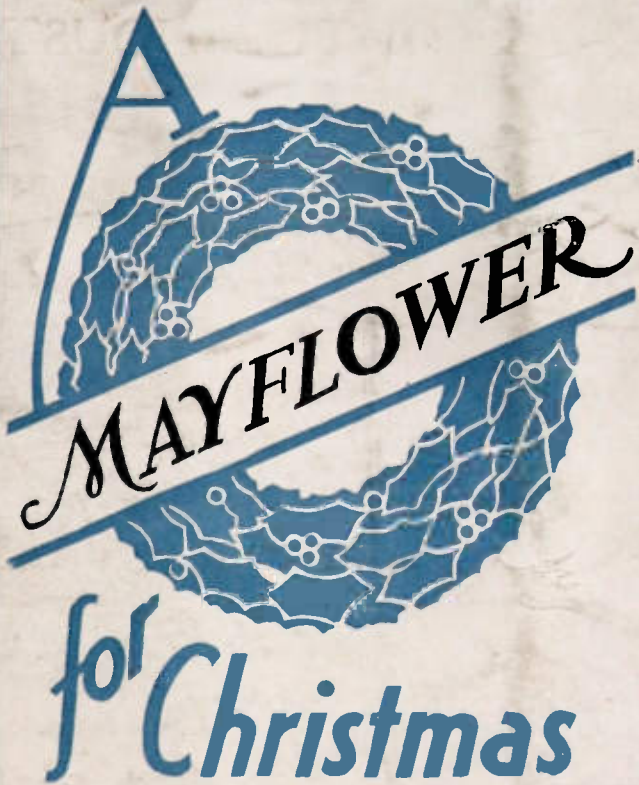
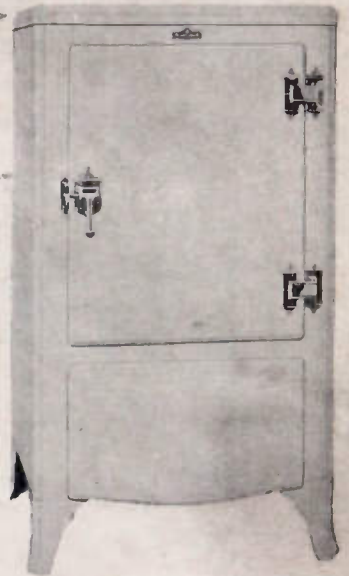


WESTERN Radio and Refrigeration JOURNAL



Mayflower "Five"



THIS year the holiday buyer is going to be sure he gets his money's worth. He wants the best quality there is for the price. And if it isn't to be found in your store, he's going somewhere else. MAYFLOWER REFRIGERATORS are designed and built to SELL and STAY SOLD. Thousands of contented customers are proof that the MAYFLOWER line is a generous, substantial, quality value, and MAYFLOWER is gaining an enviable reputation as a refrigerator that the public wants.

Exclusive California Distributors

**KIERULFF &
RAVENS CROFT**
RADIO EQUIPMENT

135-139
West 17th Street
LOS ANGELES



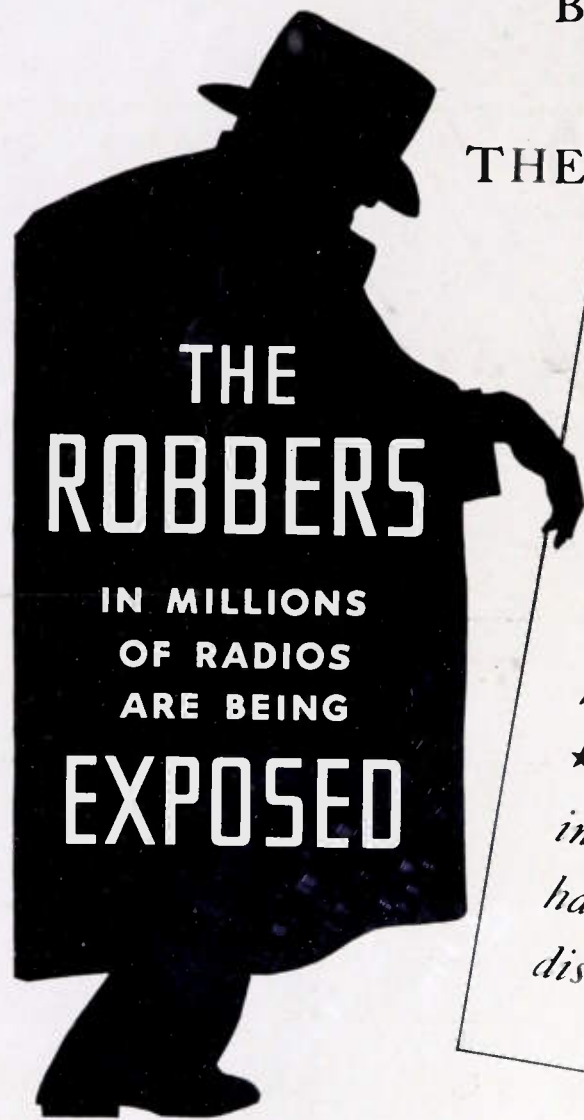
121-131
Ninth Street
SAN FRANCISCO

NOVEMBER, 1931

Ken·Rad Leads

In Modern Tube Merchandising!

BLAZES THE TRAIL TO
GREATER PROFITS!
THE TALK OF THE INDUSTRY!



THE
ROBBERS

IN MILLIONS
OF RADIOS
ARE BEING

EXPOSED

Never before in the history of the tube industry has there been a merchandising plan as powerful and sensational as that which is built around the marvelous Ken-Rad Acrometer
★ ★ *It has changed the tube buying habits of the nation* ★ ★ *It has changed the tube merchandising methods of the industry.*

Ken-Rads Are the Fine Tubes of Radio

Ken-Rad gives you the fine tubes of radio—plus the “big idea;” the sensational Ken-Rad Acrometer sales plan that moves tubes faster than they have ever moved before. Write for the amazing story of the successes dealers are enjoying with Ken-Rad Tubes, the Acrometer sales plan and the powerful merchandising and advertising ideas built into it. THE KEN-RAD CORPORATION, Incorporated, Owensboro, Kentucky.

There Is Only One ACREMETER and Ken-Rad Has It!



BRUNSWICK RADIO stops 'em

THE graceful cabinet of Brunswick stirs the buying urge
 ...The true musical tone of Brunswick clinches the sale...
 The day-by-day performance of Brunswick keeps it sold.

• • •

With the complete line of eight Brunswick Radio models
 (List prices \$39.50 to \$225 with tubes) you can sell "up"
 not "down"; and increase your profits accordingly... There-
 in lies the basic value to you of the Brunswick franchise.

BRUNSWICK RADIO CORPORATION — Division of Warner Bros. Pictures, Inc. — NEW YORK, CHICAGO, TORONTO

BRUNSWICK RADIO

THEY WORK TOGETHER



Sylv
THE SET-

... **NATIONALLY ADVERTISED SYLVANIA SET-TESTED TUBES** ...

YOUR CUSTOMERS' RADIOS ... AND

YOUR PROFITS!

NEWSPAPER ADVERTISING

2 insertions a week in powerful local papers.

MAGAZINE ADVERTISING

Intensive Human Interest Campaign Reaching the Millions of Readers of the *Saturday Evening Post*

BOTH Send Customers to the Store that Displays this Sign



HERE is big news for every radio merchant! A tremendous national campaign now tells people about a new kind of testing—*set-testing*—that actually *proves* that Sylvania Radio Tubes give the utmost in tone, volume and distance . . . that they have been approved for over 300 different makes and models of radio sets!

Saturday Evening Post advertisements with big human-interest illustrations, reach more than 2,800,000 readers throughout the country. Local newspaper campaigns are running in 39 cities. **BOTH NOW MAKE SALES FOR YOU!** And the Sylvania Authorized Dealer Sign shown on this ad ties up your store to this new kind of selling support!

Write today—find out without obligation how you can get the Sylvania Authorized Dealer Sign—and ask for a free copy of the Sylvania Certified Test Chart.

HYGRADE-SYLVANIA CORPORATION

Sylvania Division, Dept. W 11-1
Emporium, Pennsylvania

Please send me a copy of the new Certified Test Chart and information about Set-Tested Tubes.

- I have never sold Sylvania tubes.
- I am now stocking Sylvania tubes through

(Name of Jobber)

Name

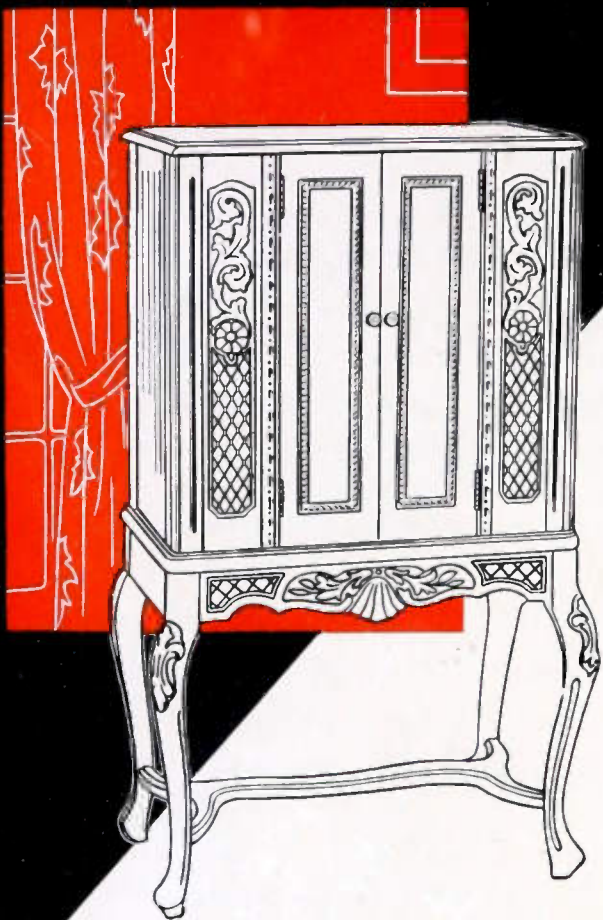
Address

City State

Sylvania
REGISTERED U. S. PAT. OFF.
TESTED TUBE

Licensed under RCA Patents

SPARTON'S AIM



Model 26 Illustrated

SPARTON is concentrating all its resources of experience, ability, money and equipment upon this objective—

The production of quality merchandise designed to meet the widespread and growing demand for *value* on the part of the radio public.

In the present complete Sparton line you will find a notable combination of chassis improvements, contributing not only to finer performance today, but also to *continuously* finer performance throughout the years.

Today's finer Sparton instruments are designed to help win *and hold* the good will of customers.

This, in our opinion, is the most constructive help we can give Sparton dealers at this or any other time.

THE SPARKS-WITHINGTON COMPANY

{Established 1900}

JACKSON, MICHIGAN, U. S. A.

Only Sparton has the Musical Beauty of Sparton

SPARTON RADIO

"Radio's Richest Voice"

(747)

WESTERN Radio and Refrigeration JOURNAL



"PRINTED IN THE WEST
FOR THE WEST"

BYAM PUBLISHING COMPANY

Publishers of the Radio Dealers' Blue Book

WALLACE M. BYAM

MARION E. BYAM

1220 MAPLE AVE., LOS ANGELES, CALIFORNIA. Phone WEStmore 1972
New York: C. A. Larson, 254 W. 31st St.

Editorial Offices Maintained in San Francisco, Portland, Seattle, Salt Lake, Denver.

DON McDOWELL, Managing Editor

NOVEMBER, 1931

WESTERN VIEWPOINT

The West's Nineteen Jobbing Centers

THE biggest factor that makes the Western radio market different from the east is that the West rolls on wheels; rubber tired wheels. For the biggest development of the West has occurred since the day of the automobile. The West is built around and for the motor car.

That makes for far flung and tremendous differences. Distance in the West is reckoned in traveling time rather than in miles or city blocks. It puts the West outdoors. It changes the form of amusement. It changes the viewpoints. It eliminates prejudices, and vitally affects the radio market.

We here in the West live so close to the situation that we do not realize it. It has taken an easterner, now of the West, Curtiss Abbott, formerly sales manager for Crosley and Eveready, to point out the vital part the paved roads of the West play in the Western merchandising scheme.

A road map tells the story. Hard roads center around very definite areas and lead outward from centralized points. Take your map of the eleven Western states, count these points of convergence of the hard roads and you have found your natural jobbing centers. Salesmen travel out from these centers; customers travel in. There are seven major jobbing centers, and twelve minor jobbing centers. Most firms have jobbers or branches in Seattle, Spokane, Portland, Salt Lake, San Francisco, Los Angeles, and Denver. Some

endeavor to get by with less. But there are other minor centers which play a very necessary part in Western merchandising. For instance, a Los Angeles jobber who covers San Diego and Phoenix must make special arrangements to have salesmen either live or work directly out of these cities. Likewise, a San Francisco jobber selling Sacramento must make particular plans to handle the territory there.

These minor jobbing centers are not being adequately cared for in many instances, and it is the belief of Abbott that the big opportunity of increased Western business lies in a cultivation of these smaller jobbing centers. In some instances it might be profitable to establish jobbers in these towns, and in fact some manufacturers have already done so. In other instances, it may be better to establish a prominent dealer on a jobbing basis, or have a salesman from one of these larger jobbing centers serve from a warehouse in these smaller cities.

The territory to be served by each major or minor jobbing center depends entirely upon the paved roads. Once merchandise is laid down in the West after the transcontinental trip, either by rail or water, truck transportation is used almost exclusively in intercity hauling.

There is a lot of food for thought here and the idea of these twelve minor jobbing centers hits the nail pretty squarely on the head. Jobbers in the major jobbing centers are missing the biggest opportunity of growth if they are not making the most of these smaller

jobbing centers adjacent to them. Likewise, manufacturers who are jobbing out of only the major centers are in many instances only getting the cream of the business. If the dealers in these small areas were given the same service the dealers in the larger cities are getting, their sales volume would undoubtedly increase, and in the majority of cases at a profit. A policy of bigger and better sales and service for dealers in and adjacent to these smaller cities would mean a bigger profit for everyone concerned.

* * *

Tube Prices and Sales—Down

ORDINARILY the assumption is that a decrease in price, increases sales and results in greater profits. At least that is considered to be Henry Ford's philosophy.

But the recent drop in the price of radio tubes has neither increased sales nor profits as far as the radio dealer is concerned. Last spring there was a fair profit in tubes and many a dealer paid a considerable share of his overhead through tube sales. Intensive sales campaigns were launched to induce people to replace their old tubes; tube testing machines came into prominence. There was business, profitable business.

This last drop in tube prices, it may be presumed, was an effort to increase sales. But the presumption was wrong. Tubes are like automobile tires. You don't buy a new one until the old one refuses to work, and then you will pay five prices if you have to get a new one.

* * *

W. J. Aschenbrenner

WE don't know where good radio men go when they have reached their sales quota, but wherever "Asch" Aschenbrenner went, when it comes our turn, that is where we want to go.

For, if "Asch" knocked at St. Peter's gate, he has made friends with everyone in the Pearly Realm by now, and is undoubtedly one of its most popular citizens.

But, if radio men are compelled to stop off a while in the lower region, "Asch" by this time has taught them all how to laugh, showed them the way of brotherly love, has put over a bang-up selling job teaching Satan the advisability of "Doing unto others as you would have them do unto you," and has set up Hades as first-class next door competition to heaven.

For "Asch" was a living, walking, practical, everyday example of the Golden Rule. His single idea was "Do unto others as you would have them do unto you," whether it was with his employer, his friends, or the dealers he was working with. With this policy he built up tremendous sales volumes and had probably more friends than any other radio man ever had or ever will have. "Asch" always had time for his friends, and everyone was his friend.

With two good legs grown strong and agile through years of mountain climbing as a hobby. "Asch" was always on the move. He was not the sort of sales manager to sit in his office and tell his men how to do it, rather he was out walking and working with them. When he made a sale it was not a sale. He first made a friend; then he did his friend a favor. Even his competitors were his friends. Many a time we have seen him in their offices with his feet on their desk discussing how they could win new friends and new dollars to the radio business, in competition with other industries.

"Asch" never knew there was such a word as "fear" in any language. He was brimming with courage, optimism and a sense of humor.

The Radio West, ourselves included, have lost their best friend. But, if he has taught us to be the friend to our fellow man that he was, then this depression is licked right now, our troubles are over, and there is nothing but a rosy path ahead.

So long, "Asch." We'll be seeing you.

* * *

Refrigeration Bonanza

YOU'LL hunt a long time trying to find a man who is pessimistic over the future sales possibilities of refrigerators. The big years are ahead. The market has only been scratched. It is the prediction of wise business heads who should know that the next two years will be the bonanza years of refrigeration comparable to '28 and '29 in radio.

Thousands of western dealers made as much money on refrigerators last summer as they did on radio in the winter. The two go hand in hand and are a perfect combination. A dealer who is not handling both is missing big profit possibilities.

Dealers "on the fence" should start thinking. Lines should be all set by February or March which is the beginning of the refrigeration season in the West. No need to wait for television. Get into refrigeration. The big opportunity is here NOW.

* * *

This month we are changing our name. Adding refrigeration to our masthead. This Journal started eleven years ago as Western Music Trades Journal. In those days everything was pianos and musical instruments. Then a few music stores began to handle radio. Finally this new instrument became important enough to have a radio "department." Six years ago Western Radio Trades was purchased and the magazine became Western Music and Radio Trades Journal. Pianos began to slip, and kept slipping. The last small piano ad departed about six months ago. Our old love is still so strong for the Music industry however, that we are keeping Music on the masthead even though there is little news and no revenue. A finer bunch of men than the old-time music merchants were never born. Now refrigeration is to the fore. One thing's certain, however. It will never drive out radio as radio drove out pianos.

The new name is still too long, far too long and the magazine must eventually become known as "Western Journal" which is what everybody calls it anyway.

* * *

Next Month "Ballyhoo"

The next issue of the Journal will be the first annual "Ballyhoo" number. We are going to print a lot of extra copies, because they will be in big demand.

For the first time in eleven years we are going to throw the pages of this issue wide open and uncork some stories that have been not exactly the proper thing to run in a respectable trade journal. Some pictures of "big shots" in this western industry taken in off-guard moments, or for publicity purposes that turned out too ridiculous to run. And some ads that tell the truth—and how.

So if you have any low down on anyone, some good snapshots, or if you can write some good Ballyhoo ads, news or editorials, send them in to us—right away quick. The issue will be out before Christmas.

DUMPING

EDITORIAL

of the

MONTH

By

H. R. CURTISS*

President

H. R. Curtiss Company



DAYS Are OVER

NOTHING can kill business quicker than unfounded rumor, idle gossip and business fears in general. The present condition of the world is proof positive of the results. More of the world's goods than we ever had before, yet business is afraid to move for fear something will happen.

This is particularly true of the radio business in this western country, right now. Rumors are afoot that there are some "big dumps coming." "So and so is in a bad way, liable to go smash any minute, or they have warehouses bulging to the doors with merchandise that they can't move."

I am here to tell you now that I am as certain as man can be that there is not a word of truth in any of these rumors. And I will state and sign my name to the statement that I feel positively certain that there will be no dumping of any consequence that will injure the business of the legitimate retailer this season. Those days are past.

Why? In the first place the guiding heads of the nation's leading radio manufacturers have learned through two years of so-called depression that over-producing does not pay. They know, down to the last figure, how much merchandise there is in their dealers' hands, in jobbers' stocks and in their own warehouses. And they have known month by month all this year.

* * *

*H. R. Curtiss, President of the Pacific Radio Trades Association, San Francisco, President H. R. Curtiss Co., San Francisco General Motors distributors, and President Philco Radio Sales Co., Los Angeles Philco distributors.

They have manufactured to meet demand, not to meet sales quotas.

I don't believe there is a jobber on the Coast who has a stock large enough to last for more than a very few weeks' needs.

And in the second place, even if by some slip or other there were excess merchandise, there is such a fine understanding between retailers and jobbers today that a profound effort would be made to move the stock through regular channels rather than "dump." I'm of the opinion that all retailers of consequence think enough of their jobbers to give them a chance to work off any excess merchandise offered them by eastern dumpers. And I am likewise of the opinion that if by chance a jobber were caught with excess stock that he would try to work it off through his dealers before resorting to dumping.

But if there is any excess merchandise of any consequence in this country I haven't the slightest idea where it is. There may be some sales of merchandise of little or unknown manufacturers and there may be a few sales of "warmed over" models, old models in different cabinets at a lower price.

But there will be no "dumps" of big name merchandise this season. The quicker the trade quits talking about it, or thinking about it, the better off the western industry will be. And watch business pick up as a result.

H. R. Curtiss



THE thousands who have always wanted a Brunswick Radio at a price they could afford are pre-disposed to buy now . . . For never before in Brunswick history have prices been lower, choice of cabinets wider, values greater.

It is good business to recognize the preference for Brunswick that exists in the radio buying public's mind—and to cash in profitably on this preference by concentrating your sales efforts on the new 1932 Brunswick line.

Brunswick offers eight new models at prices to meet every purse—\$39.50 to \$225 with tubes.

There is a difference in the musical quality of a radio . . . Hear it on the new

BRUNSWICK RADIO

MODEL 12

List Price \$84.50

Complete with Brunswick Tubes. 7 tube Superheterodyne in miniature highboy cabinet.



BRUNSWICK RADIO CORPORATION

NEW YORK · CHICAGO · TORONTO

Division of Warner Bros. Pictures, Inc.



WISE and OTHERWISE



ADVERTISERS have long since discovered that there is very little use telling their story to the public, unless they have something to tell. Human nature is human nature—and only the new and different will command attention. If the product itself cannot be changed, then the method of presentation, the package, the application of the product, or the sales appeal must be revised—hence new lines of “copy” refreshingly make their appearance.

* * *

Gillette's new sales appeal is sex-consciousness. The new appeal aims to make men shave in the evening as well as in the morning. It seems that milady prefers smooth chins. Thus the potential market for razor blades is increased. It will be interesting to watch the effect of the new merchandising strategy. It will show on the bearded chins of America—and on blade sales.

* * *

The Childs restaurant chain through its new lawyer-president has inaugurated a new merchandising plan which is proving very successful. The new plan is the “all-you-can-eat guest meal” at a fixed price. Net profits are growing.

* * *

Effect of Amos 'n' Andy

The Parmelee Taxi System in New York employs colored drivers to a considerable extent for many reasons—one of which is the intangible good-will from the broadcast of Amos and Andy's “Fresh Air Taxi Corpolation.”

* * *

Selling is a continuous job with the manufacturer. He must sell his product to his own salesmen, to the wholesaler, to the wholesaler's salesmen, to the retailer, to the retailer's salesmen, and finally to the public. Only the final buyer really purchases the product to use—all the others buy it to sell. Therefore salability is a prime requisite of any product—all along the line the question is asked “will it sell?”

* * *

To Re-discount Finance Paper?

A petition is to be presented to the Federal Reserve Board by the National Association of Finance Companies, asking that finance company paper be made eligible for re-discount. If the petition is granted, the interest rate on financial paper will be reduced. This



By SHIRLEY WALKER
Associate Editor

means reducing the biggest cost item in installment finance.

Naturally the reduction would be passed on to the consumer—competition among the finance companies would take care of that. More money would be made available with which the finance companies could do business. Installment selling would increase enormously. The fact is, we have only begun Installment Selling. This method of selling will apply to every commodity and service purchasable.

* * *

A Boom in the Making

Boom times make us careless. We take things easy. We get off the track. We ignore fundamentals and pursue the elusive. We bend every effort to secure “consumer acceptance” and “consumer demand.” We yearn to make the consumer “conscious” of our product.

But when the jolt comes and we face the facts, the thing that we most want is an order—a few real orders. So now instead of figuring on how much more money we can spend than our competitor on merchandising stunts, we are figuring on how much lower we can get our selling costs. We are even examining our product to find where we can improve it. We are going over our sales forces and eliminating the weak spots. We are analyzing the credit department, finding out what is done with an inquiry if ever and whenever one comes in.

We are even asking ourselves “If I, myself, were the customer, would I buy here or elsewhere?” And we are forced to truthfully answer “Elsewhere.” Then and only then we begin to wake up, buck up and accomplish things worth while. And when all of us do that—we are started on the next boom.

* * *

Complaints Are Valuable

A complaining customer is thinking intently about the company—he is in trouble—he is susceptible to big-hearted sportsmanship that excels all salesmanship. When the complain is settled artistically, his confidence in the company is beyond reach of competition. A good salesman recognizes the value of a complaint.

* * *

When you phone your office three times and get no answer, be thankful you are not a customer.

They're Licking Depression With

7 SIMPLE RULES of BUSINESS

WHAT they have *not* sold is as much responsible for the success of Holden Brothers, Portland radio dealers, as what they *have* sold.

Yet selling and declining to sell are results rather than causes in the Holden Brothers' story of success.

About nine years ago J. R. Holden and his brother Al, who has since sold out his interest and is now in California, opened a "hole-in-the-wall" radio shop. It was one of the first radio stores on the East side of Portland. The Holden boys started business with a small working capital and two bushel baskets of parts.

For the first couple of years the Holdens' didn't handle any made-up sets. They built battery sets themselves. A radio that worked fine in the shop in those days, might not work at all when it was set up in a home under different conditions. And there was when Holden Brothers laid down business principle No. 2. We will come to No. 1 in a minute.

Pleasing Customers

Business principle No. 2 was "Satisfy the customer at all costs."

"And it cost lots and lots of time and sometimes money, too," J. R. Holden said. It kept them on the jump servicing and adjusting sets.

While I was getting these facts from J. R. a customer came in with a tube he had got the night before. It didn't work very well, he said. "That's just the factory's hard

luck," said J. R., or words to that effect. He tested it, found that it was weak and promptly took out a new tube, tested it, found it was O.K. and gave it to the man. Rather than trying to make the customer feel that he was under any obligation because of the exchange, J. R. made it plain that he was entitled to a good tube in the first place, and that Holden Brothers weren't out a cent because the tube manufacturer was reliable and would make it good.

Would You Buy It?

Principle No. 1 was this, "Never sell a customer anything you would not buy yourself."

Right from the start that principle No. 1 was maintained with reference to everything sold. At first it meant that whatever set Holden Brothers built and sold a customer was one they would readily have bought themselves had they been on the buying end of the transaction. It was the best for the money. It meant that they must buy right. Today the firm applies that principle to washing machines, vacuum cleaners, refrigerators and all sorts of electrical appliances that they have added to their line.

Discount All Bills

Principle No. 3 is "Discount every bill." Today that isn't a difficult principle for the firm to live up to, but at first it was a terrific job. Private affairs of the Holden family put a heavy drain on the income from the shop and sometimes it seemed impossible to meet a bill

1. Never sell customers anything you wouldn't buy yourself.
2. Satisfy him at all costs.
3. Discount every bill.
4. Put five per cent of net profits into a sinking fund.
5. Don't sell your paper.
6. Make some improvement every year.
7. Spare no expense to improve, but don't waste.

by the discount date, but always it was met. And that discount has played an important part in the firm's success.

Keep Sinking Fund

Principle No. 4 was also a tough one to stick to in the early days. It was this: "Put five per cent of the net profits every month into a sinking fund to tide over dull times, to take care of emergencies, etc." Because it was adhered to from the start J. R. Holden could tell me that even if the depression con-

By Don Taylor

tinued for another three years the firm wouldn't have to worry about paying its overhead. Also because of this it has been able to establish Principle No. 5—"Never sell your paper."

And this is what Holden says about selling a first set to a patron: "It is just the opening of an account." And it is indeed that with a firm that insists that the customer be satisfied. In that connection, his advice is, "Don't be satisfied with selling a good set and telling the buyer that he'll get fine results in his home if he puts up a good aerial. Get him to pay for the erection of a good aerial, so that good results will be assured. If you can't talk him into paying for a real aerial, put one up for him anyway. His friends are your next customers. If he is satisfied they will certainly know about it."

No Salesmen

That Holden Brothers' customers have been satisfied is evidenced by the fact that though the store is located about three miles from the heart of the business district of Portland, they have sold sets all over the city—and they never employed a salesman. Most of the sets have been sold right off the floor without a demonstration, and until three years ago practically all sales were cash.

For all that the firm has handled its own financing and has treated the purchasers on contract as customers rather than as debtors, being lenient when necessary, they have had to repossess only four sets in three years—none in 1929, one in 1930 and three this year.

Old Customers—New Sales

As to proof of J. R.'s theory that the sale of a set is just the opening of an account, he said, "We have sold appliances to pretty near everyone we have sold a set to." And that includes washing machines, vacuum cleaners, irons, toasters, etc. "Last year," he said,



"We did a phenomenal business in appliances last year," says Holden, and sold appliances to nearly everyone we have sold a radio set to."

"we did a phenomenal business on appliances."

Every time the store mails out a monthly statement to a contract purchaser some little pamphlet advertising an electrical appliance is enclosed. And when the customer buys some appliance, the purchase price is added onto the contract, so that it is not paid up until the appliance as well as the radio is all paid for.

Serviceman Contacts

Incidentally, the service man carries a box or two of household light globes along with him and mentions that he has them and that the firm stocks them. "Oh, do you sell lamps," says Mrs. Housewife. Usually she discovers that she needs several. Gradually Holden Brothers have worked up a nice lamp business. They have acquired also some contracts to keep apartment house lamps up to standard, replacing the burnt-out ones.

Rule No. 6—"Make some little improvement every year." In the original shop that meant repainting the front or putting in some new

fixture. Then one year it meant moving across the street. Last year it meant putting up attractive drapes. Old customers coming into the store remark, "You fellows must be doing well."

"Never sing the blues," says J. R. "Too many dealers do that. The other day I was out servicing a set and I went into a radio store nearby for a couple of tubes. The dealer didn't know me, didn't know who I was, but he began crying about business right away. By the time he was through he had made me feel times were so hard that I shouldn't buy any tubes."

No Waste

Principle No. 7—"Keep the overhead down." Holden's spare no reasonable expense to make their store attractive, but they try not to waste one cent. "The other day the bookkeeper was going over our books," said J. R., "looking for any dollars that might be slipping through our fingers. 'I don't know one place where we could cut down a dollar,' he told me when he was through."

THEY'RE REFRIGERATION -MINDED NOW!

By CHARLES R. KIERULFF

Kierulff & Ravenscroft



MANY dealers within the past year have shown their interest in the sales possibilities of electric refrigeration, by adding this line to other lines they had been previously pushing for a number of years.

Their rather sudden decision to add electric refrigeration to their business was probably caused more or less by the recent contact with distributors' salesmen continually talking refrigeration to them, but back of all this must be the feeling that there is a very definite demand for such a commodity.

Everyone's a Prospect

It is admitted by almost everyone who is interested in the sale of electric refrigeration that everybody is a potential customer. There seems to be a certain amount of interest shown wherever it is talked. Finance companies state that those who have purchased electric refrigerators on these contracts almost invariably pay out their contracts, and repossessions are extremely few in comparison with other commodities sold on the time payment plan.

One large finance company only recently stated that electric refrigeration paper had proved the safest of all the different commodities financed by them. This must show the value of refrigerators to those who have purchased them.

Sales figures for the past ten years show a gradual rise up to about 1925. From then the sales

curve mounts upward more rapidly, until it has reached gigantic proportions in the last year. It has been reported that the 1931 sales of electric refrigeration totaled over half as much as the total sales in the hardware business; that it has already passed the sales of many great industries and still we hear on almost every hand that refrigeration has only entered the homes of approximately ten per cent of the people.

Electric current is being used by more people each year, as is proved by the yearly increase of meters in the homes. Even though we have had a falling off in the use of other essentials, electricity is going into more and more homes and the use of electrical appliances is becoming more general each year.

Public Health-Minded

Why has electric refrigeration jumped so into prominence only recently, as compared to other electrical appliances which have been on the market for years? The answer lies, to a great extent, in the constant drive for better health.

Let us bring to mind, for instance, the thorough tests that milk goes through before being distributed to the consumer, remembering that people are actually willing to pay a higher price for brands of milk that they know have been thoroughly tested and have a full content of butter fat and a minimum content of bacteria. One very important feature in the milk busi-

ness today is the quick cooling of milk in order to keep down bacteria.

Consider the ability of the butcher to deliver better meats because of refrigeration, and the fact that people are willing to pay higher prices for meats that have been carefully selected and kept in this manner. Consider that transportation companies are spending thousands of dollars in experimenting with refrigerated trucks to transport foods of various kinds, in order to be able to deliver them to the ultimate consumer in more nearly perfect condition.

It seems only logical that the answer is, people want purer foods to keep them in better health and are willing to pay the price. If they have been willing to pay more for better milk, which has been refrigerated, and better food of all kinds because it has been kept in better condition for them through refrigeration, isn't it only logical that they should feel, subconsciously perhaps, that foods should be kept this way in their own homes? People are spending more time than ever before in keeping themselves healthy or seeking better health. Magazines are aiding to this desire.

Sales of many commodities hold the temptation before the customer of offering them better health in one form or another. It seems only reasonable that electric refrigeration should appeal to everyone from this standpoint, whether they consider it or not from this view-

(Continued on Page 18)

Three Amazing New Profit Makers by GENERAL MOTORS RADIO



General Motors Radio now presents three amazing new products — two additional low-priced radio receivers and an entirely new idea in radio, the G. M. R. Super-Heterodyne Converter with remote control. Live-wire dealers will recognize in these three new profit-makers a real opportunity to increase their business through both new and old customers. What you need today is a set

The G. M. R. Super-Heterodyne Converter with Remote Control

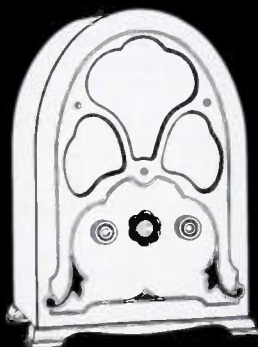


The G. M. R. Super-Heterodyne Converter, newest achievement in radio, has a two-fold purpose. 1. It converts tuned radio frequency models into highly selective, fine-performing super-heterodynes. 2. It provides remote control over all stations in the full broadcast range — a thirty-foot extension cord makes it possible to place the converter wherever it is most convenient. Here is a sensational new profit-maker in radio that every present owner will want.

List Price **\$49⁷⁵**
complete

for every purse and preference. That is just what General Motors Radio offers—17 models, \$39.50 to \$350, complete with tubes—plus radio's newest achievement—the Super-Heterodyne Converter, which makes a prospect for you out of every radio owner in your territory. Write or wire at once for the complete story of radio's great profit line.

General Motors Radio Corporation
Dayton, Ohio



6-tube Improved Super-Heterodyne

THE LITTLE CORPORAL

List Price **\$39⁵⁰**
with tubes

Lowest-priced model ever offered by General Motors Radio, the Little Corporal combines exceptional performance with attractive appearance and high utility. Its six-tube Improved Super-Heterodyne chassis with Pentode power tube rivals many large and expensive radios in range, selectivity and tone quality. The convenient size of its fine walnut-finish cabinet makes it a desirable model even in homes where larger sets are now owned.



7-tube Improved Super-Heterodyne
with Automatic Volume Control

THE SALEM

List Price **\$69⁵⁰**
with tubes

The Salem, seven-tube Improved Super-Heterodyne with automatic volume control, takes rank as one of the greatest values in radio today. In a smart full-sized walnut-finish cabinet, it is attractive in appearance as well as remarkable in performance. Its wide range, sharp selectivity and beautiful tone compare favorably with the fine reception of the highest-priced sets produced.



Here's part of the mammoth crowds attracted to the Los Angeles Radio and Refrigerator Show at the Ambassador Hotel auditorium. While no attempt was made to sell merchandise at the show, exhibitors have reported many purchases made in the display booths.

Norge Active At Show

Norge refrigerators, exhibited by the Norge Pacific Company, Los Angeles, were prominently displayed at the recent Los Angeles radio and refrigeration show.

In addition to the large refrigerator display, an active part in the entertainment program of the show was taken by Joseph Herzstan, president of Norge Pacific Company, and his assistant, Mr. Waterman. They sponsored a newsboy race in which the boys ran three miles from the city hall to the show auditorium. Medals were awarded the winners between broadcasts in the evening.

Besides the Norge line of refrigerators, several models of new type water coolers were on display in the Norge booth. One large model was used to furnish cool drinking water to the show visitors.

Through one of the downtown dealers, the Birkel Music Company, a prize drawing contest was held, in which a Norge refrigerator was given to the person holding the key to a large padlock. Yale keys were given to all who requested them at the booth, and interest in the event was remarkable.

Record Crowd at L.A. Show; Refrigerators Make Big Hit

The Los Angeles Radio Show held at the Ambassador Hotel in Los Angeles packed the largest single crowd ever to be in the auditorium in any prevent Show held at the Ambassador. On one night 17,400 people crowded into the auditorium, and packed it so solidly that it was necessary to rope off the entrance to withhold further

admittance for some 30 minutes until part of the crowd could make an exit, certainly proving that there is plenty of interest in radio.

All exhibit spaces were sold a week before the Show opened, in spite of the fact the entire Show was staged in two weeks and a half.



Norge booth at Los Angeles Show, one of the refrigeration exhibits that created great public interest.

The Show ran three days, Friday, Saturday and Sunday, which did not interfere seriously with the usual run of business activities. The Show was run on a co-operative non-profit basis, a new departure in radio Shows, booth space selling for \$30.00 and \$40.00. Practically all the major lines of radio and refrigerators were represented. The Radio Show Committee consisted of John Boothe, Chairman; Curtiss Abbott, Treasurer; Walter Fagan, Al Farquharson, Bert Knight, Clarence Mansfield, E. R. Patterson, "Tommy" Thompson, and Wallace M. Byam, Executive Secretary and Show Manager.

Holding extensive dealer meetings for RCA Victor merchandise, E. S. Carter, Northwest RCA Victor district manager, and R. F. Meggee, president of Harper-Meggee, Inc., northwest distributor, have just returned from a tour of Northwest cities.

Open house meetings were held in Seattle, Portland, and Spokane, and numerous dealers in the territory were called upon individually. The territory covered by both Carter and Harper-Meggee includes Washington, Oregon, Northern Idaho, Western Montana, and Alaska. Carter's headquarters are at 1008 Western Ave., Seattle.

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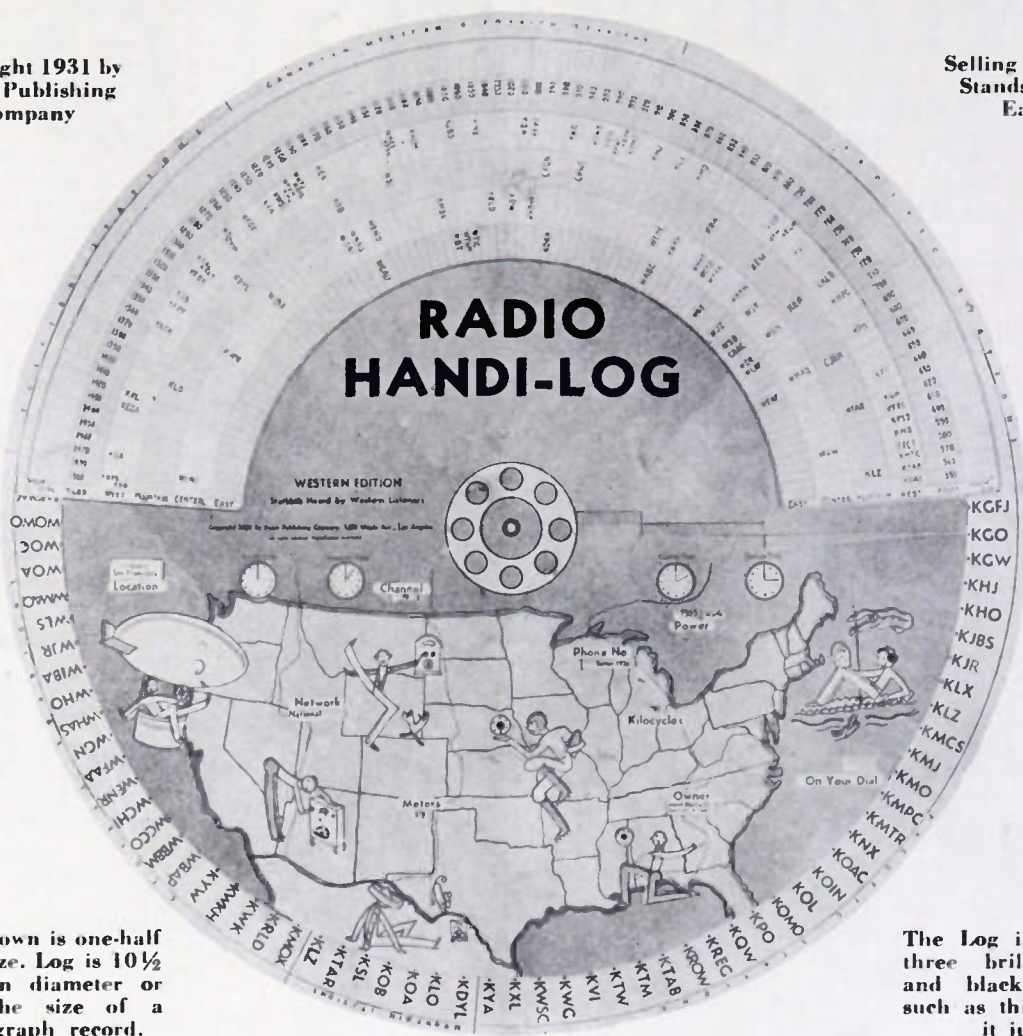


Photo shown is one-half actual size. Log is 10½ inches in diameter or about the size of a phonograph record.

The Log is printed in three brilliant colors and black. A photo such as this cannot do it justice.

You'll Say It Is the—

It is as simple as A B C. The card carrying the station call letters revolves around the card with the map and dial. Dial any station to where it comes opposite the flashing red arrow (see KGO above) and all the information you want is seen through little windows. It gives you the LOCATION, Street Address, City and State, CHANNEL, NETWORK, METERS, KILOCYCLES, TELEPHONE NUMBER, POWER, OWNER, and a place for you to write where it comes in ON YOUR DIAL.

Any woman or child can use it. By referring to semi-circular dial above and logging the "easy-to-get" stations, anyone can immediately and easily find where any station will come on any radio regardless of how it is marked.

Intriguing. Beautiful. All Western and Mountain stations, and all powerful Central and Eastern, Canadian, Mexican and Foreign stations. Two hundred additional stations on back, including Television and largest Short-wave stations. Also sensible information on how to tune for tone and distance.

Everyone that sees one wants one. The biggest Novelty in radio. Send for a sample and you be the judge.

...Cleverest
...Simplest
...Most Complete
...Most Beautiful
Log You Ever Saw!

Sell them. Give them as Xmas gifts. Give one with every sale. Plenty of room for your own store name rubber stamp, or print your ad on them.

Send 25c for Sample
and Quantity Price Quotations

BYAM PUBLISHING COMPANY
1220 Maple Ave. Los Angeles, Calif.

NOVEMBER HITS

You Can't Go Wrong On This Selection of The Latest Recordings

Reviewed exclusively for Western Radio & Refrigeration Journal.

Victor

- Guilty**—Here is a radio hit with sweet, unusual, lilting melody. Ernie Birchell sings the vocal choruses. (Wayne King's Orchestra.)
- I Don't Know Why**—With a new kind of introduction, King gives a dandy interpretation to this swinging, catchy foxtrot. Quartet sings. (22817.)
- Blue Kentucky Moon**—The best waltz of its type since Carolina Moon. Song chorus by quartet. (Wayne King's Orchestra.)
- My Moonlight Rosary**—A smooth dance number, with soft violin obligato to vocal quartet. Similar to "Among My Souvenirs." (22820.)
- I Love to Hear a Military Band**—This is a clever novelty collegiate number by the band that made "Piccolo Pete" famous. Band effects, hot foxtrot arrangements, snappy lyrics and song choruses. (Ted Weems.)
- Oh Mo'nah**—A fast, scorching foxtrot, with vocal quartet, and hot rhythm guitar. (22822.)
- Goodnight Sweetheart**—A sweet sentimental ballad by the sensational new radio baritone, Russ Columbo of NBC. This tune came from England.
- Time on My Hands**—Another sweet ballad by Russ. (22831.)
- Lies**—Harry Barris, of the Coconut Grove, concocted this number, a melodious, rolling foxtrot with vocal refrain by Dave Marshall. (Gus Arnheim.)
- Put Your Little Arms Around Me**—Arnheim's latest composition, a smooth dance tune, with singing by Loyce Whiteman and The Three Ambassadors of the Coconut Grove. (22853.)
- Was It Wrong?**—A radio hit by Gus Arnheim. Muzzy Marcellino sings it. (Lofner-Harris St. Francis Hotel Orchestra.)
- River, Stay 'Way from My Door**—A popular hit with Phil Harris, the boy with the "basement baritone," moaning it in his trick voice. (22831.)
- When It's Sleepy Time Down South**—The King of Jazz grinds out another elaborate arrangement of this new dance hit. Has a slow, rolling tempo. (Paul Whiteman.)
- Can't You See?**—Another by Whiteman. (22828.)

Brunswick

- Too Late**—Here is Bing's latest recording—a sentimental ballad, already a hit over the air.

Goodnight, Sweetheart—They're all taking a crack at this number, and Bing Crosby, the \$10,000 a week boy, really sings it. (6203.)

Heebie Jeebies—A hot, snappy arrangement by this popular radio trio from the West. Plenty of toe-tickling rhythm, and the usual Boswell vocal cut-ups. (Boswell Sisters.)

Shine on, Harvest Moon—The Boswells also go to town on this old Nora Bayes tune. (6173.)

A Faded Summer Love—Another new recording by Bing Crosby, backed up on the other side by

Now That You've Gone—Both good numbers. (6200.)

I Don't Know Why—(I Love You Like I Do)—They're all whistling this one, a radio favorite. (Bennie Krueger's Orchestra.)

I Idolize My Baby's Eyes—(6185.)

This Is the Missus—Arranged, played, and monologued, as only the "Old Maestro" can do it, this hot foxtrot is a dandy recording of a good hit. (Ben Bernie.)

Life Is Just a Bowl of Cherries—From George White's Scandals comes this unusual number, a sweet foxtrot a la Ben Bernie.

Oh, Peter, You're So Nice!—Red has a hobby of resurrecting oldtimers and dressing them up. Here's a six-year-old hit in a new arrangement. (Red Nichols.)

Honolulu Blues—Another scorcher by the Five Pennies. (6198.)

When It's Sleepy Time Down South—They're crying for this new one. And it's sung by Mildred Bailey, soloist with Paul Whiteman but recorded here with the Casa Loma Orchestra.

Blues in My Heart—Another by Mildred Bailey. (6190.)

Columbia

Goodnight, Sweetheart—Favorite popular number of the King and Queen, this English number is an American hit. Carmen Lombardo warbles. (Guy Lombardo's Canadians.)

I Wouldn't Change You for the World—A unique love song, sweet and easy-going. Paul Small does the vocal work. (2548-D.)

Can't You See?—(Ipana Troubadours.)

Who Am I?—A sweet foxtrot, and an instantaneous radio hit. Vocal refrain by quartet and tenor. Rolling, smooth rhythm. (Ted Wallace's Boys.)

Waitin' for a Call from You—Swing-

ing foxtrot, snappy tune and good words. Vocal by quartet. (2549-D.)

Charlie Cadet—A lively, collegiate march, written by Rudy Vallee. Best since Stein Song, Betty Co-ed, etc. A male quartet, the Rondoliers, sing it. (Ben Selvin.)

Little Mary Brown—Here's a snappy foxtrot, with good lyrics and tune. Quartet sings, and there are some hot fiddle and piano parts. (2554-D.)

Call Me Darling—This one is a waltz, simple and plaintive with some pretty accordion choruses. (The Cavaliers.)

A Faded Summer Love—The first foxtrot to be recorded by the Cavaliers, and they turn it out in great shape. Another popular radio number, sweet and catchy. Vocal refrain by male quartet.

Goodnight, Sweetheart—As usual, Ruth Etting puts herself over in a big way with this popular European number.

A Faded Summer Love—Ditto for this one. It takes on a new appeal when sung by a woman. (2555-D.)

Aimee Semple McPherson and David Hutton—These two evangelistic newly-weds decide to perpetuate the memory of their romance by recording some of the highlights. They also harmonize in some Four Square Gospel hymns. (2561-D.)

Refrigeration-Minded

(Continued from Page 14)

point. The appeal is subconsciously there. That is the reason why most people seem to be so much more interested in electric refrigeration when it is brought to their attention, than they are in many other commodities which they do not own.

Sales Possibilities

Advertising has made people more conscious that refrigeration is a real necessity in their homes. The sales possibilities are proven because of the astounding increase in the sale of electric refrigerators, as compared with increases of any other electric specialties, or sales of other commodities designed to give comfort and afford better living conditions for the consumer.

From 1929 up to the present time, considering that we are going through a very serious depression, electric refrigeration has nevertheless gone forward by leaps and bounds. The interest of the people has very definitely been shown and the future sales possibilities for the dealers handling electric refrigeration should be tremendous.

COLUMBIA

TELE-FOCAL RADIO

Superheterodyne Models with Multi-Mu and Pentode Tubes

● These headliners of the Columbia line are showing dealers how to make more out of radio.

● Follow the line of least sales resistance—it's a fast moving profit maker.



Model C-34

In this model, the glorious voice of Columbia Radio is housed in a strikingly beautiful cabinet of the Sheraton style of design. The offset front posts are fluted and are ornamented at top and bottom by cross hatching. The legs are turned and fluted. The front of the cabinet, in rich butt walnut veneer center matched, is relieved by corner carvings at top and is framed by a shaped moulding and base rail finished with red wood burl. Serpentine tie rails and turned stretcher complete the picture.

Dimensions: 39½" high, 23" wide, 13¼" deep.

List Price, complete with Columbia Rapid-Heating Tubes, \$87.50.



Model C-33

A compact radio in a rich cabinet of distinctive design, suggestive of Hepplewhite. The carved shell-and-spray ornamentations, at the top, flow into the graceful grille opening of slender straight-line simplicity. At the base of the grille members, small carved ornaments further enhance the effect. Truncated ball feet give an air of sturdy solidity, while the butt walnut panel sets off the whole. A thoroughly distinctive and beautiful piece of furniture, this with a pure tone quality insured by the heavy ply construction.

Dimension: 19¾" high, 15 1/16" wide, 10¾" deep.

List Price, complete with Columbia Rapid-Heating Tubes, \$67.50.

Write for details of the Columbia Radio Line, complete specifications, folders, window cards, etc., to

Columbia Phonograph Company, Inc.
55 Fifth Avenue, New York City

Columbia Radios



TM Trade Mark Reg. U.S. Pat. Off.
M. S. J. M. Inc. Regd. TM 14433 p. 18434 or 0 de
Regd. 1925 p. 18434 or 0 de Regd. 1926 p. 18434
Subsidiary Regd. 1926 p. 18434 or 0 de

SO. CAL. GROUP ELECTS OFFICERS

John Boothe, one of the best known music and radio men in the West, and manager of the radio department at Barker Bros., Los Angeles, was elected President of the Los Angeles Radio and Music Trades Association at a recent meeting of the Board of Directors. This is the second time Mr. Boothe has been President of this Association. He is a past President of the Western Music and Radio Trades Association. Mr. Boothe says:

"These past few years have been difficult for all Associations, but there is a greater need for Association activity today than ever before. With the service the Southern California Music and Radio Trades Association is giving to radio dealers in this territory I do not see how any dealer can afford not to be a member, and take an active part in Association activities."

Other members elected on the board are: W. C. Hitt, Chas. Weinberg, of the radio manufacturers' agents, L. E. Fontron, of Martin Music, R. J. "Tommy" Thompson and Fred P. Prentice, from the radio jobbers, Mr. F. McBrinkerhoff, Platt Music Co., from the music trades, Frank W. Thomas, retailer, Naylor Rogers, KNX, John W. Swallow, KFVD, R. J. McNeely, of Gilfillan Bros., and C. E. Routh, Columbia Phonograph Co., director at large.

San Diego Jobber Handles Bosch

Motor Hardware and Equipment Company, San Diego, Calif., with a branch at El Centro, Calif., is the latest addition to the list of American Bosch radio distributors on the Pacific Coast, according to George W. Stackman, Pacific Coast division manager of the United American Bosch Corporation. Territory assigned to the new jobbers includes San Diego and Imperial counties.

Heading the organization is T. C. Hammond, president; John S. Hawley, vice-president; and C. W. Hammond, secretary-treasurer. Radio sales and promotion are under the supervision of C. W. Hammond. Motor Hardware has been a prominent automotive distributor for more than a quarter of a century.

A radio and electrical store has been opened in Morgan Hill, Calif., by Don Hirscher and W. H. Pillow. The Majestic line of radios and refrigerators is handled, together with A.B.C. Washers and other electric household equipment. The store also contracts for house-wiring, repairing and servicing.

H. R. Curtiss Re-elected Head Of Pacific Radio Trades Ass'n

Ray Thomas Adds Refrigerator Line

Westinghouse Electric Company has opened Southern California territory for electrical refrigerator distribution with the appointment of Ray Thomas, Inc., Los Angeles, as jobber.

Since the Thomas appointment, plans for the organization of sales and service units have been put into action, with locations in Pasadena, Hollywood, Long Beach, San Pedro and other cities.

Display boxes of five sizes have already arrived from the Westinghouse factory, and selling has begun.

Bill Cross, president of the East Bay Radio Retailers' Association, an affiliation of the Pacific Radio Trades Association, has been re-elected president for the coming year.

Other officers elected at the annual meeting were: Frank C. Saxe, vice-president; Carl Alexander, L. A. Cochran, Russell J. Franck, Olin S. Grove and Lawrence E. Reed.

H. R. Curtiss, president of the H. R. Curtiss Company, California distributor for Philco and General Motors radios and Servel refrigerators, has been unanimously elected president of the Pacific Radio Trades Association.

Curtiss has been many years a leader in radio trade activities. He was a director of the association at the time it entered upon its active and comprehensive program to eliminate local and neighborhood sources of interference by "policing" electric lines, telephone lines and similar sources of trouble. He states that during his regime this work will be extended, and has requested that all complaints be turned into the association.

Supporting Curtiss as officers are George H. Curtiss, re-elected executive secretary; L. B. Quimby, vice-president; and Lee Blair, Ralph Brunton, G. L. Cane, W. W. Cross, R. O. Hurd, Henry Lapkin and A. H. Meyer.

The Pacific Radio Trades Association is the oldest in the West, having been established in 1921.

Submerged Unit Display Creates Interest at Show



Servel exhibit at the Los Angeles Show.

One of the unusual and attention-drawing exhibits at the Los Angeles radio and refrigeration show was the display of the H. R. Curtiss Company, distributors of Servel refrigerators.

A Servel hemetically-sealed unit was mounted in a large metal tank, and completely submerged in water. The tank was arranged so that the immersed unit was plainly visible in action to the interested passersby.

The Servel display was arranged

and managed by Stanley Curtiss, manager of the Southern California branch of the H. R. Curtiss Company. The refrigerator models were attractively arranged, with large, life-size cardboard cut-out displays of ladies beside the boxes.

Curtiss reported a good public response to the exhibit, and was pleased with the amount of interest taken in the submerged unit display.

Ex-Talkie Official Designs Recorder

Something new in home recording, and one which has all the prospects of being a money-maker, is the new "Electro-Vox" Recorder, produced by the Electro-Vox Laboratories, Inc., Bendix Bldg., Los Angeles.

The Electro-Vox is a complete sound studio, requiring a space not much larger than that required by an ordinary phonograph. It has been developed by Bert Gottschalk, formerly with Warner Brothers and other major film studios and now sound engineer for Electro-Vox. The company is under the personal supervision of Thomas F. Duke. Also associated with Electro-Vox is Walter K. Jahn, former chairman of the board of the W. K. Jahn Company, manufacturing chemists.

The Electro-Vox combines both the recording device and the phonograph play-back. It uses an alloy disc, especially pre-treated, embossing on the blank disc the sound, with the simultaneous cutting of the needle groove. The resulting disc is free from surface noise, and has exceptional tonal range and sound quality. The record may be played immediately after the recording is made, and has long life. In addition to other features, the instrument is capable of recording at the ultra-slow speed required for the new slow-speed phonographs.

At present, Gottschalk is conducting demonstrations and personal recordings at Wurlitzers, Inc., 816 So. Broadway, Los Angeles.

Auburn-Fuller Named Gilfillan Jobber

Radios for police motorcycle, automobile, airplane and motor boat use are being distributed by Auburn-Fuller, Los Angeles distributor of Auburn cars and Gilfillan automobile radios.

The new sets for motorcycle use have been co-engineered by Auburn-Fuller and Gilfillan Brothers, Los Angeles, manufacturers of Gilfillan radios and refrigerators.

The motorcycle sets are short-wave, locked at a certain wavelength. The speaker is located between the handlebars, and the batteries located in a double "saddlebag" attachment at the rear of the machine. An ingenious, compact aerial is also part of the equipment. This instrument is nationally distributed by Auburn-Fuller, as are the airplane and motor boat models. The company is Southern California jobber for Gilfillan auto radios, and also is distributor for Stinson airplanes.

J. M. Roush has been appointed manager of the radio department of Auburn-Fuller.

W. J. Aschenbrenner Killed in Accident

W. J. Aschenbrenner met with an accident while boarding a morning train at Burlingame from which he succumbed that afternoon. He had burned his hand while lighting a water heater in the morning and had his hand covered with salve, causing him to lose his grasp as he caught the hand rail. He died from nervous shock and loss of blood and was conscious and cheerful to the last.

Aschenbrenner was salesmanager of Thompson and Holmes, Majes-



"Asche"

tic distributors in San Francisco. He was born in Covina, California, was graduated from University of California as an attorney, specializing in mining law. He practiced but a few months when he became connected with the San Francisco Chamber of Commerce, where he remained for several years, until appointed field secretary of the Pacific Radio Trades Association. In the secretary's chair he made thousands of friends all over the West, and in addition to his duties managed the last public radio show in San Francisco in 1929. He resigned his position with the Association soon after to become salesmanager of the Frederick H. Thompson Co.

He leaves his wife Alice and two sons at the Burlingame home, and a father and mother nearing the century mark in Covina.

Demerest Joins Cooke

Perry Demerest has become associated with "Bill" Cooke to assist with sales activities and office detail. Although Cooke acts as western manager for Sylvania tubes, National short-wave receivers and equipment and a number of other lines, he does business strictly as a manufacturer's agent and is the sole owner. Cooke reports a greatly increased interest in short-wave apparatus with the advent of colder weather and the general interest in distance.

To Manufacture New Converter

Henry Gardiner, well-known western radio executive, in combination with F. Francis Hutchinson, have organized the Hutch-Gard Corporation, to manufacture an interrupter-converter which operates from an ordinary six-volt battery and produces 110 volts of 50 or 60 cycle current in sufficient quantity to operate a six or seven tube radio set without too great a drain on the battery.

The device is very small, about 4"x4"x8". It mounts under the floor board or on the dash in the engine compartment. Mr. Hutchinson has been perfecting this model in his laboratories for the past year. The first production models are now coming off the line to be distributed to jobbers and retailers. Mr. Dunlap, former Southern California representative for General Motors is representing Hutch-Gard in Southern California.

The device may be fitted to a number of uses. It will operate small electrical devices such as waffle irons, curling irons, percolators, etc. When used to operate a radio the tone is said to be superior to the average automobile radio due to the fact that ordinary high powered AC tubes can be used. Also there is not as much interference from noises in the car. A special model is being made for use as a B eliminator in automobile radios.

The device is said to be exceptionally efficient, and fool-proof. It has only one moving part and is provided with an automatic cut-out, always leaving enough energy in the battery to start the car.

The "Hutch-Gard" converter is adapted to a number of other uses such as transmission of power, experimental and laboratory work, etc. The address of the firm is known as the Hutch-Gard Corporation, Monadnock Bldg., San Francisco, California. Henry Gardiner was formerly Western manager for Sonora Phonograph Company and more recently San Francisco manager for General Motors.

L. V. Pippen, formerly credit manager of Western Radio, Inc., Los Angeles, has joined the personal Service Bureau, 1070 N. Vine Street, Hollywood, as manager. The Bureau, which for 10 years has specialized on automobile contracts and collection, has recently organized a special radio department, for service in collections, repossessions, "skips," inspection and credit reports.

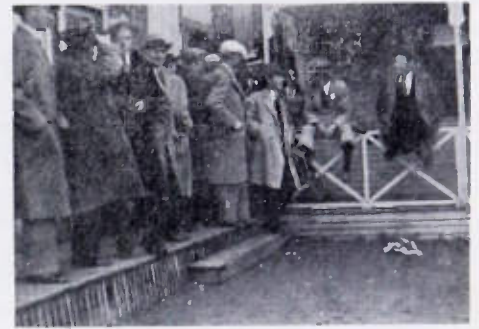
Demerest is well known in Southern California through his former connection with the Radio Supply Co.

Philco Men Make Annual Whoopee on Ensenada Trip

"Best Time in Years" Is Verdict After Yearly Cruise to Mexico



Tommy Thompson sets 'em up for the crowd.
Right, a dignitary in the Abba Dabba initiation ceremonies.



Harry Boyd Brown, a graduate of ye washing machine,
door-button institute.
Right, the less caption the better for this one. Ask the boys who were there.



What Ho! A little game of "penny ante."
Right, H. R. Curtiss, Host and Commodore of the cruise.

The week-end of November 20 the Philco Radio Products Company of Los Angeles (formerly H. R. Curtiss Co.) were hosts to Philco dealers on the second annual Philco cruise to Ensenada, Mexico. With H. R. Curtiss, H. L. McWhorter, Harry Boyd Brown, Cliff Bettinger and Tommy Thompson on the bridge as sponsors of the cruise the chartered ship Ruth Alexander pulled out at eight Friday evening for Ensenada. Then the fireworks began. What the losses and winnings were the next morning probably never will be known. The ship anchored off Ensenada at noon Saturday but

between the Notre Dame-U. S. C. football game coming over the ships official Philco and a very rough sea the boys did not get ashore until between three and four. At that one of the shore boats cracked up and nearly spilled a couple of thirsters into the drink. From then on—well. The last man was tossed aboard and dragged up the gangplank at 2 a. m. and the boat headed for home. Sunday was spent "quietly" with the Abba Dabba Initiation.

Winners of the sales contest which culminated in the cruise were L. G. Dill first, W. C. Chew, second and Robert R. Kay.

Phoenix Dealers Sponsor Successful Radio Show

The First Annual Radio and Refrigerator Show of Phoenix, Ariz., has been successfully completed with very satisfactory results, according to officials. The show was sponsored by food, refrigerator and radio dealers of the city. One day was devoted to women's clubs, and lectures on food and utilization of home appliances were given.

Programs were presented during the days and evenings, many of which were broadcast over Phoenix radio stations.

Jobber Holds Service Meeting

F. L. Drake, district representative for the Sparks-Withington Company, manufacturers of Sparton radio, and their service engineer met with the thirty dealers in the intermountain territory in Salt Lake City, Utah. W. L. Coutts, manager of Motor Equipment Company, Sparton distributor, conducted the meeting.

Manager Fox of KDYL's broadcasting station has just returned to Salt Lake from a trip East attending conventions and also visiting at the headquarters of the Columbia Broadcasting System, of which his station is a part. Recently Mr. Fox and Phil Lasky attended the San Francisco convention of National Broadcasters.

FELT RADIO CO. DISTRIBUTES PILOT

The Felt Radio Company, Salt Lake City, has taken over the distribution of the Pilot line in Salt Lake City. The State Street branch of the Felt store was recently moved into the basement of the Main Street store. Manager Ripley tried the idea as an experiment, and specializes on "ham" and "kid" trade downstairs, finding it well worth while.

Completely remodeled new quarters have been provided for the Avalon Radio Shop, 4323 Avalon Blvd., Los Angeles. In addition to the Majestic line, A.B.C. Washers are handled.

William Longfellow, former salesman at Chanslor and Lyons, Southern California Zenith distributors, has been appointed salesman of Chanslor and Lyons at San Francisco.

Lyons is well known in Southern California, having had connections with Pacific Wholesale, Inc., Sparton distributor, Fey and Krause, Atwater Kent, Edison, Philco and others.

He has already taken charge of the San Francisco office, and has begun active work.

ARCTURUS EXTENDS EASTERN BOUNDARY

The eastern boundary of the Western Division of the Arcturus Radio Tube Company has been extended to include the state of Utah, according to L. P. Naylor, manager of the division.

Naylor, whose headquarters are in Los Angeles, visited Salt Lake City and other parts of Utah, laying plans for a special campaign.

That television sets retailing at less than \$150 will be on the market within 18 months was the opinion of Herbert Hoover, Jr., in an address made at the California Institute of Technology, Pasadena, Calif.

The statement was made on the basis of demonstrations by Phil Farnsworth, television engineer of San Francisco, witnessed by Hoover recently. Farnsworth himself made the startling statement that he has overcome nearly every obstacle to television perfection, and soon would be able to prove his assertion.

Exclusive Radio Business Profitable, Says Sparks

Asked to comment on an article in a publication which said that radio could no longer be sold through exclusive radio dealers, and that the unit of sale had become too small to support a store on radio profits alone, Capt. William Sparks, president of Sparks-Withington, Sparton manufacturers, had the following statement to make:

"If the writer of this article meant that radio must become a sideline to other lines of business, I believe he is wrong. If he meant that other lines could and should be handled by the radio dealer with profit, he is, within certain limits, right.

"The exclusive radio store can't hope to sell low-priced sets over the counter on demand only and continue indefinitely. Neither can any other type of dealer comparable to radio.

"Can a dealer exist on radio alone? It is obvious that radio is a business, demanding concentration and effort that prevents it from becoming a sideline to any other. The man who wrote that article did not, I believe, know the radio business. He only saw the visible side—the selling of sets over the counter, with that as the end of the sale. Radio with its logical ramifications can be a

Crosley Officials Visit Salt Lake Jobber

Manager H. S. Eskuche of the Western Supply Company, 120 Pierpont Ave., Salt Lake City, entertained officials from the Crosley radio factory recently.

Eskuche also arranged a clever newspaper tie-up when Seth Parker, National Broadcasting Company artist, visited Salt Lake with his famous troupe. The Seth Parker group was met at the station by Western Supply officials, who photographed them with one of their stock model sets, using the resulting illustration in an ad headed "Seth Parker's Jonesport Folks in person at the Kingsbury Hall tonight. Listen to them every Sunday night with the latest Crosley."

ARCTURUS BUILDS POWER TUBES

Arcturus Radio Tube Company, Newark, N. J., has announced that it is now completing the development of large power tubes for broadcasting and industrial uses.

Allan B. DuMont, formerly chief engineer for the DeForest Company, has been retained by Arcturus in a consulting capacity for this purpose.

UTAH DEALERS HEAR OLESON

At the November 13 meeting of the Mountain States Music & Radio Trades Association in Salt Lake City, H. L. Oleson, electrical engineer of the Jewel Electric Instrument Company, Chicago, attended. Oleson also gave an address on "Problems in Set Servicing, Tube Testing, and Tube Selling" in the evening at the Newhouse Hotel, before a large gathering of service men and dealers. His subjects included receiver analysis, r.f. circuit adjustment, tube merchandising and shop equipment.

Ben F. Darnell, proprietor of the Darnell Radio Stores, was recently named as the committee's selection for president of the Downey, Calif., Kiwanis Club. Darnell has been vice-president of the club the past year, and has been active in its affairs.

Collins Lane Change Name

The Collins-Lane Company, 1414 West Seventh Street, Los Angeles, Southern California distributors for General Motors radio, has become W. H. Collins Corporation, Ltd., according to Wilbur H. Collins, president.

C. E. Patterson, well-known to the trade, has been appointed general manager of the company. There was no other change in the existing personnel made, Collins said.

Wing's Radio Service has opened for business at 525 Main Street, Watsonville, Calif., with a full line of RCA Victor, General Motors, Crosley and Zenith models.

By the use of a special alloy in the manufacturer of hair-springs, a watch has been designed by the Hamilton Watch Company, Lancaster, Pa., as especially suitable for those who come into constant contact with electrically operated machinery or strong magnetic fields. The watches are said to be immune to magnetization, and close association with a powerful magnet will not impair its accuracy.



Universal Microphones BABY MIKE
List Price \$7.50

Proved Values—Superior Performance

Unparalleled values at rock-bottom prices. Enthusiastically endorsed for every sound use. Exclusive design features. Super-careful workmanship. Tested performance. Complete line of microphones, stands, cables, etc. at challenging prices. Unconditionally guaranteed. Consider carefully the UNIVERSAL line before you buy. For sale by dealers everywhere.

2-Button Hand-Mike, List Price \$15
UNIVERSAL MICROPHONE CO., LTD.
1163 Hyde Park Blvd., Inglewood, Calif.

Kolster Engineer Fetes Salesmen

Members of the radio sales department of Olds, Wortman and King department store, Portland, Ore., were guests recently of Walter V. Russ, field engineer of the Kolster International western division, at a dinner at the Heathman Hotel.

The department store is exclusive downtown dealer for Kolster in Portland, and Russ explained the various features of the Kolster line to the radio sales force. Russ' headquarters are in Los Angeles, but Portland is his home town, where he operated an amateur station for a time. Later he was assistant to the late O. R. Redfern.

The dinner was arranged by W. W. Wheat of the North Coast Electric Company, Portland distributor for Kolster International.

Don M. Burcham, factory sales representative, 383 Oak Street, Portland, Ore., has recently added several lines, and reports a general picking up of business in his territory.

In addition to the Silver-Marshall line of radios, Burcham handles Yaxley parts, Day-Rad test equipment and Gibson refrigerators.

Ambulance Company Rents Radios

An unusual combination in Portland is that of the Arrow Ambulance Company, Inc., and the Arrow Radio Company, both of which are owned and operated at 755 Hoyt Street by A. G. Omslow. Omslow has been in the ambulance business for fourteen years and in the radio business about two and one-half years. The two businesses work together very well. They are conducted in a residence building only about two minutes by ambulance from the center of the city. There are operators on duty day and night taking ambulance calls and responding to them, so that handling the radio shop in conjunction works in very well.

Omslow's big radio business is in the rental of sets. Sometimes he has well over one hundred radios out at a time. Some are rented just for over night, for a party or to bring in some particular radio event. Others have been rented as long as a year. Many of the rented sets go into hotels and hospitals. During the football season and the world series baseball games there is a good demand for sets for offices. Some patrons rent radios to take to the beach or mountains for vacation.

Portland to Strictly Enforce Fire Ordinance on Radio Sets

A city ordinance requiring all radios to be approved by the Fire Underwriters in Chicago is now being strictly enforced in Portland, Oregon, according to City Commissioner Barbur. The action came as a result of meetings between the city and representatives of radio stores.

"There will be no more meetings," Barbur declared. "We're going to enforce the law. If you are going to pick a row with me, you're going to get it right on the chin," was another of his caustic statements.

H. W. Johnson, for the Radio Trade Association, demanded that the ordinance be enforced, and suggested that radio stores should accept loss on such radios as do not comply with the ordinance.

Deputy City Attorney West, sitting in on the hearing as attorney for the board, rapped the department stores for their asserted stand in the matter of adhering to the ordinance. "It would seem," he declared, "that with the likelihood of increased fire rates that the large department stores would consider carefully and know that it would be better for them to uphold this ordinance rather than throw the whole thing into turmoil. The three biggest stores, which should be the most concerned in upholding the ordinance, are the ones that have been attempting the discard of this requirement. I would not have been surprised if the small merchant had objected, but I have no complaint from them."

Hallock and Watson Sponsor Police Radio Demonstration

An actual test to measure the comparative efficiency between radio and blinking-light police call systems was made recently by the chief of police of Portland, at a Commercial Club luncheon.

Chief Jenkins used equipment installed for the occasion in the banquet hall, and sent two hurry calls simultaneously; one by radio, the other by blinking-light signal.

He had barely finished broadcasting the call when sirens were heard, and inside of 45 seconds the crew of a prowler burst into the hall. Five minutes later the other crew appeared.

The demonstration, to prove the value of police radio and the advisability of Portland's police being so equipped, was made possible by Hallock and Watson Radio Corporation, operators of several radio stations. Last year the project was considered, bids made, and a wave-length assigned. The matter was dropped, however, until Hallock and Watson restored interest in it by erecting a small temporary short-wave set-up and began demonstrations to convince the city of the need for a police radio system.

In the 145,293 homes in the Inland Empire, the trade territory surrounding Spokane, Wash., there are 53,381 receiving sets, according to a survey based on 1930 census figures.

The average family consists of 3.8 persons. Of all homes 36.7 per cent have radio sets, making a total of 202,847 potential listeners in the territory. The tabulation includes 19 counties in eastern Washington, 10 in northern Idaho, six in western Montana and one in Oregon.

New Jobber For Zenith

Johnson-Weller, Inc., have just taken on the Oregon agency for Zenith radio sets. They are handling National, Union and Tung-Sol tubes and have installed a Hickok Special tube tester AC 4301. Now every tube that goes out of the house is first tested and then tagged with a sticker which reads: "This tube checks O.K. Tested by J. W. Co. on Hickok Lab. Equip."

The firm, which was established last March, consists of H. A. Weller, formerly with the Westinghouse Electric Company in Montana; E. S. Johnson, formerly with the Northwest Radio Supply Company, Portland; and Al Weller, formerly in the automobile business. In addition to complete parts service, the firm handles sound equipment.

TACOMA STORE ADDS G-E LINE

Abandoning the policy of selling radios and musical instruments alone, the Broadway Radio and Music Store, 908 Broadway, Tacoma, Wash., has been appointed dealer for the entire General Electric line of appliances, including radios and refrigerators.

"This enlargement of the scope of the store," stated B. A. Almvig, manager, "has meant a complete rearrangement of the layout and displays of the store. The General Electric Thrift Budget Plan will be in operation."

AROUND SEATTLE

By LEO GREEN

Retail radio dealers and distributors in the Northwest are once again confronted with the problem of destructive competition of the so-called "bootleg" and "gyp" radio merchant. An ugly term to apply to any business but certainly descriptive of the type which resorts to tactics destroying the legitimate and orderly methods of radio merchandising.

At this season of the year manufacturers are announcing new models. It is the practice of this type of merchant to secure by some hook or crook, a block of a manufacturer's goods, particularly if it be well known. Prices are slashed under one pretense or another as a means of "bringing the distributor to time" in an effort to force a franchise.

We know of no more vicious practice than to browbeat a distributor into selling an undesirable merchant than this. It is not a new story. Having been worked with some success in the past, it is presumably being done again on the theory that once a success why not repeat?

The publication last month of the radio annual in one of Seattle's leading newspapers is the most recent instance of this outbreak. Newspapers are placed in a very difficult position in this respect. It is difficult for them to refuse an advertiser's copy, particularly when that advertiser is a big one. The advertising of "off-brand" merchandise at a price, while severe competition, is perfectly legitimate and in accord with the ordinary channels of the radio business, but it seems a pity that newspapers should be part of a vicious program of destructive merchandising in any industry let alone the radio industry. The best interests of advertising as a whole will be healthier in the rejection of such advertising by influential newspapers. Self-respecting newspapers do not tolerate a similar policy in the conduct of their editorial departments. For their advertising departments to follow the ethics of the editorial policy would render all industry a mighty valuable service.

This is but half the story however. Distributors and manufacturers of nationally known franchised radio products must realize that the degree to which a newspaper can go to protect the trade is necessarily limited. It is only by thorough cooperations and whole hearted support of the newspaper that it can take a stand against the so-called "bootleg" merchant. No newspaper, large or small can afford to be whipsawed into a position to its own detriment. Only by the cooperation one hundred per cent in advertising merchandising, and loyalty of the radio trade, can the newspaper reject advertising copy that is undesirable and to the best interests of the industry.

... from the house of
WALTHAM

1. Miller Ultra Hi-gain Circuit.
2. Automatic Audio Channel.
3. Pentode Output.
4. Screen-grid Power Detection.
5. Multi Mu Screen-grid Power Amplification.
6. Full-wave Rectification. Five tubes in all.
7. Individually shielded Coils.
8. High-shield Heavy-Type Variable Condenser Bank.
9. Cadmium Plated Steel Chassis with Center Mounting Device.
10. Phonograph and Microphone Pickup.



11. Variable Tone Control.
12. Full vision Illuminated Vernier Dial.
13. Full Field Dynamic Speaker.
14. Walnut Veneer Cabinet with Piano Finish.
15. Workmanship and Material Guaranteed Unconditionally for 90 Days.
16. 90-Day Guarantee on Tubes with Guaranteed Full Replacement.
17. Selectivity, Sensitivity, and Tone Quality assured.
18. Coast to Coast reception.

RETAILING
AT

\$29⁹⁵

COMPLETE
WITH TUBES

Be sure and hear this wonderful little radio before
 you stock any small set.

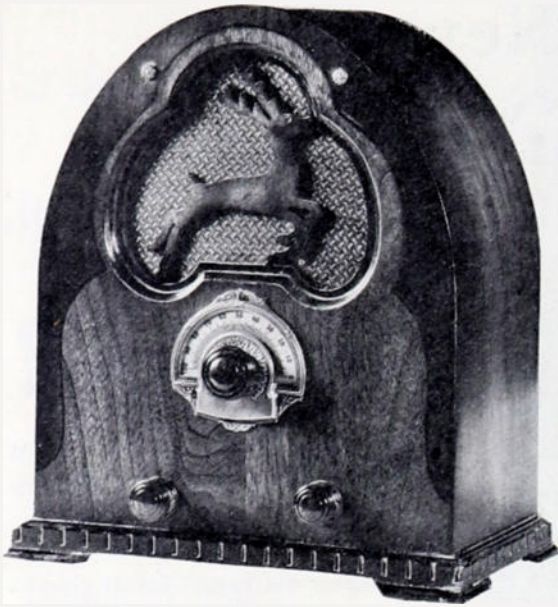
Write or Phone

Waltham Radio Corp., Ltd.

4228 South Vermont Avenue

Phone ADams 3318

Los Angeles



\$ 24⁹⁵
Complete

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WALTHAM'S
LITTLE FOUR TUBE BEAUTY

"The Superfine Small Radio"

ALL the fine qualities of the larger sets in a small quality package. High gain circuit, Automatic audio channel, Pentode, Multi-mu, Screen grid, high shield heavy type variable condenser, Cadmium plated chassis, tone control, full-vision illuminated dial, dynamic speaker, piano finish. Ninety day unconditional guarantee on workmanship, material and tubes—Selectivity, Sensitivity, Tone and Beauty.

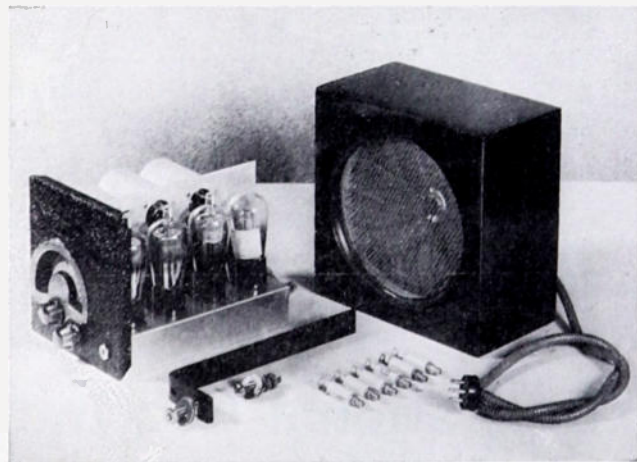
Motor Car Radio

Will Perform As Well As Any
Motor Car Radio Made—And
Will Out-Distance Most of Them

\$ 39⁵⁰ COMPLETE
As Illustrated
Below:
(Less Batteries)

A SET with a wonder high-gain circuit, used exclusively by Waltham. Plenty of "wallop," tunes sharp, on the button, a distance getter equal to any—and tone that will amaze you. That is saying a lot but we mean it. Hear one and prove it to yourself.

Very ruggedly constructed, vibration proof, easily accessible, mounts inconspicuously under the dash. Dynamic speaker, Pentode, Multi-mu. Its price and performance sells it. Its quality keeps it sold. It is the hottest article in automobile radio.



Waltham Radio Corp., Ltd.

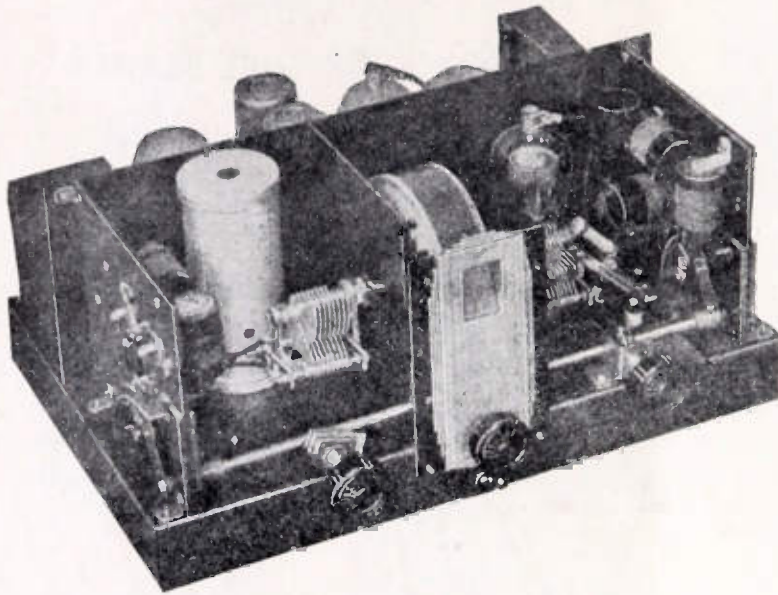
4228 South Vermont Avenue

VERmont 2809

Los Angeles

A Perfected New Type Short-Wave Converter!

— by
National



Not just another converter, but an entirely new type of radio instrument. It connects between the antenna and the set which results in an harmonic tuned input circuit which automatically resonates a stage of high frequency amplification, plus an additional stage of high gain amplification. Results, a converter with a wallop heretofore unheard of.

NC-5 short wave converter. Size, 8"x17½"x12". Beautifully finished in metal cabinet. **\$75**
Deluxe model in hand rubbed solid mahogany with genuine inlay on front panel. **\$85**

Exclusive Special Features

EASY TO CONNECT AND USE

Simply connect the NC-5 between the antenna and the set. Plug the power cable into the baseboard receptacle along side the one from your set. Never necessary to disconnect. A throw of the switch changes from broadcast to short wave reception. One dial control.

NO PLUG-IN COILS

Coils switching by new easy control system give positive coil connection, with all the flexibility of the plug-in coil type with none of their inconveniences. An extra set of coil forms is provided to

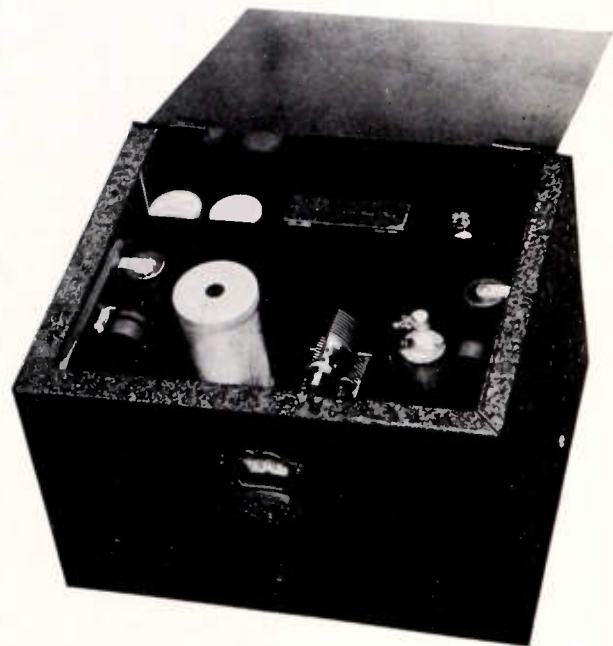
permit covering any new stations or special ranges.

COLORED DIAL SHOWS COIL IN USE

By an exclusive and novel device the color of the main dial illumination changes as the different pairs of coil are thrown in. You can always tell which coils you are using.

EQUIPMENT

Tubes used are one UY-235, two UY-224's, one UY-227, and one UX-226, operates on 110 volts 50-60 cycle AC. Also made for 220 volts, 50-60 cycle; and 110 volts 25-40 cycle. Coils are wound on R-39, the special non-hygroscopic low-loss coil material. No intercoupling.



The Jackson Research converter, a three tube converter, incorporating the essential features of the NC-5. A wonderful little performer for its size. Write for our special low net price to dealers.

The National Co., Inc.

"Specialists in Short Wave Equipment"

Western Headquarters 3440 South Hill St., Los Angeles

FIND OUT ABOUT IT. MAIL THIS COUPON TO BILL COOKE—NOW!

Bill Cooke, Western Manager, The National Company,
3440 S. Hill St., Los Angeles, California.

Dear Sir:

Please send me full information regarding your special offer to dealers on distribution of the new NC-5 shortwave converter, and the SW-5 National "thrill box."

Firm Name

Your Name

Address

City State

Carbon Resistors and Filter Condensers

By RICHARD G. LEITNER

Technical Editor



CARBON RESISTORS

BEFORE the appearance of the AC receiver, resistors in radio sets were few. The average radio set contained one resistor, which was a grid leak and had a label pasted on it informing the user that the unit was one megohm, or two megohms, etc. These were paper strips dipped in India ink and inserted in a glass tube with questionable contacts to two brass caps at the ends of the tube. A resistor labeled "1 megohm" might measure from 100,000 ohms to five megohms.

Compact Resistors Needed

With light socket power supply for radio came the necessity for compact resistors with a large range of values and with fair accuracy. Up to that time the only dependable resistance units were the wire-wound type, wound on porcelain tubing and baked in vitreous enamel. These, however, were very bulky where very high value of resistance were needed, and also very costly.

Many types of materials were experimented with, and out of the lot the present carbon resistor became the most popular among set manufacturers. These units are made in several ways, the chief difference being in the "binder," or inert material used to hold the carbon in a solid mass, and the method of making contact to the ends.

The exact composition of each manufacturer's resistor is kept rather secret, since each maker of carbon resistors is convinced that his process is the only good one. Generally, however, they consist of pulverized carbon and some inert ingredient such as sand, bakelite, mica, or a combination of these, composed into a stick. The contacts to the ends of the stick are made by pressing a cap over each end, or by copper-plating the ends and soldering wires to them—sometimes both methods are used.

Resistor "Aged"

The completed resistor is then "aged," which is a process for stabilizing the composition of the "mix" so that it will maintain a constant resistance throughout its life in the radio set. Car-

bon resistors which have not been properly aged are very unstable and will vary greatly in resistance, after being placed in service.

Carbon resistors have other peculiar properties not found in wire. In all metals, with the exception of some special alloys, the electrical resistance increases with a rise in temperature. The ratio of resistance rise to temperature rise is called the "temperature coefficient," which means that the resistance drops as the temperature rises.

Operating Conditions Important

Since the temperature of the carbon resistor changes with any amount of current in it, the exact resistance can only be determined for the set of operating conditions. Carbon resistors always drop in resistance when connected to a source of EMF. When set manufacturers order these resistors, therefore, they specify the operating conditions to

COLOR-CODE FOR RESISTORS

COLOR	BODY	TIP	DOT
Black	0	0	.0
Brown	1	1	0
Red	2	2	00
Orange	3	3	000
Yellow	4	4	0000
Green	5	5	00000
Blue	6	6	000000
Purple	7	7	
Gray	8	8	
White	9	9	

R. M. A. Color Code Chart

insure accuracy in their own production. This may seem alarming at first glance, but there actually is sufficient latitude in practically all cases to permit some deviation from rated operating voltages.

With the use of large numbers of resistors in radio receivers came the problem of identifying the various resistance values. At first each set manufacturer had his own private color code, and resistor manufacturers were glad to paint their resistors according to the

specifications of the customer. This soon became very confusing, so the Committee of Standardization of the Radio Manufacturers' Association developed a standard color code which was adopted by all makers of carbon resistors.

Standard Color Code

The system of coding consists in painting the body of the resistors one color, dipping one end in another, and painting a dot of a third color in the center of the body of the piece. Ten colors are used for the body and end dip, and seven for the dot. With these colors there are 700 possible combinations showing values of resistance from one ohm to 99 megohms. This is well beyond the range of carbon resistors in both applied to other types of stick resistors.

The accompanying table shows how to identify resistors by the coloring. Suppose a resistor has a green body color, black end dip and red dot.

In the first column, opposite "green" is the figure 5. This indicates the first figure in the value of resistance. In the second column headed "tip," a zero will be found opposite "black." This indicates that the "0" follows the 5. In the third column headed "dot," two zeros will be found opposite "red." These are added to the other figures, and the result is 5000.

Now suppose a resistor is all red. In this case we assume that the end dip and the dot are the same color as the body. The resistance is therefore 2200 ohms. A resistor with a yellow body, green tip and no dot would be considered to have a yellow dot, and the resistance would be 450,000 ohms. These colors apply to resistors of all voltage ratings.

FILTER CONDENSERS

THE function of a filter condenser in a radio receiver is twofold. It acts both as a storage tank for the rectified AC, in which capacity it serves to deliver to the load a smooth, uninterrupted flow of DC with pulsating changing current, and as a by-pass condenser allows the AC component of the output of the rectifier to flow through it, reducing the

(Next Page)

Filter Condensers

(Continued from Page 27)

AC component at the output terminals of the rectifier-filter unit.

Until a comparatively recent date, condensers using paper dielectric were the only ones used as filters in radio receivers. Electrolytic condensers had been known for some time, but were unsuited for the purpose.

The principle of the electrolytic condenser is not as radically different from that of the dry condensers as is often supposed. The electrolytic is nothing more than two conducting surfaces separated by a thin insulating dielectric. The difference lies in the materials. In the "dry" condenser the conducting surfaces are usually of tin or aluminum foil, and the dielectric is wax impregnated paper.

In the electrolytic condenser, one conducting surface is a sheet of aluminum and the other is the electrolyte, or chemical solution. Contact is made to the solution by means of some form of electrode which may be in the form of the metal container, as in most "wet" electrolytics or a second sheet of aluminum, as in the case of the "dry" electrolytic.

The Dielectric

This second electrode is not one of the plates of the condenser, and its only purpose is to make contact with the electrolyte. The dielectric is a thin oxide coating on the active aluminum plate. Since this film is extremely thin, the capacitance of such condensers is

relatively high for a given area of dielectric. Hence their desirability in radio receivers.

The film is formed by electrolysis within the condenser, and will remain on the plate only when current polarity is maintained at the terminal of the condenser. When the condenser is in operation electrolysis is constantly taking place, and the film is being constantly restored by the solution. The thickness of the film increases with higher voltages, so that a condenser of given construction will have many times more capacity at low voltages than at higher voltages.

The production of the film is called the "forming process," and upon this process depends a large measure of the success of an electrolytic condenser.

Leakage Current

An electrolytic condenser, when first connected to a source of EMF, draws a large amount of current, since the film has not yet been formed upon the positive plate. As the formation proceeds, the current drops, until, when the condenser has reached its maximum capacity, the current reaches a steady value, which is quite low. This is called the "leakage current," and to some degree is an index of the merit of a condenser. The effect of high leakage current is the same in a filter circuit as connecting a high resistance in series with the condenser. When this is done the power factor of the condenser goes up and the filter effect drops.

With low values of leakage current the equivalent series resistance is reduced, the power factor approaches zero

and the filter effect goes up. It is impossible to construct an electrolytic condenser with no leakage current, but modern electrolytics are so well designed that filter factors of 98 and 99 per cent are not uncommon. These percentages are in comparison with a perfect condenser, having zero power factor. Paper condensers approach this, but never quite attain it.

Wet and Dry Types

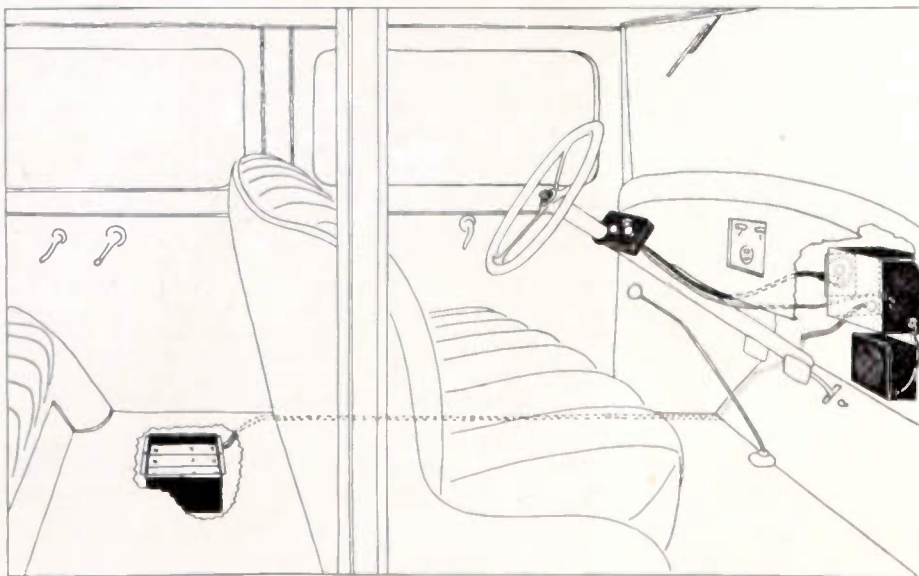
In wet electrolytics, the electrolyte is contained in liquid form in a sealed metal container. A vent is always provided to allow gas to escape. When this vent is clogged the gas accumulates, and eventually the pressure formed explodes the vent, and the result is electrolyte all over the receiver, a phenomenon probably well-known to servicemen.

In the dry type of electrolytic the electrolyte is in the form of a gelatinous mass held between the positive and negative plates by a layer of gauze. The chemical action of this type of condenser is essentially the same as in the wet type.

Due to the fact that electrolytic condenser is not a condenser until a polarizing voltage is applied, its capacity cannot be measured by the methods usually employed for paper condensers, for accurate measurements, and rather elaborate set-ups have to be made.

In the next issue, methods of measuring will be discussed, and some experimental data will be given showing the action of various types of electrolytic condensers.

FISHER TRAVELTONE AUTO RADIO



FIVE TUBE
COMPACT
STEEL CHASSIS
REMOTE CONTROL
ILLUMINATED DIAL

\$49⁵⁰

FISHER RADIO COMPANY

9035 Venice Blvd.

Los Angeles

Tel. EMpire 7266

NEW MERCHANDISE FROM THE FACTORY

Servel Line

Five models are included in the line of refrigerators produced by Servel Sales, Inc., Evansville, Ind. Model SE-3 requires less



Servel SE-7

than four square feet of floor space, with 3.3 cubic feet food storage capacity. Freezes 42 cubes, is 53 9/16 inches high. SE-7 has 6.9 cubic feet storage space, 15 square feet shelf area, freezes 72 cubes. Height, 62 3/4 inches. SE-4 has 4.1 foot storage space, 8.6 feet shelf area. Freezes 42 cubes. Height 52 9/16 inches. SE-5 has five cubic feet capacity, 11 square feet storage space. Freezes 63 cubes. Height 55 inches. SE-9 has 9.4 cubic feet capacity, 19.6 feet shelf area, freezes 72 cubes. Height 62 3/4 inches.

Norge Rollator

The basic feature of the Norge refrigerator, this compact mechanism does away with pistons and other movable parts. The roller revolves slowly in a permanent bath of oil, with a minimum of friction and wear. Other features of the Norge are: the Watervoir, a one-gallon glass water container with button type faucet; inside cold control and defrosting switch; waist-high food compartment with rounded corners; spring hinged door on ice compartment, ornamental hardware. Made by the Norge Corporation, Division of Borg-Warner, 670 E. Woodbridge Street, Detroit, Mich.

Universal Mike

The latest addition to the line of microphones manufactured by the Universal Microphone Company, Ltd., Los Angeles, is Model X, a double-button mike listing at \$10.

The new model is equipped with a scientific-



ally damped Duralumin diaphragm, and has 24-karat gold contacts which make for low hiss and high volume output, 200 ohms per button. It is finished in polished nickel plate, and is of rugged construction.

Patterson Models

Three superheterodyne models are being manufactured by the Patterson Radio Company, 1320 S. Los Angeles Street, Los Angeles. Model 100 is a lowboy console, with nine-tube chassis, eight-inch Magnavox dynamic speaker. Height, 34 1/2 inches, width 21 inches, depth 12 inches. List price, \$56.50

with tubes. Model 110 the same cabinet with 10-tube chassis, \$64.50. Model 200 is a lowboy at \$59.50, and Model 210 is the same with 10-tube chassis at \$69.50. Model 500 is also a nine-tube lowboy, 43 1/2 inches high at \$79.50, and 510 is the same cabinet with 10-tube chassis at \$89.50.

Gilfillan Superhets

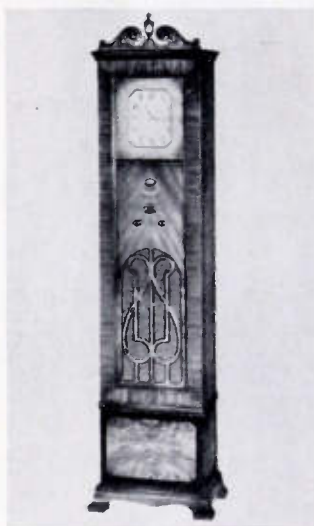
The latest Gilfillan eight-tube superhet chassis is being used in two new console models—Model 200 and Model 250. This chassis uses five super-control screen-grid heater tubes in the r. f. detector and audio stages, two pentodes, push-pull, in the power stages. Has 12-inch Jensen dynamic speaker.

Model 200 is an extremely artistic lowboy, in sand-blast finish. It is 38 inches high, 25 inches wide, and 14 inches deep. List price, \$79.50, complete with tubes.

Model 250 is a simple, dignified lowboy, with fullvision dial. Same measurements as Model \$89.50.

New Lyric Models

The new S-10, a 10-tube superhet, is the latest addition to the DeLux line of Lyric radios made by the All-American Mohawk Corporation, North Tonawanda, N. Y.



Lyric Clock Model

Designed and manufactured in the Wurlitzer factory, this new six-leg model is of Gothic design of burl walnut, hand-rubbed. The chassis is the Lyric Super-Superheterodyne, with spotlight dialing, automatic volume control.

Another addition to the line is the Colonial grandfather clock model, 69 1/4 inches high, 14 inches wide, and 9 1/4 inches deep. Equipped with the latest Hammond electric clock model with etched silver-faced dial of new design. Known as Model S-62, this set is equipped with the Lyric Super-Superheterodyne chassis.

Three Mayflower Models

The Mayflower "Four" has a four-foot capacity, with seven square feet of shelf space. Height 48 3/4 inches, freezes two trays, 56 cubes. Insulation, 2 1/2 inches. The "Five" has five-foot capacity and shelf area of 10 feet. Freezes three trays, 84 cubes. Height 55 inches. Insulation three inches. The "Six" is a 6 1/2 cubic foot model, has shelf area of 12 1/2 square feet, is 59 1/2 inches high. Freezes three trays, 84 cubes. Insulation, 3 1/2 inches. Manufactured by the Trupar Manufacturing Company, Dayton, Ohio. All models include "Speed-Freeze" unit, ribbon-type shelves, temperature control, and porcelain cooling unit.

Tiffany-Tone Models

Outstanding in the new Tiffany-Tone line, manufactured by Herbert H. Horn Radio Manufacturing Company, 1627 South Hill, Los Angeles, are a grandfather clock model and a short and long wave combination.

The dark walnut clock model stands 53 1/2 inches high, has six-tube t.r.f. chassis. Speaker is located in front panel, at bottom. Electric clock face on hinge for easy setting. Illuminated dial. List, \$69.50, complete.

Model 100 is a 12-tube superheterodyne short-long wave set in a 39-inch console, listing at \$119.50 complete. Other models in the line include an eight-tube superhet midget at \$68.85, and another at \$59.50.

Gibson Refrigerators

Three models comprise the new line of refrigerators manufactured by the Gibson Refrigerator Company. Model LG-40 has a food capacity of 4.8 cubic feet, with a shelf area of 7.3 feet. Three trays, 63 cubes. Height, 49 3/4 inches; three inch insulation. Model LG-73 has a 7.33 cubic foot capacity, and shelf area of 14.4 square feet. Four inch insulation on walls, height, 54 3/4 inches. Has six trays, and freezes 126 cubes. Model LG-55 has a 5.44 cubic foot capacity, and 11.3 square feet shelf area. Five trays, 105 cubes. Height, 52 3/4 inches, wall insulation, 3 1/2 inches. Cold regulator has eight speeds.

Two Crosley Sets

The most recent additions to the Crosley radio line include two new models, the "Ten-Strike," and the "Happy Hour." The first is a compact table model listing at \$73.00 complete, while the "Happy Hour" is a six-legged console deluxe priced at \$104.50 complete with 10 tubes.

In these models are incorporated meter tuning, automatic volume control with auditorium size Crosley full floating moving coil dynamic speakers. The "Happy Hour" includes illuminated hairline shadow dial, vernier drive, static and tone control, audio level control, phonograph connections, heterotonal response and other features.

World-Wide Receiver

An outstanding number in the Stewart-Warner Silver Jubilee line is the new World-Wide Receiver, in a DeLux console. The model is



World-Wide Receiver

a short-long wave combination, incorporating the Stewart-Warner Low Wave converter.

The cabinet is of early eighteenth century design, enclosing the new simplified six-tube superhet chassis, with variable-mu and pentode tubes. List price, complete with tubes, \$104.75.

Apex Line

Including seven new models, ranging from a midget at \$39.95 to a 10-tube superhet console at \$99.50, the new Apex line, manufactured by the United States Radio and Television Corporation, Marion, Ohio, is now in production.

Model 99A is a five-tube superhet midget



Apex Model 7B

at \$39.95, and 99B is a console at \$49.95, using the same chassis. Model 7A is seven-tube midget at \$47.50, and the same chassis is employed in Model 7B, a console, at \$59.95. Model 8A is an eight-tube superhet midget in an elaborate cabinet, listing at \$59.50. The same chassis is used in Model 8B, a console, at \$79.95.

Model 10B is a 10-tube superhet console, having automatic volume control, meter tuning, over-size speaker, full-vision dial, tone blender, and local-distance switch. Height, 41½ inches. Sliding doors in front panel. List, \$99.50. All prices complete with tubes.

New Copeland Features

Available in eleven models, the Copeland line, manufactured by the Copeland Products, Inc., Mount Clemens, Mich., offer a wide range in size, style and price. New models include: "Coldial," a convenient control or speed of freezing, water chiller with moveable tap; "Coldrawer," a compartment for frozen foods, or 10-lb. ice block; "Coldcrisper," for keeping vegetables fresh; electric lights in interior, rubber ice tray, two-tone chromium-plated hardware, colored tops in eight choices of color. A locked machine compartment prevents tampering with the units. Other refrigeration products include two water cooler models.

Magnavox 150 Model

The latest addition to the Magnavox line of speakers is this Model 150. It has a cone diameter of 5½ inches, and an outside diameter of the cone housing of 6 17/32 inches, and the transformer, mounted on the rear of the housing, does not protrude beyond this diameter. The mounting holes in the



Magnavox 150

housing are slotted so that the mounting hole circle may be anywhere from 5 5/16 to 6 5/32 inches in diameter. The terminal strip is arranged to be easily accessible from directly back of the speaker. U-type magnetic structure.

Fada DeLuxe

A new deluxe receiver. Model 65, and three other models, all having the new "Flashograph" feature, have been added to the Fada line by the F. A. D. Andrea Radio Company, Long Island City, N. Y. These models use the Fada 10-tube superhet chassis.

Model 65 is a lowboy open face console 38½ inches high. Model 48 is a walnut lowboy, with sliding doors completely concealing speaker grille, dial and controls, 41½ inches high. Model 49 is a highboy console with six legs. French doors, 47¼ inches high. List price, Model 65, \$124.50; 48, \$147.50, and 49, \$175, complete with tubes. The 10-tube chassis has automatic volume control, tone filter and noise suppressor, and tuning silencer. The neon tube in the Flashograph indicates in light instantly the precise point of accurate tuning.

Keystone Camera

Model A, a small compact movie camera, weighs but 3¼ pounds, and is designed for comfortable and easy portability. Uses F3.5 lens, has Monocular Viewfinder built in, spring motor, tripod provisions, 100-foot film capacity. Camera may be loaded in daylight, and Film Register indicates the amount of film left in camera. Finished in attractive black crackle, with chrome trimmings. Available



Keystone Model A

with leather carrying case, tripods, screens, screen sands. List price, \$35.

Model C is a hand crank type, of the same dimensions as Model A. Has many of the same features. Finished in black crystal enamel with bright trimmings. List price, \$12.50.

Globe-Trotter

Four models, including a short-wave adaptor, comprise the new Kennedy line, made by the Colin B. Kennedy Corporation, South Bend, Ind. The Globe Trotter is an adaptor,



Globe-Trotter

converting any receiver into a short wave superhet. The Baronet is a seven-tube superhet midget 18 inches high. The Premier is a 37-inch lowboy, with the Baronet chassis. The Sovereign is an eight-tube superhet, with seven tuned circuits, complete shielding, rubber cushion suspension tone control.

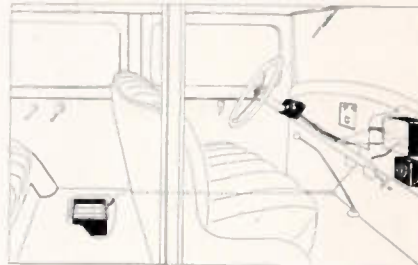
Radio Pillow

For those who wish to listen to their favorite program without disturbing others, RCA Victor Company, Inc., Camden, N. J., has designed a radio pillow. It connects to any radio by means of a 100-ft. extension cord, and can

be used either in bed, or in a high-backed chair. Two or more pillows may be operated on one set, and it can be switched from speaker to pillow instantly. An automatic time switch prevents falling asleep with the set going. Recommended to deaf persons. Shipping weight, one pillow, five pounds. List price, \$6.95.

Fisher Traveltone

Manufactured by the Fisher Traveltone Company, 9035 Venice Blvd., Los Angeles, this automobile radio has a fully shielded t.r.f. circuit, using three 36, one 37, and one 71A tubes. Spark eliminators are provided and all cables are shielded. The set is compact, and



Fisher Traveltone

can be mounted on the dashboard of all cars, including Fords. Waterproof steel battery box, Operadio dynamic speaker, single-wire antenna under car. The remote control mounts on the steering column, and has illuminated dial, key-locked off-on switch, tuning control and volume control. List price, \$49.50, complete.

Starr-Freeze Models

Two new models are included in the line of refrigerators produced by the Starr Company, Richmond, Va. (Pacific Division, 1344 So. Flower Street, Los Angeles). WL-7 has a seven cubic foot capacity, with 11 square feet shelf area. Exterior is in white lacquer, one-piece top, rounded corners. Food compartment door with full pan lining, cushion gasket. Compressor compartment removable, hangers at bottom. Hardware is solid brass, chromium plated. Straight heavy wire bar type shelves. Three ice trays. List price, \$176. Model WL-5 has five cubic foot capacity, with shelf area of eight square feet. List price, \$159. Others at \$205 and \$245.

Majestic Additions

Two new models have been added to the Majestic line—one a grandfather clock, and the other a highboy. The "Sherwood" is Sheraton in style, with front panel of matched walnut, edged with fluted pilasters. The chassis is the Majestic 15 type, a superhet using the



Majestic Clock

new Spray-Shield tubes. Stepless tone control. List price, \$88.50.

The highboy "Brucewood," a nine-tube superhet, is an early English type, using Model 25 chassis. List price, \$133.50.

Patterson SUPER-HETERODYNE

RADIO'S GREATEST VALUE!



MODEL 200 Lowboy Console with Patterson 9-tube chassis and Magnavox 12-inch Dynamic Speaker. 36½ inches High, 23 inches Wide, 14 inches Deep

\$59⁵⁰
WITH TUBES

MODEL 210 . . . Same as above with Patterson 10-tube chassis

\$69⁵⁰ WITH TUBES



Compact Model with Patterson 8-tube Chassis and 8-inch Magnavox Dynamic Speaker — 16½ inches high—14½ inches wide—10 inches deep.

\$49⁵⁰
With Tubes

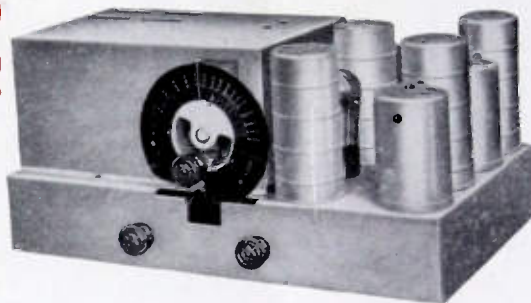


MODEL 500 Lowboy Console with Patterson 9-tube chassis and Magnavox 12-inch Dynamic Speaker. 43½ inches High, 25 inches Wide, 14 inches Deep

\$79⁵⁰
WITH TUBES

MODEL 510 . . . Same as above with Patterson 10-tube chassis

\$89⁵⁰ WITH TUBES



IMPORTANT

Do not confuse the PATTERSON with the innumerable so-called midgets now on the market. Patterson has been building quality radios since 1920. They are guaranteed equal in performance, quality of material and eye appeal to any radio selling for twice the Patterson list. Remember this, "there is no substitute for quality."

FEATURES

- AUTOMATIC VOLUME CONTROL**
(To Counteract Fading)
- PUSH-PULL PENTODE TUBES**
- VARIABLE HI-MU TUBES**
- FULL VISION DIAL**
(Calibrated in Kilocycles)
- SHADOW LINE TUNING**
- GRADUATED TONE CONTROL**
- TEN TUNED CIRCUITS**
- FOUR GANG CONDENSER**
- BAND PASS FILTER**
- COMPLETELY SHIELDED**
- MAGNAVOX DYNAMIC SPEAKER**
- FINE WALNUT CABINETS**

The New **PATTERSON SUPER-HETERODYNE** represents the last word in radio development . . . deliberately built to compete with the highest price receivers on the market.

Note the rugged chassis. It is Cadmium Plated, single unit design. Size 17 inches wide, 10½ inches deep and 8 inches high. A special full floating four-gang condenser is used. Single dial control, full vision. Totally shielded, insuring complete elimination of outside interference.

Write, Wire or Telephone for Information

PATTERSON RADIO COMPANY

1320 S. Los Angeles Street

Los Angeles

Manufacturers

Since 1920

R. J. Noel Appointed "Westernaire" Agent

The R. J. Noel Company have been granted the exclusive sales representation of "Westernaire" radios manufactured by the International Radio Company. The Noel Company have established themselves in new and larger quarters at 800 E. Gage Avenue, from

tone reproduction is employed with the dynamic principle in conjunction with a metal ball. The entire ball vibrates, giving exceptional tone quality. The ball is approximately seven inches in diameter and is mounted on a very attractive Bakelite base. Other models range



Factory of International Radio Company, manufacturers of the new "Westernaire" line.

which sales activities for the entire United States for "Westernaire" will be directed. R. J. Noel will act as active sales manager with C. F. Carlson as assistant.

A very extensive direct mail and advertising program to dealers and the general public is being planned to introduce the new "Westernaire" line of seven models, all popularly priced.

Heading the line from a novelty angle, there is a new "mystic ball" radio. An entirely new departure in radio design construction, tone and appearance. It is predicted by many that the new "mystic ball" stands a good chance of being as big a feature as the original mid-gut radio. A new principle in

from a four tube set to a nine superheterodyne.

F. R. Smith of International Radio Company is one of the best known radio manufacturers and engineers in Southern California. He has been in business in the Southern territory for some six years. The R. J. Noel Company is well known as manufacturers' agents, having established offices in San Francisco and Los Angeles. They distribute a number of radio tubes, electrical and radio accessory lines.

The Chicago Wholesale Supply Company on Vermont Avenue has been appointed exclusive Southern California distributors for "Westernaire" radios. N. C. Mushrane is in charge.

Factory Agents Plan Banquet

The radio manufacturers' agents of Los Angeles are scheduled to hold a buffet banquet and entertainment at the Turn Verein Club in Los Angeles on December 8. The last such affair staged at the same address in November was such a rousing success that a similar entertainment was demanded at this early date. About 100 of the radio manufacturers' agents, manufacturers and their friends, are scheduled to be present.

The Radio Manufacturers' Agents Association of Southern California is the only organization of its kind in the United States. Although comprising only about thirty members, it is one of the most active Association bodies on the entire West Coast. A number of plans are now being worked out to increase the sale and distribution of radios manufactured in Southern California. W. Bert Knight is President. William "Bill" Hitt and Charles Weinberg

Advocate Two Seasons

In the belief that a secondary selling season might well be introduced into the radio industry, C. B. Smith, president of the Stewart - Warner Corporation, Chicago, made the following statement:

"The radio industry, by and large, has never concentrated on an aggressive secondary selling season which should begin about the first of February, after the holiday slump, and continue well into May. There have been individual attempts, but no concerted action in this endeavor. Such a plan is a merchandising step in the right direction and merits nationwide adoption by the industry.

"Recognition of the secondary season by the public and trade is bound to stimulate the yearly total of sales. A family already sold on radio is as susceptible to attack in March as in October."

represent the manufacturers' agents on the Board of Directors of the Radio Trades Association of Southern California.

Contract Collections!

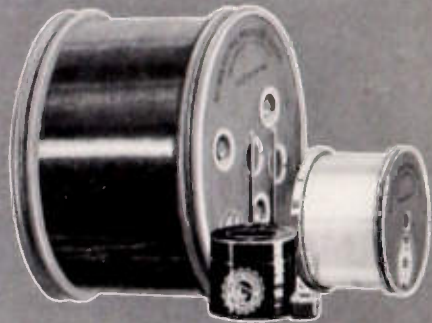
We specialize in Radio and kindred Lines: Contract Collections; "Skips," Repossessions, Credit Reports, and Inspections. All thru PERSONAL CONTACT. References and rates upon request.

Correspondents
Throughout
United States

Licensed and
Bonded by
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California

PERSONAL SERVICE BUREAU

1070 No. Vine St. Los Angeles GRanite 0801




The
PREFERRED
SOURCE OF SUPPLY FOR
MAGNET WIRE & COILS

No electrical or radio product is any better than the magnet wire and coils used in its construction.


Inca products are engineered and manufactured by pioneers in the copper wire industry . . . products reliable in quality and uniformity, and dependable in service.

These are some of the reasons why many of the country's leading manufacturers have adopted Inca as their preferred source of supply

INCA MANUFACTURING DIVISION
of National Electric Products Corporation
Fort Wayne, Ind.



INCA
SYMBOLIC OF THE
BEST IN COPPER
WIRE PRODUCTS



“Westernaire”

Manufactured by

International
Radio Corp., Ltd.

N O W
Licensed by R.C.A.

Hazeltine and Latour Patents



Exclusive Sales Representatives

R. J. Noel Co.

Executive Sales Offices

800 E. Gage Ave.

Los Angeles



This seven-tube superheterodyne embodies all of the latest improvements of modern radio engineering. It is designed by master craftsmen noted for their ability to match sensitivity, selectivity and TONE into receivers that SELL. International Radio Corporation, Ltd., its manufacturer, has spared no expense in producing this beautiful quality superheterodyne, including the modern features the public is looking for, at a price attractive to all.



"Westernaire"

Super-heterodyne
Seven tubes
Pentode
Multi Mu
Screen-grid
Tone control

\$49⁵⁰

Attractive Dealer Discounts



TONE is the big selling point today. And WESTERNAIRE engineers have developed a mellow- full-range, powerful tonal quality in this sensational new receiver that more than backs up the claims you can make for it. Its selectivity and sensitivity will compare remarkably with many high-priced sets. A new, modern style of cabinet design makes WESTERNAIRE a finished, graceful, furniture piece, at home in any surroundings, and draws instant attention on display. SEE this new set . . . HEAR its exceptional tone . . . PLAY IT, and put it through its paces . . . let it tell its own story.

Southern California Distributor

**CHICAGO WHOLESALE
SUPPLY COMPANY**

1979 So. Vermont Ave.

Los Angeles, Calif.



“SHE
Shall Have Music
WHEREVER
SHE GOES”

YOU never know the joy of having an automobile radio in your car until you ride with one. Many people tell us they hear more enjoyable radio programs in their cars than at home.

Automobile radios make driving easier, more comfortable, and more pleasant. Time passes quickly. Never misses their favorite programs. Contrary from the general belief, it does not distract from driving.

No car is complete without an automobile radio, more and more are being sold every day, and time is not far distant when every car will be equipped with an automobile radio.

“WESTERNAIRE” has perfected a motor car radio that is a marvel in radio reception and tone. It will give the same steady, reliable, and enjoyable performance in your car that your most expensive radio gives you at home. No longer necessary for anyone to be without an automobile radio.

\$49⁵⁰
COMPLETE

Licensed by
R.C.A.

“WESTERNAIRE”

DEALERS—Install a WESTERNAIRE Automobile radio in your car and let it prove itself to you. There are big sales, big profits, and an all-year market in automobile radios. WESTERNAIRE gives you reliable, guaranteed satisfaction and performance, at a price below \$50.00, complete.

INTERNATIONAL RADIO CORP., Ltd.

700 E. Florence St.

Los Angeles, Calif.

MILLER COILS

Used

Exclusively

in the New
R.C.A. Licensed

“Westernaire”

Congratulations

To

**International
Radio Corp., Ltd.**

J.W. Miller Company

5917 S. Main

Los Angeles

MICAMOLD—

BY-PASS CONDENSERS

MICA CONDENSERS

FROST—

VOLUME CONTROLS

TONE CONTROLS

DE JUR-AMSCO—

VARIABLE CONDENSERS

DIALS

Furnished Thru

Frank A. Emmet Co.

324 No. SAN PEDRO

LOS ANGELES

For the New

WESTERNAIRE

Models

Manufactured by

**International
Radio Corp., Ltd.**

ANNOUNCING THE NEW COMPLETE LINE OF "WESTERNAIRE"

Licensed Under R.C.A. Patents

AND



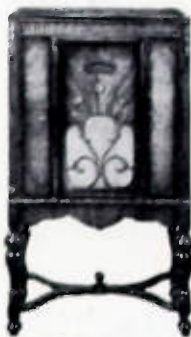
A Mighty Mite—4 Tubes—Pentode—Screen Grid—\$24.95 Complete.



It Speaks for Itself—Power—Selectivity—Tone—5 Tubes—\$39.95 Complete.



Seven Tube Superheterodyne—\$49.50 Complete—Embodying latest features in Super-Hets, plus exceptional tone qualities reproduced by new especially designed Super Sensitive Dynamic Speaker.



A Beautiful Piece of Furniture—\$89.50 Complete. This remarkable nine tube achievement performs with equal satisfaction to the highest price radios manufactured. An outstanding value.

Also in Artistic Midget Cabinet Model—\$69.50 Complete.



"WESTERNAIRE'S" latest contribution to radio. A new sound reproduction principle, a new cabinet design, and the biggest advance in radio since the advent of the midget set.

Patent Applied For

"MYSTIC BALL" RADIO The Biggest Achievement of the Year Price \$39.50

HERE'S the biggest, newest, and most startling thing in radio. It incorporates an entirely new type of sound reproduction in a beautiful mystic ball. The chassis is in the very attractive Ebony base. The speaker is incorporated on a new sound reproduction principle in the ball itself.

The tone is remarkable. It is an ornament in any home and in any furniture scheme. The tone will surprise you.

It is a "natural" seller, and the big radio sensation of the year. Get in on it quick now.

7 Models—\$24.95 to \$89.50

Exclusive Sales Representatives

R.J. NOEL Co.

800 E. GAGE AVE.

LOS ANGELES, CALIF.

Lansing

Dynamic Speakers
in the
New

“Westernaire”
Models



We
Congratulate
INTERNATIONAL
RADIO CORP., Ltd.

on their
New Line
and
New Home

LANSING MFG. CO.

6920 McKinley Ave.

Los Angeles

Congratulations

To

“Smitty”

AND

THE
INTERNATIONAL
RADIO CORP., Ltd.

From the

AMERICAN STEEL PKGE. CO.
CORNELL ELECTRIC MFG. CO.
CROWE NAMEPLATE CO.
LANSING MFG. CO.
MATCHLESS ELECTRIC CO.
OHIO CARBON CO.

AND

W. BERT KNIGHT, INC.

1646 WEST ADAMS ST.

EMpire 4440

LOS ANGELES

AMERICAN BOSCH RADIO



The PERSONAL RADIO MODEL · 5 A

The outstanding achievement in small radios. Out-performs sets costing several times as much. Solid mahogany case.

COMPLETE WITH TUBES \$44.50

MODEL · 31 H

The latest model Super-heterodyne, the very peak in radio quality. A startling value that sells on sight.

COMPLETE WITH TUBES \$69.50



*Here are two real sellers
for the Holiday Market..*

Priced right to attract customers and built right to satisfy owners these two models are providing both volume and profit for American Bosch dealers.

Meeting rough-shod competition with quality merchandise at competitive prices puts the American Bosch dealer in an exceptional money making position.

Join the ranks of successful dealers—dealers who have radio merchandise that

has the call in this market—give your customers radio that has performance and appearance at prices they think fair. American Bosch Radio sells easily, performs amazingly, is profitable to sell because it stays sold without service.

The best part of the season is here now. This is the time to switch to American Bosch and new profits. Ask the wholesaler near you for the whole story or write us direct.

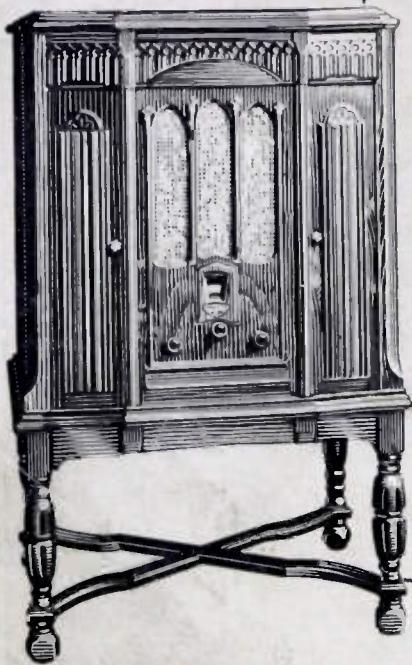
UNITED AMERICAN BOSCH CORPORATION

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American Bosch Radio is licensed under patents and applications of R. C. A.

Find 2 Profits

where only ONE grew before



RCA Victor Radio Phonograph Model RAE-26. 9-tube Super-Heterodyne with complete 10-point Synchronized Tone System. Slow-speed clutch, automatic record changer with 10-record capacity **\$247⁵⁰** Complete

Look into the Back!

for these 10 Points of the RCA Victor Synchronized Tone System without which no radio can be called up-to-the-minute!

- 1 Super-efficient RCA Victor Super-Heterodyne circuit.
- 2 Continuous band-pass variable tone control.
- 3 Shock-proof, rubber mounted chassis.
- 4 Scientifically impregnated condensers.
- 5 Noise eliminating power transformer.
- 6 New RCA Victor automatic volume leveler that corrects fading.
- 7 Three-point shielding (tubes, chassis, cable).
- 8 Perfect acoustic Synchronization of chassis and cabinet.
- 9 Over-size electro-dynamic speaker.
- 10 New RCA Pentode tube with push-pull application.

RCA Victor Radio Phonograph Model RAE-59. 10-tube De Luxe Super-Heterodyne, complete 10-point Synchronized Tone System. Slow-speed clutch for playing new Program Transcriptions. Automatic record changer with 10-record capacity. New Home Recording unit . . . **\$350⁰⁰** Complete



OTHER
RADIO PHONOGRAPHS
AT FROM \$129.50 TO \$995

These are the Kind of Dollar-Stretching Values the Public Wants—and the Kind of Full-Profit Numbers the Radio Business Needs. Two-in-One Instruments at Prices the Public Will Pay.

The BIG SWING this year is to combinations. Because they mean bigger values! Because they mean complete entertainment! Because Victor's sensational new long-playing records — Program Transcriptions with 30 minutes of music on a 12-inch record—open up a wholly new kind of finer-toned, more convenient music-in-the-home!

With these instruments, you can get the cream of this profit-

able business. They're both radio and phonograph—in one cabinet—at one low price—with one down payment—sold at the cost of making one sale and yielding a profit that's worth working for.

So get busy. See your RCA Victor distributor. Get these instruments in and go after profitable business! RCA Victor Company, Inc., "Radio Headquarters," Camden, N. J. A Radio Corporation of America Subsidiary.

DOUBLE YOUR RECORD PROFITS!

Your trade gets nearly 4 times as much music from the new Victor Program Transcriptions as from old records of the same size. They pay only about twice as much. It's a bargain for them...and it's a bargain for you, for every Program Transcription sale pays roughly twice the profit of an old-style record sale!



RCA Victor

RADIOS . . . VICTOR RECORDS
PHONOGRAPH COMBINATIONS

