, Moorhead, "and at once appointed an advertising committee. Raised a fund of \$500 for the newspapers and \$100 for local broadcast publicity. We ran 12 ads in all. Five were full-pagers.

"We had two spot announcements daily over station WDAY the last week in September.

"In addition to this our presi-



"RADIO Progress WEEK"

OCTOBER 2nd to 7th

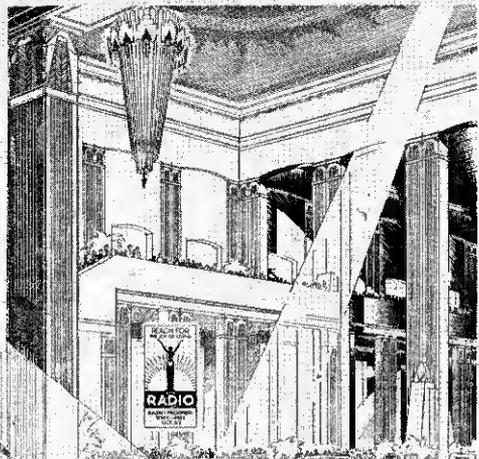
Presenting the
Coolest and Most
Tantalizing Stars
of the Air

**INTRODUCING
RADIO
PROGRESS
WEEK!**

**MILESTONES
with MARCONI**

A Pageant of Radio Progress
Using the
N. B. C. BLUE Network
SATURDAY NIGHT, 8:30 P. M.
A DECADE'S CENTRAL STANDARD TIME

TUNE IN **WDAY** 3 to 4 p. m.
Daily



PROGRAMS
Coming to you during
Radio Progress Week
—October 2nd to 7th—

MONDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

TUESDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

WEDNESDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

THURSDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

FRIDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

SATURDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week



**Do You Really HEAR
The Programs You
Hear About?**

Can you hear them in from far and
"near"?

Can you control the tone quality so
that every program comes in clear and
free of all distortions?

Can you say with pride that YOUR
radio embraces the "best" of your
hobby?

If not you are missing much of the
true happiness which the modern radio
offers.

See the New Radios
At Your Dealer Today

Have Your Radio Serviced Now!

Put new life in your radio. Have it checked from a to z. Be prepared to
really enjoy the entertainment supreme during "Radio Progress Week".

Call any of the dealers listed and have your radio checked NOW.

PROGRAMS
Coming to you during
Radio Progress Week
—October 2nd to 7th—

MONDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

TUESDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

WEDNESDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

THURSDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

FRIDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

SATURDAY
8:30 P. M. —
The Radio Progress
Week
9:30 P. M. —
The Radio Progress
Week

**MEMBERS
of
NRA
NRA**

**Fargo and Moorhead
Radio and Home Appliance Ass'n**

STANTON-BECKER MUSIC CO.
RADIO EQUIPMENT COMPANY
SECONDARY ELECTRIC SERVICE
DAKOTA ELECTRIC SUPPLY CO.
UNION ELECTRIC SERVICE
LUGER FURNITURE CO.
LARSEN HARDWARE CO.
HORTON SCOTT CO.
LEWIS FURNITURE CO.
FARGO MOTOR SUPPLY
LEO JOHNSON FURNITURE CO.
CARLISE & BRISTOL

A Noteworthy Example of Cooperative Advertising Designed to Sell RADIO

Note the two objectives in the above copy: (1) To make the public program-conscious and (2) To sell the better set and reception idea.

Why not follow thru with these same policies during December? Get together a publicity pool; compile a list of Holiday feature programs; play up one or two of them in display space—and then tell the story again of radio's need in the home and the wisdom of getting *ALL* reception equipment.

As a timely example of "what's new on the air" there's the innovative series of 15-minute symphony concerts by Stokowski's Philadelphia Orchestra, starting the latter part of November. See news pages, this issue, for details.

dent, Mr. Clinton, gave a 15-minute talk just before the start of Radio Progress Week, on the subject, 'Your Treasures of the Air.' Everything considered, it was a very successful campaign. Could have been made much greater if we could have obtained all the radio sets we needed."

With respect to the results of this cooperative effort, President Clinton adds: "The expenditures we made for this campaign have returned many fold. There has been more interest in radio shown in Fargo since we started to work together than in the last three years."

And Another Featuring "Radio, the Gift Supreme"

The accompanying reproduction of one of the full page advertisements run by the Fargo dealers shows what can be done to popularize radio, when space and talent is available. For December we suggest that the gift theme also be stressed. Feature the slogan, "Radio, the Gift Supreme," throughout the holiday season.

To summarize: What is the situation that radio dealers face today? It is this: Broadcasting transmission equipment is well nigh perfect (representing an investment of millions of dollars); programs are on the air whose interest and entertainment value is superb . . . and the average radio set in the home is still incapable of reproducing these programs with true tone fidelity and clarity.

What's the answer?

Cooperative, full page ads plus broadcast publicity, will turn the trick. A golden opportunity exists for the sale of 1934 radio sets this Christmas. It's up to the radio merchant.

Spot Announcements for December

ONE of the benefits of the September "Radio Prosperity Campaign" was that it brought closer together the radio trade and local station managers. It taught them how they could help one another. In many places, for example, the dealer provided a series of "spot" announcements—and the broadcaster put them on the air.

Let's keep this movement alive! Here are a few typical announcements for spot use during next month's Holiday programs. Simply suggestions to show the type of messages the radio dealer should prepare and take to his local station:

There are hundreds of gifts that you can give for Christmas; but what did you give last year and what gift did you receive? If you can remember them, then they were undoubtedly useful and enjoyable gifts, but if you can't recall . . . then they were probably gifts which may have been appreciated at the time but not with lasting enjoyment. There is one gift which you may be sure will carry lasting memories for it will bring constant enjoyment and entertainment. "MAKE THIS A RADIO CHRISTMAS!" No gift can compare with a radio set in the amount of pleasure it will bring into the home and certainly no gift will be more thoroughly appreciated and enjoyed.

* * *

What a difference there was between the appearance of the old battery set and the first all-electric radio . . . there was a great difference in quality of reception too. But the battery set was satisfactory until the all-electric radio was developed and heard for only then could the vast improvement and the added satisfaction be realized. Now the difference between reception by the modern radio and the three-year-old set is even more astounding. Stop in at your nearest radio dealer today and ask for a free demonstration and a comparative reception test in your own home.

"MAKE THIS A RADIO CHRISTMAS."

What Price Parts?

MAIL-ORDER catalogs have heretofore quoted net prices on radio parts and, when it is realized that as many as 250,000 are mailed by large operators, it becomes obvious that these prices often reach the consumer. Where this by-passing of the trade occurs servicemen have difficulty in making a reasonable profit on replacement materials. Net price catalogs, furthermore, rob the serviceman of the opportunity of using the printed quotation as positive evidence of a reasonable materials charge, an important consideration where a consumer questions the repair estimate.

There is a movement on foot to induce all mail-order houses to quote list prices, and to place discount sheets only in the hands of fully accredited members of the trade. *Radio Retailing* commends this movement and sees in it a stabilizing influence which is particularly appropriate at a time when the service industry is seeking to place the business on a more profitable basis through the medium of a code.

That the individual serviceman leans definitely toward list price catalogs is indicated by the following typical letters:

"The serviceman certainly needs a new deal on the net price catalog problem. How can I sell my customers tubes and make any profit when they can buy out of a catalog and get the same price that I do?" *Paul Terry*

"Any effort to get wholesale catalogs out of the hands of the general public will do a great deal toward putting service where both the serviceman and the public will benefit." *A. H. Schwenker*

"Net price catalogs have long been a thorn in the side of the serviceman. Everyone of us, at one time or another, has occasion to show a catalog to a customer and when he sees a transformer, for example, at \$1.95 and later gets a bill for \$3.25 plus labor he gets the impression that he is dealing with a bunch of crooks or swindlers." . . . *A. F. Machosky*

"We firmly believe that stabilization of the radio service industry will only be affected by quoting discounts solely to those immediately in the trade and working full time." *D. Gilbert Libby*

"We have been in the radio business for the past ten years and always did a nice parts business until mail order houses started sending wholesale catalogs to consumers. This practice not only caused us to lose customers' good will in many cases, but deprived us of profits we consider rightfully ours."

C. W. Melotte

These letters are samples of many. In some cities servicemen are considering group action. Already, in South Bend, Ind., the Radio Servicemen's Association of St. Joseph County has adopted a resolution condemning distribution of wholesale catalogs to consumers, sending this resolution, together with a list of legitimate dealers, to all local radio parts and accessories distributors.

What do you think of this movement? Comment, pro or con, will be welcomed by The Editor, *Radio Retailing*, 330 West 42nd Street, New York City.



Out of the RUT

Harry Willey Carpeted His Store

—Then Things Began to Happen



Note the fully-carpeted floor and dignified atmosphere, the store-width demonstration room in the rear, with mirrored door, the location of the customer's desk and of the tube stock

(Above) Interior appearance of Willey's former store

FOR YEARS this magazine has maintained that radio stores should be made more homelike—that sets should be displayed and demonstrated in quiet, dignified surroundings. The many beneficial results which followed, when Willey's, Davenport, Iowa, fully carpeted its sales rooms, again confirm this theory.

"It shook us out of our rut," declared Harry Willey. "That new 'feel' of working in better surroundings challenged our self-respect—and made everyone work harder and sell more merchandise."

But that was only the beginning of unlooked-for results. Observe the many things that can happen when a dealer decides to measure up to the character of the product he is selling. In Willey's case, for example, is new store atmosphere:

Was a big factor in landing a "hot" line on an attractive basis.

Because of its ideal acoustical conditions and atmosphere, jumped store closings from 30 to 70 per cent.

Practically doubled the average sale. Made "selling up" easier.

Is credited with increasing the ratio of console to midget sales.

Has attracted better customers and decreased credit losses.



HARRY WILLEY

News of the Month

November, 1933

New York, N. Y.

RETAIL CODE APPROVED

Loss-Leaders and Underselling Claims Barred

President Roosevelt has approved a retail code which prohibits the use of loss-leaders as an unfair trade practice. According to *Business Week's* analysis, stores are permitted to sell merchandise without any profit to themselves but the code requires that the selling price include an allowance for actual wages of store labor, to be fixed and published from time to time by the Trade Authority. Just what constitutes "actual wages of store labor" is not clear and it is expected that the battle of mark-up will rage around the ambiguity of the phrase until a definite decision is rendered. Merchandise sold for bona-fide clearance, damaged or discontinued is not subject to the loss-limiting provisions of the code.

It will be a violation of the code to continuously make under-selling claims in advertising if inaccurate statements form part of the ad. Substitution of unbranded or private brand merchandise for goods ordered by brand is also prohibited if "switching" involves disparagement of the product ordered. Neither practice, it will be noted, is banned if fair competitive tactics are employed.

Regarding wages and hours. Group A stores, open up to 56 hours weekly, are permitted to work employees up to 40 hours a week but not more than 8 hours per day or 6 days a week. Group B stores, open 56 to 63 hours, must limit employees' time to 44 hours a week, 9 hours a day and 6 days. Group C stores, open over 63 hours, have a job limit of 48 hours weekly, 10 hours a day and 6 days a week. For certain classes of workers hours are not restricted but in stores employing over 20 people only one out of 8 workers may come under the unrestricted classification.

Wages range from a minimum of \$15 a week for 48 hours work in stores located in cities of over 500,000, down to a minimum of \$10 in towns with less than 2,500 population, all minima being \$1 lower in the Southern states.

To Include Radio Jobbers in General Wholesaling Code

The general wholesaling code, developed by jobbers in the hardware, drygoods and jewelry trades, is expected to come up for public hearing before Deputy-Administrator Whiteside early in November. It is now the expressed purpose of the NRA authorities to include radio wholesalers in this general classification, so that all wholesalers and distributors will be governed by the same general principles.

Benjamin Gross of New York City, who



Singing Through Cellophane

At last they've tamed the coloratura soprano's high notes. In the past strange noises came out of the receiver when such voices broadcast. Now these are "muted" by means of a cellophane hood. This hood does for the human voice what the mute does for the cornet or violin.

has been active in formulating a radio wholesaling and retailing code, points out that such a general merchandising code will be of little value to distributors in specialized fields like radio, and proposes that a supplementary radio code be drawn up under the general wholesaling code, with a special radio supervising agency. Such a supplementary code would provide protection against improper advertising, price-cutting, payment of delivery charges, etc., and would also permit local association groups to file their own special schedules. Mr. Gross is heading up efforts to express the radio distributors' point of view at the coming public hearing at Washington on the general-wholesaling code.

Ray-O-Television Is New Manufacturer

The Ray-O-Television Mfg. Corp., a newcomer in the electronic field, has just opened shop at 47-01 35th St., Long Island City, N. Y., with the avowed purpose of "hastening the date of home television and developing sound and radio equipment."

Ivan Bloch, formerly with General Television and the Polytechnic Institute of Brooklyn, is chief engineer; A. C. Matthews, connected in the past with Electronic Radio, Freed-Eisenmann and United Research, is assistant chief engineer and P. C. Goldmark, former head of Pyc Radio's (British) television laboratory, is head of research.

BROADCAST BANDS TO BE EXTENDED

Chairman Sykes Tells NAB That Channels Up To 1600 kc. Will Soon Be Available

Extension of the present American broadcast band to 1,600 kc. was predicted at the annual convention of the National Association of Broadcasters, October 8-11, in White Sulphur Springs, W. Va., by Chairman Eugene O. Sykes of the Federal Radio Commission. An agreement reached at the recent Mexico City Radio Conference makes this possible and as soon as services temporarily using the air between 1,500 and 1,600 kc. are removed the resulting channels will, according to Mr. Sykes, be opened for regular broadcast service.

The exact date at which the change-over will take place is not yet known but it is understood that it will be soon. A report also was made on the music royalty payment situation.

Masquelette Now Kingston SM

Harry S. Masquelette, for the past nine years assistant sales manager of U. S. Radio & Television, is now with Kingston Radio of Kokomo, Ind., in the capacity of sales manager. Mr. Masquelette, in addition to directing the selling activities of the company, is in charge of advertising.



Wessner Up A Step

F. J. Wessner advances this month to the position of assistant general sales manager of National Union, under chief H. A. Hutchins.

Harry H. Steinle, formerly GSM for CeCo and VP and GSM for Triad, is now with Lynch Manufacturing as director of sales. What with the growing popularity of allwave receivers, "noiseless" antenna systems look like his big chance.

Steinle Now With Lynch (Left)





BOOST FOR PAULEY H. M. Pauley of Majestic has evidently been doing a swell job as radio service manager. The higher-uppers announce a boost for him to the general service managership. This includes refrigeration.

MUSIC FROM ACROSS THE SEA It's music to our ears that Britishers are taking up auto-radio in a big way. Philco tells us that six car makers exhibiting at the recent Olympia show had sets installed. We can use some export business.

SINCERE FLATTERY Hygrade-Sylvania has just put out a little green booklet chock-a-block full of service dope. We think it is swell . . . particularly since many of the items contained therein are reprinted from our Service Section with full credit.

MICKEY THE MOUSE Mickey's mug on Emerson radios is knocking 'em into the aisles, according to Ralph Aus-

trian, who says the fact that 250 newspapers carry the rodent's life story and 31 movies make him walk, talk and squawk this year will keep it coming.

FROM GG TO ZENITH Grant Eller, in Grigsby-Grunow's auto-radio sales department for the past 2½ years, has hopped the fence to Zenith. Headquarters in Detroit. Specialty, still auto-radio.

NUSSBAUM & ROCKEFELLER Nussbaum's radio chain has just leased a store in Radio City, New York's wonder spot, with exclusive rights to use of the Rockefeller Center monicker in connection with the appliance business. Walter's new place will shortly blossom forth with a complete line of radio and electrical home appliances.

THE SERVICEMEN DID IT Hats off to the Servicemen's Association of Wilkesburg, Pa. Messrs. Butler, McCall and Thompson of that organiza-

tion sponsored a show during Prosperity Month and induced 23 distributors to exhibit. The thing was a huge success, what with radio artists making personal appearances, and, believe it or not, the total cost, decorations, newspaper advertising and all, was only \$100.

TUNE-O-MATIC A self-tuning automatic radio is being manufactured by the Tune-O-Matic Radio Co., Chicago, with a capital stock of \$100,000. This apparatus was perfected by two Chicago men, Elmer Schoebel, a young musician and composer, and Louis Mandel, one of the pioneer manufacturers of radio apparatus.

AMATEUR TUBE 800 Tom Joyce, RCA Radiotron, wants me to tell all the lads and lassies that the list price of amateur tube, type 800, is \$10. This tube is particularly designed for short wave transmitting.

MAJESTIC'S John F. Ditzell conducted a successful Chicago meeting attended by 21 mid-west distributors, then hopped a train for Philadelphia where, with the assistance of Harry Alter, Earl L. Hadley and other factory executives, he repeated the story about the new G-G line to 15 more. George T. Bryant simultaneously put on a show for seven distributors round about Dallas while L. M. Willis talked to eight of the local boys in San Francisco. City Electric of Syracuse, N. Y., and Cummings & Emerson of Peoria, Ill., are new G-G distributors. North Coast Electric has opened an office in Tacoma, Wash.

That Sure Fire Sister Act (Continued from page 23)

family has a satisfactory mechanical refrigerator. Even if they have one, it may need servicing.

Outside selling will, of course, give you the bulk of your refrigeration sales. Likewise the service men can keep up a supply of sales leads. But don't forget your store and the work it can do to build refrigeration sales. Nothing stops a woman quicker than an attractive kitchen display in the window or on the showroom floor. And remember that evenings are the usual times when Mr. and Mrs. Public are out together, to go to the movies or to see the shops. From your store, too, you can pull the strings that turn prospects into refrigeration buyers.

A BETTER CHRISTMAS THIS YEAR

Don't forget that if employment and payrolls keep rising, this is going to be a nice fat Christmas. Madam Secretary Perkins reported recently that payrolls had risen \$12,000,000 in a single month. An NRA executive announced that fully 2,500,000 Americans had been put back to work under the Blue Eagle, up to October 1st alone. And the head of the Building & Loan Associations League gives the encouraging estimate that 1,000,000 families who, because of financial stress, have been doubling up with relatives and friends, will resume living in homes of their own, during the next twelve months. Certainly there is bound to be a loosening of the purse strings this Christmas that will be a welcome change from the lean holidays of recent years. But many families have learned their lessons about Christmas gifts.

They'll put their new money into home improvents—the electric refrigerator will be a major gift this year.

But there's another all-important reason why the radio dealer should not neglect refrigeration selling this winter. Refrigerator sales started off slowly this year. But gradually they gained momentum. By May, sales for the month had exceeded sales for the same month last year. When June rolled around all-time refrigeration record had been broken—more refrigerators had been sold in that month than in any month in the history of mechanical refrigeration. Back in 1931 when 965,000 electrical refrigerators were sold to American homes, the wiseacres said there would never be another year like it. When only 770,000 household electric refrigerators were sold in 1932, they said, "We told you so!" But when the month of August, 1933, had ended, it was found that total refrigerator sales for these first eight months (890,380) had exceeded the sales of the entire twelve months of 1930 and 1932.

Experts agree that America can't help selling over 1,000,000 household electric refrigerators this year. How much over that figure sales will go rests partly with the radio dealer—with you. Certainly thousands of mechanical refrigerators will be sold in the remaining two months of the year. Rising prices and the threat of further increases may boost the figures still higher. Let the radio dealer get his share of the refrigerator business, two oars are better than one and, to mix the metaphors a little, radio and refrigeration sales, together, make a swell sister-act.

SUPERVISERS BEGIN DUTIES

Murray and Muter Call Upon Radio Manufacturers For Detailed Reports

Arthur T. Murray, of Springfield, Mass., and Leslie F. Muter, Chicago, respectively chairman of the RMA Set Division and the RMA Parts, Cabinet and Accessories Division, named National Code Supervisors September 26 and subsequently approved by the NEMA, general code authority, are now actively engaged in securing detailed reports from all members of the RMA and non-members as well. This is the first step in the administration of the code.

Institution of the "open price" provisions of the electrical code is a feature of the supervisory work of Mr. Murray. This requires filing by set makers of net sales prices, list prices and maximum discounts with terms of payment on all type of receiving sets. Manufacturers will be required to adhere to officially filed prices and discounts. All set makers will have access to the schedules of competitors.

New Stokowski Broadcasts

Liggett & Myers, maker of the popular Chesterfield cigarette has just signed Leopold Stokowski and his Philadelphia Orchestra for nightly concerts (Sundays excluded) over WABC and coast-to-coast Columbia network, the first broadcast to take place on or before November 27.

The programs will consist of 15 minute periods, which is unique in the annals of symphonic music. No great orchestra of the Philadelphia Symphony's calibre has attempted recitals lasting less than 1½ hours since the time of Haydn, father of the classics. The innovation is to be accomplished by "linking" nightly selections, the master conductor arranging the series so that music lovers will enjoy both the individual performances and the continuity.

"—and Other Novelty Sets"

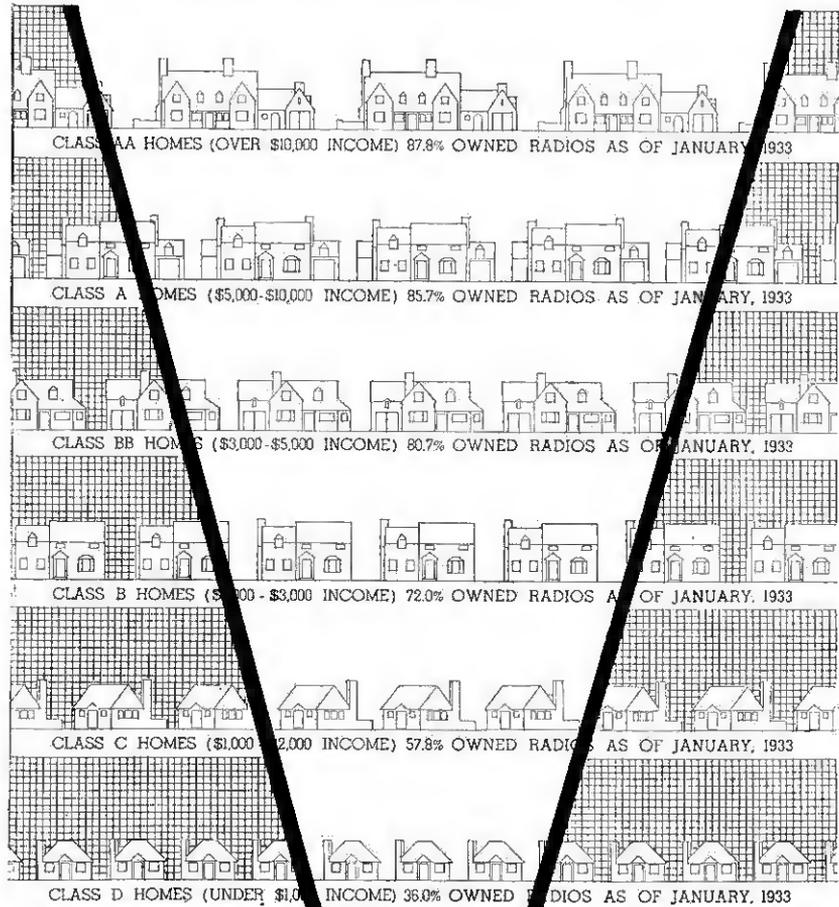
Last month, on this page, we noted the forerunners of a trend toward novelty sets and cited one or two instances. This month Colonial announces "a departure from the established lines." Raymond Loewy, stylist, cooperating with Dr. Fulton Cutting, radio engineer, has produced a set, 16 inches high, in the form of a revolving globe (detailed description elsewhere in this issue).

Preliminary acceptance is reported most encouraging. It would appear that the public is now ready for *definitely styled* receivers, "more in harmony with the principle and function of radio itself," to quote sales manager Fred Carson.

Another indication of the set makers' desire to create individualistic radio furniture is seen in the employment, by the Stewart-Warner Company, of Hans Berg, formerly chief furniture designer for Marshall Field and Company, Chicago. See also the pictorial spread in this issue, which depicts other innovations in cabinet appearance.

Radio Ownership by Income Level, as of January, 1933

(Those homes falling within the "V" own radio sets)



This chart represents a radio ownership of nearly 17,000,000 sets in 30,000,000 homes. It was prepared by the Columbia Broadcasting System and shows a national study by income levels. It is presented here to the radio trade for the first time.

While Class AAA homes (over \$10,000 income) show a high saturation point, note that there is still a very sizable market for set in homes not yet equipped and whose family income falls between \$1,000 and \$5,000. This market is approximately 30% still unsold.

In the Class C homes—and these families can afford a radio set—this ratio jumps to 42%.

GE Contracts Corp. Opens Offices In Four New Cities

The General Electric Contracts Corp., headed by George F. Mosher, has just opened branch offices in Chicago, Philadelphia, Cleveland and Schenectady, thus extending financing service to GE home appliance outlets in 14 major states. In addition to financing aid, the corporation will provide information on financial and legal problems involved in installment selling.

Meyer To Direct May Sales

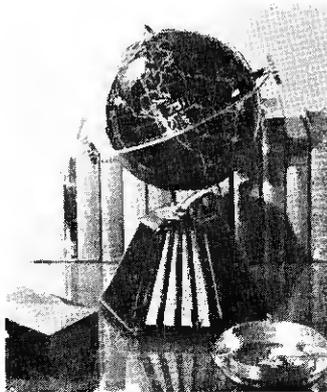
D. W. May announces that Leo A. Meyer has been selected to head selling activity of the May Radio and Television Corp., of New York. Meyer has been identified with the radio and refrigeration industries since 1921 and was for 10 years sales manager of North Ward Radio. For the past two years he has represented Norge in New Jersey.

Meyer will handle Mohawk refrigerator distribution and, beginning in January, the Wurlitzer line of Lyric radios. R. B. George continues as sales manager in charge of Edison Mazda lamps, L & H electric ranges and Proctor & Schwartz appliances, and in charge of the Newark office.

New Radio Log Book Out

National Union Radio Corporation announces the release of a new radio log produced in cooperation with the publishers of the magazine, *Radio Stars*. This 18-page log booklet, 8½x11½ inches, contains 48 photos as well as human interest stories of famous radio stars, a story about radio sound effects and complete station logs covering all broadcasting stations of United States, Canada, Central America and Mexico, the principal short wave stations of the world, experimental television stations in the United States, stations operating in emergency service and licensed municipal police calls.

NEW MERCHANDISE



Colonial "Globe" Radio

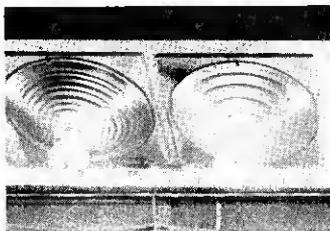
The combination of style, construction and color in the "New World" radio receiver of the Colonial Radio Corp., 420 Lexington Ave., New York, makes this set of unusual interest. The design is in the form of a revolving world globe, the axis of which leads to a double grille hexagon dynamic speaker base. The globe, of heavy moulded bakelite, is 8½ in. in diameter and carries the delineations of continents, cities, seas, etc. It is capped at the north pole with a chronological meter for determining the world's relative time. It comes in three color combinations: maroon and gold, and black and gold at \$59.50, and ivory and gold at \$62.50.

The receiver is a 5 tube, a.c.-d.c. dual wave model with a.v.c. and illuminated dial. The tuning knobs are at the sides of the calibrated metal band which encircles the globe.—*Radio Retailing*, November, 1933.

"Hylume" Reflector

The new "Hylume" universal reflector—for show windows as well as for resale—made by the Solite Sales Co., 1373 Sixth Ave., New York City, may be had in sizes from 6 to 25 in. in diameter. The 12-in. size lists at \$2.50.

This reflector uses a new principle which increases the lumen efficiency 25 per cent. It is non-tarnishable and made of non-breakable material of patented construction.—*Radio Retailing*, November, 1933.



"Amplicall" System

A simple, effective and semi-portable call outfit, carrying the brand name "Amplicall" has been designed by the Webster Co., 850 Blackhawk St., Chicago, for factory or office inter-communication. This new low-cost outfit may be had in six standard models and can be installed and set up by a mechanic knowing the rudiments of electric wiring.

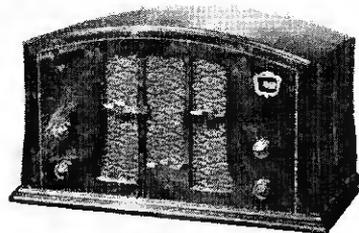
It consists of a type K Webster portable amplifier for the master station, a regular carbon button type push button microphone and from one to five speakers located at strategic points throughout the office or building. In operation it is very similar to a miniature broadcasting station.—*Radio Retailing*, November, 1933.

Sky-Hawk Sets

Republic Industries, Ashland, Ohio, has brought out three new models. SL-5D and SL-6D for the domestic market and SL-6, a six tube 200-2,000 meter job for export. Model SL-5D is a 5-tube a.c. superheterodyne covering 535 to 1,570 and 1,500 to 4,000 kilocycles. It has a built-in antenna and takes a 6A7, 78, 75, 42 and 80.

Model SL-6D takes six tubes in the Integridyne circuit. It is an a.c.-d.c. model with the same tuning range as the model SL-5D. The tube line up consists of a 2-78, 6A7, 43, 75 and 25Z5. This set has receptacle and toggle switch for conversion to remote control.

Model SL-6 for export covers from 200 to 2,000 meters. It also uses the Integridyne six tube circuit for a.c. or d.c. and employs 3-77, 78, 43 and 25Z5.—*Radio Retailing*, November, 1933.



American-Bosch Auto Radio 160

Ten-tube performance is claimed for the new 6-tube model 160 auto radio of the United American Bosch Corp., Springfield, Mass. The speaker is a floating coil electro-dynamic with large, responsive diaphragm contained in a bell-shaped housing of non-metallic, non-vibrating material.

This set may be had with steering post control or instrument board control. Both types have non-glare dials. Price is \$59.95.

This set rounds out the American Bosch car radio models which include the model 140, listing at \$42.95 and model 150, at \$49.95.—*Radio Retailing*, November, 1933.

Du-Wa Aerial Eliminators

The Palmer Electric Mfg. Co., 23 South St. Clair St., Toledo, Ohio, has enlarged its line of "Du-Wa" aerial eliminators. They now offer the following models:

The de luxe console type, a double coil condenser equipped with aerial with visible graduated dial and separate sliding tuners, permitting accurate station separation. It is enclosed in an attractive cabinet. \$1.

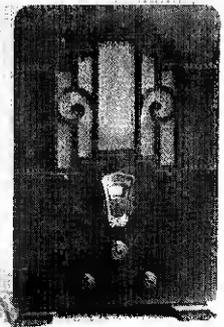
The Senior, bracket type, a double coil aerial with individual tuning arms designed for mounting inside the set. 75c.

The Junior, double coil aerial with single tuning arm giving dual adjustment. Box type. 50c.

The Midget portable type is a single coil aerial eliminator listing at 25 cents.—*Radio Retailing*, November, 1933.

Eby Low Loss Sockets

H. H. Eby Mfg. Co., Inc., 21st & Hunting Park Ave., Philadelphia, Pa., announces its Model 13 low loss socket made of a special bodied Insulante, selected to meet the requirements of mechanical sturdiness and durability.—*Radio Retailing*, November, 1933.



Tatro "Lieutenant Governor"

Tatro 32-Volt Sets

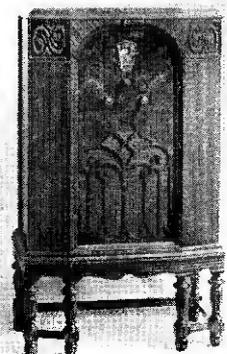
A new line of midget and console 32 volt farm light plant radios are announced by L. Tatro Products Corp., Decorah, Iowa.

The "Senator" and "Mayor" are five-tube superheterodynes using 77, 78, 75 and 2-38. They have a.v.c. and tune above 1,700 kc. for amateur and police broadcast bands. For maximum volume one 45-volt B battery is required. They draw 17 watts from the light plant battery. The Senator is a low-boy console; the Mayor a table set.

The President is an eight-tube low-boy console (6A7, 3-78, 75, 37, 2-41). This set has static suppressor and silent tuning circuit, as well as electron coupled oscillator, four remote cut-off radio frequency amplifiers and shadow visual tuning.

The Governor, also a low-boy console, takes five tubes: 6A7, 78, 75 and 2-41. The features of this set are the electron coupled oscillator, diode detection, remote cut-off amplifiers and push pull class A audio output exceeding three watts. The power unit is built in.

The Lieutenant Governor has the same chassis but comes in a modernistic table cabinet.—*Radio Retailing*, November, 1933.



Tatro "Governor"

Auxiliary Tube Tester

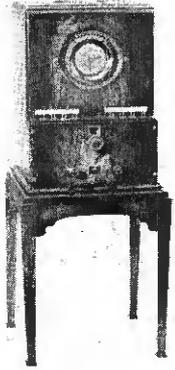
A single adapter unit which permits testing of all new type tubes in old tube testers is being made by the Insuline Corp. of America, 23 Park Place, New York City.

This auxiliary tube tester has an adapter with 30 sockets so connected to a 5-prong plug with grid cap that all tubes having special connections other than the 24, 35 and 51 types will automatically be connected. There are six sockets for preheating. Each of the 30 sockets is supplied with proper filament voltages so the auxiliary tester is not dependent upon the original checker for filament supply. List price \$22.50.—*Radio Retailing*, November, 1933.

Self-Tuning Automatic Radio

The "Tune-O-Matic" radio is truly an automatic set. With its seven stations can be pre-tuned and fourteen different broadcast programs pre-selected, so that a full and complete evening's entertainment can be arranged with each program coming in at the proper time and shutting off at the end of the period. Also after the desired number of stations have been heard this set automatically shuts the electricity off.

Setting the programs is very simple. Around the face of the clock are holes, one for each fifteen minutes. Each of the seven stations has two cords. The first is plugged in at the hour the program is to come on and the second at the hour it is to be shut off. The set can also be operated manually if desired. It is made by the Tune-O-Matic Radio Co., 1735 Diversey Boulevard, Chicago.—*Radio Retailing*, November, 1933.



Colonial Sets

Two extremely useful furniture models have been added to the line of the Colonial Radio Corp., 420 Lexington Ave., New York City.

Model 501 is a combination radio and bookcase in the modern style, but sufficiently conservative to fit in practically with most any room. It has reversible French doors which cover the center radio panels and expose the book ends, or, in the reverse position, cover the books and expose the radio panel.

This is a five-tube superheterodyne for either a.c.-d.c. operation or straight a.c. with extra large dynamic speaker. \$79.75.

Model 500 is a combined radio and end table with two shelves at the bottom for books or magazines. It is finished on all four sides so that it can be used away from the wall. The radio is housed in its own cabinet and slips in and out of the end table so that it may be used by itself if wanted. It is a five-tube superheterodyne for a.c.-d.c. or straight a.c. \$59.75.

Model 301 is compact, conservatively modern in line and may be had for a.c.-d.c. operation or straight a.c. A five-tube superheterodyne. \$36.95.—*Radio Retailing*, November, 1933.

Wide Area Horn

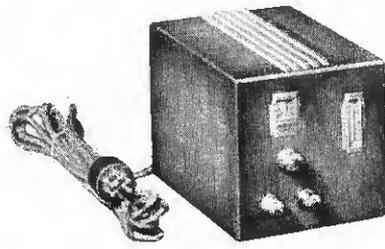
A new horn to give wide area coverage has just been designed by the Macy Engineering Co., 1451 39th St., Brooklyn, N. Y.

While this horn has been built especially for sound truck use it is also applicable for stadium purposes. It is exponentially shaped, 54 in. long. \$50.

An adjustable horn mounting standard is also available, allowing the horn to be swung throughout a complete circle and tilted up or down. \$25.—*Radio Retailing*, November, 1933.

Photoelectric Relay

A new photoelectric relay recently developed by the G-M Laboratories, Inc., 1735 Belmont Ave., Chicago, uses the Visitron F2 photoelectric cell which operates without external source of voltage and without amplification. For this reason it can be used in locations not served by electric power lines and since no tubes are employed it will operate for long periods without attention.—*Radio Retailing*, November, 1933.

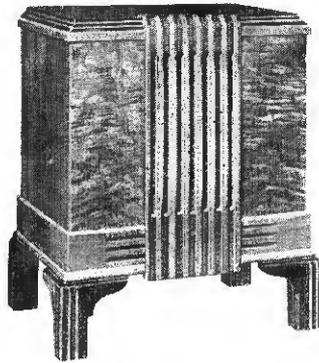


Motorola Home Sets

Enlarging its field, the Galvin Mfg. Corp., 847 W. Harrison St., Chicago, makers of Motorola auto-radios, has brought out two remote control sets for the home.

Model S-10 "Lazy Boy" is an 8 tube super-het with Tunalite tuning, tone control, employing 2-78's, 77, 85, 56, 83V and 2-45's. The remote control houses four tubes, tuning condensers, Tunalite and tone control. The cabinet is burl walnut, 22 in. high x 15 in. wide x 12 in. deep. \$84.50.

Model J-8 "Lazy Boy" takes 6 tubes (2-6D6, 6A7, 75, 43, 25Z5). The remote control houses four tubes, tuning condensers and tone control. Cabinet is matched walnut, same dimensions as Model S-10. \$64.50.—*Radio Retailing*, November, 1933.



Ultra Violet Lamp

After many years of research by Dr. Anton Lederer, Viennese scientist, and his son, Dr. Ernest Lederer, chief engineer of the National Union Radio Corporation, 400 Madison Ave., New York City, the Lederer lamp has been declared a commercial practicality and has been brought to market by the National Vita Lite Corporation, a National Union affiliate.

Two types are being manufactured. Both lamps are the same in basic construction, the difference being in the kind of glass used in the bulbs. They are designated as the Lederer D-30, medium fast tanning and X-30 fast tanning.

They operate at low voltage and therefore require a T-30 transformer for use on 110-120 volts, 60 cycle a.c.—*Radio Retailing*, November, 1933.

Shure Audio Transformers

A new group of audio transformers, specially designed to meet the requirements of speech-input circuits, is offered by Shure Bros. Co., 215 W. Huron St., Chicago. Two general types are available—mixing and line-to-line transformers, and microphone and amplifier input transformers.—*Radio Retailing*, November, 1933.

Alden Adapters

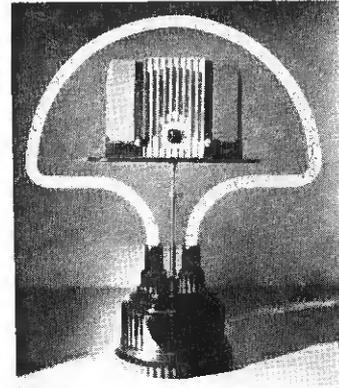
Two new adapters which enable a 12.6 volt tube to be tested in a 6.3 volt tube-checker socket are being made by the Alden Products Co., 715 Center St., Brockton, Mass. They are models 975-12A5 and 975-12Z5.—*Radio Retailing*, November, 1933.

"Display Light"

To utilize color and light in presenting merchandise, the Display-Light Mfg. Co., Bridgeport, Conn., offers twelve standard designs of its "Display Light" in three pastel colors, red, rose and blue.

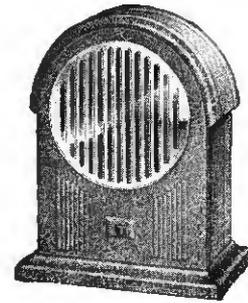
This device is portable and is connected by plugging into the 110-volt a.c. outlet. It remains permanently cool and the self-supporting tubes of light may be had in several shapes and designs. One display consumes less power than an ordinary 40-watt bulb.

The Display Light is especially effective in spotting small sets in the window or store.—*Radio Retailing*, November, 1933.



"Fanheater"

An improved type fan-forced electric heater can be obtained from the Chicago Flexible Shaft Co., Roosevelt Rd. and Central Ave., Chicago. It has a special 7 1/2-in. fan which pulls the cold air through the back vents, heats it and pushes it out in a steady flow. Thus all the air in the room is continuously circulated through the Fanheater. It is useful for children's rooms and on chilly mornings and evenings when the fire is down. The cabinet is of attractive design finished in mahogany crackle. It is 12 in. high. \$7.95.—*Radio Retailing*, November, 1933.



32 Volt A Eliminator

A 32-volt A-eliminator made to operate from a 32 volt light plant and operating any battery set using from one to eight 201 A tubes and a 171 A or 112 A can be obtained from the Muter Company, 1255 S. Michigan Ave., Chicago. The price is \$7.50.—*Radio Retailing*, November, 1933.

Microphone Stands

The Eastern Coil Co., 56 Christopher Ave., Brooklyn, N. Y., manufacturer of quartz crystal holders, has expanded its line and is now manufacturing three floor types of microphone stand.

An innovation in the line is a cable clamp which allows external use of the mike wire, holds it neatly to the side of the stand and allows instant adjustment.—*Radio Retailing*, November, 1933.

(More New Merchandise on page 51)

TUBE TIDINGS

November, 1933

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

Camden, N. J.

7,000 LETTERS



Two announcements on the C-R Radio Program evoked this pile of requests for a Radio Tours Map—at 10c. apiece.

Is there a need for Radio Tours Maps?

The public is answering "yes" in no uncertain terms. As "Schnozzle" Durante would say, "get a load of this!" Over seven thousand persons sent in ten cents apiece for Maps (besides spending 3 cents postage) in response to the first two radio announcements alone.

These announcements, given during the Cunningham-Radiotron NBC program featuring Col. Louis McHenry Howe, Secretary to the President, are only a part of the extensive publicity being applied to Radio Touring. The purpose of this publicity, according to T. F. Joyce, C-R Advertising Manager, is to support the efforts of thousands of dealers who are putting the "3 Radio Sales Opportunities" plan of selling into effect.

"We are not in the map business," commented Mr. Joyce. "Our advertising of the Maps sets a value on them and makes them all the more appreciated when our dealers offer them free. Whatever we can do to help the popularity of Radio Touring—and it looks as though it were a fad already—is bound to work out to the advantage of the dealer."

They Like the Tubes and They Like the Program

Comments on the fine quality of Cunningham Radio Tubes and RCA Radiotrons are frequently included with the requests for Radio Tours Maps, as are expressions of appreciation of the weekly Louis Howe broadcast. Excerpts . . .

"Wish to add that we enjoy your programs very much, and expect to re-equip our radio soon with RCA Radiotrons," writes J. R. S., Amarillo, Texas.

"Your radio tubes are wonderful; so clear, such good tone," concludes Mrs. F. B., West 153rd St., New York City.

"Enjoyed your program this evening very much and feel that it will help to make the NRA work at much more speed," states J. A. G., Denver, Colorado.

One housewife writes: "My husband gave me a dime and told me to send to you for something, but I have forgotten what it is. I'll catch the devil if I don't get it for him because he seemed so eager to get it, so please send it quick, whatever it was."

Dealers Flock to Sales Activity, Extolling Maps, Postcards, Display

That a new high in selling plans has been reached by "3 Radio Sales Opportunities," the fall sales activity recently announced by RCA Radiotron and Cunningham, seems to be the unanimous opinion of all dealers who have studied the plan.

Some dealers seem particularly impressed by Vialés famous caricature, "The Radio Studio Party," which is the colorful centerpiece of the window display given free to all participating dealers. Others comment enthusiastically on the "Radio Tours Maps," which bid fair to make the old-fashioned log books obsolete. Retailers who use direct-mail methods of stimulating business regard the Patented Action Postcards as the feature of the whole plan.

Speaking Out

All dealers agree though that the basic selling idea of the plan is sound, that it will actually create prospects and bring them into the store,—or get the dealer into the prospect's home, which is even better. Sample dealer comments follow:

"It's bad enough for so many people to be struggling along with three-year-old tubes in their radio sets, but when they actually brag about them it shows they have no idea what they are missing. It is high time the radio industry was doing something about it. I think these Radio Tours Maps will do the trick. In fact, I like the whole plan," says Leo Spector, of Leo's Radio Store, one of the leading specialty shops of Camden, N. J.

Mr. Ettleson, of Ridge Radio, 6155½ Ridge Ave., Philadelphia, is extremely enthusiastic about Radio Tours Maps. "For the first time," says he, "the radio listener can visualize the actual distances from which the radio programs are coming. This feature will eliminate many useless service calls besides creating the desire for better radio sets, new tubes, etc." Mr. Ettleson has been an enthusiastic user of Cunningham logs for years and thinks the new Maps far surpass the logs.

FREE MATERIAL MAKES HIT

The fact that RCA Radiotron Co. and E. T. Cunningham, Inc., provide all the material needed for a free trial of the plan has made a hit with every dealer.

The Patented Action Postcards drew praise from Ballin's Radio Shop, N. Front Street, Philadelphia, who predict that they will be more effective than any direct-mail piece they have heretofore used.

Dealers who have not yet had the opportunity to try the "3 Radio Sales Opportunities" method of increasing sales should consult their RCA Radiotron or Cunningham Radio Tube distributor at once. Don't let others get a head start on you with this real promotion program.

Guess He Likes 'Em

Gentlemen:

One copy of "Radio Tours" has been received. However, I sent you 20c. for 1000 maps and request that you send the second one promptly. Herewith 10c. to cover in extra map, making the number to be mailed, 1100.

Very truly yours,

E. B. B.
Newspost News, Va.

The tremendous popularity of the RCA Radiotron-Cunningham radio program, heard every other Sunday night over NBC, is proven beyond doubt by the enthusiastic comments of the thousands who are writing for Radio Tours Maps.

"I am amazed at the response received from just two announcements of Radio Tours," said Carl Widney, of Lord & Thomas, advertising agency. "I can attribute it to only two facts: The present widespread interest in national affairs has attracted an unusually high percentage of radio listeners, and the Radio Tours Maps seem to be just what the public has wanted. Certainly this program is doing a great selling job for Radiotrons and Cunningham Radio tubes."

1934 Reference Books To Be Distributed Thru Jobbers

Radio dealers throughout the country and thousands of persons in other branches of the radio industry will be glad to know that the famous RCA Radiotron and Cunningham Reference Books will again be available for the coming year. This time, distribution will be through Cunningham and Radiotron distributors instead of direct from the tube companies as in the past.

RCA Radiotron and Cunningham Reference Books have become a tradition in the radio industry. They are standard pocket equipment. Peeking out of a vest pocket, they mark a member of the radio trade just as the tobacco sack tags identified the American doughboys in France. Besides a standard day-by-day diary they contain a wealth of data especially compiled by the R-C organization for the radio trade.

Leading tube distributors will have the 1934 RCA Cunningham-Radiotron Reference Book for distribution to dealers just before Christmas.

THE RADIO BABY



This little boy's initials are "R. C. A." and his daddy, Clyde C. Anderson of Fresno, Calif., is an old radio man, so he uses an RCA Radiotron in place of the conventional pacifier.

Merchandising



By Richard Gilbert

RADIO dealers' query, "What shall I handle to round out my merchandising activities aside from the radio, accessory and refrigeration business? Would like a cash and come-back line." This question is eminently answered by one product, close on to fifty years old—*phonograph records!*

Here is a market-possibilities article which ranges in price from a single 75-cent item to bulky \$25 albums—music which ranges in quality from jazz riotings to massive operas and symphonies. Recorded music is an item which answers in every detail that constant plea of the dealer for a stable article of merchandise, one to which customers will periodically return.



You sell the combination instrument ONCE ONLY. But if you sell a supply of records at the same time you add another store customer to your group of constant purchasers. When the first batch of records are sold the new customer, jot down his musical preferences and notify him every time new releases, of the type and make of record he likes, come on the market. Richard Gilbert, who conducts Radio Retailing's Recorded Music department, enacts the role of the record clerk in this picture

But is every radio dealer equipped to handle this article? No! One of the primary purposes of this department will be to supply the uninitiated with information and advice necessary to the successful handling of an article which is a source of personal taste; not dependent upon all-around performance or utilitarian necessity.

For some issues back *Radio Retailing* has published regularly reviews of current disc releases. These timely articles were directed largely at the alert dealer already in the phonograph record business. What about the retailer who recently asked, "What shall I do about records? Why sell them? And how?" It is time that this newcomer was supplied with an educational service in the fundamentals of the special technic of buying and selling phonograph discs.

Should the popular line be carried by one particular type of dealer, the classic by another? Or should the complete catalogue of a company be stocked? Is my store the right type? Is there a popular demand for phonograph discs? These are other questions frequently asked.

Answering the last question first: There is a demand for records of all sorts and classes. President J. F. Ditzell, of Columbia; Vice-president Harry G. Neu, Brunswick and Edward Wallerstein, Record Sales manager for Victor, all report that October sales of discs reached the highest total for any month within the past three years. These officials believe that this trend will certainly continue during the coming months.

Furthermore the New York Band Instrument Company (New York), H. Royer Smith Company (Philadelphia), Wurlitzer (Cincinnati), Lyon and Healy (Chicago) and many other merchandisers of radio and musical articles throughout the land are demonstrating this in a big way. These stores have built up not only a fine local business but a mail order trade which might be the envy of many other retailers of similarly priced musical products. The major phonograph companies themselves are receiving daily hundreds of orders for discs which the buyers *cannot procure in their own communities*. This mail order business points to the fact that customers are not being taken care of in their own towns. Get in touch with the phonograph companies—they've probably heard from your district. In a future article we will tell how to investigate your community.

Records are coming back for many reasons. First, because they supply "The Music You Want When You Want It." Secondly, the fine quality of tone achieved today from reproduced music has fascinated the discriminating. It's up to you to demonstrate records only

The Leading Stars of Broadway RECORD EXCLUSIVELY for Brunswick

BING CROSBY

GUY LOMBARDO

MAE WEST

RUTH ETTING

NEW
MAE WEST
Recordings from
"I'm No Angel"
Ready Now

FOLLOW
The Stars
on
BRUNSWICK
RECORDS

EXCLUSIVE BRUNSWICK ARTISTS

GUS ARNHEIM	GLEN GRAY and	RED NICHOLS
MILDRED BAILEY	THE CASALOMA ORCHESTRA	DICK POWELL
BOSWELL SISTERS	WAYNE KING	DON REDMAN
CONNIE BOSWELL	AL JOLSON	LEE SIMS
DORSEY BROTHERS	ABE LYMAN	KATE SMITH
TED FIORITO	FREDDY MARTIN	ANSON WEEKS
HAL KEMP	MILLS BROTHERS	VICTOR YOUNG

Brunswick Records are the Best

Brunswick dealers sell the most records because Brunswick features the greatest celebrities. Mail this coupon for prices and information.

Name Address City

BRUNSWICK RECORD CORPORATION

1776 BROADWAY NEW YORK CITY

Branches: NEW YORK; CHICAGO; DALLAS;



LOS ANGELES; NEW ORLEANS; SAN FRANCISCO



on the finest quality instruments—all the high quality latest lines with the new tube amplifier circuits are recommended.

Who should sell records?

The hardware store that sells radios is not a good spot for records but the dealer who concentrates on an all-electrical line of merchandise will find the popular discs profitable if he stocks them carefully and timely and pushes the hits as soon as they came out and forget them minute the recess begins. The music dealer (radios, pianos, sheet music, etc.) is preeminently equipped to sell recorded music. In fact, he's foolish not to. He should keep a full stock on hand at all times and not for a minute cease to promote his record department through mailing lists, phone calls and personal solicitation.

Let's take, for example, the dealer who runs an electrical equipment store. He is up and going enough to recognize the recent trend towards quality radios, the console model. He stocks one or two combinations, yet he doesn't carry records. The combination must be demonstrated with records. If it's an automatic, at least ten recent populars should be kept in the cartridge. In order to demonstrate the tone quality of the set, this dealer should buy several recordings (albums preferably) of symphonic playing. Always keep the latest records on hand because in all likelihood the reproduction obtained will be more improved.

A combination sale, including an initial supply of records, should take the ten populars and an album or two out of the shop. He should stock up immediately with later recordings, both for purposes of demonstration to new prospects and also to the first combination buyer who is now a prospect for additional new discs. Each sale of a combination releases a certain quality of discs and provides a new customer for records to be released in the future. Supply these buyers with record catalogues and literature; they will return with selections of their own which you can, at first, order for them. In a



**Leo Reisman
Signs Exclusive
Contract to
Record for
Brunswick**

This dance master's lush orchestrations have made his music universally admired. His records have always been in the best seller class

box on this page we have listed ten excellent populars (November release) as demonstrators for that new automatic combination. If you are not a record dealer now, order them direct from the various factories. Your letter head will get you the regular 40% discount as well as additional assistance from the manufacturer's sales force.

The above is elementary. But it will be followed next month with specific suggestions for merchandising records.

The phonograph combination is exercising a stronger appeal than ever before. You don't have to carry a large stock of records to sell these high price consoles, but you've got to demonstrate their fine points with records. Of the combination models recently placed on the market all but one are made by companies not manufacturing records. RCA Victor's combination line, naturally, carries a disc tie-up with it. The following models do not: Ansley, Capehart, Fada, Freed, General Electric, Insuline, Lang, Majestic, Philco, Pilot, Stromberg Carlson and Zenith. Many dealers handling these lines are not pushing phonograph discs. They should. It is recommended that they stock the records listed here and go after their combination prospects. Follow-ups are bound to bring profitable results.

STACK THESE RECORDS ON THAT NEW PHONO-COMBINATION AND CALL IN YOUR PROSPECTS

Orchestra

- AFTER SUNDOWN—LOVE IS THE SWEETEST THING
Brunswick No. 6669. Instrumental mood music. Highly recommended for demonstration.
- HEAVEN ONLY KNOWS—YOU'RE MY PAST PRESENT AND FUTURE
Brunswick No. 6672. Abe Lyman and His California Orchestra.
- YOU'VE GOT EVERYTHING—I'LL BE FAITHFUL
Columbia No. 2827D. Bernie Cummins and His New Yorkers
- MINE—LET 'EM EAT CAKE
Columbia No. 2831D. Emil Coleman and His Riviera Orchestra.
- RUDE INTERLUDE—DALLAS DOINGS
Victor No. 24431. Duke Ellington and His Famous Orchestra
- TURKISH DELIGHT (In two parts)
Victor No. 24427. Ray Noble and His Orchestra in a comedy novelty number

Vocal

- SUPPER TIME ("As Thousands Cheer")—HARLEM ON MY MIND
Victor No. 24435. Exotic Gertrude Neisen, popular radio torch singer, now on Victor records
- I'M NO ANGEL—I'VE FOUND A NEW WAY TO GO TO TOWN . . .
Brunswick No. 6675.
- I WANT YOU—I NEED YOU
Brunswick No. 6676
- THEY CALL ME SISTER HONKY TONK
Mae West, in person, to help sell your phono-radios. Get your customers to "come up 'n see me, sometime."
- IT'S ONLY A PAPER MOON—THIS IS ROMANCE
Victor No. 24424. Conrad Thibault records two more hits.

Classics

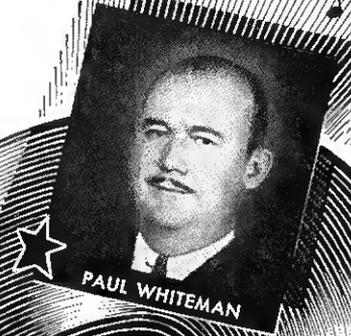
- BEETHOVEN: CONCERTO No. 4 IN G MAJOR
Victor Set No. M-156. Artur Schnabel, European pianist now touring America, and the London Philharmonic Orchestra in a splendid recording of a popular classic. Demonstrate sides 5 and 6.
- ROY HARRIS: CONCERTO, OP. 2
Music for string quartet, piano and clarinet by a young composer who is considered America's "White Hope" in the field of modern serious music. Columbia set No. 6 (Modern Music Series)

Dealers everywhere,
ATTENTION!
 VICTOR RECORDS
 are selling fast again

EVERYBODY WANTS:

- 1** Popular hits by:
- | | |
|----------------|------------------|
| PAUL WHITEMAN | RAMONA |
| ISHAM JONES | CONRAD THIBAUT |
| DUKE ELLINGTON | DON BESTOR |
| RAY NOBLE | LOUIS ARMSTRONG |
| EDDY DUCHIN | JAN GARBER |
| CAB CALLOWAY | HOAGY CARMICHAEL |
- ... and many others

- 2** Famous Victor Red Seal Records by:
- | | |
|--------------------------------------|-------------------|
| STOKOWSKI and the PHILADELPHIA ORCH. | ROSE BAMPTON |
| JOHN CHARLES THOMAS | GEORGE COPELAND |
| LAWRENCE TIBBETT | PROARTE QUARTETTE |
- ... and many others



RCA VICTOR CO., Inc.
 Dept. RR, Camden, N. J.
 Please give us information about
 the Victor Record proposition.

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

★ ★ ★ VICTOR RECORDS LEAD ... AS ALWAYS! ★ ★ ★

REPLACEMENT EXACT- DUPLICATE TRANSFORMERS

REPLACEMENT TRANSFORMER

Let's get this thing straight!

II O THE capable, informed, conscientious, business-building service-man, a Stancor EXACT-DUPLICATE Replacement Transformer is the only unit he wants or will use in renewing the original performance of a set through replacement of the transformer.

He's been over the hurdles . . . through the days of picking up some kind of a transformer that could be used only after putting in an infinite amount of patience, estimation of voltages, difficulties in installation—the hope that it would renew the performance of the set and so, satisfy his customer.

Stancor EXACT-DUPLICATE Replacement Transformers have been and are, what might be aptly termed the “answer to the service-man's prayer.” For—they are exact duplicates of the originals in every electrical and physical characteristic. They reach you *ready for immediate installation* . . . no re-drilling or re-wiring or long figuring with tables and intricate soldering within the shell.

But now, having experienced all these things . . . having arrived at a point of safety in renewing original performance with Stancor EXACT-DUPLICATES, you are being asked—urged, to go back all over it again. You are being asked to accept the theory that a cheap, all-purpose transformer will accomplish the same job now being done by the Stancor line of EXACT-DUPLICATE Replacement Transformers that have been so painstakingly developed for you.

There are Stancor UNIVERSAL Replacement Transformers that were developed early in the history of Stancor, for the purpose of acting as emergency units, or for doing the best job possible for those makes and models of sets too few in original

production to warrant our making or your buying from a stock of EXACT-DUPLICATES.

Never has Stancor claimed or implied that this UNIVERSAL was anything else, and yet, how much easier, how much more profitable would it have been to have confined our activities to mass production of all-purpose or Universal transformers. We knew, early, in the first phases of developing the STANCOR EXACT-DUPLICATE Replacement Transformer line, that it would be indeed a happy “happenstance” if a UNIVERSAL possessed identically the same windings, voltages and simplicity of installation that was always present in a STANCOR EXACT-DUPLICATE Replacement Transformer.

So, there and here is the straight of the Replacement Transformer thing—there is no such thing as a Universal Replacement Transformer that will renew original performance as will an EXACT-DUPLICATE.

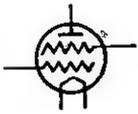
True, the EXACT-DUPLICATE *may* cost a trifle more to buy, but it pays big dividends in set-owner satisfaction . . . in net profit to you . . . in putting you and your business in the position of retaining the public confidence you need more than anything else.

Stancor EXACT-DUPLICATE Replacement Transformers, Audios and Chokes . . . Class “B” and Filament Transformers . . . Rebuilding Service are distributed and sold by authorized STANCOR Distributors all over the United States, Canada and our Island Possessions. Stancor Catalogs and supplements are distributed by them also. If you don't know your distributor, write or wire the home office and we'll tell you.



STANDARD TRANSFORMER CORP.
852 Blackhawk Street
Chicago, Ill.

SERVICE AND INSTALLATION SECTION



CIRCUITS of the MONTH

Pentagrid-Converters As Detector-Amplifiers

Pentagrid converters, more popularly known as electron-coupled oscillator-detectors, may be used as half-wave diode detectors and either r.f. or a.f. amplifiers, with the added function of a.v.c. This applies to the 2A7, 2B7 and 1A6, the latter tube being used in the accompanying diagrams.

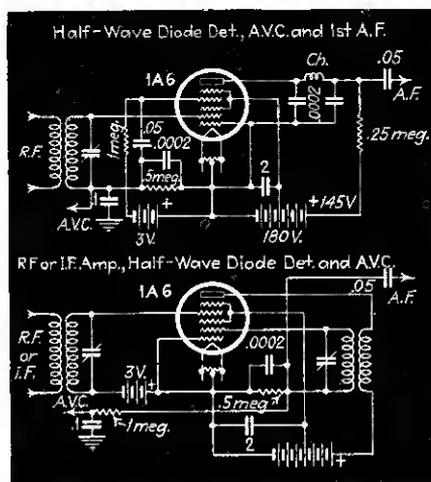
In a typical half-wave detector, a.v.c. and resistance-coupled a.f. stage the anode grid (No. 2) is used as the diode plate. The oscillator grid (No. 1) is connected to the filament and helps shield the diode from the tetrode portion of the tube. The screen-grids (No. 3 and No. 5) shield the tetrode control grid (No. 4) from the diode grid.

Incoming r.f. or i.f. signals are rectified between grid No. 2 and the filament, a.f. and a.v.c. voltages appearing across the .5 megohm load resistor. A.f. is then applied through a .05 condenser to the control grid of the tetrode portion of the tube, which works as an a.f. amplifier.

By utilizing the same element connections to change a pentagrid converter into a half-wave diode and tetrode the tube can be used as r.f. or i.f. amplifier, half-wave diode detector and a.v.c. control as shown in the second diagram.

Double-Shift I. F. Super

High intermediate frequencies afford best image suppression in supers while the lower intermediates may be more efficiently amplified. The selectivity obtainable at 465 kc.



plus the gain inherent to 175 kc. is provided in the Sargent 9-33 allwave super by utilizing two separate oscillators in a double-shift intermediate system.

In this receiver the first i.f. stage is tuned to 465 kc. A 57 first detector and separate 57 oscillator develop this frequency, which is fed through a transformer to the pentode portion of a 2A7 and there amplified. The electron-coupled oscillator section of the 2A7 operates as a fixed-tune 290 kc. oscillator and the difference frequency, 175 kc., passed through a transformer to a 58 second i.f. stage. The output of the 58 is fed to a 56 second detector and 57 beat frequency oscillator which permits code reception (not shown in diagram). Thus three oscillators are used in all.

The stator plates of this receiver's tuning condenser gang may be rotated through a small arc to provide band-spreading.

quired voltage drop.

Two 16 mfd., 125 volt condensers are used.

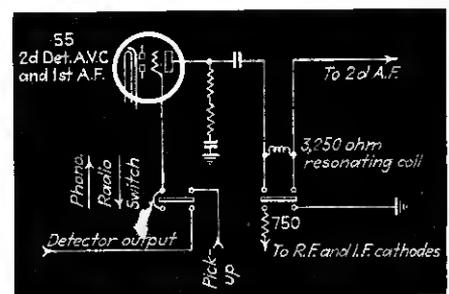
Bridge Has External Galvanometer Connections

Shallcross' new model 630 Wheatstone bridge uses a 10 microampere (each side of zero) Leeds & Northrup galvanometer which may be used externally for measurements requiring a highly sensitive indicating instrument. Binding posts are also provided for an external decade box where extreme values are to be measured.

A galvanometer such as is included in this bridge is useful in making tests requiring a sensitive indicating instrument.

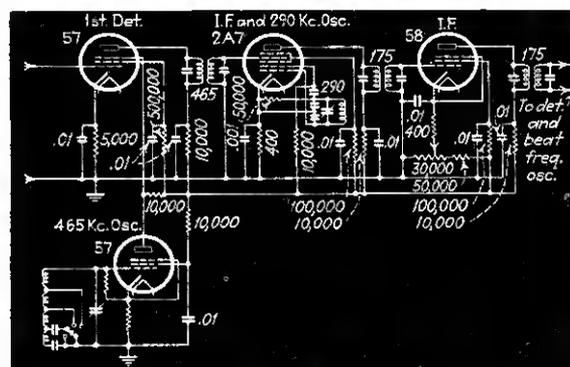
High Frequency "Booster" Coil

In GE models K48, 78, 79 and RCA 300, 330 and 331 a high-frequency compen-



sating coil is included between first and second a.f. tubes to counteract treble note attenuation introduced by sharp i.f. tuning. The coil resonates at 4,500 cycles, which brings up volume in this region. Above the resonant frequency cut-off occurs, tending to reduce noise and adjacent channel interference.

When these combination models are used as phonographs the "booster" coil is not necessary as good highs are available from modern records. So when the phono-radio switch is thrown to the canned-music position this coil is shorted. The detector is simultaneously disconnected from the first a.f. stage and the cathode circuit of r.f.



Paralleled 25Z5's

Two 25Z5's are used in parallel in Crosley's model 38 "Repose" remote speaker. They deliver approximately 200 volts at double the current obtainable with one tube. As the two 25 volt heaters are connected in series a 211 ohm series resistor provides the re-

56 NATIONAL UNION DEALERS-SERVICE MEN WILL WIN PRIZES

Cash-Tube Awards in Easy Money Contest. Enter!

Easy money! Here it is in a contest that gives everyone a break. National Union dealers and servicemen both have many opportunities to win. For men who have a show window—28 prizes. For men who have a service shop—28 prizes. The man who has *both* can qualify for prizes in *both* classes. Get in now. Read the rules and enter now! Contest closes November 30th, all entries must be in our hands by December 9th.

SERVICE MEN DIVISION

Prizes will be awarded for photographs of best service bench layout

1. Send a photograph of a Service Bench showing bench layout with or without chassis set up for repair. Picture may be any size or finish. Awards are not based on excellency of photography, elaborateness or expense of equipment used, but are judged on practicality of layout.

2. With photograph, send a statement of less than 200 words telling "WHAT NATIONAL UNION MEANS TO THE SERVICEMAN."

3. All entries must be in the offices of National Union Radio Corporation, 400 Madison Avenue, New York, N. Y. by midnight December 9th, 1933.

PRIZES

- 1. First Prize.....\$100.00 and 25 autographed tubes*
- 2. Second Prize\$ 50.00 and 25 autographed tubes*
- 3. Third Prize.....\$ 25.00 and 25 autographed tubes*
- 4. Next 25 Prizes..... Each 25 autographed tubes*

*These tubes bear the autograph of Dr. Ralph E. Myers, etched in acid ink on the glass envelope.

DEALER DIVISION

Prizes will be awarded for photographs of best National Union window display

1. Send a photograph showing a National Union Window Display in your store. Picture may be any size or finish. Awards are not based on excellency of photography, cost of decoration or size of window, but on display value.

2. With a photograph, send a statement of less than 200 words telling "WHY I AM SUCCESSFUL IN SELLING NATIONAL UNION RADIO TUBES."

3. All entries must be in the offices of National Union Radio Corporation, 400 Madison Avenue, New York, N. Y. by midnight December 9th, 1933.

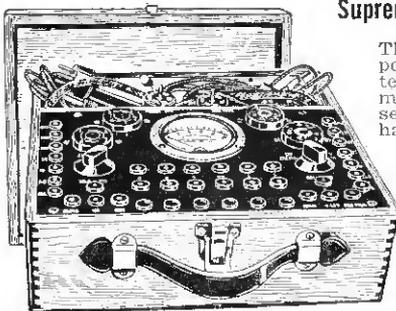
PRIZES

- 1. First Prize.....\$100.00 and 25 autographed tubes*
- 2. Second Prize\$ 50.00 and 25 autographed tubes*
- 3. Third Prize.....\$ 25.00 and 25 autographed tubes*
- 4. Next 25 Prizes..... Each 25 autographed tubes*

*These tubes bear the autograph of Dr. Ralph E. Myers, etched in acid ink on the glass envelope.

Judges: National Union Advertising Agency. The Judges decisions are final. Neither contest is open to any jobber, jobber employee, or any employee of National Union. No photos will be returned. Entrants agree to permit use of entries for publicity purposes.

National Union Offers Many Sales-Service Aids



Supreme No. 333 Set Analyzer

This fine set analyzer and point to point resistance tester is only one of the many modern meters and service manuals you can have Free when you purchase National Union tubes. Get full details on National Union meter and manual offers. Small deposit on some items. All offers subject to withdrawal without notice.

New Radio Log Books

This new radio log is up to the minute in every detail, filled with stars photos, biographies, and complete station listings. Ask your jobber salesman about National Union's many attractive sales aids and customer good-will builders.



National Union Jobber Stocks Are Complete

NATIONAL UNION RADIO CORP. OF N. Y., 400 MADISON AVENUE, NEW YORK CITY

Tell me how I can take advantage of National Union's helps.

Meters

Manuals

Sales Aids

Name

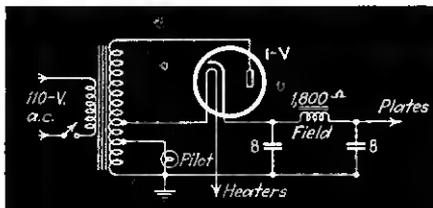
Street City State



and i.f. amplifiers opened, effectively silencing reception.

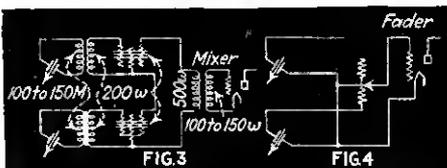
Tapped Transformer Supplies Plate, Heater and Pilot Voltages

In GE's K43 and RCA's 100 advantage is taken of the series heater idea developed for universal receivers to design an a.c. powerpack system at low cost. A type 1-V half-wave rectifier is used and a single, tapped transformer secondary supplies high voltage, heaters and pilot.



Crystal Microphone

About a year ago piezo-electric speakers were introduced by Brush. Now the principle has been applied to microphones by Astatic Microphone Labs. of Youngstown, Ohio. The impedance of the standard model at 60 cycles is 80,000 ohms and that of the high-fidelity model 150,000 ohms. The devices are capacity, rather than inductance or resistance instruments and should therefore not be connected in plate or cathode circuits. When connected in grid circuits through a potentiometer all other grid resistors must be removed as these would seriously affect the response. If bass response is too great for the asso-



ciated components it may be attenuated by lowering the value of the potentiometer. This has little effect on frequencies above 1,000 cycles.

Typical circuits are shown. Fig. 1 shows connection to a high-impedance amplifier. Fig. 2 shows connection through matching transformers and constant impedance pad to low impedance input. Fig. 3 shows a similar connection with provision for fading. And Fig. 4 shows an arrangement for fading where a high-impedance amplifier is employed. When an astatic microphone is connected to a tube grid parallel resistance should be not less than 0.5 megohms or higher than 5.0 megohms. If matched with a transformer recommended where the mike is over 6 feet from the amplifier, the microphone side should have an impedance of from 100,000 to 150,000 ohms.

"AUDIO FREQUENCY"

MERCURY VAPOR POWER tubes are not beyond possibility. A certain eastern laboratory has been experimenting and finds that small types are capable of delivering a healthy sock and in addition short out static bursts. The trick is in proper element design and a few bugs remain to be ironed out. So the blue babies may not see the light of day this season, or then again they might. Anyway, you know about them. Which is in line with our policy of feeding servicemen technical dope before anyone else does.

THIS WINCHELL-IZED COLUMN-ist has to report that a gentleman as yet blissfully unknown to the radio trade has been observed dickering with tube makers for bottles which must have about the same characteristics as standard types and yet be no larger than the dimly remembered Canadian "N" valves. The idea, we gather, is to slap these into a sub-midget about half the size of the current Ann Arbor offering and so knock the miniature market absolutely ga-ga. If this yen for diminutives continues we repairmen will soon consider the watchmaker's "loop" and tweezer as indispensable as the analyzer.

A BRITISH MANUFACTURER trots out an idea that occurred to us some months ago and hence meets with our modest approval. He uses a dry-disc rectifier of the type commonly used in sensitive output meters to rectify signal voltage and so obtain a.v.c. potentials. American designers please note: No import duty on this one.

WHETHER OR NOT SUPPRESSOR resistors affect the performance of motors is a moot question. Dynamometer tests on certain engines indicate that they have no measurable effect on HP and torque but field experience leads us to believe that other makes of cars do not bat 1,000. Extensive use of 15,000 ohm suppressors in place of the old 25,000 resistors minimizes trouble but it is our guess that the necessity for suppressors will some day be eliminated. An auto-radio authority who remains unnamed to avoid possible wrangles reports that ignition systems with high distributed capacity are apparently most susceptible. So it follows that reduction of distributed capacity by car makers may eventually turn out to be the happy solution.

BACK IN 1932 WE ATTACHED A certain significance to the news that a clever gent named Polydoroff claimed superior gain and selectivity for r.f. transformers, using cores made of iron particles insulated from each other by a plastic binder. That his findings may shortly bear fruit is indicated by the results of a test just concluded in one of our largest factories. A commercial 5-tube super rated at 100 microvolts, with a 120 kc. band width, was metamorphosed into a 24 microvolt, 44 kc. job simply by substituting such an i.f. coil for the original high quality air core type. The designer used universal windings capacitively rather than magnetically coupled. Less copper was required but relatively large can shields.

ONE OF OUR LARGEST STORAGE-battery makers will shortly "muscle in" on the 2-volt set market with a new type, three-cell unit capable of operating the average receiver for about one year without re-charging. The gadget, which will cost about \$20, has an unusually flat voltage characteristic, permissible current drain is practically unlimited and it may be re-charged 10 times.

EXTENDED-BAND RECEIVERS ARE included in nearly every manufactured line this season and servicemen on every hand are pouring temporarily embarrassing questions into our too-ready ear. It seems that the oscillator, or signal generator if you're high-hat, assumes new importance in connection with the testing and aligning of high-frequency receivers and commercial types designed primarily for the broadcast and i.f. bands leave something to be desired. Here is the kind of a gadget needed in the shortwave field, according to our composite of shop suggestions: (Manufacturers welcome) "Give us," writes servicemen, "an oscillator which is continuously variable from 100 to 20,000 kc. Harmonic or fixed-tap systems don't seem to have the necessary accuracy and flexibility on shortwaves. Let's have less leakage. It gets worse as frequency increases. Design the instrument so that load variation and attenuation does not knock its calibration galley-west. A constant impedance attenuator would be good stuff. And if it can be roughly calibrated to show approximate microvolts output it would be swell. Make the frequency independent of power supply variation. Electron-coupled oscillators may be the answer but we're not holding any brief. And, while we are on the subject of power supply let's have an a.c., d.c. and battery instrument if possible but make it a battery job if it can't be universal. Then there won't be any hum to contend with. Include jacks for testing the battery potential externally and shield them so that they won't cause leakage. Tell us how to use the oscillator for condenser tests at high-frequencies. And, for Pete's sake, put on a dial that is sufficiently rugged to stand knocking around without going haywire on calibration. The instrument doesn't have to be cheap. Make it good and keep the price down as low as possible without hurting quality."



Base connections of 80 tube types are instantly indicated by this ingenious 5 inch "finder" with three rotatable card-board discs put out by National Union (400 Madison Ave., New York). "Radio Retailing" readers can obtain one by sending in 6 N.U. tube carton tops

STANDARDS of SERVICE

There is no logical reason for using test equipment below proved Weston standards — since the long, dependable service which these thoroughly engineered test units give makes them cost far less in the end. Bulletin RA tells the whole story. Send for a copy . . . Weston Electrical Instrument Corp., Newark, N. J.



WESTON

Radio Instruments

WESTON ELECTRICAL INSTRUMENT CORPORATION
 581 Frelinghuysen Avenue, Newark, New Jersey
 Send Bulletin RA on Weston Radio Instruments.

Name _____
 Address _____

SHOP SHORTCUTS

Mercury Cloths for Cabinet Polishing

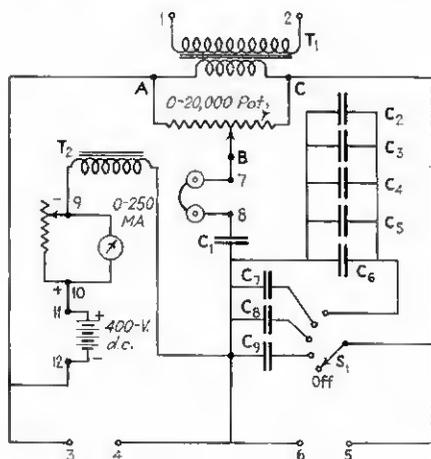
By A. Arbor

Agents and 10c stores sell cloths for polishing silverware. These generally have a metal thread woven in, this thread containing mercury. They impart a classy finish to radio cabinets and last for months.

Direct-Reading Bridge

By F. L. Sprayberry*

A balanced bridge which indicates both small and large capacities directly on a home-made scale, and which is also useful in testing resistance value and transformer ratio may be constructed by the serviceman and is a useful addition to any shop.



Parts required are as follows:

- 1 Panel 7 x 9
- 12 Binding posts
- 1 Yaxley No. 1615 Non-Shorting, 1-gang 5-point switch (S1)
- 6 1 mfd. condensers (C1, C2, C3, C4, C5 and C6)
- 1 .5 mfd. condenser (C7)
- 1 .05 mfd. condenser (C8)
- 1 .005 mfd. condenser (C9)
- 1 Yaxley No. RP102 20,000 ohm potentiometer with a.c. switch
- 1 6 or 10 ohm rheostat
- 1 A.f. transformer (any ratio between 4 to 1 and 6 to 1) (T1)
- 1 30-hry. choke (T2)
- 1 Set of headphones
- 1 Set test leads and clips
- 1 Portable carrying case 8 x 14 (1 in. space for phones and leads)

The switch of the potentiometer is not used and a small screw is removed to cut it out. In wiring be sure that terminal A on the potentiometer connects to 3. This means that C must connect to 5 and the blade of S1. The milliammeter and 400 volt supply are not permanently wired in the assembly but used externally when testing electrolytics. Binding posts 9, 10, 11 and 12 allow easy connection.

Any rheostat or volume control knob with a $\frac{1}{4}$ in. shaft may be used with the potentiometer. Scratch an indicating mark on it. When mounting turn the shaft of the potentiometer all the way counter-clockwise, set the knob notch on "short" and tighten the setscrew.

*152 Bryant St., N. W., Washington, D. C.

The dial scale printed herewith is exactly half-scale. When actually made the square should be $4\frac{1}{2} \times 4\frac{1}{2}$. The printed scale can be enlarged to the proper size by simply extending the scale divisions outward from the exact center.

To measure capacity connect terminals 1 and 2 to the a.c. line (25 to 80 c.y.). Connect the phones to 7 and 8. Connect the test leads to 3 and 4. Connect the condenser of unknown capacity to the leads. Then set S1 to the standard condenser position most nearly corresponding to the capacity of the condenser under test (it is a good idea to mark S1 values on the panel) and vary the dial until no signal is heard. Be careful in the use of the decimal point when reading.

The highest degree of accuracy occurs when the standard capacities or "shunts" are so selected that readings are made near 50 on the dial. Accuracy is, of course, dependent to a large extent upon the calibration of the standard condensers, so use good ones.

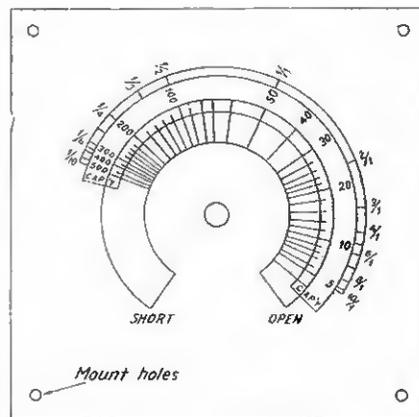
Shorts will be indicated by no-signal when dial is in the extreme counter-clockwise position. Opens will be indicated by no-signal with the dial all the way clockwise. Leaks will be indicated by weak signals and minimum sound point on the dial.

Electrolytic condensers are tested between 3 and 4 with the negative on 3. Connect high d.c. voltage (a 45 volt battery will do in a pinch) to 11 and 12 and a high-range milliammeter between 9 and 10. The rheostat should be turned all the way clockwise at first to protect the meter.

The current flowing through the condenser should reduce to normal within a few minutes. About .25 ma. per mfd. is the normal condition. If the condenser has been out of service it may take as much as 5 hours to re-form, remember this.

To test resistors turn S1 to the off position. Connect the resistor to 3 and 4. Connect another resistor of known value to 5 and 6. Rotate the knob for minimum or no sound in phones. Suppose the no-sound point occurs at $\frac{1}{2}$ on the scale. Then the resistor across 3 and 4 is $\frac{1}{2}$ as large as the standard etc. No-sound may occur to the right of 50 on the scale. This simply means that the unit under test is larger than the standard.

To determine transformer ratio connect one winding to 3 and 4 and the other to



5 and 6. If you fail to get a no-sound point reverse 5 and 6. If the no-sound point is to the left of 50 on the scale read the ratio directly as $\frac{1}{2}$, $\frac{1}{3}$, etc. If it is to the right read as 4/1, etc. This test also tells whether windings are open or shorted.

Anti-Heat Solution for Small Cabinets

By George R. Campbell

To prevent small wooden cabinets from warping due to internal heat and to protect the finish paint waterglass (Silicate of Soda) on the inside. Black Extract, which dries in 30 minutes, and domestic or imported Fire Test Vermilion are also effective. Follow directions on the cans.

Chatter in A.C. Relay of Coin-Operated Machine

By Herbert J. Mayer

Coin-operated automatic phonographs using a.c. relays are often troubled with chatter, caused by the armature resting on the pole of the magnet. Place a drop of light oil at this point to "cushion" the blow, preventing direct metallic contact.

Servicing 70-90 Majestics

By B. B. Lamoni

Ninety-five per cent of the trouble developing in the Majestic 70-90 series, which my territory is heavily saturated, falls under the following 5 classifications and may be easily corrected. . . if you know how.

1. *Set fails to light up.* Pull out the voltage control resistor in the perforated metal box and test for open circuit with a click meter. Test socket, 110 volt cable and switch and 110 connection to power-pack. If resistor is open remove perforated cover, find break and connect ends with small length of wire, scraping clean and soldering if possible or pinching with tiny screw and bolt. The mica form can be rewound using all the notches and adding two and one-half turns of old 10-ohm rheostat wire in the gained space, which will cut voltage and add to life of tubes. If set remains dead after resistor is re-

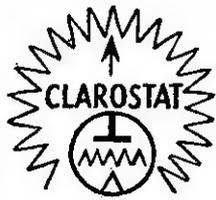
Read On, McDuff!

A serviceman tells us our business. "I read the Service Section of RR to get the latest technical dope," he writes. "Then I read the rest of the magazine. It all helps me in my business. Why don't you 'sell' the whole book to us repairmen?"

We will, by golly.

On page 21 are some tube-selling ideas. Dealers have no monopoly. On page 25 is a discussion of mail-order catalog prices. On page 27, News of the Month, for the entire trade. And on page 30, New Merchandise, which includes testing equipment and replacement parts. So we say—

READ ON, MCDUFF!



"Which do You prefer?"

Exact Duplicate Controls or

Six Controls to service 477 sets

Clarostat offers you your choice!

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

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

New Control Replacement Guide Upon Request

Clarostat Manufacturing Co., Inc.

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



We do our part:



N ECESSARY **R** ESISTOR **A** PPROVAL

OHIOHMS
come in

FIRST AID KITS
for the service man

RESISTOR SERVERS
for counter use

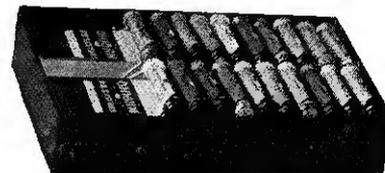
METAL CABINETS
for jobber use

Also, SPARK SUPPRESSOR SETS for eliminating ignition interference in auto radios

OUR engineering department is more particular about the resistors we make than any buyer possibly could be. The necessary approval that each resistor receives before leaving the factory is one way we do our part to help you do yours. Ohiohms must pass physical and electrical tests for mechanical strength and resistance value. A tolerance within plus or minus 10% is guaranteed. Likewise the appearance of the unit must pass the inspector's rigid examination so as to avoid even the slightest flaws. Protect-O-Packing further enhances the value.

Buy OHIOHMS and know you are *right*.

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Cleveland, Ohio



In Canada, Ohiohms are made by C. C. Meredith & Co., Ltd., 637 Bay St. Toronto

OHIOHMS

paired although voltages check ok invariably either battery bolts on connection strip need tightening or supply cable is pinched, broken or shorted at cable clamp on set, or the aerial is off, grounded on case or at the lightning arrestor.

2. *Power pack trouble.* B voltages low or nothing, sometimes accompanied by dim pilot and usually a telltale blue haze in the 80 indicates shorting of the first three filter condensers. Condenser blowouts of this character account for 95 per cent of the last 650 packs I have repaired. A popular compact dry electrolytic replacement at 35c. is ok. Use a 4, a 2 and a 4 mfd. or a 4, a 2 and a 2 mfd. in the filter, these to be rated at 500 volts peak. Even in case another 2 mfd. is needed the bill should not be over \$1.50 for parts and this leaves ample profit if the customer is charged from \$6 to \$10.

Check externally on the 80 socket with the current off. Test for a semi-short from filament to case. A reading of over 2 per cent of scale indicates the blown condenser.

3. *Distorted output.* In 9 out of 10 cases trouble is due to an open or grounded C-bias resistor in the output stages (26-71 or 45). Test from the filaments to case. No reading indicates an open resistor. On all but a few of the sets this is the large resistor just under the lid of the pack. Replace, or trace connections if ok. On the 26's the resistor is under the sub-panel. Unwind 1 or 2 turns of wire at the break and twist ends together.

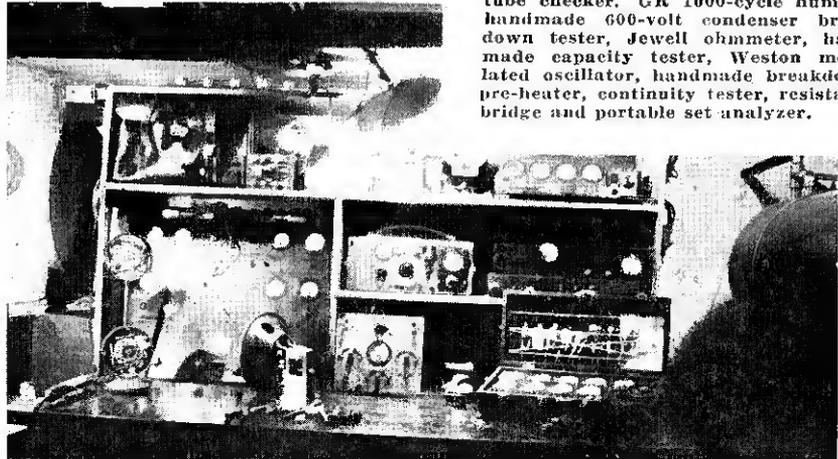
A full reading between filament and case indicates grounded or shorted resistor, in supply cable, on the case and sometimes grounded hum control. External repair can be quickly made with a center-tapped resistor to filament grounded to chassis through a 1250 ohm resistor for 71's, 1500 ohms for 45's.

4. *Speaker rattle.* In most cases trouble is caused by loose flexible leads at the first contact on the cone. The seam of the cone also becomes noisy, although it apparently fits tight. Restick it with tire repair rubber cement, applying two or three liberal coats. If the voice-coil rubs and speaker is still noisy or weak it can be recentered (factory method) by removing the center screw and inserting four 1/4 in. by 2 in. shims of thin celluloid at even intervals between center pole and coil. Fit a 1/2 in. metal washer up to the shoulder of screw and put screw in tightly again. Pull out shims. Sometimes it is necessary to put another set of shims on the outside of voice-coil and, loosening center pole from back of armature box, re-tightening.

If voice-coil is out of shape (oval) remove front and cone assembly and frame and center pole. Wrap pole with smooth wrapping paper till voice-coil fits tightly over it. Set other end of pole on stove and, holding cone assembly in hands, let the pole get almost scorching hot. Mould with hands somewhat and after 15 minutes apply a thin coat of shellac. Allow it to cool on form. Replace and recenter the coil with shims on outside and inside.

5. *Dial cable replacements.* The best replacement cable is, I have found, a "D" violin catgut string. They wear longer by actual test. Hold the dial shaft with a strong rubber band to the other shafts. Rotate drum toward you to stop. Start winding on end toward you. Wet end of string and tighten down with the screw and washer on threaded shaft. Wind threads full within one turn. Pass cable over pulley and over drum to slot in

drum. Loosen screw and washer in slot and wrap cable around screw and pass on over and around drum, over pulley and threaded shaft on the other end. Wrap



"Everything but the Kitchen Sink"

C. H. Ramm of Chicago sends in this snap of his shop. Test instruments, left to right: handmade test-panel and tube checker, GR 1000-cycle hummer, handmade 600-volt condenser breakdown tester, Jewell ohmmeter, handmade capacity tester, Weston modulated oscillator, handmade breakdown, pre-heater, continuity tester, resistance bridge and portable set analyzer.

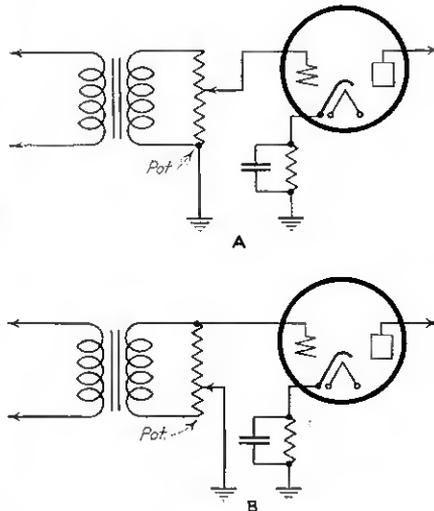
around on turn on this threaded shaft (opposite you) before wetting and tightening end down under bolt and washer on the threaded shaft. Be sure and hold cable taut at all times.

Improved Potentiometer Connection

By George Mark

Many receivers use 100,000 to 500,000 ohm potentiometers in shunt with a.f. transformer secondaries as a means of volume control. The same is true of public address systems.

The effect of noisy or dirty contacts can



be materially lessened by changing the circuit shown at A to that of circuit B. The operation of the control will, of course, be reversed. Note, also, that the new connection permits a shorter, more direct grid lead.

Variable Filter Condenser

By S. Bend

For years I've wanted a variable condenser with an 8 mfd. maximum for test

work. It is possible to make one, I discover, which has a 0 minimum and smooth range right to the top.

Cut off an upright 8 mfd. mershon at the top rim of the copper container. Attach a piece of bronze braided dial cable to the anode bolt and lead it over a metal roller attached to a dial. Three rotations of my dial raises the anode out of the solution and gives the complete capacity range.

My arrangement is a little "haywire" but it works fb and other men will no doubt improve upon it.

Determining Transformer Ratio

By J. P. Kennedy

An easy method of determining the ratio of an output transformer is to connect its high-resistance primary across the 110 volt, 60 cycle line with an a.c. voltmeter in parallel. Then connect a rectifier type, high resistance a.c. voltmeter adjusted to about 5 volts in the secondary circuit. Assuming the secondary reading to be 1.75 with exactly 110 on the primary the ratio of turns will be 110 divided by 1.75 or approximately 62.8 to 1.

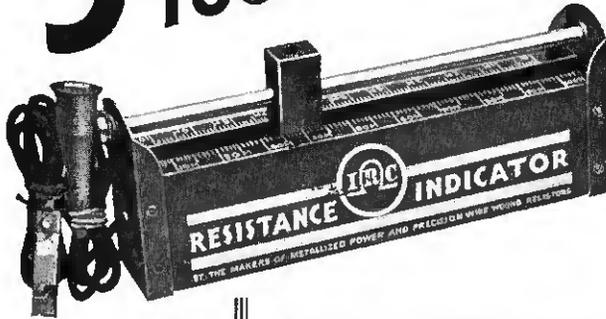
The maximum power output of an amplifier is obtained when the ohms load for stated power output of the tube matches the ohms load of the speaker voice coil. The ratio of turns necessary in a transformer to accomplish this may be determined by taking the square root of the quotient of ohms load for stated power output divided by the ohms load of the voice coil as:

$$\text{Transformer Ratio} = \frac{\sqrt{\text{Ohms load for stated power output}}}{\text{Ohms load of the voice coil}}$$

For example, if the tube is a 45 with 3,900 ohms rating for maximum power output (See tube characteristic charts) and the voice coil has a resistance of 1 ohm (a value that for all practical purposes is equivalent to its a.c. impedance) the proper ratio of transformer windings would be the square root of 3900/1 or 62.5. Thus the transformer ratio which measured 62.8 would be suitable.

When calculating the ratio of a trans-

5 SERVICE TOOLS IN 1



- 1 DUAL RESISTANCE INDICATOR
- 2 CALIBRATED RHEOSTAT OR VARIABLE RESISTOR
- 3 CALIBRATED POTENTIOMETER OR VOLT-AGE DIVIDER
- 4 Resistance Measuring by SUBSTITUTION METHOD
- 5 TEMPORARY STANDARD RESISTOR

May also be used in place of expensive resistor standards and decade boxes

\$2.70

Net to Servicemen (\$4.50 list)

NEW—IMPROVED Built to Last for Years

Here it is — the NEW IRC Dual Resistance Indicator — just the piece of equipment servicemen have been asking for — designed and constructed the way they want it. Quickly tells the correct value for ANY resistor. Has many other uses besides.

Two scales permit accurate readings from 100 to 10,000 ohms and 10,000 to 100,000 ohms— improved ball bearing contact is SPRING-CUSHIONED to prevent wear on wires — resistance rods are wound with heaviest wire and enclosed in strong metal case. Slider is PERMANENTLY ATTACHED, insuring uniform pressure and leaving the user's hands free. Indicator range may be extended by addition of fixed resistors. Attractively packaged with complete, easy instructions for use in all of its many service applications.

*You'll Use It
More Than Any Other
Tool in Your Kit*

INTERNATIONAL RESISTANCE CO.,
2100 Arch St., Philadelphia, Pa.



Enclosed find check or money order for \$2.85 (including 15c. for postage) for a new IRC Dual Resistance Indicator.

Name

Street

City

IRC Jobber

FREE —The "IRC Servicer", a monthly publication full of helpful articles and handy service hints. Sent to servicemen only.

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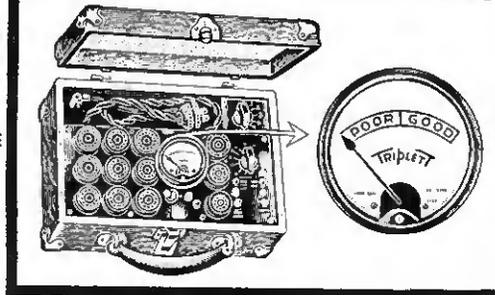
IRC RESISTORS

THE TESTER SHOWS
THIS TUBE
IS VERY POOR

I SEE IT DOES —
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NEW TUBE



New Direct Reading Tube Tester Simplifies Tube Testing



NO longer need you reassure a skeptical customer as to the worth of a tube. The position of the meter needle on the shaded 2-color scale, indicates to what degree a tube is either poor or good. When you use the Readrite #19 tester, you can see this for yourself.

This newer and better instrument is used by both dealers and service men to check new and old tubes... on the counter or out in the field. It makes tube testing so simple, so easy, so quick... that anyone can operate it. Selling tubes is made easy! Has only two selector switches—one for heater volts and the other for the type of tube. No confusion. No multiplicity of operations.

A push button provides two plate current readings for determining the conductance and worth of a tube. The correct tube filament voltages applied are: 1½, 2, 2½, 3.3, 5, 6.3, 7.5, 12.6 and 25. (Comes in Oak case.)

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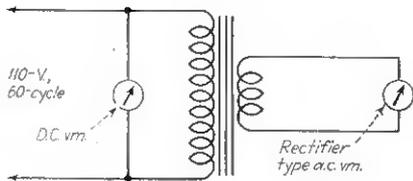
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Send me catalog on Readrite Tester No. 119 and complete line of radio servicing instruments.

Name

Street Address

City State



former for coupling push-pull tubes to a voice coil determine the ratio of the entire primary to the voice coil, ignoring the center tap. For the value of ohms load for stated power output take twice the value given for a single tube.

Cabinet Polish

By M. H. Dover

I use an excellent polish that not only removes surface scratches but leaves a clean, dry finish. It can be made in a few minutes at a cost of 25c. Here's the formula:

- 1 part paraffin oil
- $\frac{1}{2}$ part Johnson's liquid wax
- $\frac{1}{2}$ part vinegar
- $\frac{2}{3}$ parts water
- $\frac{2}{3}$ teaspoon powdered pumice per pint of completed finish
- $\frac{1}{2}$ teaspoon Ivory soap

Mix the ingredients in a bottle and shake well before using.

Resonant Hum in A. C. Midgets

By Frank Bowers

The majority of low-priced a.c. midgets can be improved by placing a .05 to .5 mfd. condenser from each power transformer primary terminal to chassis. This cures most cases of resonant hum and also cuts down a.c. line noise.

Dental Scrapers Make Good Tools

By W. Gerrish

Dental scrapers which are so badly worn that dentists must dispose of them, make excellent tools for the serviceman working on all sorts of repair and construction work. They are made of high quality steel, may be easily shaped and hold their edge.

Matching Output Transformer to Voice-Coil

By Herbert J. Mayer

To obtain perfect balance between output transformer and speaker voice-coil connect a current-squared galvanometer (or an a.c. ammeter) in series with the voice-coil and output transformer secondary. Then feed a modulated r.f. signal into the receiver and connect the voice-coil to the transformer secondary taps giving the highest meter reading with the volume control set at maximum.

The resistance of the galvanometer will not introduce appreciable error, particularly if it is equipped with several shunts ranging from .5 ohms to 4.5 ohms.

Renovating Old Battery Sets

By B. O. Bass

In the past twelve months I have renovated over 200 traded-in battery receivers for re-sale. There is still a healthy demand for such sets out here in Iowa and by developing a routine system of renovation it has been possible to turn them over at a profit.

Old battery receivers, and early 6 and 7 tube electrics which are essentially battery sets with power packs, have rather distinctive ills. We handle these in three major steps that cover all grief with the exception of easily found faults such as opens or shorts. Renovation is thus on a semi-production basis.

1. Cleaning the chassis and cabinet.

All dirt and grime is removed by washing thoroughly with a soft cloth saturated with alcohol. Sockets, exposed r. f. coils, transformers, condensers resistors and other parts are thoroughly scrubbed. Panels, connection strips and entire sub-base assembly is similarly cleaned. And special attention is given to condenser and volume control bearings, condenser plates, neutralizing units and pressure contacts. Corrosion that cannot be removed with alcohol is scraped off, then washed.

A thorough cleaning cures many common ills such as noisy tuning, oscillation and weak signals. When the washing is completed the entire chassis is dried thoroughly over heat for about an hour.

2. Correcting audio troubles.

Next, audio amplification is quickly checked by tuning in a standard battery receiver mounted on a shelf over the bench, noting its output on a meter, then transferring the detector output of the standard to the renovation job's a.f. input by means of a twisted cable and plug. If the two sound about the same the a.f. stage is left alone.

A.f. trouble is checked with an analyzer, absence of plate current usually indicating open transformer primary, high plate current indicating open transformer secondary in preceding a.f. stage. Weak transformers sometimes do not affect voltage or current readings but show up when ohmmeter test is made. Primaries should generally be between 500 and 1,500 ohms, secondaries between 1,200 and 10,000 ohms. Weak or doubtful units are replaced. Sometimes we replace a coil assembly on the original core to give the appearance of original equipment.

It is sometimes desirable to change $3\frac{1}{2}$ to 1 transformers to 6 to 1 ratios in order to pep up volume. If resulting tone is not as pleasing connection of a .00025 mfd. condenser across the secondary helps.

3. Correcting r.f. troubles.

R.f. stages are quickly checked by com-

parison with the standard receiver, using the a.f. amplifier of the standard. This is usually more effective than analyzer check as some r.f. troubles do not show up in voltage and current analysis. Should a marked difference be noted the antenna is placed on r.f. input grid connections in succession, beginning at the first r.f. until the weak stage is isolated. Each successive stage contributes to volume. Analyzer check is of course effective where opens or shorts are present.

Common troubles are: (a) Improper alignment. This is apparent if bending of the outer stator plate of any gang condenser section increase signal strength and is curable by realignment, bending plates and using trimmers in the orthodox manner. (b) Oscillation. Changing the angles of the r.f. coils is the best corrective in most old receivers. (c) Weak coils. Due to corrosion coils sometimes check electrically but do not work well at radio frequency. A complete set of matched coils secured from manufacturers' surplus is the best answer. We rarely try to repair the old ones.

Following re-alignment, neutralizing condensers are reset, if the receivers are neotrydnes, and alignment is again checked.

Noisy Volume Control Repair

By Jim Kay

All volume control noise does not originate between variable contact and resistance wire, or in the winding itself. In the past three months I have repaired 15 controls by soldering a piece of phosphor bronze dial cable from the contact member to the center connection of the control, trouble arising between these two parts.

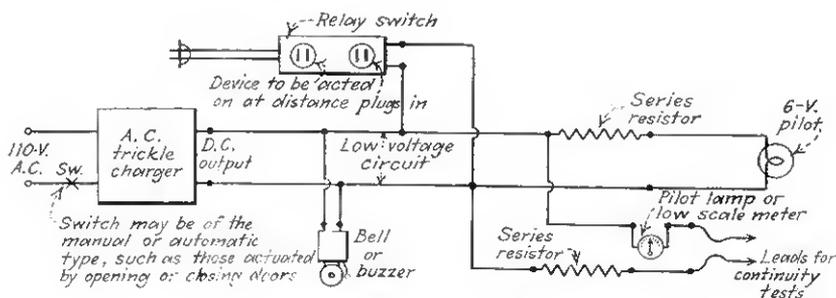
In the Crosley 125, for example, the sealed and riveted back plate of the control may be torn loose with a cutter pliers without damage to the other parts and the jumper installed. Where there is danger of a short between the pigtail and plate the wire is covered with a piece of flexible rubber tubing. The entire control should be washed in gasoline before re-assembly.

Graphite strip types are often repairable. Use a piece of soap-eraser on the resistance element and apply Higgin's waterproof India ink such as is used in mechanical drafting work.

Trickle Charger Tricks

By Boris S. Naimark

Trickle chargers, found in most shops, have many possible and novel uses. They may be used as continuity testers; to





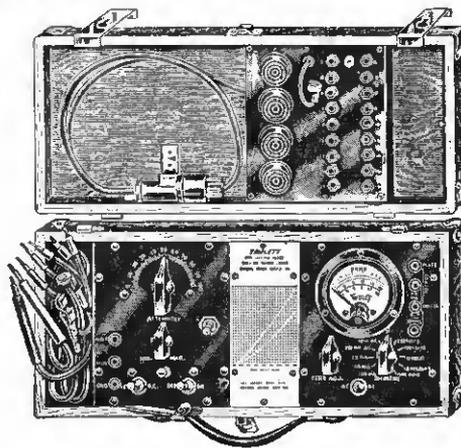
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TESTING Laboratory

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Tester
No.
1179



Now you can carry a complete and compact laboratory with you and solve any testing problem . . . without having to guess what the trouble may be. This new Triplet portable laboratory, No. 1179, consists of three units: 1150 Oscillator, 1125 Volt-Ohm-Milliammeter, and 1166 Free Point Set Tester.

No. 1150 is a well designed, completely shielded oscillator. A switch permits generating either a stabilized modulated or unmodulated signal of constant level. Extremely accurate scale divisions cover fractional frequencies from 110 to 1600 K.C., on the individually hand-made chart.

No. 1125 contains a direct reading Ohmmeter, Output meter, A.C.—D.C. Voltmeter and Milliammeter. Complete with 16 different scale readings. All readings are controlled by a selector switch. It lends itself admirably to point to point continuity testing for set analysis and general testing.

The Free-Point Set Tester, No. 1166, is universal, flexible. Four sockets take care of all present-day tubes. Designed to overcome obsolescence.

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G-H Electrolytic replacement condensers consist of a new line of paper wound condensers, made of linen tissue and aluminum foil, thoroughly sealed, and intended to replace electrolytic condensers in any job. They are tested on 1,000 volts and have no current leakage. Mountings and dimensions are exact duplicates of electrolytic condensers in both cardboard and can, and at a lower cost.

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Do you want trouble-proof resistor repairs?

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Continental "Certified" Resistors

Look for the GREEN Continental "Certified" label on each resistor. It guarantees you the proven performance of Continental "Certified" Resistors. Pressure molded of CARBORITE, the everlasting resistor material, Continentals are accurate when they leave the factory—accurate when installed in the receiver—and accurate after years of service.

Here is the new three-watt, 1,000 volt insulation, cellophane wrapped resistor.

It is the sure way to eliminate repeated resistor failures. Although but slightly larger than the standard one-watt unit, the new Continental SUPER-WATT has ample current carrying capacity for any receiver circuit.

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Your jobber stocks FIVE convenient types of Continental Suppressors, including the new Flexo-Terminal Type S18 that can be installed on the spark plugs of any engine. Write for descriptive literature today.

Lower in cost than wire wounds—and absolutely non-inductive. Available in every value from 500 ohms to 5 megohms. Negligible voltage and temperature coefficient. Absolutely noise free.

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Send me the latest Continental Resistor and Suppressor Catalog.
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operate bells and buzzers and pilot indicators; and to actuate relay switches in remote control schemes.

Many uses will suggest themselves upon examination of the accompanying diagram. With modifications, this may be utilized in a simple burglar alarm system and for numerous advertising stunts such as lighting or shutting off signs, starting and stopping various electrical, light or sound devices when a door is opened, etc.

Condenser-Resistor Substitution Test Panel

By Paul G. Freed

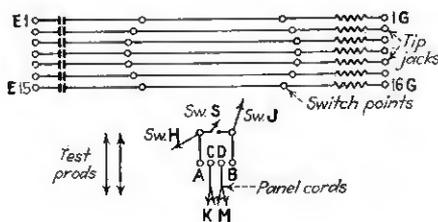
We have just built a new condenser-resistor substitution panel that greatly simplifies work on chassis having "shot" parts of unknown value. With it we can get almost any known capacity or resistance, and combinations of each by consulting a chart.

Only a few switch points and parts are shown in the diagram to explain the principle. Actually we use 15 condensers and 16 resistors, which are:

RESISTORS	CONDENSERS
100	.00025
200	.0005
250	.001
500	.002
1000	.005
2000	.01
5000	.02
10000	.05
20000	.1
40000	.25
50000	.5
100000	1
.25 meg.	2.
.5 meg.	4.
1 meg.	8.
2 meg.	

Operation is best explained by several examples. If 5000 ohms is needed one test prod cord is plugged in jack G-7. Switch arm J is set on tap 7. The second test prod cord is plugged into jack B.

If a 1428 ohm resistor is required the toggle switch S is closed and switch J set



on tap 7. Arm H is set on tap 6. Plug the double tips of panel cord M into jacks G6 and G7. Now the 5000 and 2000 ohm resistors are in parallel and by plugging the test prod cords into jacks B and D the available resistance is obtained.

Condenser combinations are obtained by using jacks E, A and C in a similar manner. With the toggle switch open it is possible to get both resistor and condenser values at the panel at the same time, except when condenser and resistor jack numbers coincide. It is also possible to get two condensers or resistors at a time independently of each other.

Both switch arms contact all switch points. This is difficult to show in the diagram due to the wires joining condenser and resistor switch points and the arms are shown below.

"TRICKS of the TRADE"

AK 37, 38, 40, 42. Low power stage plate voltage or none at all . . . Disconnect one speaker lead and plug analyzer into 71A socket. If plate voltage now appears normal replace speaker output condenser.

BRUNSWICK. Noisy and irregular reception in certain models using rubber tube-covered volume controls . . . Caused by dampness. Replace tube with catheter purchased at drug store if duplicate tube is not obtainable.

CLARION. Dead set or cutting in and out, late models . . . Antenna connection is extremely close to chassis. Examine it for short before removing set for examination.

CROSLEY 77, 84, AMRAD 84. Fading in and out . . . The remedy is often simply replacement of .1 mfd. condensers coupling r.f. coil sections to ground. It is rarely necessary to replace more than one.

CROSLEY 30S, 31S, 33S. Improving volume and tone . . . Put a 15,000 ohm resistor between positive side of the 55,000 ohm detector plate resistor and ground.

CROSLEY 158. Local stations barely audible with volume on full . . . Look for open 750 ohm resistor connected from grid of 58 to ground.

GENERAL MOTORS. Repair parts . . . United Motors Service, with auto-radio branches in many cities, has taken over factory stock.

MAJESTIC 370. No local reception with grid cap off i.f. tube . . . Cause is generally shorted i.f. coil. Remove it from case, bend back the lug and put a piece of fishpaper between coil and case.

MAJESTIC 15. Set dead although voltages check ok . . . Place blanket over back and let run from 3 to 4 hours.

MAJESTIC 66. Troubles due to wetting through cowl ventilators, water entering set through ribbed cover openings . . . Check screen voltages by listening for clicking sound which should be heard when contacting control grid of i.f. tube. If not heard check wire-wound 10,000 ohm resistor in series with screens of r.f., oscillator and i.f. tubes located directly above oscillator socket on under side of set, rivetted to chassis sidewall. Look also for electrolysis on red lead going into B choke which opens up soldered joint inside choke. Symptom is high-voltage on control-grid of 89. This will cause slight shock when fingers are placed from grid to chassis. Cut into first layer of choke insulating paper if repair is necessary and re-solder joint. Wetting also causes rectifier socket terminals to arc to chassis and carbonize, necessitating new socket.

MAJESTIC 90. No plate voltage . . . Generally due to shorted filter condenser (2 mfd) in pack, connected from black lead to green lead through 2,000 ohm choke to red lead. Breakdown usually ruins choke. Replace both.

MAJESTIC 66. Normal voltages, vibrator ok but set don't play . . . Try removing shield of i.f. coil, placing insulating paper around coil frame.

MAJESTIC 20. Testing with separate meters . . . Cut loose 3 wires on end of chassis running to by-pass condensers. Solder 8 inch jumpers between ends of severed leads. Then clip the string cabling these leads and the bottom can be pulled far enough away to give complete access to voltage divider and other parts.

MERSHON CONDENSERS. When sets using these are dead and 80 gets hot . . . Examine condenser cover as it often goes down too far and short the terminals.

RCA M 34, GE B40. Set starts late, or only after racing motor . . . Replace 6A7. Cuts out permanently after starting up ok, or no reception though set sounds alive . . . Resolder connections on oscillator coil farthest from antenna lead, being careful not to overheat or short lug to frame. Volume ok on high-frequency end but poor at low . . . Replace antenna coil if trimmers seem ok. No sensitivity on high end . . . if trimmers are ok check .5 mfd. condenser across cathodes of 78 and 6A7, which also causes intermittent noise pickup from vibrator when poorly connected. Howl on strong carriers similar to microphonic tube . . . If replacing 6A7 causes no change replace 400,000 ohm yellow resistor on resistor board with 500,000 ohms and connect .0001 condenser across this resistor if set lacks punch. Extreme lack of sensitivity . . . Replace 400,000 ohm resistor with 250,000 ohms. Lack of audio punch . . . Replace 60,000 ohm resistor across a.f. transformer secondary with 100,000 ohms. Pronounced buzz from vibrator and no signal . . . See if oscillator tube filament prong is shorting on diode prong of 6B7. To mount set on Model A Ford where no heater is used . . . mount between choke rod and accelerator rest with speaker facing seat, cutting off extension gas cutoff lever. This is a tight but neat fit. Do not mount this set in any but vertical position as vibrator unit will bear against container causing unstable operation and contact sparking.

SERVICEMEN. For the further convenience of those of you who are clipping and filing "Tricks of the Trade" these items are printed alphabetically by make, beginning in this issue.

SPARTON. Breakdown of tubular condensers . . . Replace with 400 volt types for permanent repair.

SPARTON 589. Weak reception and low speaker field current . . . Replace defective resistor with brown and silver ends, connecting primary of a.f. transformer to ground.

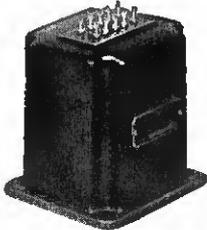
KENYON



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If you seek superlative tone in those radio sets, power amplifiers, transmitters or laboratory equipment which you build, just remember KENYON products.

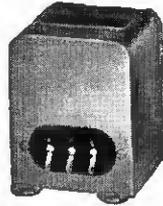


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KENYON Laboratory Standard Audio components meet the highest fidelity requirements. Really flat curve in components and assemblies. High efficiency obtained through liberal proportioning of materials. High-permeability cast-iron cases. Cross-talk proof. No A.C. hum pickup. Electrostatic shielded coil structure. Vacuum-impregnated and sealed against moisture and climate.

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Send for new catalog containing amplifier circuits for latest tubes, a power transformer replacement chart for all popular sets, and descriptions of KENYON radio components.



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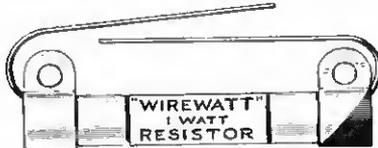
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10 watt Size—1 ohm through 25,000 ohms.
20 watt Size—30,000-100,000 ohms.

Wise service men everywhere are using RED DEVIL and WIREWATT resistors for a large part of their replacement work. The addition of the one watt WIREWATTS in values through 25,000 ohms makes it possible to service about 80% of all resistor troubles with wirewound units which have no voltage or temperature characteristics and which remain absolutely quiet under all conditions. Use the coupon for further details about the RED DEVILS and WIREWATTS.

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JOBBER'S NAME

Make the SERVICE SECTION Work for You

Recently we told you that many service men were clipping out, pasting on cards and filing alphabetically the items called, "Tricks of the Trade." They find that these cards help locate quickly troubles in sets that are out in your customers' homes.

So much for old sets. Now here's a suggestion from some of our readers on new sets: save the articles in the Service and Installation section headed, "Circuits of the Month." These articles and diagrams will help you locate troubles on the new sets. Either paste the articles in a loose-leaf book or save the copies of "Radio Retailing" and make up a little index, listing the sets by brand name and model number.

Radio Retailing

Make Your MONEY WORK!



- Have you a headache over the great number of condenser types?
- Is your money frozen in slow movers?
- Do you lose business because just the right type is not available?

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- It gives you quick turnover.
- The investment is from \$8.19 to \$10.02, depending on the kit.
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- Special Combination Kit No. 3 (Electrolytic and Paper Condensers) costs \$10.02.
- You always have just the condenser you need.

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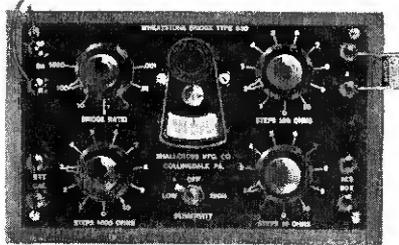
Jobber () Address

New Things of Interest to the Serviceman

Shallcross Wheatstone Bridge

For all around resistance measurements, a convenient instrument is the direct reading, easily operated, decade type of Wheatstone Bridge, such as the No. 630 made by Shallcross Mfg. Company, Collingdale, Pa. This instrument was designed to combine the features of ruggedness, wide range, portability and accuracy. It is built around a highly sensitive but extremely strong Leeds & Northrup galvanometer. Extra binding posts are provided to permit the galvanometer and the resistance decades to be used independently for other work.

This bridge may also be obtained in the knockdown form for those who wish to build their own. The price to the dealer is \$49.70. Kit, \$41.50.—*Radio Retailing*, November, 1933.



Statichecker

A device to simplify testing old and new sets, called the "Statichecker," is being built by the Clough-Brengle Co., 1140 W. Austin Ave., Chicago.

A test plug and cable, small enough to get into any socket, brings every socket contact up to the terminals of a rotary selector switch on the panel of the instrument. On this same panel is a chart that shows the proper switch position for connecting to any element of every type of tube.

The output may be connected to any ohmmeter, or the resistance range of an analyzer, the combination making a point-to-point tester.

The price complete with test plug and cable for 4, 5, 6 and 7 prong tubes is priced at \$8.82 net to servicemen.

Clough-Brengle is also introducing a companion instrument, the "Unimeter," which measures d.c. voltage and current, resistance, a.f. receiver output, and tube performance. Price in metal carrying case, \$21.76 net.—*Radio Retailing*, November, 1933.

(Continued from page 31)

in series constitute the entire resistance element.

The megohm indicator is a decade style, 1,000,000 ohm resistance box. Ten resistance values are available in 100,000 ohm steps from 0.1 meg. to 1 meg. An etched aluminum dial plate marked 1 to 10 identifies the value of resistance employed at any position of the selector switch.

There is no exposed metal, contact in the circuit, making this resistance box shock-proof and practically fireproof. Intended retail price of either device is \$6.50.—*Radio Retailing*, November, 1933.

Dual Resistance Indicator



The new IRC dual resistance indicator announced recently by the International Resistance Co., 2100 Arch St., Philadelphia, Pa., incorporates several outstanding improvements.

These include a new design with resistance rods wound with heaviest possible wire and enclosed in a sturdy metal case; ball bearing slider and a permanently attached slider knob that frees the user's hands. It has two scales 0-10,000 ohms and 10,000-100,000 ohms. The one slider serves for both scales. In determining resistor values the indicator will give splendid results either used alone or with a voltmeter.

Other practical uses to which the indicator may be put are: as a calibrated rheostat or variable resistor for adjusting voltage or limiting current; a calibrated potentiometer or voltage divider; temporary heavy duty resistor up to 100,000 ohms and for measuring unknown resistances by the substitution method. Price, \$2.70 net.—*Radio Retailing*, November, 1933.

DayraD Series 10 Tube Checker

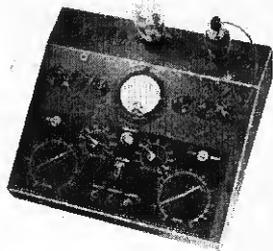
Simplicity is the outstanding feature of the new tube checker just announced by the Radio Products Co., Dayton, Ohio.

All tubes having the same number of prongs are tested in the same socket. By means of a selector switch the tube sockets are automatically connected for the tube to be tested.

All filament voltages from 1½ to 30 volts are available. Diode and combination tubes are tested.

Future growth is provided for by means of an 8 hole socket, already connected.

The case is of steel, hard enamel finished with a bakelite panel. The large meter is used for testing tubes as well as for the line voltage.—*Radio Retailing*, November, 1933.



Radolek Resistance Indicator and Megohm Indicator



A calibrated 0 to 100,000 ohm easy reading resistance indicator is being made by the Radolek Co., Chicago, Ill. It is contained in a polished brown bakelite box, pocket size, with an etched aluminum scale and circuit diagram. Quick hand adjustment indicates the exact value of resistance in ohms being used. It has 7 inches of wire wound resistance contacted by a smooth non-pitting, non-arching, roller contact. Potentiometer style special 25,000 ohm calibrated variable resistance and three selected 25,000 ohm carbon resistors

"Super-Watt"

A new replacement resistor called the "Super-Watt" has been developed by Continental Carbon, Inc., 13500 Lorain Ave., Cleveland, Ohio. This unit will handle three times the power of the ordinary one-watt resistor, yet costs only several cents more and is but a fraction of an inch longer, according to the release.

The Super-Watt is non-inductive and is available in all resistance values from 100 ohms to 5 megohms.—*Radio Retailing*, November, 1933.



Selling Up . . . 1934 Style (Continued from page 17)

grown accustomed to seeing the old console in their home and in many cases it is an important part of the furnishing scheme. No midget, however attractive, could possibly take its place in this capacity. "People who own old Cadillacs and still have money rarely step down to Fords," he points out. "In many ways the old console user is, therefore, a better prospect for new—and profitable—merchandise than a brand new radio enthusiast would be."

SELL UP! This is the industry's cue for the new season. That manufacturers realize it is evidenced by close examination of new line specifications. Double-purpose furniture has increased 3 per cent, phonograph-

combinations are to be found in 5 per cent more lines, automatic combinations are less rare, remote-control models are up 5 per cent and extended-band receivers are made by 28 per cent more of the factories.

Midgets at extremely low prices are still available. There is a definite demand and place for these, and it would have been foolish to even consider throwing this market overboard. But for the discriminating buyer the radio manufacturer now makes more quality sets, sufficiently good to justify added cost. And people have more money to buy than they have had in the last two years. If the radio dealer is to make a decent profit this season he cannot drift with the tide of low-priced models. He must . . . SELL UP!

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GET EXPERT RESULTS!**

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GENUINE *Majestic* PARTS

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Manufacturers of Majestic Radios, Tubes and Refrigerators
5801 DICKENS AVENUE CHICAGO, ILLINOIS



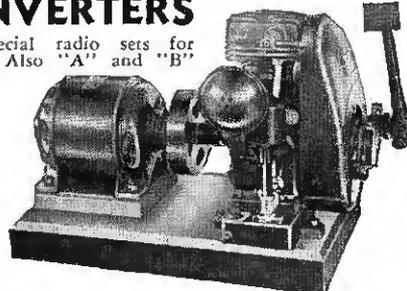
A. C. CURRENT ANYWHERE

with Kato A.C. Plants \$135.00 and up.
32-volt Battery Plants 600 watts \$149.00.
1250 watts \$225.00.

KATO KONVERTERS

Eliminate carrying special radio sets for
light plant prospects. Also "A" and "B"
Eliminators.

**KATO
ENGINEERING CO.**
Mankato Minn.
also
2319-2nd Ave. Seattle
Lancaster, Penn.



CANDOHMS

ARMoured WIRE WOUND RESISTORS
STANDARD EQUIPMENT IN LEADING SETS

REPLACEMENT CATALOG

NEW COMPLETE CATALOG NOW READY
SEND TODAY FOR YOUR COPY

THE MUTER COMPANY
1255 South Michigan Ave., Chicago

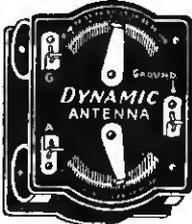
**Easy Money-Maker
for RADIO DEALERS**

Sell the new WALCO AERIAL ELIMINATOR. Does
away with all aerial troubles and installation prob-
lems. No more lightning or short-circuit worries. No
more climbing over roofs to install or repair aerial. No
more ugly aerial wires in the room. Special exclusive
tuning feature gets maximum volume for different types
of sets. Improves selectivity. Receives up to 1500
miles. Can be installed and demonstrated in 2 min-
utes. Small enough to fit in back of all except tiniest
midgets. Fully tested and guaranteed. Hundreds of
radio owners need one. Retail at only \$1.

SAMPLE OFFER

Send \$1 for sample. Sample cost will be credited to
you on first order for dozen. Special low discounts to
dealers sent with sample. Write Dept. RR.

ELECTRICAL LABORATORIES COMPANY
141 East 25th Street, New York City, N. Y.



JANETTE ROTARY CONVERTERS

For Farms—Ships
—City Apartments
—Automobiles

Below: Gas engine-operated JANETTE

110-volt, 60-cycle generator. Ca-
pacities: 300 to 3000 watts. Ideal
for sound-trucks, amplifiers, P.A.
systems, etc.

Wherever the current supply is D.C.
use JANETTE Rotary Converters
to operate your AC receivers.
JANETTE Converters are filtered
to give radio results as good as,
or better than, that obtained with
central station AC. Built to out-
last 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.

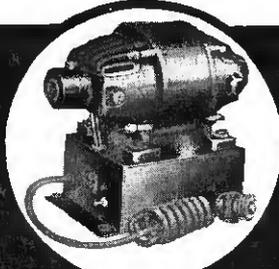
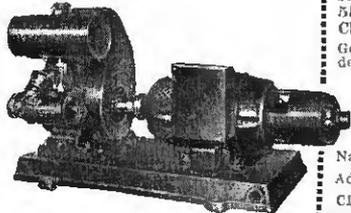
MAIL COUPON FOR DETAILS

JANETTE MFG. CO.
555 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

**INVESTIGATE NOW
THE L.TATRO LINE...
IT'LL BE YOUR
START TO PROFITS!**

Here is a real opportunity for you—it is your chance
to cash in on big profits this year. L. Tatro dealers
everywhere are reporting increased sales—L. Tatro
National Advertising is reaching your prospects.

**ALL ELECTRIC
NO BATTERIES**

**NEW MODELS
LOWER PRICES**

**BEST TONE OF
ALL RADIOS**

The New 1933 L. TATRO 32 VOLT RADIO

Get the facts! Send today for full details of our
unique money-making dealer proposition.

L. TATRO PRODUCTS CORPORATION
Dept. RR DECORAH, IOWA





DEWALD

Sets the Pace With "Syncrolite" Tuning



Models 801 and 811

The new De Wald Model 801 with Visible "Syncrolite" tuning puts profits in your pockets with greater ease than ever before. This method of visual tuning makes correct tuning simple. The "Syncrolite" does what its name implies—synchronizes your set with the broadcast station, thus you get the greatest possible signal response and truest tone at your loud speaker.

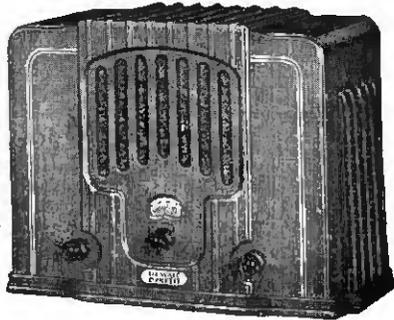
Model 801 is an 8 tube high gain A-C superheterodyne; 100% automatic volume control on all tubes; noiseless interstation tuning; tone control; full sized chassis; electro dynamic speaker; acoustically correct, hand finished cabinet. 801 from 60 to 570 meters. 811 from 15 to 570 meters.

A Set for the Masses MODEL 425



Works anywhere—AC or DC—6, 32, 110 or 220 volts—25 or 60 cycles. Modern cabinet of new design, full toned synchronized speaker. Low current drain when used on 6 volts. A winner for Christmas.

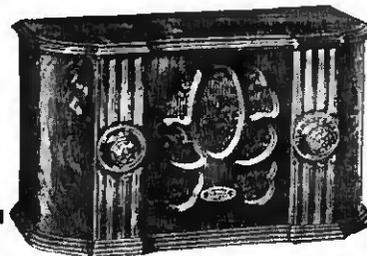
Ultra sensitive superheterodyne. Illuminated Vernier dial. Full-toned Dynamic speaker. Anti-blast tuning with tone control. Heatless chassis. AC-DC, short and broadcast waves. 60 to 570 meters.



THE BIG-LITTLE SET MODEL 580 *Covers the Field*

"COMPACT" MODEL 551 *Still the Leader*

The market's leading compact radio. 5-tube superheterodyne. Improved full-range dynamic speaker. Hairline tuning, ultra sensitivity. Heatless chassis. Unusual hand finished Burl Walnut cabinet. AC-DC, of course. Broadcast and Police waves.



products of

PIERCE-AIRO Inc.

520 Sixth Avenue

New York

PACEMAKERS IN RADIO SINCE 1921



STEWART-WARNER

THE RADIO OF THE STARS...

Announces



This Duncan Phyfe Radio Table, already a part of the line, exemplifies Stewart-Warner's new Dual Harmony idea—radios completely concealed in useful pieces of furniture. Available in 10-Tube set at \$69.50 and 6-Tube set at \$52.50. Other beautiful furniture sets to harmonize with different periods.

Completing a Magnificent Line with Eight Knock-Out Added Models!

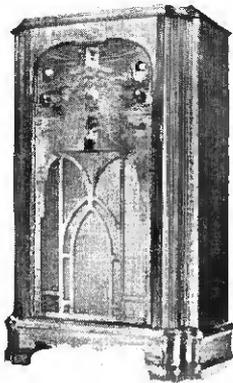
The eight added models shown here complete a Stewart-Warner Radio Line that is more diversified and appealing than ever before. Never before have you had such a varied selection with which to draw people into your store—and SATISFY THEM WITH EXACTLY THE KIND OF RADIO THEY WANT.

Styled and designed by Axel Berg—an unquestioned leader in modern styling—each one of these radios represents a classic of its kind in its class.

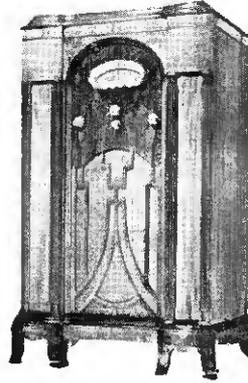
Stewart-Warner is having its greatest radio year. Stewart-Warner distributors and dealers are earning greater profits than ever. The radio-buying public has found a new favorite, strictly on the basis of merit, beauty, value and performance!

Get your share of Stewart-Warner Radio profits this season!

HANDSOMELY STYLED NEW CONSOLES IN BEAUTIFUL WOODS!



Model 1192—6-Tube Superheterodyne—Perfectly matched woods fashion this cabinet of distinctive design. Striped American Walnut, Butt Walnut Veneer, an arch of Maple Burl and top band of French Rosewood—all richly finished—complete the harmonious effect of this handsome piece of furniture. \$69.50.



"Magic Dial" Console—Model 1201—12-Tube All-Wave Double Superheterodyne—the 4-dial sensation of the radio world in a console of rich beauty. Striped American Walnut and Matched Butt Walnut form the front panel and grille. Maple Burl and French Rosewood add the final touch to this superb piece of craftsmanship. \$149.50.



Model 1108—10-Tube Superheterodyne—Designed to meet every demand for dignity, beauty and harmonious blending of fine cabinet woods. Top of American Walnut, center panel in Matched Butt Walnut Veneer. Top band of Zebra Wood, decorative side panels and six gracefully turned legs add further to its attractive appearance. \$82.50.



How This Dramatic Tie-up with Great Radio Stars Helps You to Sell More Radios!

The most arresting and dramatic advertising in the magazines this year is the current Stewart-Warner "Radio of the Stars" theme.

What sells radios? Appearance and Tone!

You certainly have the appearance in the Stewart-Warner line. Axel Berg, one of the greatest stylists in the world, is responsible for their originality and beauty.

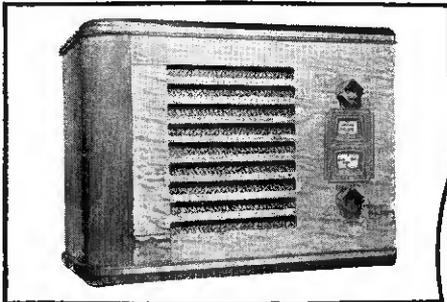
You certainly have the tone. This is enthusiastically

attested to by the radio stars themselves. They have put Stewart-Warner Radios in their own homes where their own relatives—who know best how their voices *should* sound—can enjoy their broadcasts in lifelike reality.

Here, then, is a combination which actually makes it easier for you to sell radios this season. Don't overlook this great possibility or you may be overlooking *important profits!*

Additional Models for a season of STAR PROFITS!

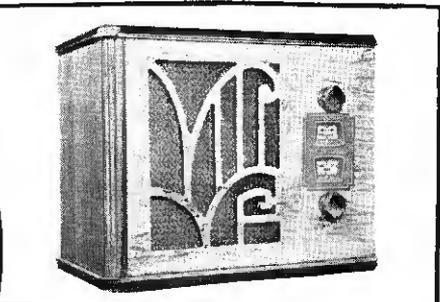
COMPANION SETS THAT MATCH THE MODERN MODE IN FURNITURE



Model 1163—5-Tube Superheterodyne—Top and ends of grained American Walnut, blending perfectly with front panel and speaker grille of Blistered Maple. Banding at top and base finished ebony black. 10 inches high. Truly ultra-modern in style and beauty. \$29.50.

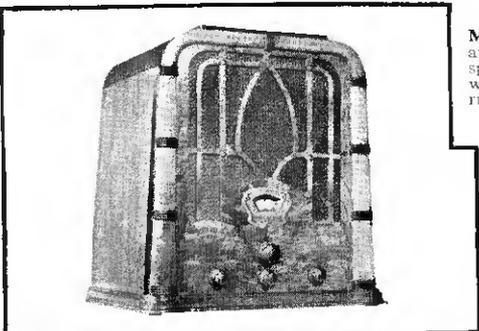


Model 1161—5-Tube Superheterodyne—Bird's Eye Maple and American Walnut form the top; the sides of American Walnut. Framed in narrow black bands at the top, sides and base of the cabinet is the panel and grille of richly grained Walnut. 12 1/4 inches high. \$29.50.



Model 1164—5-Tube Superheterodyne—Smart lines and modern design created to harmonize with the new modern note in furniture design. American Walnut and Blistered Maple combine with two narrow black bands to enhance the charm of this cabinet. 10 inches high. \$29.50.

RICH HAND-RUBBED FINISH, MATCHED WOODS IN THESE NEW APARTMENT MODELS

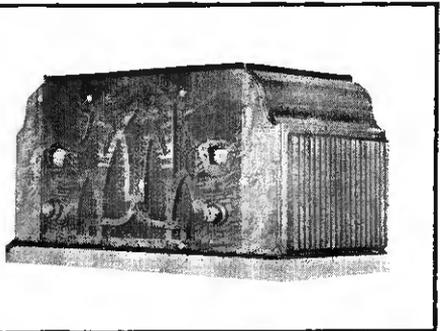


Model 1107—10-Tube Superheterodyne—Top and sides of striped American Walnut, panel and speaker grille of beautifully matched Butt Walnut, with moulding in two-tone Birch. Rich, hand-rubbed lacquer finish. 17 1/2 inches high. \$62.50.



Model 1191—6-Tube Superheterodyne—Top and center of front panel in matched Butt Walnut in harmonious contrast with decorative ends of Maple Burl—base of Zebra Wood—lustrous, hand-rubbed finish. 11 inches high. \$49.50.

All prices slightly higher west of Rockies

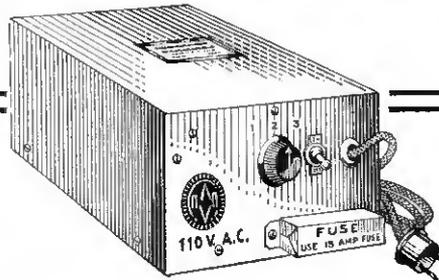


THE STEWART-WARNER CORPORATION, DEPT. 12, 1828 DIVERSEY PKWY., CHICAGO, ILL.

CONVERTERS AND ELIMINATORS

This line is a NATURAL.
Investigate it at once.

Absolutely new—vibrator
principle—efficient—satisfactory.



TYPE 338—32 VOLT D.C. CONVERTER— This converter will operate from a 32 volt D.C. electric system and will efficiently and satisfactorily convert 32 volt D.C. to 110 volt A.C. It can be used to operate a standard A.C. radio receiver and 110 volt A.C. electrical appliances including 110 volt universal motors in vacuum cleaners, kitchen mixers, etc. Output can be varied to meet requirements of apparatus used.

Size 4 $\frac{7}{8}$ " x 4 $\frac{3}{8}$ " x 8". Maximum capacity 100 watts. Shipping weight, 11 lbs.

Special kits for manufacturers.

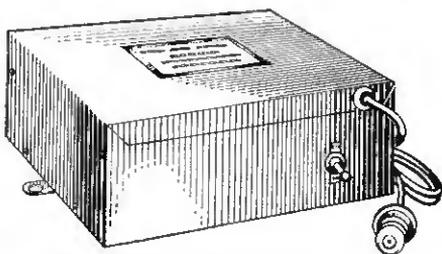
LIST PRICE \$25.00

TYPE 339—110 VOLT D.C. CONVERTER— This converter will operate from 110 volt D.C. electric current and will convert 110 volt D.C. current to 110 volt A.C. For use with radio receivers, surgical instruments, electrical appliances, etc. Output can be varied to meet requirements of apparatus used.

Now you can economically sell standard A.C. radios in those obstinate D.C. districts. Opens up new and profitable markets for alert dealers.

Size 4 $\frac{7}{8}$ " x 4 $\frac{3}{8}$ " x 8". Maximum capacity 200 watts. Shipping weight, 12 lbs.

LIST PRICE \$25.00



TYPE 332—32 VOLT ELIMINATOR— For battery radio receivers—operates from 32 volt D.C. electric system.

Size 7 $\frac{1}{2}$ " x 6" x 2 $\frac{3}{4}$ ". Shipping weight, 8 lbs.

Special kits for manufacturers.

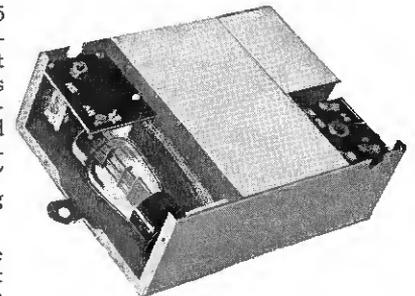
LIST PRICE \$20.00

TYPE 331—6 VOLT ELIMINATOR— For 6 volt auto radio—delivers 200 volts at 40 milliamperes. Assembled ready for installation. Size 7 $\frac{1}{2}$ " x 6" x 2 $\frac{3}{4}$ ". Shipping weight, 7 lbs.

Type 331-H. Same as type 331 except it delivers 200 volts at 50 milliamperes. Same weight, size and price.

Special kits for manufacturers.

LIST PRICE \$15.00



THIS is the first presentation to the trade of our new complete line of vibrator type converters and eliminators. This merchandise has been developed at considerable engineering expense during the past year.

We are now offering the radio and electrical industries a line that has tremendous sales and profit possibilities.

Jobbers, dealers and service men are urged to write for complete information at once. Special attention to radio manufacturers' requirements for built-in equipment for home and auto radio receivers.

ELECTRONIC LABORATORIES, INC.
122 W. NEW YORK ST., INDIANAPOLIS, IND., U.S.A.

Electronic Laboratories, Inc.
122 W. New York St.
Indianapolis, Indiana.

Please send descriptive literature explaining your complete line of vibrator type converters and eliminators.

I am: Interested in:
 Manufacturer type 338
 Jobber " 339
 Dealer " 331
 Service Man " 332

Name
 Address
 City State

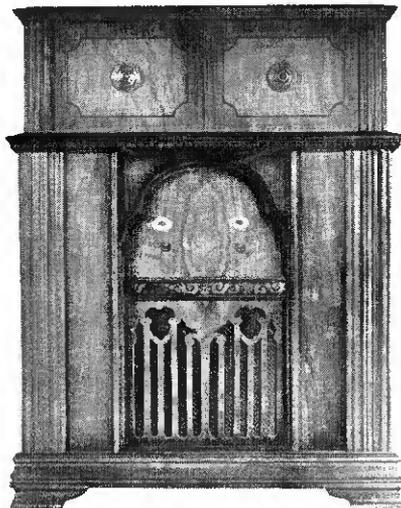
Cash in Now on REPEAL with "RADIOBAR"

"Radiobar" open, ready for service. Equipment includes complete set of glasses, of special design, spoon, measuring cup, bottle opener and cork-screw; also decanters with stoppers, cocktail shaker, funnel, ice container, refuse container, stainless steel knife and electric lights. Space provided for ginger ale or charged water bottles. Interior finished in heavy chrome.



"Radiobar" with 10-tube all wave RCA Licensed radio set in beautiful walnut cabinet. Price complete (tax paid) \$295.00. Model number 510; height 50 in.

Here's a timely opportunity for immediate sales



"Radiobar" number 505 with 5-tube RCA Licensed receiver with 75 meter wave length switch. Price complete (tax paid) \$119.00. (Model 508 with 8-tube set, \$169.00). Cabinet is 4 1/4 in. high.

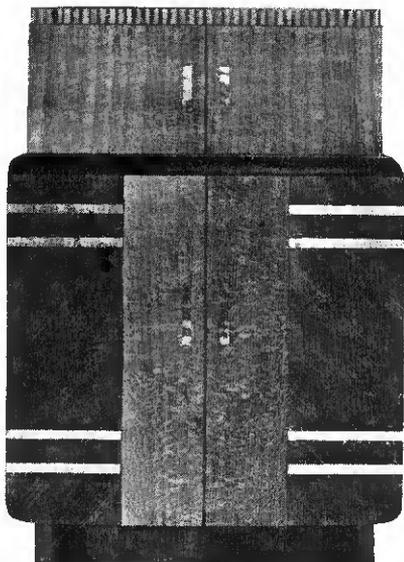
Your customers can mix their favorite cocktails without going into the kitchen—a practical, money-making up-to-the-minute idea.

"Radiobar" has created immediate sales wherever it has been introduced.

Made in eight sizes to meet every pocketbook. Mail coupon below for details of sales plan.

RADIOBAR CO. of AMERICA

270 Park Ave., New York, N. Y.
3582 Wilshire Bl., Los Angeles, Cal.



All Sets Licensed Under R.C.A. Patents

(Left) Modernistic "Radiobar" combined with 8-tube all wave RCA Licensed radio set in cabinet of artistic, imported woods, inlaid. Price complete (tax paid) \$249.00. Model number 528; height 47 in.

RADIOBAR COMPANY OF AMERICA
270 Park Ave., New York City

Kindly send full information concerning the "Radiobar" sales plan with prices and discounts.

Name

Company

Address

Almost here!

DECEMBER 1933

JANUARY 1934



Let's make 1934 a 12-month year

When the 1934 race for sales begins, will your company be off at the crack of the gun? Or will your sales drive have to wait, because your publication advertising budget didn't provide for using December and early January issues of business papers.

We needn't remind you that competition is going to be keen in 1934. That December advertising is needed to stimulate January sales. That the companies with a head start on the rest of the field will be just that much to the good.

You executives who read this have

the power to get your advertising managers started *without a formal budget*. Business can't wait on budgets. Give them your O.K. *now* to go ahead with the advertising portion of your sales promotion program.

1934 ought to be a better year for business. It will be,—if you make it a *12-month year*—if you pack each month full of effective sales effort—*preceded by aggressive advertising effort*.

Note that December issues close in November—and January issues close in December. Check up with your advertising manager—NOW!

MCGRAW-HILL PUBLISHING COMPANY, INC.

New York • Boston • Philadelphia • Washington • Greenville • Cleveland
 Detroit • Chicago • St. Louis • San Francisco • Los Angeles • London

American Machinist
 Aviation
 Bus Transportation
 Business Week
 Chemical and Metallurgical Engineering

Coal Age
 Construction Methods
 Electrical Merchandising
 Electrical West
 Electrical World
 Electronics



Engineering and Mining
 Journal
 Engineering News-Record
 Factory Management and
 Maintenance
 Food Industries

Metal & Mineral Markets
 Power
 Product Engineering
 Radio Retailing
 Textile World
 Transit Journal

SEARCHLIGHT SECTION

SPECIAL - WET ELECTROLYTIC CONDENSERS - SPECIAL

CAP.	PWV	SIZE	LIST	Our PRICE	
				Lots of 100	Lots of Ten
4	440	1 1/2" x 4 1/2"	\$.70	\$.22	\$.26
8	430	1 1/2" x 4 1/2"	.90	.26	.30
8	430	1 1/2" x 2 1/2"	.80	.24	.28
8	300	1 1/2" x 3 1/2"	.60	.20	.24
14	440	1 1/2" x 4 1/2"	1.50	.44	.50

All the above prices include set of insulating washers, cathode lugs and nuts

These units are for chassis calling for inverted mounting above the chassis and are products of the largest condenser manufacturers in the country. This merchandise is brand new and guaranteed as such by us and the manufacturer. PWV denotes peak working volts D.C. Container is negative and soldering lug positive. Where insulated mounting is desired

washers and cathode lugs are used and which are included in the above price with every pair bought.

(Note:—We carry a full line of parts. Get in touch with us for your needs.)
Terms:—Net cash, F.O.B. N.Y.C. 20% deposit with order.

ALBERT ROTHENSTEIN COMPANY, 142 LIBERTY STREET, NEW YORK

REPRESENTATIVES AVAILABLE

National Representation

Aggressive merchandising organization with offices in Boston and Chicago and thoroughly covering Domestic and Export markets are interested in new lines to merchandise to the jobbing trades. Can finance or operate on commission basis. RA-182, Radio Retailing, 520 No. Michigan Ave., Chicago, Ill.

WANTED

WANTED a new R.C.A. radio, model R-71, or R-73, best price for cash. A. F. Trecker, 6954 Greenview Ave., Chicago, Ill.

LEGAL NOTICE

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF MARCH 3, 1933

Of Radio Retailing, published monthly at New York, N. Y., for Oct. 1, 1933.
State of New York
County of New York

Before me, a Notary Public in and for the State and county aforesaid, personally appeared B. R. Putnam, who, having been duly sworn according to law, deposes and says that he is the Secretary of the McGraw-Hill Publishing Company, Inc., publishers of Radio Retailing, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, McGraw-Hill Publishing Company, Inc., 330 West 42d Street, N. Y. C. Editor, O. H. Caldwell, 230 West 42d Street, N. Y. C. Managing Editor, Ray V. Sullivan, 330 West 42d Street, N. Y. C. Business Manager, M. E. Herring, 330 West 42d Street, N. Y. C.
2. That the owner is: (If owned by a corporation, its name and address, as well as immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) McGraw-Hill Publishing Company, Inc., 330 West 42d St., N. Y. C. Stockholders of which are: James H. McGraw, 330 West 42d St., N. Y. C. James H. McGraw, Jr., 330 West 42d St., N. Y. C. James H. McGraw, James H. McGraw, Jr., and Malcolm Muir, 330 West 42d St., N. Y. C. Trustees for: Harold W. McGraw, James H. McGraw, Jr., Donald C. McGraw, Curtis W. McGraw, Curtis W. McGraw, 330 West 42d St., N. Y. C. Donald C. McGraw, 330 West 42d St., N. Y. C. Anne Hugus Britton, 330 West 42d St., N. Y. C. Mason Britton, 330 West 42d St., N. Y. C. Edgar Kobak, 330 West 42d St., N. Y. C. Grace W. Mekren, 33 West Grand Ave., Chicago, Ill. J. Malcolm Muir and Guaranty Trust Co. of New York, Trustees for Lida Kelly Muir, 524 Fifth Ave., N. Y. C. P. S. Weatherly, 271 Clinton Road, Brookline, Mass. Midwest Corporation, Madison, N. J. Stockholders of which are: Edwin S. Wilsey, Madison, N. J. Elsa M. Wilsey, Madison, N. J.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the months preceding the date shown above is: (This information is required from daily publications only.)

B. R. PUTNAM, Secretary.
McGraw-Hill Publishing Company, Inc.
Sworn to and subscribed before me this 29th day of September, 1933.
H. E. BEIRNE,
Notary Public, Nassau County, N. Y. Co. Chk's No. 1518, Reg. No. 4-B-959.
(My commission expires March 30, 1934)

RADIOS WANTED

for cash, any make. Job lots or discontinued models, regardless type of tubes used.

Write

W-183, Radio Retailing
330 West 42nd 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. Fac. Mgr. of
A. H. Grebe & Co., Inc.)

JOHNSON RADIO NEWS

will be sent free to anyone who will state where he has seen this advertisement.

JOHNSON RADIO MFG. CO.
507 Tarrytown Rd. Pleasantville, N. Y.

GET THE BIG RADIO CATALOG

The Radio Supply World in 148 Big Pages

Just out for 1934. Make your request for it on your Dealer's, Service Man's, School's, Experimenter's or Amateur's letterhead. Order from America's Largest Radio House in America's Handiest Shipping Point.

BURSTEIN-APPLEBEE CO.

Dept. D-1, 1012 Mettee St., Kansas City, Mo.

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.

FOR FIXIT SHOPS—All free

Service Courses in Vacuum Cleaner and Washing Machine Repairing. Thousands of parts for both new and old machines at sensational saving. You can easily increase your income at no extra cost. Hundreds of shops are being benefited by our System. Free Profit Guide tells all.

URON INDUSTRIES, Inc.

Originators and World's Largest Source of its Sort.

1237 West Sixth St., Cleveland, Ohio

Here's ACCURACY at LOW COST

Only \$3.50

for

This New RADOLEK Resistance Indicator

Here is the very latest in devices for determining the correct resistance to be used in replacing defective resistors in Radio and Amplifier circuits. The most compact and practical Resistance Indicator made. Extremely accurate and simple to use. Has three specially selected 25,000 ohm carbon Resistors in series with precision calibrated 25,000 ohm potentiometer, having 1,000 ohms uniformly distributed over first half of arc of rotation; balance of 24,000 evenly spread over remaining portion. Enclosed in fireproof Bakelite case. Has pair of 24-in. test cords with alligator clip ends. Order this handy instrument today directly from this ad.

Send for our Big Catalog

If you are not on our mailing list, fill out and mail the coupon below for your copy of the new *Radio Profit Guide*, the most complete index to Radio merchandise yet published. If you are a Dealer or Serviceman you can't afford to be without it. It's FREE.

THE RADOLEK CO.

511 CANAL STATION



CHICAGO ILLINOIS

Gentlemen:—I am a Dealer Serviceman . Please send the New Radolek Profit Guide immediately and put me on your mailing list to receive your literature regularly.

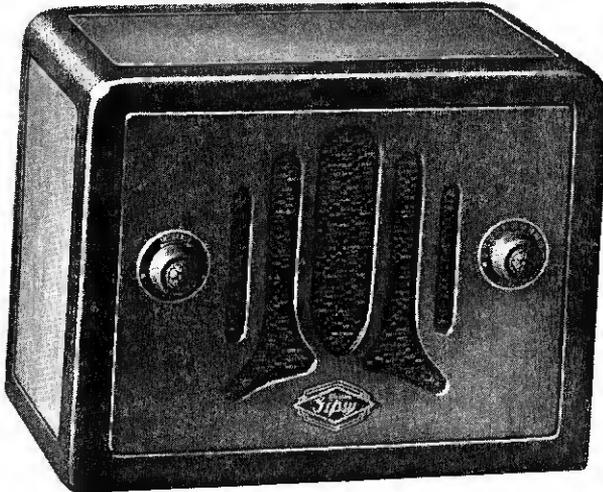
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