

# RADIO

REG.  
U.S. PAT.  
OFF.

THE NATIONAL TRADE MAGAZINE

OCTOBER, 1931

» » » Another Triumph for

# TRIAD

## 3 NEW TUBES THAT GIVE AN ENTIRELY NEW CONCEPTION OF RADIO ENJOYMENT

TRIAD'S three new tubes, like their distinguished predecessors, are proving their superior worth.

Tone quality? Proved in the first week of their appearance . . . Long life? They have established their claim with a minimum of service calls and replacements in the past six months . . . There's only one reason—uniform high quality maintained by rigid tests of each successive operation in the manufacturing process. Every Triad

tube is quality proved, or it never leaves the factory.

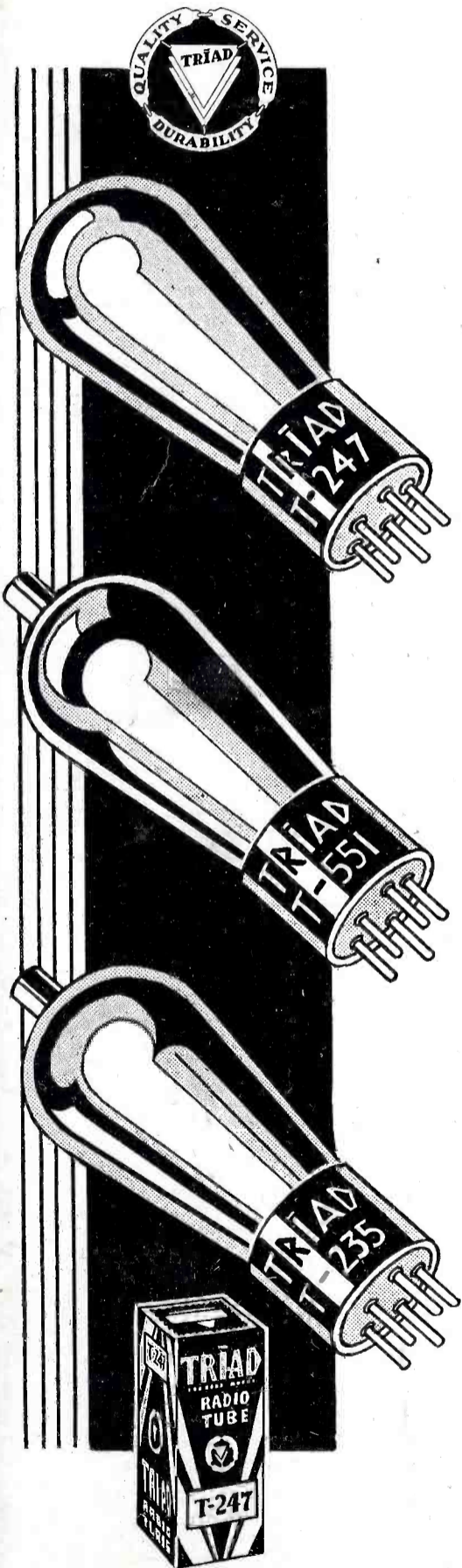
Type T-247, the new **DEPENDABLE PENTODE**, achieves extraordinary sensitivity by combining extremely high amplification and power output.

Type T-551 eliminates cross talk and distortion and reduces static to a minimum.

Type T-235 has characteristics of the 224 type but has new features that make it adaptable for use in automatic volume control circuits.

Triad also produces Shortwave and Television tubes.

Triad offers a quality tube for every radio need.



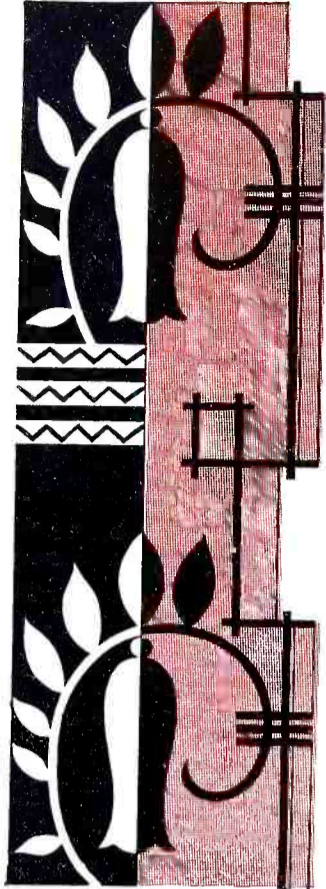
LICENSED under patents of Radio Corp. of America, General Electric Co. and Westinghouse Electric & Mfg. Company.

TRIAD MANUFACTURING CO., INC.

PAWTUCKET, RHODE ISLAND

PACIFIC COAST SALES OFFICES—R. J. Noel Co., 800 E. Gage St., Los Angeles, 704 Larkin St., San Francisco, 1518 1st Ave. South, Seattle, Wash.



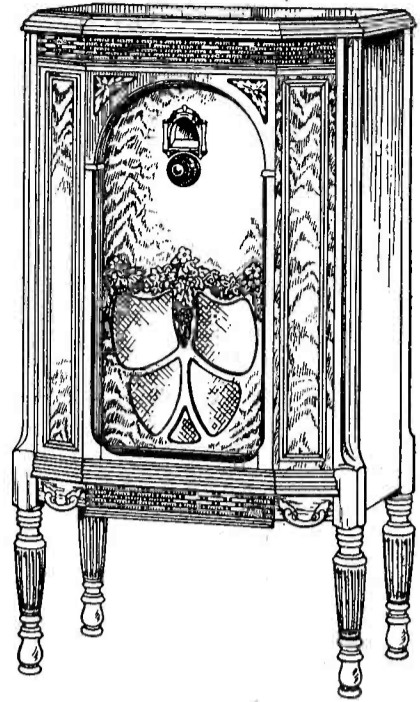


THIS fine instrument, due to its large speaker and greater number of tubes permits greater volume... 9 tube Super-Heterodyne circuit equipped with latest Screen-Grid, Variable-Mu, and Pentode tubes, together with Uni-Selector, Tone Control, Turret-type Tuning Condenser, Automatic Volume Control, Power Detector, and DeLuxe 12" Dynamic Speaker... Cabinet, lowboy of unusually distinctive appearance.

MODEL 17

List price \$139.50 · Complete with Bruuswick Tubes

Other models \$39.50 to \$225.00



# BRUNSWICK RADIO



THERE are eight new models in the Brunswick line—priced so as to enable you to prosper, yet give your customers the ultimate value for their dollars... If you want to sell radios profitably during these times, let us lay before you the 1932 Brunswick sales and merchandising plans... They are simple, constructive, and profitable. Write!

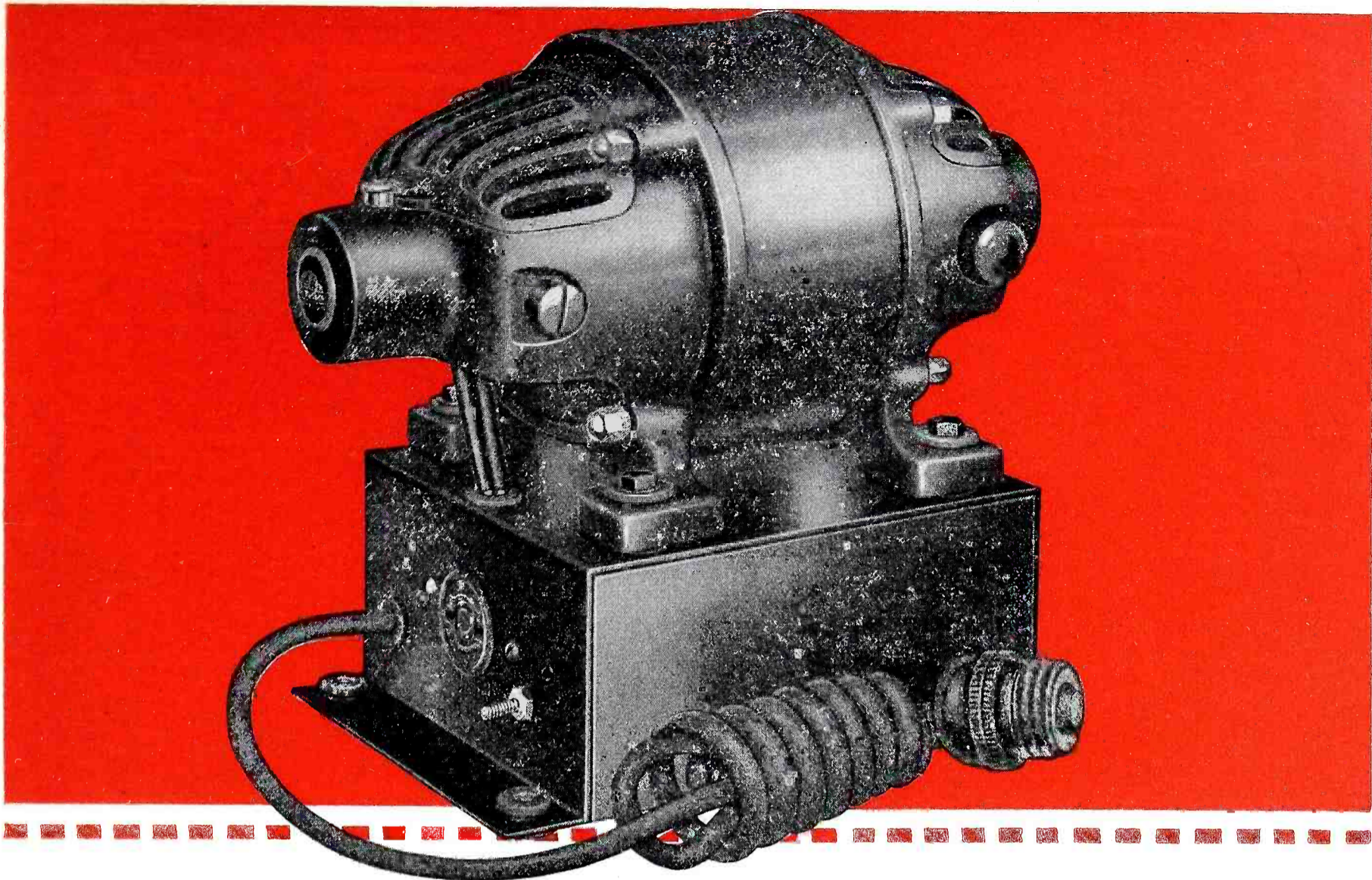
BRUNSWICK RADIO CORPORATION

*Division of Warner Bros. Pictures, Inc.*

NEW YORK · CHICAGO · TORONTO







# THIS IS OUR ANSWER!

Thousands in the radio industry have had uppermost in their minds this question:  
 "Where and how can I sell more A.C. Radio Sets?"

Our answer is: "Sell them in D.C. districts!" More than half a million American farmers are the owners of 32 and 110 volt D.C. lighting plants. Every one of them automatically becomes an A.C. radio prospect through the

## JANETTE ROTARY CONVERTER

In addition to the rural market, there are literally hundreds of thousands of prospects living in the D.C. districts of our large cities—a vast, untouched market. Millions of new A.C. radio prospects have been created overnight with the introduction of the new Janette Rotary Converter.

Janette Mfg. Co.,  
 557 W. Monroe St.,  
 Chicago, Ill.

Please send me full information and discount on your new type CA-20-F Converter.

**LOWEST PRICED CONVERTER EVER OFFERED!**

\$49.50 is a record low price for a converter—and this price includes filter, cord, plug and A.C. receptacle.

The JANETTE operates quietly. Has double-wound armature. Perfect filtering — not a trace of ripple or interference in the receiving set.

Mail the coupon today!

Name.....

City and State.....

Street and No.....



**JANETTE**

**MFG. CO.**

557 W. MONROE ST., CHICAGO, ILLINOIS

Singer Bldg., 149 Broadway, New York, N. Y.

Harrison Sales Co., 314 Ninth Ave., N., Seattle, Wash.

Real Estate Trust Bldg., Philadelphia, Pa.

Lombard Smith Co., 328 N. San Pedro Ave., Los Angeles, Calif.



25c the Copy

ESTABLISHED  
1 9 1 7

# RADIO

REGISTERED  
U. S. PAT. OFF.

\$2.00 the Year

Volume 13, Number 10

THE NATIONAL TRADE MAGAZINE

October, 1931

P. S. LUCAS, *Editor*  
HENRY SUCHER, *Associate Editor*  
JOHN J. MORGAN, *Associate Editor*

H. W. DICKOW, *Business Manager*  
DR. RALPH POWER, *Associate Editor*  
THOS. C. McCLARY, *Associate Editor*

211 West Wacker Drive, Chicago, Ill. — 415 Lexington Ave., New York, N. Y. — Pacific Building, San Francisco, Calif.  
86 St. Botolph St., Boston, Mass. — 580 Crane Boulevard, Los Angeles, Calif.

## CONTENTS

RADIOTORIAL COMMENT . . . . .	12	STABILIZE YOUR EFFORTS . . . . .	22
TUBE PATENT WAR ENDS . . . . .	13	By L. P. NAYLOR	
THE NEW \$87.70 REFRIGERATOR . . . . .	14	NEW MARKET FOR BATTERY SETS . . . . .	23
ADVERTISE A SENSIBLE PRICE . . . . .	15	By E. A. NICHOLAS	
By P. S. LUCAS		SOUND SYSTEMS BRING LARGE PROFITS . . . . .	24
HOT TIPS ON PROGRAM PREFERENCES . . . . .	17	By H. G. CISIN, M.E.	
LONG PLAYING PHONOGRAPH RECORDS . . . . .	18	HOW TO SELL MICROPHONES . . . . .	27
TREND OF THE RADIO TIMES . . . . .	20	By R. H. McLEAN	

Entered as second class matter at the Post Office at San Francisco, California, under the Act of March 3, 1879.

# FORECAST!

"How the RCA RADIOTRON CO. HELPS ITS DEALERS SELL TUBES" will be one of the feature merchandising articles in November "RADIO." "HOW THE COLIN B. KENNEDY CO. HELPS ITS DEALERS SELL THE SHORT WAVE GLOBE-TROTTER" is another feature of next month's issue. "RADIO" will tell you, each month, what the manufacturers are doing to help YOU sell more merchandise. Complete sales

and advertising campaigns will be discussed and analyzed. By this means you will know what all of the worth-while manufacturers offer you in the form of sales helps, window displays, advertising assistance and the creation of consumer demand for their products.

You will find the pages of "RADIO" well worth *studying* . . . and preserving for future reference.

Your Business Associates may desire to subscribe to "RADIO" for one year. The price is \$2.00. Will you pass this copy along to a friend in the trade?

## SUBSCRIPTION ORDER

Publishers of "RADIO,"  
415 Lexington Avenue,  
New York, N. Y.

Send "RADIO" for one year. I enclose \$2.00 in full payment.

Name.....

Address.....

City and State.....



# Instant LEADERSHIP!

**W**EEPING far beyond every previous standard of comparison in tone and automatic operation, Capehart Series "400," combining automatic phonograph with a specially engineered 13-tube Super-Heterodyne Radio, has achieved indisputable leadership among musical instruments for the home.

*"Pride of Possession"*



Because of the substantial profit which is realized on the sale of every Capehart "400" . . . and because these new instruments make a compelling appeal to people who are able and ready to buy . . . outstanding dealers are giving Capehart the lead in fall selling plans.

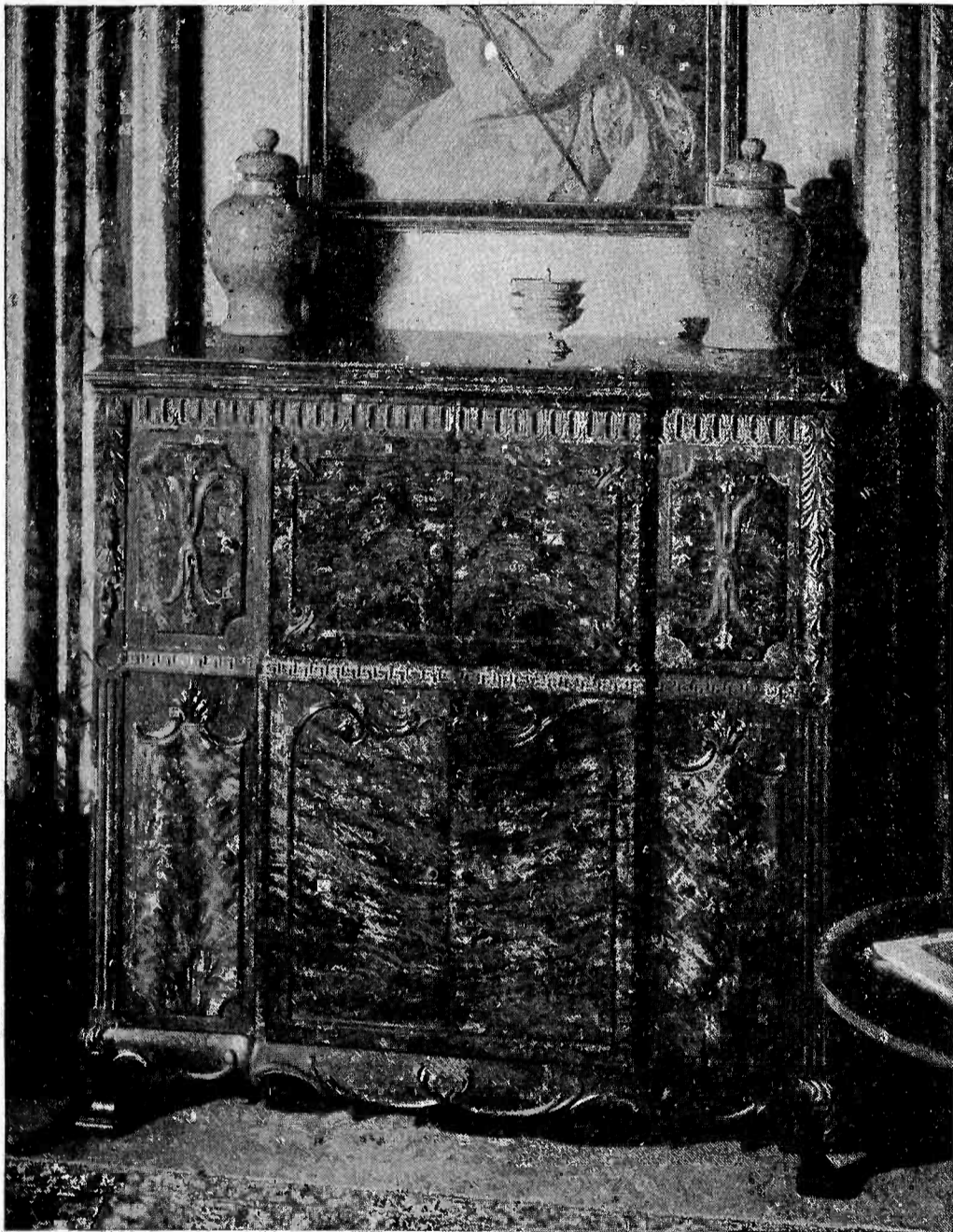
The Capehart "400" has an exclusive rotator which re-

verses and changes double-faced records — of either size or both intermixed — plays entire albums of recorded music in proper sequence.

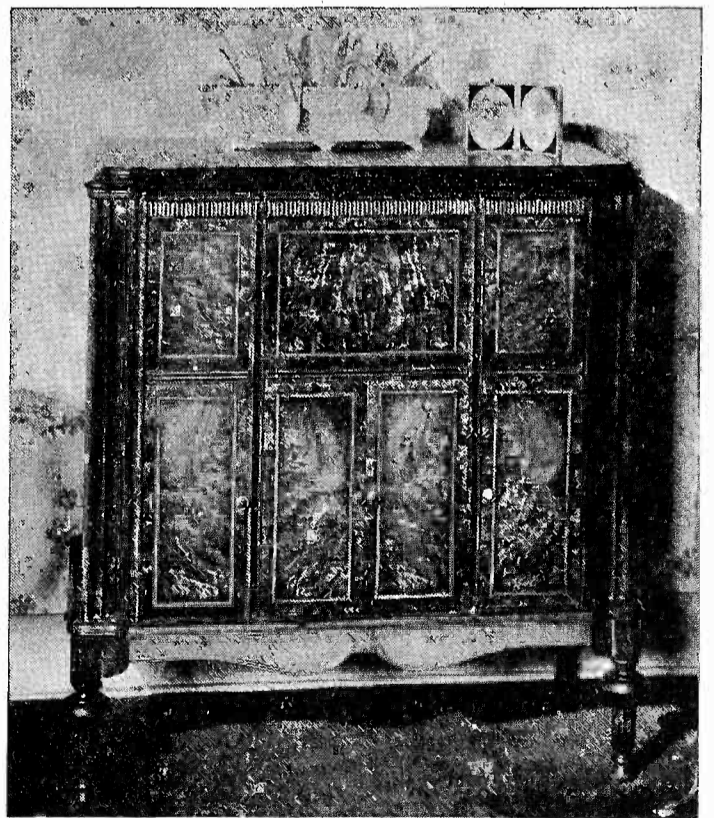
A fitting companion to the "400" is the Capehart Model "21," priced for a broader market but still yielding substantial profit to the merchant. Model "21" combines an 8-tube Super-Heterodyne Radio with automatic phonograph, including the famous Capehart 10-12 record changer.

Beyond question Capehart is the line of leadership and of profit. Prospects in your community will buy Capeharts this fall. *Will you get the profit?* Write now for complete information, without the slightest obligation to you.

**THE CAPEHART CORPORATION**  
Fort Wayne, Indiana



THE CAPEHART MODEL NO. "400"  
*Plays all makes of Records*



THE CAPEHART MODEL "21"  
*Plays all makes of Records*

# CAPEHART

A GREAT NAME IN MUSIC

Tell them you saw it in RADIO



# Echophone stops the prospects and Starts the Sales

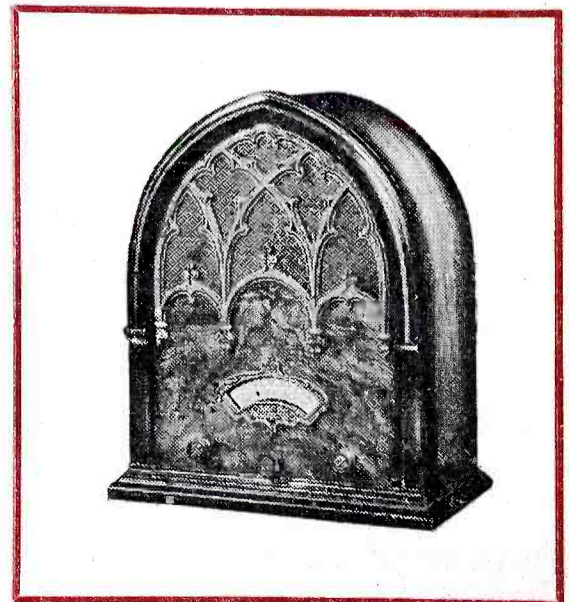


Model "90" Superheterodyne—Large Type Chassis, Eight tubes including two Pentodes Push Pull and four Variable-Mu, Pre-selector, 4-gang Condenser, 10-inch Jensen Dynamic Speaker, Full Vision Dial, Tone Control, Phonograph Jacks, Burl Walnut Panel.  
**\$89.50 Complete**



Model "60" Superheterodyne (above) — Seven tubes including Pentode and three Variable-Mu, Jensen Dynamic Speaker, Full Vision Dial, Tone Control, Phonograph Jacks, Walnut Cabinet—6 inches deep . . .  
**\$53.75 Complete**

Model "80" Superheterodyne (right)—Eight tubes including two Pentodes Push Pull and three Variable-Mu, Pre-selector, Jensen Dynamic Speaker, Full Vision Dial, Tone Control, Phonograph Jacks, 4-gang Condenser, Burl Walnut Cabinet—6 inches deep . . .  
**\$69.50 Complete**



Echoette Model "40"—Four tubes including Pentode and Variable-Mu. Dynamic Speaker, Walnut Panelled. . . .  
**\$ 32.75 Complete**

Model "70" Direct Current Superheterodyne — 7 tubes including D.C. Pentodes and D.C. Variable-Mu. Jensen Dynamic Speaker . . .  
**\$59.50 Complete**

The new Echophone line is now doing business in a big way. It is getting attention in the largest cities and smallest towns. You should take heed—there's worthwhile money to be made with this new line. Echophone receivers have always started and kept the "ball rolling." Echophone has been successful since 1921—you can tie-in with Echophone now and get profitable sales results. Echophone is today's "live-wire" receiver. There's a wide range of models including our "midget" Echoette and beautiful consoles. There's an Echophone to meet every buyer's need. You can stock Echophone receivers in perfect safety—they'll sell—you'll profit.

## ECHOPHONE RADIO MFG. CO., Ltd.

Executive Offices and Factory  
WAUKEGAO, ILLINOIS

Export Division—Echophone Company Export  
44 Whitehall Street New York, N. Y.

Get in touch with our nearest distributor or write us direct for complete details. Our new line represents the best we have yet produced — our 10-year record should convince you that it's wise to get now.

Tell them you saw it in RADIO



# The Biggest Thing In

## Radio Service Since '28



- ← Super DIAGNOMETER
- ← plus
- ← Shielded OSCILLATOR
- ← plus
- ← Advanced TUBE TESTER
- ← plus
- ← OHM-MEGOHMMETER
- ← plus
- ← CAPACITOR TESTER

### SUPREME DIAGNOMETER AAA1

Dealers' Net Price  
F.O.B. Greenwood, Miss.

# \$147.50

**5** Ultra-modern, essential, testing instruments in **1**, for the price of **1**

*A combined test panel and portable laboratory; mounts on the wall as easily as removing the lid.*

SUPREME INSTRUMENTS CORPORATION  
418 Supreme Building  
Greenwood, Miss.

Please send me full particulars on SUPREME DIAGNOMETER AAA1, without obligation.

Name.....  
Address.....  
City.....State.....  
Name of Jobber.....  
City.....State.....

#### QUICK FACTS

1. Analytical A. C. and D. C. voltage ranges of 0/2.5/10/-25/100/250/1000 v. 1000 ohms per volt sensitivity.
2. External D. C. voltage ranges of 0/40 and 0/200 volts at 2500 ohms per volt for automotive and aeroplane installations.
3. External A. C. and D. C. voltage range of 0/2500 volts.
4. Resistance ranges 0/5000/-500,000 ohms, continuity ranges 0 / 5 / 25 megohms with zero corrector.
5. Capacity measurements .002 to 10 mid. Condenser tests at 250 volts D. C.
6. A.C. power transformer with primary selector for line voltages between 100 to 240 volts.
7. Tests ALL tubes. Oscillation test, gas test, cathode-heater leakage 0 / 100,000 ohms, and short test.
8. Completely shielded modulated and attenuated Oscillator individually calibrated 90 to 1500 kilocycles. Equipped with vernier tuning dial.

THAT'S what leading service-men, technicians and dealers are saying of the new SUPREME DIAGNOMETER AAA1—"the Biggest Thing in Radio Service Since '28." Not since that season, which introduced the first DIAGNOMETER, has the service world welcomed such a revolutionary and versatile testing instrument. The BIG 5 of service—SUPER-DIAGNOMETER, OSCILLATOR, TUBE TESTER, OHM-MEGOHMMETER, CAPACITOR TESTER,—combined and condensed into one smaller, handier case!

No matter how much you have heard of the wonders of this "Supreme" product, you will be amazed at an actual demonstration. The instrument that the radio world wanted and waited for SUPREME to sponsor. You must see it—compare it—

#### Ask Your Jobber to Demonstrate

Jobbers everywhere are prepared to demonstrate. Send the accompanying coupon for complete details and name of nearest jobber. Not because it offers you 5 vital instruments in 1, at the economical price of 1, but because your own standards of modern service demand it, do you need this, the greatest testing instrument in history. Soon pays for itself in savings of time and labor and increased profits. An investment for profits and prestige!

#### \*SUPREME INSTRUMENTS CORP.

418 Supreme Bldg., Greenwood, Miss.  
*Distributors in all Principal Cities  
Foreign Division 130 West 42nd St., New York City  
Cable Address LOPREH, New York*

Tell them you saw it in RADIO



# ELECTRIC CLOCKS

TO RETAIL AT  
**\$1.00**  
 EACH



Model No. 800—Model No. 810 with Alarm  
 (Illustrated above in Actual Size)

THREE Complete Electric Models—for the home. The most amazing values ever offered. Smart in appearance—equal to many clocks retailing as high as \$7.00 or more—and dependable for accuracy and performance. Incorporate every worth while feature expected in a perfect Electric Clock.

Mr. **JOBBER** write for *Jobbing Proposition*  
 Mr. **DEALER** write for *Complete Data* advising your nearest *Jobber*

— also —

write for complete information on the complete line of  
 LINCOLN ELECTRIC CLOCKS.

OVER 30 MODELS FOR EVERY REQUIREMENT

**ELECTRIC CLOCK CORPORATION of AMERICA**

Division of **FAY MANUFACTURING CO.**

General Offices and Factory

510 S. Throop Street - - - - - Chicago, Ill.

Branch Offices and Warehouses

260 Fifth Avenue  
 New York City

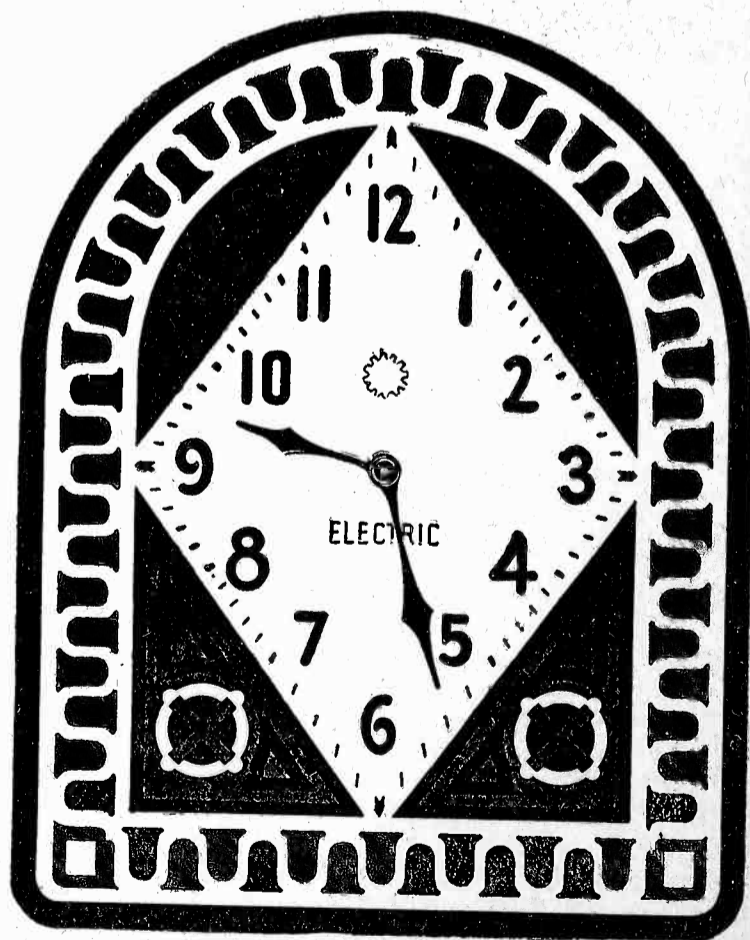
271 7th Street  
 San Francisco, Calif.

A *Boudoir Model* with  
**BAKELITE CASE**

A *Sparkling*  
**KITCHEN MODEL**

An **ALARM Model**  
 with **BAKELITE CASE**

TO RETAIL AT  
**\$1.50**



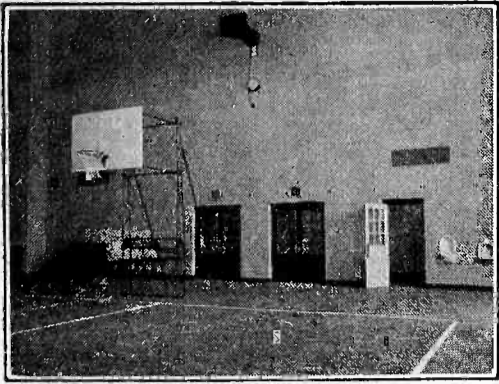
Model No. 900 **KITCHEN CLOCK**

Full size 9" high—width 7½"

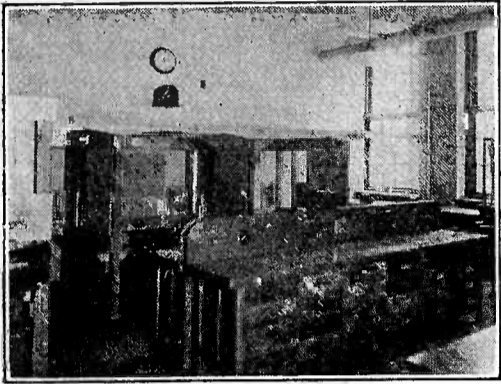
Color Scheme

Light Blue—Dark Blue and White

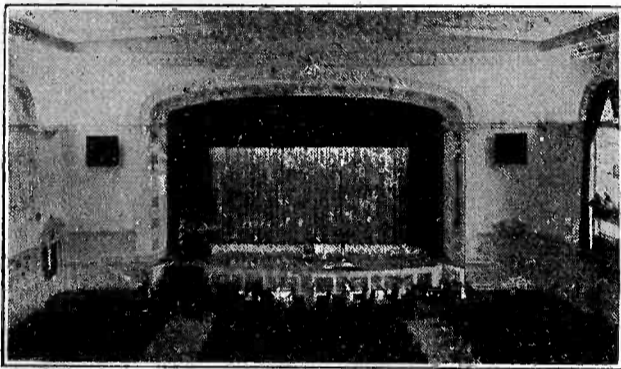




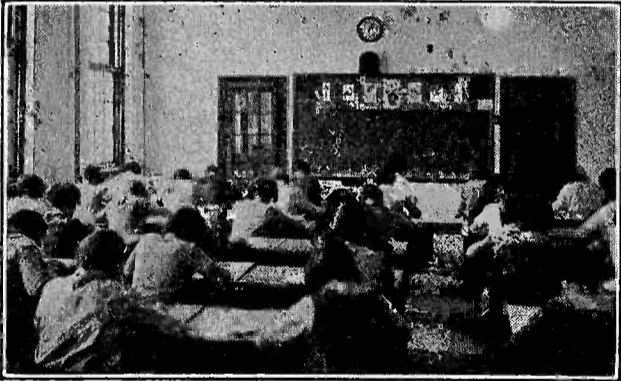
A No. 9 Horn with No. 207 Wright-DeCoster Chassis furnishes reproduction in the gymnasium of the Upper Darby Junior High School.



Hyflux Speakers are also installed in the shop rooms of the Upper Darby Junior High School.



The large auditorium of the Upper Darby Junior High School is equipped with two No. 4 Baffles with No. 207 Wright-DeCoster Chassis.



One of the class rooms in the Upper Darby Junior High School, with Hyflux Speaker.

## Schools have many uses for SOUND Installations

**T**HE COMPLETE sound amplification system at Upper Darby, Pa., Junior High School . . . including speakers in gymnasium, shop rooms, auditorium and class rooms . . . is a good example of the possibilities for

selling Sound Equipment to Schools. Among the many other prospects are airports, arenas, amusement parks, ball parks, beaches, fair grounds, dance pavilions, golf courses and stadiums.

## WRIGHT-DECOSTER Reproducers

are giving remarkably satisfactory service in all of these different types of installations, outdoor and indoor, because of their superior tonal quality, clarity and volume. Cash in on the many opportunities for selling sound equipment.

*Write for complete information and address of nearest sales office*

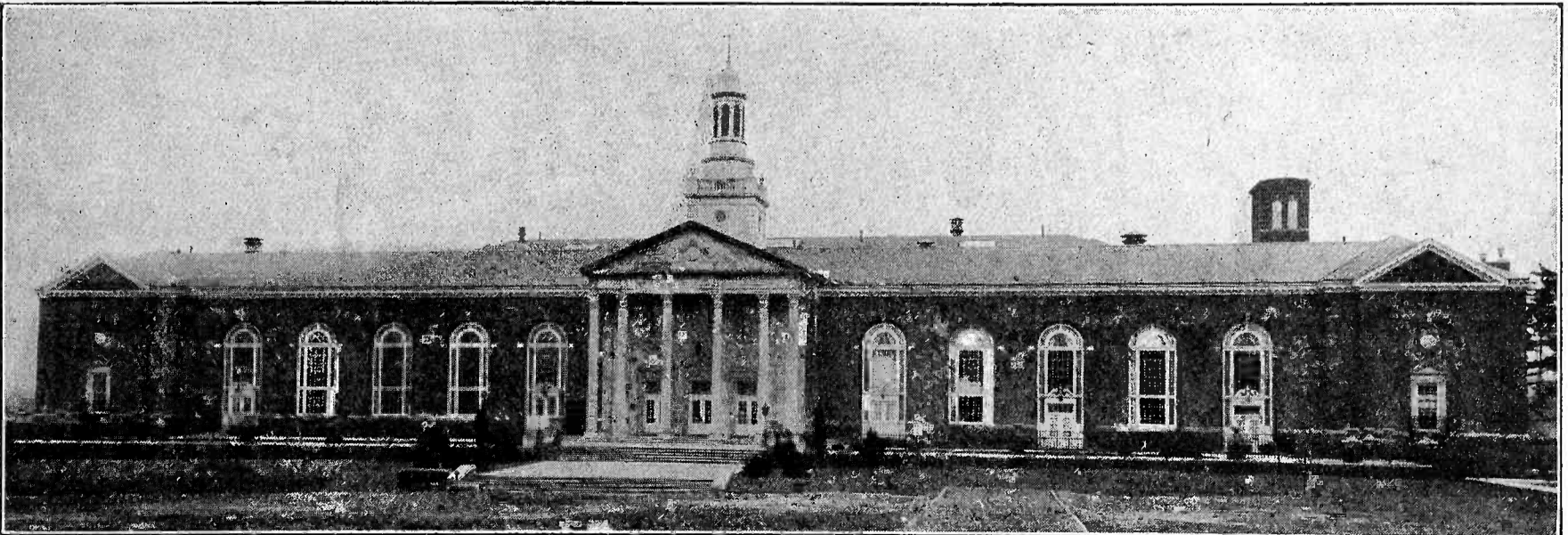
### Wright-DeCoster, Inc.

2217 UNIVERSITY AVENUE

ST. PAUL, MINN.

Export Dept., M. SIMONS & SON CO., 25 Warren St., New York City

Cable Address: SIMONTRICE, New York



No school sound equipment is more modern or more efficient than that installed in the Upper Darby Junior High School.

Tell them you saw it in RADIO

**ARROW ELECTRIC COMPANY**  
5112 Whitby Avenue  
Philadelphia, Pennsylvania

February 23, 1931

Wright-DeCoster, Inc.  
Saint Paul, Minn.  
Gentlemen:

Regarding the sound installation which we made at the Upper Darby Junior High School, Upper Darby, Pa., there were 54 Hyflux speakers installed in the class rooms and shops. A No. 9 Horn with No. 207 Chassis was installed in the Gymnasium and two No. 4 Baffles with No. 207 Chassis were installed in the large auditorium.

The system was tested by Dr. Josiah H. Penniman, Provost of the University of Pennsylvania and many others on the formal opening and dedication of the school. The Wright-DeCoster Speakers gave entire satisfaction and have been giving excellent service since they were installed.

We have had several favorable comments in the press regarding this installation and we feel it will be only a short time when this system will become the standard equipment of all schools in this section.

Yours Respectfully,  
**ARROW ELECTRIC COMPANY**  
By: George W. Carns.

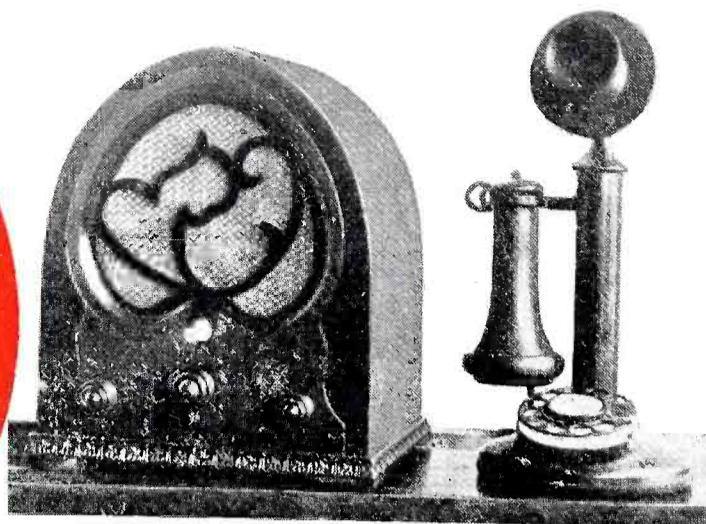


# Paramount Dealers Are Making Money

Sold Direct  
to Dealers at a Net Price of

**\$13.95**

CASH WITH  
ORDER



PARAMOUNT  
"KEWPIE"

Retail Price  
\$29.95

NOTE: Owing to additional factory space, and increased production, we can quote this low price. We are now shipping the Kewpie radio to most all points of the world and dealers everywhere report exceptional volume of sales.

Complete with Arcturus Tubes  
or \$12.95 in quantities of 12

## *The Smallest Radio Made*

Size 9 $\frac{3}{8}$ " High, 7 $\frac{1}{2}$ " Wide (inside measurements)

### 1932 FEATURES - - - SELL ON SIGHT

#### 1 Pentode Tubes

Equal to 2-245 plus 1-227. This radio, smallest in size, incorporates the new pentode tube.

#### 2 Full Dynamic Speaker

Perfect tone quality.

#### 3 Screen Grid Circuit

Using 2 screen grid tubes to their utmost efficiency.

#### 4 Tone Control

The sales talking point of 1931. We use the new full range control.

#### 5 Selectivity Plus Distance

We have reports of distance of 1500 miles.

#### 6 Quality All Through

Steel chassis, cadmium plated, oversized power transformers (shielded), heavy service resistors, electrolytic, self-healing filter condenser. Cornell oversized bypass condenser and many features found only in high priced sets.

*Fully Guaranteed for Three Months*

## THE PARAMOUNT LINE IS COMPLETE

*We also Manufacture the following*

11 tube superheterodyne chassis to mount in your console cabinets.

10 tube superheterodyne midget, \$69.50 list.

9 tube all-wave superheterodyne midget, \$79.50 list.

7 tube superheterodyne midget, \$39.95 list.

and an automobile radio, \$49.95 list.

PROFITS: Our discounts are large and allow you ample margin of profit to advertise.

Member of  
Los Angeles  
Chamber of Commerce

LOS ANGELES RADIO MFG. CO.

3681 So. San Pedro Street  
Los Angeles, Calif.

Tell them you saw it in RADIO

Manufacturers of  
Quality Radios  
Since 1925



MORE  
BETTER  
EASIER

# Collection

*A Radically New—Entirely Original—Collection Plan  
For delinquent Installment Accounts*

**ACCLAIMED BY THE RADIO INDUSTRY**

**ENDORSED**

BY

**IMPORTANT FACTORS IN THE TRADE . . .  
RETAILER - JOBBER - ASSOCIATION  
FINANCE**

**PAYS FOR ITSELF**

## RESULTS ATTAINED AND ATTAINABLE—

A CROSS SECTION OF DEALERS ACCOUNTS handled by the San Francisco Bay District Representative shows up as follows:

•	
COLLECTIONS DEALER No. 1	
9 Accounts—past 30 days	\$ 7.00
<i>System Collections</i>	
Same accounts—next 30 days	82.50
•	
COLLECTIONS DEALER No. 2	
10 Accounts—past 30 days	None
<i>System Collections</i>	
Same accounts—next 30 days	50.87
•	
COLLECTIONS DEALER No. 3	
12 Accounts—past 30 days	9.88
<i>System Collections</i>	
Same accounts—next 30 days	50.01
•	
COLLECTIONS DEALER No. 4	
10 Accounts—past 30 days	9.15
<i>System Collections</i>	
Same accounts—next 30 days	58.50
•	
COLLECTIONS DEALER No. 5	
12 Accounts—past 30 days	12.96
<i>System Collections</i>	
Same accounts—next 30 days	128.98
•	

This office shows an average collection increase of 351 per cent on all dealer accounts handled to date.

Names of above and other dealers are submitted for reference on inquiry.

Sample work sheet showing details are included.

## What's In the Plan?

Over thirty years of merchandising experience.

Seven years of exclusive radio retail and collections.

Years of experimentation and hundreds of dollars spent in various and variegated collection methods. Each developing its numerous and assorted "ifs," which, in actual use, had to be eliminated, one by one, until a 10 POINT SOLUTION was found:

1. Simplicity.
2. A basic idea.
3. A good will approach.
4. A third party element.
5. Payments made direct to the dealer.
6. Cost of Service paid by the customer.
7. A follow-through keeps payments coming regularly.
8. Flexibility makes it adaptable to any contingency.
9. Enhances efficiency of any regular collection routine.
10. Simplified perpetual audit of all delinquent accounts.

It is available for use in any locality, by individuals, groups, or organizations, who may use or produce the service for sale. It is within itself a complete formula for a business of unlimited profit possibilities. It should pay for itself within 30 days.

This entire service is For Sale — A complete portfolio down to the last detail, showing each move in its most effective sequence. Judging by an experience gained in the handling of thousands of accounts, its success is foretold and positive.

We urge an immediate inquiry regarding this new vital merchandising element and are offering a special ninety day trial rate—sufficient time and material for a thorough test—by which can be proven its efficiency.

### WRITE FOR INFORMATION

Your signature on your letter-head is all that's necessary.

**Address:--System Collection Service  
1739 Webster Street  
Oakland, Calif.**



# Radiotorial Comment

---

By The Editor

**A**MONG the newer low-priced accessories that can consistently be sold by a radio dealer is the small microphone for home use. This carries nearly as much profit as a midget set. Almost any owner of a radio set can be sold one of these, just for the fun of the thing. Then when this amusement-loving market is exhausted there remains a large undeveloped market among the hard-of-hearing. A brief explanation should suffice.

Almost all deaf people can enjoy a radio program with the aid of a pair of head-phones closely clamped over their ears so that the bones of the head carry the sound vibrations to the center of hearing. By this means also, with the insertion of a cheap microphone ahead of the audio-frequency circuit of a radio set, they can hear the spoken word of members of their family. This is a little-known boon to the hard-of-hearing.

Their names and addresses are listed in every town. They have various clubs and associations. An enterprising dealer can readily make the desired contacts and sell one of these instruments after every demonstration, selling direct to the prospect who is usually overjoyed at being able to hear. Furthermore if the prospect does not own a radio, a demonstration with the dealer's portable set will sell both set and microphone.

• •

**T**HE little suggestion by no means exhausts the possibilities of new sales by wide-awake salesmen. Many people are interested in hearing short-wave stations, not only the distant foreign ones but also the local police and aeroplane stations. It is a simple matter to connect a good

short-wave adapter to any existing set and simpler still to use one of the new combination sets. The additional cost of one of these new combinations is only about twenty dollars. They open a new vista of thrills and romance to the broadcast listener who is surfeited with the advertising on the regular broadcast channels. Here is a new opportunity of profit for the dealer. Here is a new talking-point for the salesman, a new avenue of approach to old and new customers. Use it.

• •

**W**HILE thinking of new sales ideas for stimulating his business, the dealer should not overlook some of the modern means for improving collections on old accounts. It has been well said that a good credit collection system is worth as much as a good salesman. Selling the set is half the job and getting the money for it is the other and often the hardest half.

Every dealer ought to contact his nearest radio trade association in order to learn the most effective means for collecting slow-pay or non-pay accounts. One beneficial effect of the financial depression has been the development of real systems that insure collections and of real methods of salesmanship. While the pages of a trade magazine are too public for an exposition of recent sure-fire collection methods, any dealer can benefit himself by consulting his trade association.

Shakespeare was right, as usual, when he wrote "Sweet are the uses of adversity, which, like the toad, ugly and venomous, wears yet a precious jewel in his head." Let us find that jewel and apply it not only to relieve the days of adversity but also to hasten the time of prosperity.





# Tube Patent War Ends

Independent Radio Tube Manufacturers Effect Settlement of Their Patent and Anti-Trust Law Litigations With The Radio Corporation of America

---

**Statement by  
DAVID SARNOFF,  
President of RCA**

*"An amicable understanding has been reached for the adjustment of the Clause 9 litigation pending between the Radio Corporation of America and a number of manufacturing companies in the radio tube field and the cases will be discontinued.*

*"In a number of instances patent infringement suits brought by the Radio Corporation of America have been pending against companies seeking damages in the Clause 9 cases. The active manufacturing companies that are parties to the settlement have recognized patent rights of RCA by acquiring licenses under its patents, and these patent infringement suits will be dropped. The Radio Corporation of America has also obtained rights for use both by itself and its tube licensees under radio tube patents owned by the DeForest Radio Company.*

*"The termination of this large number of suits, on terms satisfactory to all parties involved, will do much to free the radio industry from litigation with which it has been burdened and impeded for several years, and which entailed heavy expense to all concerned. It will enable the industry to devote more of its attention to the development of new products and new services for the public and should have a stimulating effect on business as a whole."*

**ARCTURUS'  
President Expresses  
Satisfaction**

*To promote immediate stabilization of the radio industry, C. H. Braselton, President of Arcturus Radio Tube Company announces that his company, together with a number of other radio tube manufacturers, reached an amicable settlement of its litigation with the Radio Corporation of America.*

*This concludes a lengthy controversy relating to patents, developments and the so-called "clause 9" license agreement which interrupted to a marked extent the progress of the industry.*

*This settlement, including in part a licensing agreement of practically all the tube manufacturers, obviates existing discord and permits greater progressive effort in the art.*

**DARBY & DARBY  
Tell of Legal  
Status**

*Samuel E. Darby, Jr. of the firm of Darby and Darby, announced that an understanding has been reached for the settlement of all of the anti-trust law suits instituted against the Radio Corporation by radio vacuum tube manufacturers who were not operating under license of the patents of the Radio Corporation of America. This understanding is with reference to actions brought against the Radio Corporation for alleged violation of the Clayton Act, by reason of the so-called "Clause 9" license agreement between the Radio Corporation of America and radio receiving set manufacturers.*

*The companies who joined in the understanding with the Radio Corporation are: DeForest Radio Company, Mellotron Tube Company, Vesta Battery Company, The Van Horne Company, Schickerling Products Corporation, Gold Seal Electrical Company, Universal Electric Lamp Company, Republic Radio Tube Company, Mutual Electric Lamp Company, Continental Corporation, The Sunlight Lamp Company, Marvin Radio Tube Corporation, Radex Corporation, Globe Electric Company, Arcturus Radio Tube Company, Duratron Radio Tube Corporation, Gold Seal Manufacturing Company, Supertron Manufacturing Company, Cleartron Vacuum Tube Company, Diamond Radio Tube Company, and Poughkeepsie Gold Seal Company.*

*The settlement will include among its terms the acquisition of licenses under the patents of the Radio Corporation by active companies involved in the settlement, including the DeForest Radio Company, Gold Seal Electrical Company, Arcturus Tube Company, Republic Radio Tube Company and Diamond Radio Tube Company.*

*The arrangement will be very advantageous, not only to the parties, but also to the radio industry as a whole, because not only will disturbing litigation be satisfactorily terminated, but practically all important tube manufacturers will be licensed on equal terms under Radio Corporation patents with the result that the industry should rapidly become stabilized.*



**A**  
**New Development**  
**In Refrigeration**  
**and a Refrigerator That**  
**Retails for**  
**\$87.70**

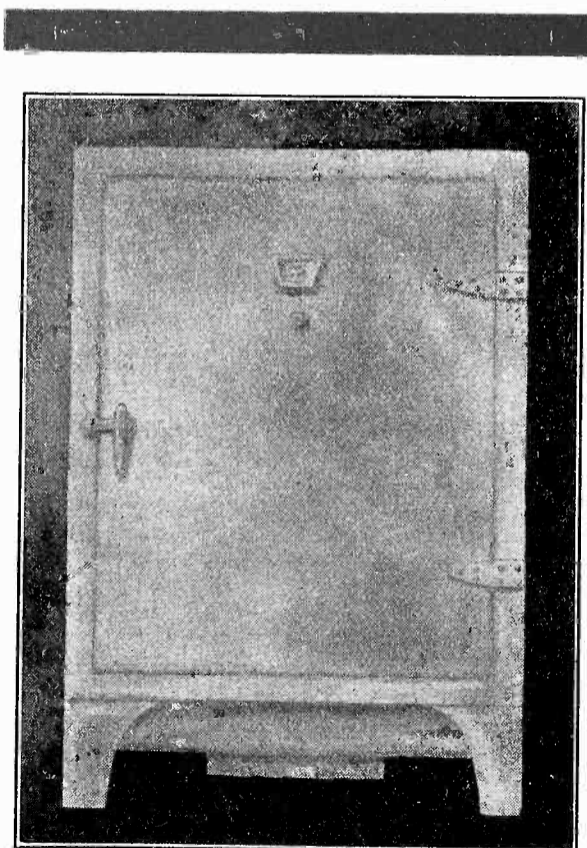
**Electric Refrigeration By Means of Electrolysis and the  
Elimination of Moving Parts**

**The First Story Ever Released on the New Electrolysis Method of Refrigeration.**

**By the Engineering Staff  
SERVICE ELECTRIC CO.**

**I**N 1908, after years of research and experiment, Prof. Kammerlingh Omnes, of Holland, developed a system that would produce cold sufficient to condense helium. The system was very elaborate and unpractical, however, for any use outside the laboratory, but it was a beginning, upon which Service scientists have based their experiments through the years, assured that here and here alone was the system that would make refrigeration available to the millions.

The method of refrigeration to which the name "Colde" has been applied does not rely upon mechanical compression of liquids or gases, employing instead the principle of electrolysis of an endothermic liquid in hermetically sealed steel tubes. The process uses no moving parts, and results in unusual efficiency, with nearly perfect production of cold. Almost insuperable difficulties had to be overcome in its development; handicaps that were insurmountable until modern science made available such refined materials and equipment as stainless steel, dry oxide rectifiers, etc. Each of these have contributed their bit toward the engineering perfection of what Service designers were to claim later as their ultimate in the refrigera-



*First Commercially Successful Refrigerator  
Using Electrolysis Method.*

tion art. The welding of the stainless steel tubing had to be devised by Service technicians.

After the unit had been perfected, countless experiments had to be made to determine the best insulator for the cold produced by it, experiments that brought strange materials from Africa and Asia, from South America and the South Seas. Many new and beautiful woods were tried in the attempt to combine efficiency in insulation with beauty of cabinet.

The unit now ready for the market is compact, measuring 5x5x13 inches, has no dehydration effects, contains a 100 per cent vertical radiator surface, and has an ice cube capacity of from 60 to 120 cubes. The complete refrigerator, with the unit, contains approximately 7 cubic feet and has a 12 square foot shelf area. These refrigerators are now being manufactured for national distribution through refrigerator and radio dealers. The units, by themselves, are available to manufacturers who make their own cabinets, according to terms of a license plan that is soon to be announced. In actual practise the refrigeration unit is placed within the cabinet, while the transformer and rectifier are placed below, as in the case of the Colde midget refrigerator, or in a monitor top.

*(Continued on page 26)*



# Advertise a Sensible Price —and Sell DOWN if Driven to It

THE most popular way of combating the small profit situation brought about by the dirt cheap radio set seems to be to build the ad around the \$24.95 set and sell *up* when the customer is enticed into the store. That practice can hardly be called an unsound merchandising principle; practically every dealer in the country has been doing it, or approving of it; and it is about the best that can be done under the circumstances, UNLESS all the dealers in a certain territory get together and agree to adopt a more far sighted and psychologically sound merchandising plan.

## Consider the Gas Range, for instance

STUDY your newspapers for several weeks back and clip out all the advertisements in which gas ranges are featured. You will find, probably with a bit of surprise, that there is hardly an ad that lists gas ranges at much below a hundred dollars. This has been true for years and years, yet you know very well that you can, by a bit of scouting around, buy a range for thirty dollars.

Gas ranges don't cost as much to produce as they did ten or fifteen years ago. Distribution is greater. Competition is keener. But the advertised prices haven't dropped one iota. What's the cause? Simply that many years ago when it began to appear that gas ranges were going the way of all good merchandise the manufacturers and their representatives got together with the dealers all over the country and agreed to put a limit to the minimum price that should be used in their advertising. And they have stuck to it through all these years.

Remarkable as it seems to us radio merchandisers, the gas range people even stick together through their sales. When a gas range sale is held in any locality it is participated in simultaneously by all stores in all the cities and towns within that area, and every store advertises ranges at just about the same price as its nearest competitor. There is no cutthroat price slashing in that business. Gas range merchandisers are evidently not in the business to make a quick clean-up, but to earn a good, substantial livelihood. They stick together like glue. Before any major merchandising move is attempted they get their heads together and begin a concerted drive all as a big unit.

THIS upholding of price has to do with advertising only, remember. Walk into a store and ask for a thirty-dollar range—stick to your figures—and you will probably end up by buying one. You can pay two hundred for one if you wish. Gas ranges, like radio sets, are to be had at all figures. But the word "gas range," *un*-like the word "radio," usually calls to mind a figure pretty close to a hundred dollars, while the word "radio" is beginning to become too closely associated with the amount of money that jingles in one's pocket.

Why do we advertise our cheap radio sets instead of featuring our higher priced ones? Probably in order to get the prospect into *our* store instead of our competitor's; that is, until the latter slices off a nickel. Some of us don't

bother with trying to outdo our competitors, but operate on the principle that the cheap set will draw the victim into the store and give us a chance to sell him a real set when we get him there. We haven't been thinking about this dan-

### QUESTIONNAIRE

Do you favor setting a minimum price at which a radio shall be advertised?.....Why.....

What minimum advertising price would you suggest for the midget type radio?.....

What minimum advertising price would you suggest for a console type radio?.....

Do you believe that if the public saw only higher priced midgets and consoles advertised that it would elevate their ideas regarding the price a good radio can be purchased for?

Suggestions and remarks:

Please answer this questionnaire because on it depends the future activity of the California Radio Retailers Council concerning radio advertising, and it affects every man selling radio, no matter how large or small.

Name.....

Firm.....

Address.....



*"Don't advertise any set that sells for less than \$50," says a spokesman for a retail association. Stock them and sell as many low priced sets as you can . . . but don't give the customer the impression that nothing over \$24.50 is for sale in your store.*

gerous subconscious association that has been going on within the public mind; the association of radio and \$24.50. It will not be long now before people will consider this figure the average price for a radio set and will think that anyone who tries to sell them a sixty-dollar set either takes them for millionaires or suckers. *There is danger ahead and plenty of it!*

**T**HE first move, that has come to our attention, to overcome this possibility of impending disaster has been taken by the California Radio Retailers' Council. After carefully studying the gas range business, and others like it, this council has inaugurated a campaign to see if the same system may not be worked in the radio business. As this magazine goes to press a letter and a questionnaire are being mailed to all members of the association in an effort to determine whether or not they would favor such a move and what minimum advertising price should be set. Next month we shall be able to report on the results of the voting. Meanwhile we should be pleased to hear from our readers on the subject, for a nation-wide expression of approval or disapproval may serve to guide other trade associations in the country in similar campaigns. While we do not urge it, we'd be glad to have you use this replica of the questionnaire sent out by the California Radio Retailers' Council, filling it in and mailing it to us. Might as well let the whole nation vote.

It seems hardly necessary for a person to buy a \$24.50 radio set, when with a small down payment and a smaller monthly payment he can have a set to be proud of. If the dealer isn't too hard boiled in making the terms; if he will skip the December payment, perhaps, and the one that arrives with the taxes or some other expense the customer looks forward to with dread; or otherwise indicate that he does not want the customer to be burdened, he might not find the total price differential such a stumbling block as it has been painted. There are people, of course, who have no right to spend more than twenty-five dollars for a radio set; people who should be spending that money on things ten times as important, but who can't forgo the temptation of radio entertainment. To these people the cheap midget is a godsend. All of which is merely reiteration of RADIO's stand that there is a place for every type of radio set—midget, console and large combination.

## California Radio Retailers Council

*Affiliated with*



GEO. S. CURTISS  
*Secretary*  
BELLEVUE HOTEL  
San Francisco  
PROSPECT 0800

September 23, 1931

### IF YOU WANT TO LOSE MONEY THROW THIS LETTER AWAY

As a good radio dealer the California Radio Retailers Council would appreciate an expression from you on a most vital subject.

What minimum priced radio shall we advertise? Mind you, we don't say sell, we say advertise.

As long as the market and demand are here we all must carry and sell the \$24.95 midget, etc. But, shall we advertise and by our advertising endorse and lead the buying public to expect a good radio for this amount of money?

Every member of the California Radio Retailers Council is in favor of establishing a minimum price at which to advertise radios. We want your opinion and your thoughts on this vital matter.

Please answer the enclosed questionnaire—it binds you to nothing but will indicate your feelings in the matter. Remember, what is good for one is usually good for all.

Fellows, the \$25.00 radio set is like the black camel; it has kneeled at your own door, and we are directly responsible for it—it can live only as long as we sell them.

Very truly yours,

L. B. QUIMBY,

Chairman.

**B**UT JUST because we have cheap sets in stock, and because the public is much more readily attracted to a \$24.50 offering than to a set calling for \$124.50, we offer them the former and hope that we can raise the ante on them before they leave the store. Sometimes we do and sometimes we don't. Statistics, if there were any, would probably show that it's getting harder and harder to "sell up," merely because the public is being taught that radio sets should sell for twenty or thirty dollars. Here is an interesting fact about human beings: while they like to buy things they can be proud of, they also take pride in the bargains they make. If a person spends forty dollars for a radio set and learns that his neighbor has bought one for thirty, he will probably not brag about his set for fear that his neighbor will accuse him of getting stung. That is assuming that both radio sets were just "radio sets," as a cheap set must be, without that certain distinction that attaches itself to each brand of the more expensive type of

*(Continued on next page)*



set. Thus when a set is advertised for \$24.50, that is the maximum price the average man who wants to consider himself a good bargainer will pay.

During the past few months the advertised fact that you could buy a radio complete with tubes for \$24.50 has been startling. It contained one of the most important elements of advertising success; it made the reader lift his eyebrows. But you can't startle the world with the same fact for very long; the thing becomes commonplace. Therefore, while the advertised price of \$24.50 has pulled for a few months, its effect is bound to be negligible within a very short time.

Not only is the very low price idea becoming of negligible advertising value; it is, and always has been, the creator of great sales resistance to those dealers who hope

to sell their prospects more expensive radio sets. There are lots of things to say about a good radio set and about radio entertainment in general that will create desire to buy, regardless of price, but not one ad in a dozen has room for anything but an appeal to the empty pocketbook.

It isn't necessary to wait for your nearest competitor to abandon this practise, although admittedly a concerted action will be most effective. Why don't *you* direct your appeal to the desire for a well furnished living room, to the love of good music? Why not talk quality, enjoyment, and let your competitor have the cheap trade if he can get it with his worn-out price appeal? Try it. Meanwhile RADIO will watch the results of the California Radio Retailers' Council campaign and other similar campaigns, and keep you informed as to the results.

# Hot Tips on Program Preferences

Let Them Guide You in Your  
Demonstrations

## Here's What They Want

**Mothers and Grown-up Daughters listen most**

**Mothers like comic characters best**

**Men like Athletic Contests**

**Grown-up Daughters prefer dance music**

**Beauty talks and stock reports are taboo**

**T**HE Minneapolis Council for Adult Education made a survey recently the results of which can be made very profitable to the radio dealer from the standpoint of advertising appeal and sales propaganda. Questionnaires were distributed through children in the public schools to 10,000 radio-owning families of Minneapolis; 4,375 replies were received and some interesting facts adduced.

Dealers who make use of the first axiom in writing advertising copy, i. e., keep the type of person to which they are trying to appeal constantly in mind as they write; and dealers who are far-seeing enough to toot their horns about the marvelous entertainment that is available to all owners of modern radio receivers, will find the facts brought to light by the survey of unusual value to them.

In the first place it was learned that the women folks are the most enthusiastic radio fans, mothers and grown-up daughters being preponderant among those who listen more than four hours daily, which group included more than 21 per cent of those who answered the questionnaire. Sixteen and five-tenths per cent said they listened from three to four hours daily; 17.8 per cent said two to three hours; 19.7 per cent said from one to two hours, and 7.5 per cent said they listened less than one hour per day. Fathers and grown-up sons led the group in the one to two-hour category.

The most popular hours for listening, it was found, are from 6 to 9 p.m., during which time 65.5 per cent of the persons included in the study said they listen; from 9 to 12 p.m., when 45.3 per cent listen, and from 6 to 9 a.m.,

when 18.9 per cent listen. Asked their preferences as to types of programs, mothers gave first place to comic characters like Amos 'n' Andy, and placed financial reviews in the last place; fathers and sons alike placed athletics first and beauty talks last; grown-up daughters placed dance music first and birthday parties last. All groups combined ranked comic characters first and birthday parties last.

Ten Most Popular Programs—10 pt Boldface

Of the fifty types of programs suggested on the questionnaire, the ten most popular, in order of preference by the groups as a whole, were: 1, comic characters; 2, popular music; 3, athletic contests; 4, dance music; 5, classical music; 6, light drama; 7, talks of the Lowell Thomas-Floyd Gibbons type; 8, news flashes; 9, plays, and 10, church services. The least popular types of programs, ranking from forty-first to fiftieth, were: 41, stock market reports; 42, fashion talks; 43, readings; 44, health exercises; 45, beauty talks; 46, farm and horticultural programs; 47, language lessons; 48, finance reviews; 49, bridge games, and 50, birthday parties. There is meat in this paragraph.

From this survey the Minneapolis Council on Adult Education concludes that much leisure time is spent listening to the radio, and that the different members of the household must be considered in arranging for the time, method of appeal and program to be broadcast. The survey is very enlightening to the dealer who wants to know what he should enthuse most about when talking the subject of radio entertainment to his prospects.



# Long-Playing Record Will Reproduce An Entire Symphony

## Half-Hour Programs From Double Disc Record

### At 33½ R. P. M.

---

*Another Profit-Maker for the radio and music dealer . . . complete musical score of the Broadway hit show, "The Band Wagon," to be one of first new recordings on this "half-hour record."*

---

**B**EFORE a select audience of more than a hundred musical celebrities, prominent editors, educators, and business executives gathered at the Savoy-Plaza Hotel on September 17th, the RCA Victor Company held the first demonstration of a remarkable new long-playing record capable of reproducing an entire symphony, a complete vaudeville act, or a musical program lasting a full half hour.

Distinguished speakers, among whom were Dr. Leopold Stokowski, Director of the Philadelphia Orchestra, Edward E. Shumaker, President of the RCA Victor Company, and Dr. Alfred N. Goldsmith, Vice-President and General Engineer of the Radio Corporation of America, hailed the introduction of the new record as a remarkable advance which is destined to revolutionize the radio-phonograph art, stimulate the industry to new growth, and open up new fields of possibilities in the world of music.

It was pointed out that the new long-playing records will solve the problem that has long been regarded as retarding the popularity of the phonograph as compared to other modern home entertainment devices in that it will relieve the listener of the manual effort of changing records more than every fifteen minutes. Heretofore, this problem was met only with expensive automatic record changing instruments. The new records are to be known as "Program Transcriptions," and are titled as complete "performances" in contradistinction to the ordinary records which reproduce only excerpts or portions of the musical composition.

The demonstration was developed to a dramatic climax by an evolutionary review of the "musical milestones" in the development of the phonograph, beginning with the now historical first phonograph developed by the founder, consisting of a simple series of wheels in gear, a crude vibratory diaphragm, and a tiny horn smaller than a megaphone, the whole mechanism being set in motion by the manual turning of a knob. When a Sousa march was placed on this toylike device, as recorded at that time, the resultant sound could hardly be described as more than an indistin-

guishable squeak of varying pitch. Continuing, the demonstrator played the same recording by that venerable dean of march composers, John Philip Sousa, who was seated among the distinguished guests, on the more familiar talking machine appearing in the famous trademark with the dog. The result, although a vast improvement because of the spring motive power and a longer horn could hardly be classed as good music. The march of progress continued through the familiar upright model up to the epochal orthophonic instrument which marked the establishment of the phonograph as a truly dependable musical instrument.

Throughout the demonstration recordings epitomizing the period of the instrument recalled such immortal voices as Melba, Adelina Patti, and Caruso. The playing of a movement of Beethoven's great Fifth Symphony on the orthophonic instrument had not yet been completed when the music came to an abrupt stop indicating the end of the record. Here attention was directed to a massive home entertainment instrument which was described as the highest achievement of the phonograph and radio arts to date, on which the new recording of the same composition was played on a single two-sided disc with remarkable tonal quality.

The long-playing feature is obtained by slowing down the turn-table speed from 78 to 33½ revolutions per minute and by introducing almost double the number of grooves on the playing surface. The new discs are made of an exclusive new composition called Victrolac, which is semi-flexible, and will not break when dropped. The new material makes it practicable to place finer grooves, spaced closer together, on the record and actually reduces the surface noise from the needle to less than half of that evident on the ordinary record.

The slower turntable speed essential in playing the new records is obtained by the use of a specially developed gear shift arrangement which also permits the use of the 78 R. P. M. speed as well. This gear shift mechanism, which was developed after painstaking experiment, is incorporated in the new phonograph-radio instruments which the RCA Victor Company will soon bring out. For the thousands who already have electric phonographs it was announced that an inexpensive gear shift arrangement for playing the new records, which any qualified radio service man can install, will soon be made available. These mechanisms, it is said, may be fitted to almost any of the modern phonograph instruments.



The first composition to be recorded as a program transcription was Beethoven's Fifth Symphony as performed by the Philadelphia Orchestra under the direction of Leopold Stokowski, at the Philadelphia Academy of Music. The superiority of the new records was made strikingly apparent when one of the speakers exhibited an album of four records recorded by the ordinary methods and then held up a single of the new discs with a complete recording of the same composition. According to an RCA Victor executive, thirty-four of the better known classical and semi-classical compositions have already been recorded by the new process and recording engineers are now busy expanding this list. The same executive intimated that arrangements had been completed to record the complete musical score of the Broadway hit show, "The Band

Wagon," as the first step in preserving similar performances for the many who could not ordinarily hear them.

Two new long-playing needles were also announced for use with the new program transcriptions, and with the ordinary records. Both of these needles are chromium-plated and colored differently for identification. One will play approximately twenty-five of the new long-playing records, without replacement; the other will play approximately one hundred records of the ordinary type. They are not interchangeable. The use of chromium was decided upon after exhaustive research and test had determined it the best material to provide a fine point of unyielding hardness and yet which would not impair the playing surface of the records.



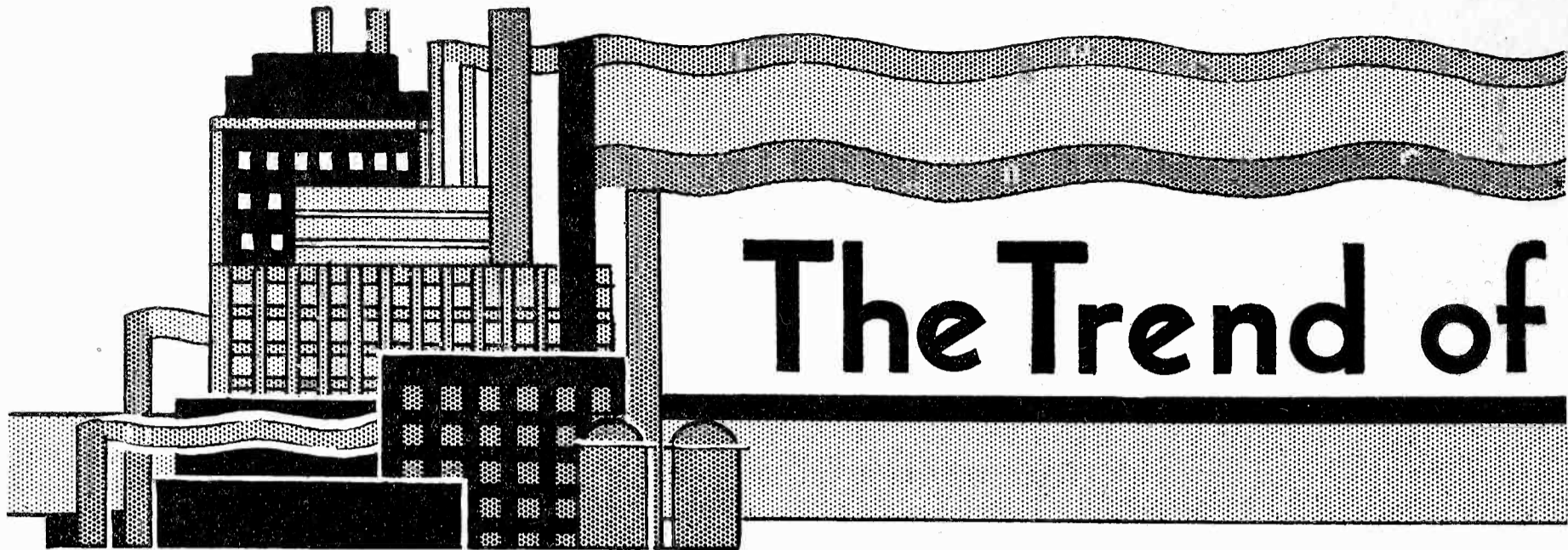
## PROGRESS!

His Master's Voice

» » » Then --- and now

**S**HOWN here with the new half-hour Victor phonograph record is Mr. A. E. Nicholas, General Sales Manager of RCA-VICTOR. In the foreground is the original tin-horn phonograph . . . "His Master's Voice." And in the background is the new deluxe radio-phonograph instrument by RCA-VICTOR which is equipped with the new driving mechanism for playing the half-hour recordings, fifteen minutes on each side of the record. A sufficient number of these new recordings enables the listener to enjoy a full evening's entertainment without arising from his easy chair. A new day in radio-phonograph and record merchandising is here.





# The Trend of

22,908 employees were at work in a total of 50 radio manufacturing plants during July. 20,773 in June. Weekly payroll for July was \$521,037 against \$504,515 in June, the Bureau of Labor Statistics reports.

**The Sparks-Withington Company** has announced to its organization the preliminary steps of an extensive campaign for the sale of Sparton Tubes, which are standard and may be used in practically all makes of receiving sets.

John L. "Jack" King, who has had vast experience in the Radio Tube business, has been added to the Sparton sales staff. For several years Mr. King was associated with one of the leading tube manufacturers and travelled all but four States in his contact with the jobbing trade.

**Dubilier Condenser Corp.** for year ended June 30, 1931, reports net loss, after expenses and other charges, of \$188,741 as against a profit of \$4,145 in the previous year.

One of the short wave adapters that is being merchandised on a "Distance" basis is the new Kennedy Globe Trotter which operates on the superheterodyne principle. Any good broadcast receiver coupled with this unit may be made to operate as a short wave superheterodyne. It performs with full efficiency with any superheterodyne receiver as well.

The Kennedy slogan to their dealers is "Sell them Distance."

The Colin B. Kennedy Corporation was one of the first to pioneer in the short wave field. In 1924 hundreds of Kennedy short wave receivers were used throughout the world on ships, coastal naval stations, by "hams," (then unknown) and many broadcast listeners who could afford \$395. Incidentally, this was about the same price that Ford chassis were selling for.

## Attendance Breaks Three Year Record

A statistical check-up revealed that 28,762 persons attended the Eighth Annual Radio-Electrical World's Fair at Madison Square Garden before 9 o'clock of the opening night of the exposition. This is the best opening attendance mark for the last three years.

**U. S. Radio and Television Corporation** has applied for listing its shares on the New York Stock Exchange.

A consumer advertising campaign of national scope has been planned for Sylvania Division, Hygrade Sylvania Corporation. Sylvania officials have been busy for many months investigating, analyzing and planning for the future of the radio tube business. Every angle of tube sales has been carefully studied, for the purpose of giving the dealer the most effective advertising assistance.

B. G. Erskine, President of Hygrade Sylvania Corporation says: "I firmly believe that the future of every distributor's profits will be built upon constantly increasing tube sales. The continuous increase in radio tube sales is guaranteed by the continued operation of thirteen million radio receivers."

A new radio program, The Saturday Evening Post, and a nation-wide blanket of newspaper advertising will be used to carry the story of Sylvania SET-TESTED tubes to millions of homes. New window displays, mailing pieces and circulars, supplied free of charge, will enable Sylvania dealers to make an effective tie-up with the campaign.

"Charlie and Oscar," a pair of ambitions radio dealers, and owners of station PME, will go on the air for Sylvania Tubes Tuesday, October 6th, at 6:30 P.M., over the Columbia network. Their personal affairs, their disagreements, and their attempts to obtain

talent for Station PME will furnish fifteen minutes of entertainment twice each week—Tuesdays at 6:30 P.M., and Sundays at 7:15 P.M., E.S.T. The program will have an orchestra accompaniment.

A weekly contest, with prizes for radio listeners and dealers, will add interest to the broadcast. At the end of each period on the air a question will be announced. For the best and most original answer to this question a radio receiver will be awarded each week. An additional cash prize of \$50.00 will be awarded to the Sylvania dealer whose name appears in the winner's answer. The questions, which will be changed weekly, will require consideration of some phase of radio reception.

Beginning October 17th, The Saturday Evening Post will carry a series of "dramatized" advertisements, planned to impress on the minds of readers the desirability of using tubes "tested for a set like yours."

Newspaper advertising will begin October 6th, coincident with the premier appearance of "Charlie and Oscar" on the air.

**DeForest Radio Co.,** through its president announced that the Radio Corporation of America had settled for \$1,000,000 a suit which DeForest Radio Co. had pending against R. C. A.

**Columbia Phonograph Co., Inc.** President H. C. Cox discussing a recent dealer transaction where a \$50 list set was sold for \$35 says, "I feel sure that the dealer did not buy that set without arguing for a longer discount from the list price. Why does he give most of that profit away? Certainly 14% will not cover his operating expenses."

A former Bureau of Standards engineer has been successful in designing a filamentless radio tube which can be adopted to both detector or amplifier circuits, same as a "hot" radio tube.





# The Radio Times

**Meyer N. Leibowitz**, widely known in the radio world as the man who put the word "Amperite" in the radio dictionary, has announced his retirement as president, and general manager of the Amperite Corporation, New York.

"Does that mean you are withdrawing from the radio industry?" he was asked. "Not by any means" he replied. I believe in radio—I have lived its hysterical past, I appreciate its hesitant present and have full confidence in its bright future—and I am determined to remain active in an industry which will take its place as one of the leading industries of the world.

"When this industry outgrows its adolescence it will afford profitable opportunities for deserving manufacturers, and offer opportunities aplenty for merchants who are attuned to the requirements of a growing business. We will have a saner, sounder, stronger industry with a far greater future than its past has ever been.

"After ten years of concentration in one direction—I feel like the man who has been so close to the elephant that he missed the circus. For the time being I will watch the show. My future plans will be announced later."

**Grigsby - Grunow Company's** vice-president Don M. Compton says, "The government's suit to dissolve the 'Radio Trust' and the \$30,000,000 suit of Grigsby-Grunow are still pending and are being actively pressed."

**A movement is reported under way** to "tax" radio broadcast advertising revenue in proportion to the amount of power used and rates charged for time. This would put the stations on the same basis as publications which bring a revenue to the Government Post Office Department.

**Atlas Plywood reports for year ended** June 30, 1931, net profit of \$76,732 compared to \$449,635 in preceding year.

**Baird Television interests in this** country state they will soon have in operation a transmitter similar to the one used in England. A complete sports event is picked up on a "reducing" mirror and then transmitted.

## **New Film Company to Make 16MM Sound Subjects Available for Home**

An almost unlimited number and variety of talking picture films will be made immediately available for rental to owners of home talking picture equipments, according to Rudolph Mayer, president of International Sixteen Millimeter Pictures, Inc., of 630 Ninth avenue, New York. Mr. Mayer, who is the brother of Louis B. Mayer, leading force of Metro-Goldwyn-Mayer and recognized as a pioneer and captain in the film world, intimated that the corporation which he heads has entered into an understanding with fourteen leading producers of talking motion pictures to the end that desirable subjects will be released from their libraries, and thus be available for rental to homes, commercial organizations and for industrial purposes on the sixteen-millimeter size film.

Distribution of the product, according to Mr. Mayer, will be made through approximately 150 exchanges which his company is to establish throughout the country. These exchanges, it is understood, will rent the films to local dealers, who in turn will rent them to customers at a reasonable figure.

"Our organization," said Mr. Mayer, "is, we believe, the first to come forward with a plan that includes a profit-sharing plan for producers and equipment manufacturers. We realize the potentialities of this field and recognize the fact that we must be generous if any arrangement we propose is to prove satisfactory to both equipment manufacturer and film producer.

"We can see nothing in our plan that is not highly attractive to everyone concerned. On one hand we make

available for the producer a new and tremendous source of profit. On the other we assure the equipment manufacturer of the solution of his greatest problem—availability of a great variety of live subjects. More than this, we enable the equipment manufacturer permanently to share in the ever-increasing profits to be derived from the rental of this film; and, best of all, even the smallest manufacturer can be assured of an adequate film supply plus his share of the profits from film rental.

"Certainly we could not effect a more attractive arrangement. The dealer is benefited because film is available through the local exchange at a very modest rental fee, and further because he is relieved of all worries in connection with film maintenance. The manufacturer is relieved of the burden of supplying his customers with film service, and is further benefited through profits from the rental of film. And the producer is assured of a most satisfactory profit in releasing his film; a profit which is commensurate with the earning power of the subjects he releases, and which therefore will dictate the advisability of giving the home field interesting productions."

**David Sarnoff, President of the R. C. A.**, says "I have sent messages and received them. I do not know how they get from the sender to the receiver. I have never found anyone who knows."

**Canada has fixed the discount from** list at which American manufacturers may send their radio sets to dealers of the Dominion. The action was taken to prevent "dumping" of American made radio sets at less than cost, which Canadian manufacturers claim was making the manufacture of radio sets there impossible.



Interior View of Exclusive Radio Tube Store of "Radio Doctors",  
San Diego, California

## Stabilize Your Efforts

By L. P. NAYLOR, Sales Manager, Arcturus Radio Tube Co.

**G**OING back through history, we find that our experience in radio merely duplicates the progress made by any new industry. In fact, business is similar to life, in that it is born, nursed, grows through foolish days into a more experienced understanding of what it is all about.

Radio has done these things and should not be criticised. However, we have reached the age of maturity and we must begin to stabilize our efforts. I might illustrate with the history of the bicycle, the kodak, the automobile, the lawn mower, or various electrical appliances. Just the other day some one told me that there were great prospects ahead for a vacuum lawn mower. "Can you imagine that?" For years we have spent our Saturdays pushing a heavy lawn mower and then dragging a rake to pick up the loose grass. It doesn't seem today that it should require much brains to cut the grass electrically and at the same time pick up the pieces as the vacuum cleaner picks up the dust from a carpet.

The radio dealer has been too busy

cooperating with radio set manufacturers in introducing new circuits. Only a few years ago the neutrodyne was the answer and fourteen manufacturers fought for a license. A neutrodyne license was considered an asset worth thousands of dollars. Along came heterodyne and its various complicated and so called improvements—the heater type tube—the screen grid—the pentode—the variable-mu—the power detector and all of these things merely kept the business in an upset condition.

We went from extensive cabinet models of radio sets to small table models and then to the midget and now—what next? A prediction on this point would only create an argument.

What has this to do with radio tubes? The point I am reaching deals with stabilization and stabilization deals with radio tubes. Radio Tubes should be the backbone of any dealer's business. He should depend on tubes for his regular profit and allow the introduction of new radio sets and new ideas to supplement.

The fellows who bought radio sets several years ago, regardless of whether

it was a neutrodyne, heterodyne, screen grid, pentode, or midget, should be regular customers for radio tubes. Some one is taking that business and it behooves every dealer to stabilize—to understand his community and the requirements of customers living in that community. Every radio set owner is a client for radio tubes, whereas only a small proportion will buy new sets and even if they buy new sets, they must use radio tubes. Although new sets are usually equipped with radio tubes, that fact does not eliminate the set customer as being still a radio tube customer.

Every set user will need new radio tubes just as sure as every man needs new razor blades. As new set sales are made, new tube customers are created. Just as boys reach manhood, new razor blade customers come into existence.

These facts are more and more true as days go by. Therefore, the dealer who builds for the future by being ready today is building a reputation and a prestige in radio tube business which will prove valuable to him as his business stabilizes and becomes a more natural daily effort.



# 8,500,000 Unelectrified Homes Are Prospects for Newest Receiver

## New Air-Cell Battery Set Opens Wide Market for Many Dealers

Radio Means More to the Rural Home Than to the City Home

By E. A. NICHOLAS



E. A. NICHOLAS  
General Sales Manager, RCA Victor Company



RCA Model R-43

An eight-tube Superheterodyne radio with four times the output obtainable from the same tubes on the same voltage in the usual circuit. Uses the low-drain battery Radiotrons and the new Eveready "Aircell" "A" batteries and four heavy-duty "B" batteries. Batteries have 600 ampere life which provides an actual operating life of 1200 ampere hours as a result of the .48 ampere drain of the receiver. Equipped with Tone Control and permanent magnet dynamic speaker. A permanent magnet dynamic loudspeaker gives the battery receiver all the fine quality and life-like reproduction that is inherent in this type of reproducer. The R-43 is the first battery receiver to use such a reproducing instrument. Rubberfloated chassis; hand-rubbed, wax lacquer finish, walnut veneer cabinet. Dimensions: height, 41 inches; width, 25 $\frac{3}{4}$  inches; depth, 13 $\frac{3}{4}$  inches. Uses 5 RCA-230, 3 RCA-232 Radiotrons. List price, \$99.50, complete with Radiotrons, less batteries.

WHILE progress has been going steadily forward in the development of electric powered radio receivers until they have reached a stage of near perfection, little thought seems to have been given to the development of comparable receivers for the large areas that are still unelectrified.

The reason for this is plain, for of the estimated 29,000,000 homes in this country, some 20,500,000 are electrified. Radio manufacturers have naturally turned their attention to the large and profitable market represented by the greater percentage of the population. However, there are more than 8,500,000 homes that are beyond power line supply, and of this total, approximately 6,500,000 are farm homes.

And radio means more to the rural home than to the city home. It means a vital business service, as well as an important source of entertainment to the farmer; for it brings him news of agricultural markets, timely weather bulletins and practical farming information, as well as diversion. Yet, paradoxically enough, the instruments for receiving these programs are woefully inadequate. Progress in this direction has been almost at a standstill since the days when radio graduated from the earphone to the loudspeaker stage. Consequently, these rural homes have either been forced to do without radio service, or use makeshift "noise traps" hopelessly out of step with the rapid technical advances made in A. C. powered sets.

But now leading engineers have

turned their full attention to the requirements of the unelectrified field. Starting out with current conservation as the foundation, they have evolved self-powered receivers that incorporate all the convenience and operating features of the A. C. set with economy of operation, good sensitivity and selectivity and full tone quality and volume.

This truly remarkable achievement was made possible by four revolutionary developments, following each other in rapid succession. The first was the development of an extremely long-lived "A" battery utilizing the so-called air-cell, which literally breathes life-prolonging oxygen from the air, and will last for approximately a year without replacement. Second, was the development of the 2-volt vacuum tube to be used in conjunction with the new battery. Third, laboratory engineers at Camden have developed a remarkable receiving circuit which provides four times the audio output of that obtainable from the usual circuit employing the same tubes and batteries. And fourth, the development of a new permanent field dynamic loudspeaker deriving its field energy from a large permanent magnet, and providing a quality of tone and breadth of volume never before possible in a battery-operated receiver.

The sum total of these achievements has been incorporated in self-powered receivers free from the various weaknesses and inconveniences of the old type, and fully the equal of the electric power radio sets available to the city and town dweller.

# Sound Systems Bring Large Profits

By H. G. CISIN, M.E.

## A Friendly Tip From Mr. D. H. Wright President of Wright-DeCoster

*Almost all sales made to municipal parks and private amusement parks are made only through demonstration. I do not mean by this that the complete installation has to be put in for approval. This is one of the worst things that can be done, because if an installation is put in for approval, it is next to impossible, or let me say it is very much more difficult, to have it accepted.*

*The demonstration should be made with one or more speakers and a portable amplifying equipment. Showing a man how the reproducers will sound in the spot in which he is going to use them has ten times the sales pulling power as the demonstrations in other locations.*

*We would absolutely advise against putting in an installation, even a temporary one, to be used two or three days, so that the person making the purchase will have an opportunity of making up his mind as to whether or not he wants the sound installed. We have found that all installations of this kind usually increase the difficulty of closing the order at once, and often are the cause for a loss of a sale.*

*Install the speakers, amplifier, turntable for records, and microphone, and give your demonstration. Draw to the attention of the prospective customer all the advantages of sound, talking to him, if possible, while some music is being played; then fold up your tent and leave just at the time that you make a good impression. If these rules are followed, I am sure you will stand the best opportunity of closing the sale.*

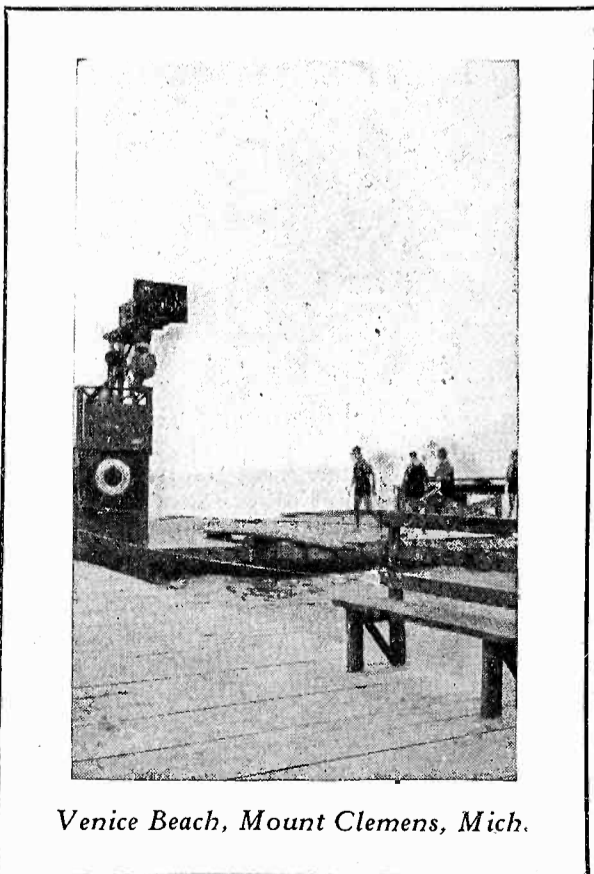
**A**S AN irresistible magnet to attract amusement-seeking crowds, modern sound amplifying systems are indeed unique. Wherever installed, they have aroused tremendous enthusiasm and immediately have become established as an indispensable feature of mass entertainment. Perhaps in no other field, have sound installations demonstrated a wider range of usefulness than in parks and other recreational centers.

An important characteristic of these sound amplifying systems is their extreme flexibility. They are being used

advantageously in small parks such as public squares, which occupy a very limited area, and in parks covering many acres. In fact, there is no limit to the territory which can be served by a properly designed sound amplifying system. For example, at Dorney Park,

Allentown, Pa., a sound system employing cone-type dynamic reproducers is used to supply a fifty-seven acre park with music which can be heard distinctly anywhere within the park.

Sound systems can also be used to furnish entertainment, not only to a



Venice Beach, Mount Clemens, Mich.

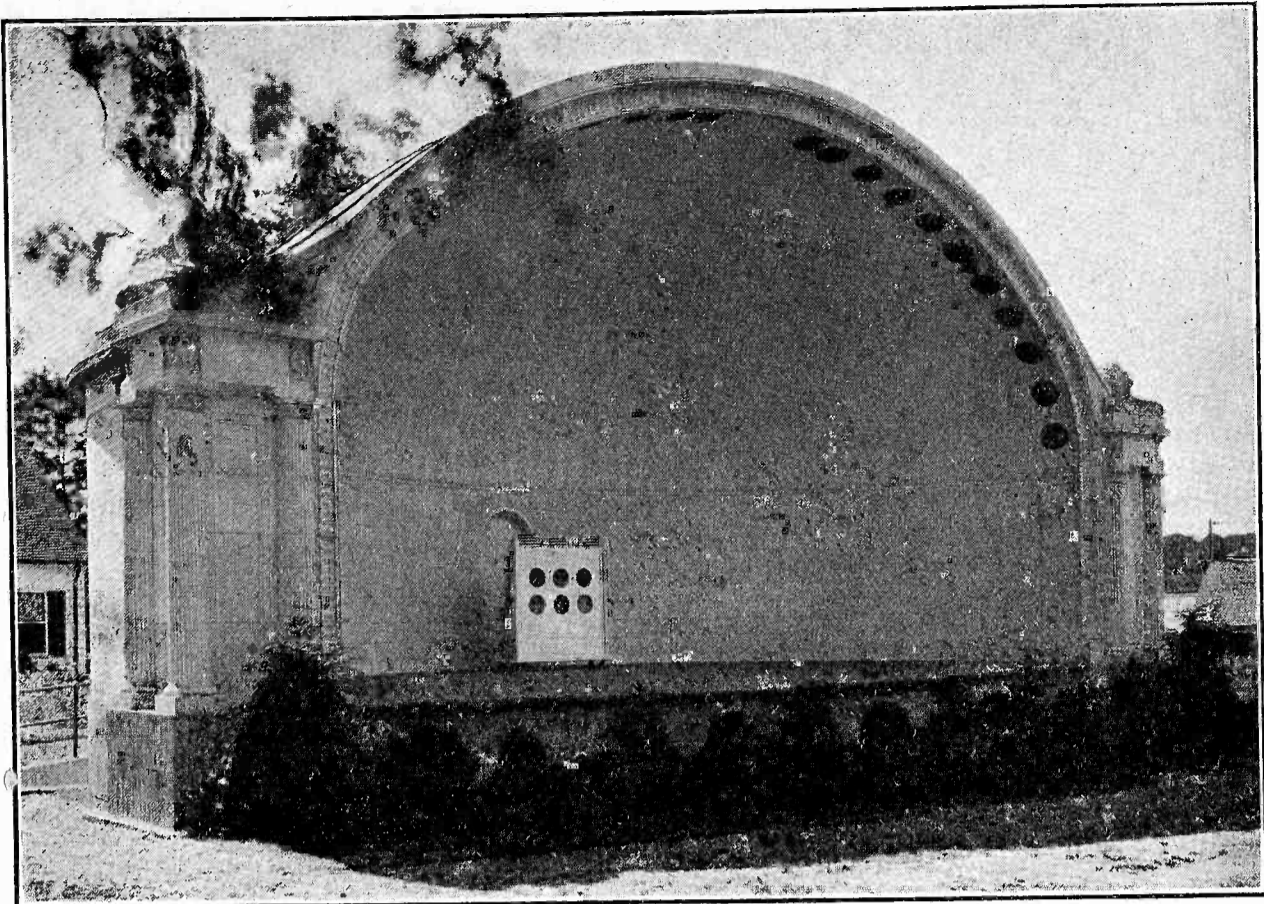


A novel arrangement of reproducers in Santander Park,  
Cucuta, Columbia, South America



single park, but to an entire municipal park system embracing a great many widely separated parks. One of the most comprehensive installations of this nature is the one which is giving such splendid satisfaction in the parks of New York City. In this system, the pick-up station is located in Central Park, New York, with a main distributing station nearby. From the latter point, programs are distributed to various Manhattan parks and also to four subdistribution stations located in Brooklyn, Queens, Bronx, and Richmond, four other boroughs of the City of New York. At each of these subdistribution stations, the programs are amplified again to compensate for line losses and they are then distributed to the individual parks. While it is beyond the scope of the present article to go into the technical details of the park installation in New York City; it is interesting to point out a few more facts and figures in connection with this sound system. At the present time, eight parks in Manhattan are connected as a part of the system. In each of these parks, two cone-type dynamic reproducers are used. These speakers are of the most modern construction and of a type found to be especially well-suited for outdoor work. Six parks are similarly equipped in the Bronx, six parks in Brooklyn, three parks in Queens and two in Richmond, making a total of twenty-five parks. When one considers the fact that New York City includes an area of 298 square miles, the vast extent of this sound system may be realized more readily. Incidentally, it is planned to increase the original installation of twenty-five parks to a final total of eighty.

Park commissioners and municipal



*Band Shell in Hudson Park, New Rochelle, N. Y. The Speaker on the platform is made up of six Wright-De Coster Dynamic Reproducers.*

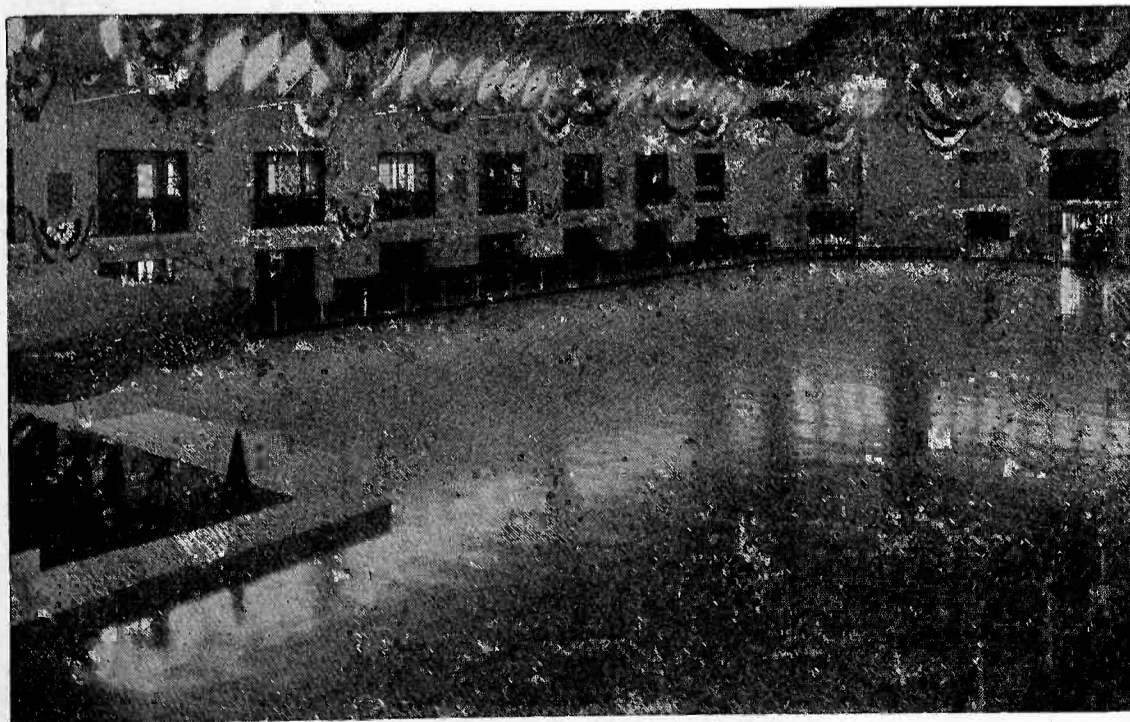
authorities throughout the United States, and in fact, in many different parts of the world, have been quick to recognize the inherent advantages of sound systems in public parks. Such installations are being used with entire success for amplifying band music, orchestra selections, vocal solos, instrumental solos (both wind and string), choruses, operatic productions, radio programs, phonograph records, and speeches. Often, many of these different types of entertainment are amplified on the same program and at different stage levels. Provided that the correct equipment is selected and that the installation is properly made, successful reproduction is absolutely assured, because present-day amplifiers and especially

modern dynamic reproducers have been improved to a point close to perfection.

In the United States, public parks from coast to coast are being sound-equipped to an amazingly rapid rate. Some of these installations are simple in design and modern in cost, while others are elaborate and expensive, but all are effective and very much worthwhile. The sound amplifying system installed at the band shell in Hudson Park, is one of the show places of New Rochelle, N. Y. The band shell was constructed at a cost of \$26,700 and is a combination structure with a comfort station underneath, entrance to the station being located in the rear. On the platform of the band shell, six cone-type dynamic reproducers are mounted in a large baffle. On Sundays and holidays, concerts are given by a twenty-five-piece orchestra, while on afternoons during the week, an automatic record changing device plays phonograph records. Chas. L. Broder, manager of the department of parks for the city of New Rochelle, states that the record reproduction is on a par with the orchestra and that on a clear day, the music can be heard for a mile out on the water.

The Lake Harriet bandstand at Minneapolis, Minnesota, is an example of what can be accomplished by a good sound amplifying system in the reproduction of band concert and operatic productions. The Minneapolis park board is highly enthusiastic over the results being obtained. Chas. E. Doell, secretary of the Board of Park Commissioners, states that the amplifiers and especially the dynamic loud speak-

*(Continued on next page)*



*Dance Hall at Playland Casino, Rye Beach, Westchester County Park System, New York*

(Continued from page 25)

ers, are a complete success. He states further that the volume is ample and the tone quality absolutely true.

The installation of sound is one of the greatest additions to Playland, at Rye Beach, the most modern and beautiful municipal amusement park in America. Just let me quote what Frank W. Darling, of the Westchester County Park System, has to say about Sound.

"It gives us pleasure to advise you that the sound installation placed in Playland Casino, is the most satisfactory installation we have ever seen or heard.

"The . . . loud speakers used in this installation seem to have a tonal quality of reproduction which makes them perfect for auditorium installations."

In Salt Lake City, Utah, Harry L. Finch, commissioner of parks and public properties, is equally pleased over the type of sound installation at Liberty Park. The group address system at this park is used on direct radio hook-ups, with phonograph records and with microphones and in every instance, it has been pronounced excellent in tone and amplifying qualities.

A slightly different type of sound system is installed at Bear Mountain Park, Iona Island, New York. A large pavilion in this park is used for roller skating in the summer time and for ice skating

In addition to the public parks in this country which utilize sound amplifying systems, many South American parks can now boast of up-to-date American sound equipment. The accompanying illustration shows a most artistic and ingenious arrangement of several dynamic reproducers installed in Santander Park, one of the finest municipal parks in Cucuta, Columbia, South America.

Commercial amusement parks, bathing beaches, outdoor pools, zoological gardens, etc., also find that sound amplifying systems are an added attraction and hence a prolific source of revenue. At Luna Park, Coney Island, N. Y., a comprehensive sound system has been installed. The Velodrome, at Coney Island, used for motor cycle races, also employs a sound system. The sound installation at White City, Chicago, provides a source of music and announcements which can be heard clear as a bell in every nook and corner of this large amusement resort, despite the roar of riding devices and the din of carousals and barkers. Even the carousals themselves are being sound equipped. The latest installation of this type is at the carousal in Central Park, New York City, where the old-fashioned squeaky organ has been replaced by the modern electric phonograph with automatic record changer, amplifier and cone-type dynamic reproducer. The merry-go-round at Pine Island Park, Manchester, New Hampshire, is similarly equipped.

At the Brighton and Manhattan bathing beaches in Brooklyn, New York, amplifying systems provide music for bathers. At these beaches, phonograph records and radio programs are amplified. Many bathing pools make good use of sound amplifying equipment. At Miami Beach, Florida, there is an effective sound system at the Roman Pools Casino and Supper Club. The outdoor pool at Mineral Beach, Monongehela, Pa., utilizes three dynamic reproducers equipped with directional horns. Two similar reproducers mounted on baffles are used at the nearby dance hall. The proprietors of Mineral Beach are so well pleased with the sound system that they ascribe no small part of their success to its installation. The Philadelphia 69th Swimming Pool is another example of a highly satisfactory sound installation. Swimming instructors at the pools find the sound amplifying systems very valuable in directing classes, as the sound of the instructor's voice, amplified by the sound system, can be heard distinctly while the students are swimming.

Venice Beach, at Mount Clemens, Michigan, possesses an exceptionally useful sound system. Approximately ten acres are covered adequately with dynamic cone-type speakers.

A dynamic reproducer is utilized at

the entrance to attract the attention of passing motorists. The bandstand is also equipped with loud speakers and a speaker located at the swimming beach can be heard by the bathers at a distance of over 1500 feet.

The Royal Palm Park, at Miami Beach, Florida, uses a sound system in conjunction with a score board to broadcast the progress of baseball games, etc.

The sound installations described above are typical ones and will serve to give a general idea of what is being accomplished in public and commercial parks throughout the country. However, the list of uses and applications of these sound systems is by no means complete, since new and profitable functions are being conceived for them almost daily.

• •

## A New Refrigerator

(Continued from page 14)

the "midget type," 22 inches wide and 17 inches deep, internal measurements, and 30 inches high. It is made with a flat top so that it could fit under sinks or in other small places in the kitchen. Standard finishes on this model are apple green, eggshell blue, golden yellow or white. It lists at the phenomenal price of \$87.70. This model is also available with centralized control and rectification for use in apartments, which brings the price down accordingly.

In its preliminary plans the Service Electric Company has stated that a limited number of direct dealerships and agency representatives will be appointed. These Service representatives will be recruited from radio and allied merchandising activities, and must be of the highest caliber and fitness. It is felt that these dealerships will provide a very profitable livelihood to the energetic dealer, whether handled as an allied line or as his exclusive commodity.

While prices of Service products are low in order to allow the public to share in the company's engineering success, there will never be a Service item sold below list, plus reasonable shipping expense. There has never been, nor will there ever be, a Service item that can be accused of being "dumped."

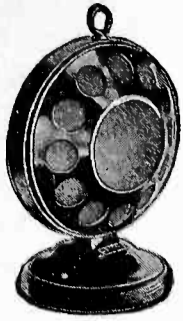
The Service Electric Company, Ltd., is comparatively new in this country, but it has been in existence in Europe for years, the date of its original charter bearing the seal of the City of Venice. Among other things it has developed a large line of power units, most recent of which is a newly perfected DC/AC converter for the AC auto radio. The converter changes 6 volts direct current into 110 volts alternating current.



Every Bathing Beach Needs a Good Sound System

in the winter. The pavilion is 100 feet long by 200 feet wide. Although open at all four sides, the cone-type dynamic reproducers at one end of the rink, provide plenty of undistorted volume for skating. Two similar installations have also been made at Hook Mountain, New York. The park commissioners are more than satisfied with the results and have voiced their entire approval.





# How to Sell Home Broadcasting Microphones



Most dealers do not know of the many uses found for the popular little home microphone. In this article the author tells you how a few aggressive dealers are using the microphone to bolster sales. Read every word of the article. Give consideration to this under-estimated money-maker. Miniature microphone manufacture has forged ahead by leaps and bounds. Some reasons why are here told to you by R. H. McLean.

By R. H. McLEAN

THERE WAS A TIME when accessories to the radio set constituted a good percentage of the average radio merchant's business. "A" and "B" batteries, chargers, "B" eliminators, tubes, loudspeakers, anything that could be fitted on to improve radio receiving conditions, was considered a good, hot line for the radio store to carry. Today the radio set comes complete and ready to operate. There is nothing much left to handle in the way of accessories except tubes, and in unusual instances, extra speakers. That is true, at least, of the accessories actually *needed* for the finer operation of the radio receiver. There are accessories, however, that are no more necessary to radio reception than an ash tray is to the functioning of an eight cylinder car, yet they are as convenient as the latter, and in some cases afford more amusement to the owner than a whirling policeman for the radiator cap. For convenience there is the Radio Owl, which shuts off the radio set at a given time; the switch that hooks onto the telephone receiver, automatically cutting off the radio set when the receiver is taken off the hook; the remote control systems, both for the purpose of tuning in various stations and for varying the volume at a distance. There are phonographs, of course, portable and all types.

One of the most popular home entertainment accessories is the little microphone for attachment to the radio set. These have taken the country by storm during the last year, although dealers report that the market has not been

more than scratched. They appeal to the amusement loving type, which probably includes almost everyone in its ranks at some time or other. It is felt, however, that the accessories available to the radio dealer today have not been exploited as effectively as they might.

The home microphone was probably ushered into the radio show house in company with home recording devices. People who have no use for the latter, however, are perfectly able to get enjoyment out of the use of the little mike, which has a myriad of uses. In my travels among the radio dealers I took occasion recently to inquire from them what uses they found for mikes which enabled them to promote sales. Many replied that they were not interested in broadcasting. Others did not even know that such devices were on the market. Others were of the opinion that the only use for a microphone was for audition purposes. This lack of information on the subject astounded me, but I kept after it until I had turned up a few who were taking advantage of the many possible means of making this accessory profitable.

There is a dealer in the southern part of Kansas who makes a good income off little microphones. He displays them in occasional ads and he always has one in the window. His greatest trick is to leave his radio receiving set prospect twisting the dials of a set while he steps out in back for a few moments. Then when the time is ripe he "takes the mike away from the announcer" and points out an interesting feature of the receiver

to his customer, calling him by name if possible. He says he has found that most people get a sudden thrill out of hearing their names mentioned over the radio, especially when unexpected, and he believes that many an order for a radio set has been signed just because of this stunt. He does not believe it is wise to trick the customer into believing that the announcement is coming from the station.

One dealer was telling me about a jeweler who had bought a midget from him and had hooked a mike up to it for the purpose of getting rid of a certain wholesale diamond salesman who had developed the habit of taking up too much of his time. On the salesman's next trip the jeweler went into the office and announced, through the radio, a police report to the effect that the wholesale jewelry firm by which the salesman was employed had just been robbed and that the burglar was fleeing up the street with the police in pursuit. The salesman left his jewel case on the counter and rushed hatless up the street to his office, only to find that the report had been erroneous. The jeweler is now probably trying to find another equally effective hoax.

But these baby mikes are not useful merely in the field of parlor tricks and the home town magician. They are, in fact, far removed from the element of toyland and have rapidly become standard accessory article.

The midget microphone can turn any radio receiver into a miniature public

address system. Of course it would hardly do for a big football stadium or large-sized swimming arena. Yet for small places it makes a creditable and acceptable p. a. system.

Out in Oklahoma one representative dealer made his initial sale to a "pee-wee" golf park owner who installed it on the porch of his pavilion.

In between musical selections from a radio station the golf course man would switch in and make announcements of forthcoming tournaments . . . results of last night's play, names of sponsors who donated prizes, and other information to the folks gathered round about on the course.

A hotel man in the middle west bought a baby mike and used it in his hostelry with a myriad of uses. The set in the main lobby is used to page people, while it serves a dual purpose by also providing afternoon and evening radio concerts.

Others in the same line of business have found a real need for the baby mike in their coffee shops and restaurants to make announcements of specials and at hotel entrances to call car drivers.

Hotels have not been the only ones to find a use for the small sized microphone. Stage companies have used it in their public waiting rooms to call bus departures; theatres at the main lobby to call the cars; and various other public institutions have found a genuine use for the tiny instrument.

Up in the northwest one enterprising retailer found an almost unlimited field in music instruction. By the use of the midget mike, piano, violin and other music pupils are able to practice in one room, while the teacher listens in another studio. Thus the criticisms are much more valuable, since the child is under no stress because of having someone in the room while playing.

In a somewhat allied field other dealers have found a prolific source of sales to dramatic and expression schools. These institutions have found it extremely practicable to use the scientific instrument in voice placement . . . thereby correcting defects in the singing voice and speaking voice of their pupils.

Small town amusement parks have likewise proved a source of profit. Swimming and other sports events have been announced to the public by the use of the little microphone . . . the description of each event, starting them off, and the final results.

Even in the prosaic field of every-day business radio's little microphone has found its uses. Department stores have found them of use in their employees'

rest rooms to announce that the lunch period is over . . . as well as in public waiting rooms to announce special bargain events.

Factories and shops use them for a call system by which they call from the office to the factory. Auction houses cut in on their receivers . . . midget size or console models . . . and make announcements. Schools install them in auditoriums to give out special notices of the day.

Overflow crowds in churches have been taken care of by using the baby microphone on a set, as well as rooms in which the hard of hearing have been placed to hear the sermon from the main church edifice through the use of the set and the little mike.

It is doubtful if any one radio accessory has become such a commonly accepted standard article of merchandise as the baby mike in the short period of time in which it has been on the market.

The largest manufacturer of baby mikes does not treat his product as an offshoot of trade. He does not plan it as a fill-in for dull periods or times when business is off. With him it is a day by day article with steady sales.

An aggressive campaign for the winter season, with special attention to holiday needs, has been launched by the originator of the tiny device.

Show case cards, consumer leaflets, large lithograph window display cards and other devices are being used to acquaint the public with radio's combination novelty-utility, the baby mike, and dealers throughout the country have predicted the day when radio families will have a baby mike as a standard fixture, just the same as they have bumpers and side lights on the family car.

A composite picture of an announcer . . . he might be Graham McNamee, Ted Husing, or any other well known announcing figures adorns the placards of these tiny mike written announcements and the trade mark has become almost as well known as Lydia Pinkham, the Brothers Smith and W. L. Douglas' shoes.

Once upon a time . . . that's the way stories usually begin, instead of end . . . Jim Fouch owned a radio station in Inglewood, California. Along came Christmas and he cast about for a gift which would fairly breathe the spirit of good cheer and radio.

So he evolved the solid copper baby mike for a desk ornament and paper weight. That gave him the original idea for the tiny microphone as a useful article that could be used with the home receiving sets.

"From small acorns oaks grow" quoted somebody or other. Of course they weren't thinking of this field of tiny microphones. But they might as well have been, for from the nucleus of making a few baby microphones for his own use, the inventor has developed a large-sized business that stretches to all corners of the United States and to foreign countries as well.

## School Girl Sells 125 Sets In Sparton Contest

"If the retail business men of this country were to show half as much energy and ability as several hundred school boys and school girls that I know, they would all get rich in a year. Some of the boys and girls who competed for Sparton Scholarship Awards this year sold more radio sets from door to door than many dealers sold in their stores."

Captain William Sparks, president of the Sparton Radio organization, had this comment to make regarding the winners of the Sparton Scholarship Awards for the past year.

"Under the terms of this offer winners were given their choice of a university scholarship or a tour of Europe, which began on July 4.

"As you know, we awarded one point and one dollar for every demonstration that was secured by the contestants. For every sale we awarded ten points. There is one little girl down in Lima, Ohio, Marvel Baggs is her name, who made 125 actual sales. An Italian boy in Bridgeport, Connecticut, did almost as well. A high school student out in the Kansas City territory was close to them and from there on down there was little difference in the winners.

"A large number of winners chose the scholarships in preference to the European tour. The party was accompanied by Prof. John Paul Jones, who conducted classes in the history centering around points of interest as they were visited. In this way we made the tour a real educational event."

Captain Sparks, in commenting on the motive behind the offering of the scholarships said that memories of his own childhood played a big part in causing the scholarships to be awarded. Born in England and coming to this country at an early age, he worked for two years during his early boyhood to earn money for his first trip back to his homeland.



# MODERN RADIO

A New Radio Magazine

ROBERT S. KRUSE, E.E., *Editor*

Formerly with Western Electric Co., International Tel. & Tel., Radio Section of the Bureau of Standards, Hammond Radio & Research Corp., Technical Editor QST for five years. Editor Sterling's Radio Manual and of several books now in preparation. Designer of a number of broadcasting and high-frequency transmitters, co-designer of National's S. W. 5 Thrill Box, Pilot's Wasp and Super-Wasp, also other commercial receivers. Has contributed to Radio News, Radio Design, Radio Broadcast, Popular Radio, Radio, Short-Wave Craft. His writings have been reprinted in all continents. At present Consulting Radio Engineer.

L. W. HATRY, *Associate Editor*

Best known during 1920-24 as owner and operator of 5XV at Port Arthur, Texas; also three other calls. Articles contributed to Radio, Radio News, QST, Radio Journal, Popular Radio, Radio Broadcast, Short-Wave Craft, Radio Craft, Wireless Age, Radio News Canada, many having been reprinted in the major countries of the world. Was department Editor and Information-service QST, Radio Editor the Hartford Times, recently active in short-wave super-heterodyne design. Participant in short-wave and amateur radio for eleven years. Has been first grade commercial shore-station operator, also operator of broadcasting station and station engineer.

*A Radio Magazine Every Worker and Experimenter  
Will Find Permanently Useful*

Not tied to a specialty, not burdened with sensationalism.

As interested in Radio's "Why" and "How" as you are.

Live, reliable, accurate—sticking to engineering practices and scientific principles

Single Copies

20c, Postpaid

Subscription

Introductory

Rate, \$1.25

MODERN RADIO CO., HARTFORD, CONN.  
101 ALLYN STREET.

Start me with No. 1 of MODERN RADIO if possible.  
Enclosed is \$1.25 for 13 months' subscription.

Name.....

Address.....

City—State.....

## FOR YOUR SERVICE DEPARTMENT

"Citizens Radio Call Book and Technical Review." Now a monthly magazine. Of greatest value to the service man and engineer. \$2.50 per year by subscription. CITIZENS RADIO SERVICE BUREAU, 508 South Dearborn Street, Chicago, Illinois.

## YOUR VISIT TO CHICAGO



will be doubly enjoyable if you are happy in your selection of a hotel home.

The New Bismarck has much to offer that appeals to the sight-seeing away-from-home.

FOOD that has a nation-wide reputation for its appetizing goodness.

SUPERIOR SERVICE, rendered with hospitable good-will, which at once makes you feel right at home.

COMFORT and quiet in a light, cheery room. Good beds, soft water always, and a light signal that announces your incoming mail.

LOCATION right in the heart of Chicago's Loop . . . handy to the Civic Opera, Theatres, Shopping District and principal points of interest.

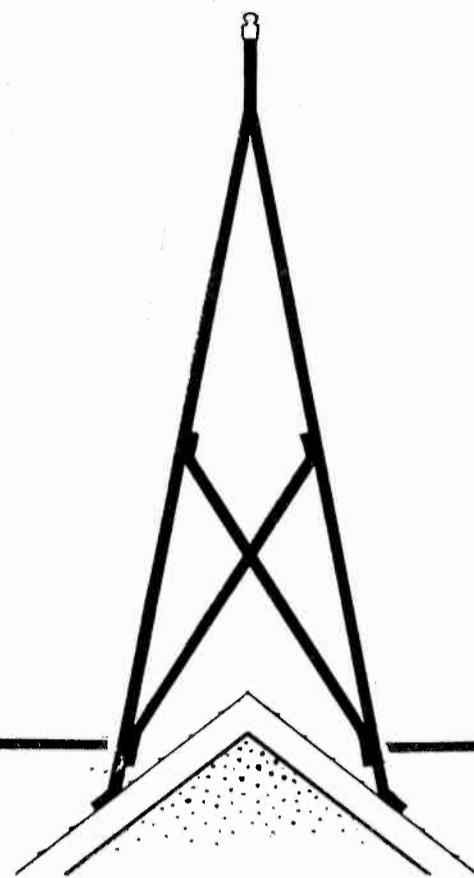
Send for booklet with downtown map.

Rooms with bath, \$3.50, \$4.00, \$4.50, \$5.00 and \$6.00

Rooms without bath, \$2.50

**NEW**  
**BISMARCK**  
**HOTEL CHICAGO**  
RANDOLPH at LA SALLE

Tell them you saw it in RADIO



STEEL

## ANTENNA TOWERS

\$3.00 PER PAIR,  
LIST PRICE

SELL BETTER AERIALS

*Your Customers Can Afford This  
Installation at the New Low Price*

EVERY owner of a radio set is a prospect for an UP-TO-DATE antenna. The modern, rugged steel LeBourg Antenna Towers are ideal for homes, apartment houses and hotels. Two towers sell for \$3.00 list, with the usual trade discounts to jobbers and dealers. The towers are 5½ feet high and 18 inches wide at the base. They come to you complete with insulated knobs. They make a business-like job of your antenna installations.

**The Best Side-Line for the  
Dealer**

Put your service man on the job and let him sell these towers to every radio owner in your vicinity. Display them in your store window. They sell readily. You should order a sample pair of towers immediately. If your jobber cannot supply you write us direct.

**JOBBERS . . . WRITE!**

*Some jobber franchises are still available. Wire or write for further information.*

**A. LeBOURG**  
602 South 11th St.  
GADSDEN ALABAMA

# Guide to New Radio Products

Here are presented the newest products of nationally known manufacturers. This Buyers' Guide will help you in your selection of new things to sell. Radio and allied merchandise will be displayed in these columns each month. Copy for November issue should reach the publisher by November 1st. Write for rates.



## Flechtheim

Filter condensers for replacement purpose and for general service work. A complete line of all standard and special capacities available from stock. Write immediately for catalog showing all of the newest Flechtheim products. *The A. M. Flechtheim & Co., Inc., 136 Liberty St., New York City, N. Y.*

## International Resistance Co.

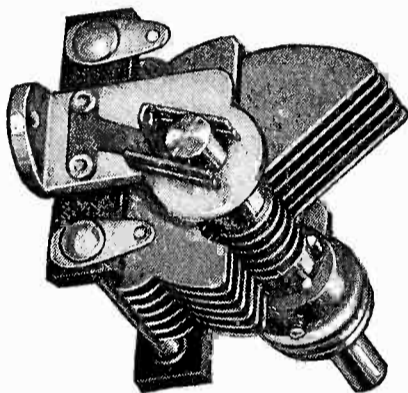
Motor Radio Suppressors for spark plugs and distributors. Moisture-proofed, impregnated with special compound to withstand all weather conditions. Descriptive matter on request from *International Resistance Co., 2006 Chestnut St., Philadelphia, Pa.*



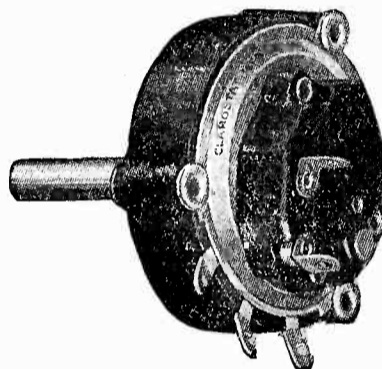
## Hammarlund

For quality reception on the short waves. Hammarlund Condensers and Coils hold first place. They are the perfected products of more than thirty years of precision engineering.

*Hammarlund Mfg. Co., 424-438 W. 33rd St., New York.*



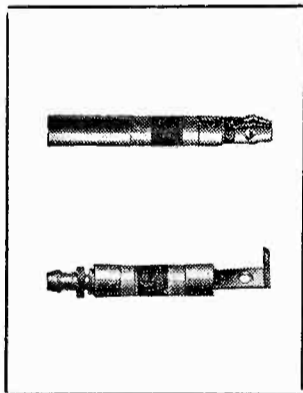
## Clarostat Controls



Built-In Switch and Insulated shaft in Clarostat Controls in both the genuine wire wound units and the graphite element units. Write for complete descriptive information. *Clarostat Mfg. Co., 285 North 6th St., Brooklyn, N. Y.*

## Lynch Mfg. Co.

Two new type metallized resistors for connection to each spark plug and for distributor interference elimination. Both for use in auto radio installation. Heavy, rugged and capable of withstanding mechanical shock. Moisture-proofed. *Lynch Mfg. Co., Inc., 1775 Broadway, New York, N. Y.*



## Ward Leonard

Ribflex Vitrohm Resistors. Metal alloy resistance ribbon, reflexed, wound on edge on ceramic tube. Banded on each end with heavy duty terminals. Entire unit covered with fired-on vitreous enamel. Available in single units with values of from .04 to 10 ohms. *Ward Leonard Co., Mount Vernon, New York.*



## Jewell Tube Seller

*A Tube Seller That Reads in Terms of Tube Merit*

A new tube selling instrument is announced by the Jewell Electrical Instrument Company, Chicago.

It has a large meter calibrated in terms of tube performance. The Indev-of-Merit meter, as it is called, reads direct in terms of Unsatisfactory, Doubtful, and Satisfactory.

The scale provides this reading on all standard types of tubes.



*Descriptive Catalogs of the Jewell Instrument Line can be secured from Jewell Electrical Instrument Co., Chicago, Illinois.*



## Review of New Books

Radio Handbook, by James A. Moyer and John F. Wostrel, First Edition, 886 pages, 5x7½ in. Published by McGraw-Hill Book Company, Inc., New York and London. Price \$5.00.

An accumulation of radio information arranged to be instantly available to the person who is working with radio. All definitions, formulae, tables and methods of practice, as well as a comprehensive study of the theories underlying radio engineering and the uses to which they are put, are contained in this book. They are prepared in a not too technical style, so that the student can make use of the book as a text if he desires.

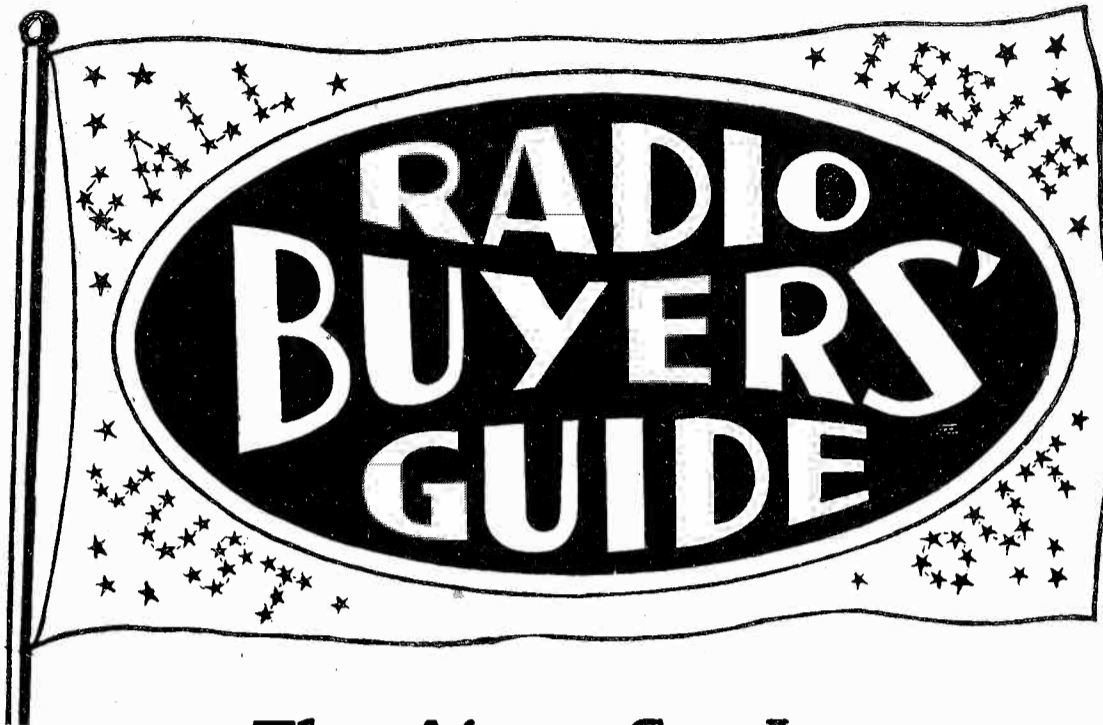
The contents of the book include sections on fundamental units and tables, a study of electricity's place in radio, radio accessories and instruments, fundamentals of radio communication, power supply systems and apparatus, vacuum tubes, vacuum tube circuits, radio receiving sets, transmitting circuits, broadcasting transmitters, marine transmitters, laboratory equipment and methods, photo-electric cells, television, industrial applications of vacuum tubes and sound motion pictures.

Low Pressure Selling, by Jas. A. Worsham, Business Executive, Author, Speaker and Lecturer. 208 pages, 5½x7¾ in.

This little book is an unusual treatise on all types of selling, whether to the consumer or to manufacturers and dealers. It is not laden down with rules and formulae for acquiring personality, or methods of learning and applying psychology to selling, but is built around the few basic principles of salesmanship in a manner that is extremely simple and easy to grasp. The author cites examples from his own experience and from experience of friends to humanize the study. The prime element of selling, which he has not allowed to become lost in a haze of details, is summed up in the following quoted sentence: "Find out what people *want*—convince them that your product—or services—will satisfy those *wants*, and your prospect buys." The book is recommended to all radio dealers, salesmen and service men.

**DOES YOUR BUSINESS ASSOCIATE SUBSCRIBE TO "RADIO"?**  
PASS THIS ISSUE ALONG TO HIM WHEN YOU HAVE FINISHED READING IT.

## Have You Received Our Free

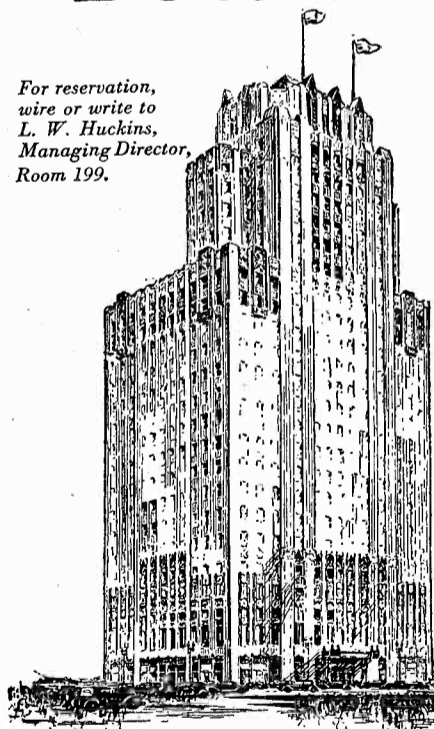


**The Airex Co., Inc.**

**87 Cortland St., New York City**

## San Francisco's Newest AND MOST MODERN Downtown Hotel!

For reservation,  
wire or write to  
L. W. Huckins,  
Managing Director,  
Room 199.



Just off Union Square—most convenient to theaters, shops and stores. Only California hotel offering Servidor feature—thus combining "maximum privacy with minimum tipping".

Garage in basement with direct elevator service to all guest room floors. In every room—connection for radio reception, running filtered ice water, tub and shower. Western-exposure Tower rooms have ultra-violet-ray windows.

Dinner in Coffee Shop from 75¢ up—in Main Dining Room from \$1.50 up. Also a la carte service.

**Hotel  
SIR FRANCIS  
DRAKE**

HUCKINS-NEWCOMB HOTEL CO.

Powell Street at Sutter • San Francisco

600 OUTSIDE ROOMS—127 single rooms at \$3.50 daily, 118 at \$4, 136 at \$4.50, 107 at \$5, 64 at \$5.50, 48 at \$6. Double rooms \$5 to \$8 daily.

IN THE TOWER—Luxurious Suites \$12 to \$20 daily—DeLuxe Rooms \$5 to \$12 single, \$7 to \$15 double.

# 853 PAGES, 1,800 DIAGRAMS IN RIDER'S NEW 6-LB. MANUAL

THE most complete service man's manual is "The Perpetual Trouble Shooter's Manual," by John F. Rider, published April, 1931, and full of real information. Wiring diagrams of ALL popular commercial receivers and kit sets from 1922 to 1931, inclusive. Also contains a course in trouble shooting. Loose leaf pages, 8½ x 11", bound. 853 pages; index and advertisements on additional rates. \$5.00 per copy. (Shipping weight, 6 lbs.)

For sale by  
"RADIO"

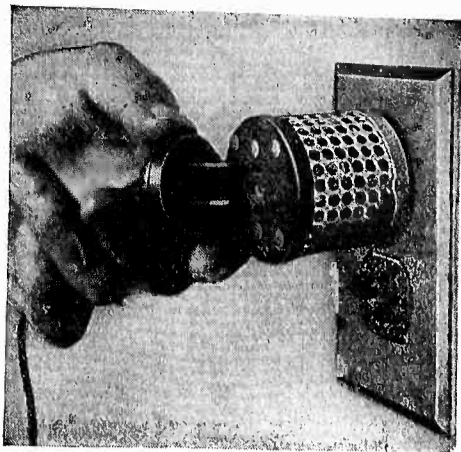
Pacific Building San Francisco, Calif.

## BALLYHOO

Laugh at the depression. Read "BALLYHOO," the finest humorous magazine in print. The whole nation is talking about it. Get "BALLYHOO" for one entire year . . . and extend your subscription to "RADIO" for another full year . . . Both for only \$3.35. That's a real saving . . . and a real value. Send your orders to "RADIO," Pacific Building, San Francisco, California.

### NEXT MONTH!

How a Service Man Should Advertise His Business. Sales and Advertising ideas of great value for dealers' service departments. Don't miss next issue of RADIO.



### PROTECT THE MIDGET SET

Midgets are designed to operate on 110 volt lines and will not stand up on higher voltages. Save the set—save your reputation!

Install a 50-watt

CLAROSTAT AUTOMATIC LINE  
VOLTAGE REGULATOR

Retail Price..... \$1.75

Other Sizes for Other Receivers

CLAROSTAT MFG. CO. INC.  
285 N. 6th St.

Brooklyn New York

## HOTEL NORMANDIE

... provides the maximum of comfort at reasonable cost. Located just outside the congested district of Los Angeles, yet close to the best shops, theaters and churches, the NORMANDIE offers every advantage you desire in your selection of a temporary or permanent home.

Rates  
Room with Bath, single, \$2.50 per day  
Room with Bath, double, \$4.00 per day  
Monthly Rates on Application

The cuisine, excellent service and reasonable rates in the COFFEE SHOP AND CAFE combine to make your stay a pleasant one.  
(Garage in Connection)



CORNER SIXTH & NORMANDIE  
LOS ANGELES

—FOR QUICK SALE—

FOURTEEN

## VISIONOLA

Home-Talking Motion Picture Machines with Radio and Phonograph. Will sell singly or in lot of entire 14. In original shipping cases. Write or wire for prices and particulars.

VISIONOLA - PACIFIC CO.

235 Monadnock Bldg  
SAN FRANCISCO CALIFORNIA



### UNIVERSAL MICROPHONES

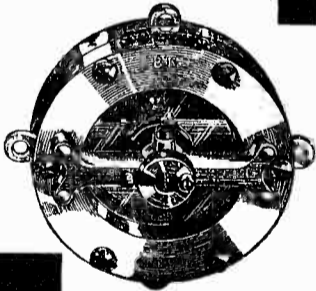
America's most popular two-button microphones, true natural tone, tremendous volume; extremely low hiss level, extra heavy 24 karat pure gold spot centers and buttons. Scientifically constructed, time tested, laboratory adjusted. Fully guaranteed and now at a decided saving in cost to you.

Double Button  
Handi Mike  
List \$15.00

New Heavy  
Duty BB  
\$25.00 List Price

Other models as low as \$5.00  
1932 Catalogue just out

UNIVERSAL MICROPHONE  
CO., LTD.  
Box 305  
Inglewood, Cal. U.S.A.



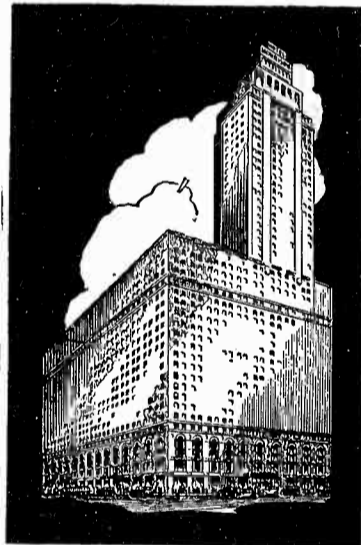
### CLEAN THOSE CONTACTS

A twist of the wrist—and instantly the "PRONGETTE" cleans dirty tube prongs. Reverse the steel reamer and instantly you clean those hard to get at places in tube sockets . . . cleaning exactly where cleaning is needed. Every dealer . . . every service man . . . every engineer needs this new tube and socket cleaning tool. Insulated handle. Case-hardened steel reamers. Fits in your vest pocket. Carry it with you always. Sent postpaid anywhere upon receipt of \$1.50. Agents wanted.

\$1.50

BRADLEY RADIO CO.

1062 Howard Street San Francisco, Calif.



A GUEST at the Morrison enjoys all the luxuries that only a hotel of premier standing can offer. Yet rates are remarkably low—\$3.00 up—because sub-rentals pay all the ground rent. The saving is passed on to guests.

Every room in the Morrison Hotel is an outside room, with bath, circulating ice water, bed-head reading lamp and Servidor. A housekeeper is stationed on each floor.

The Morrison is the World's Tallest Hotel—46 Stories High.

Nearest Hotel in the City to stores, Offices, Theatres and Railroad Stations.

## CHICAGO'S MORRISON HOTEL

Corner Madison and Clark Streets

Leonard Hicks, Managing Director

2500 ROOMS

\$3.00 Up



# You ought to see the difference

## *In Your Favor*

through Parker's large scale  
production

You ought to go and compare, for example, the Parker Guaranteed for Life Duofold at \$5 with guaranteed pens of other makes at \$7.50, and even \$8.25. Some are not within 22% of Parker's ink capacity, some not within 69%.

If Parker at only \$5 surpasses pens priced 50% higher, isn't it mighty good proof that in pens at \$10 the Parker Duofold De Luxe is a much finer instrument than others can afford to offer?

You won't find another at any price with Parker's Miracle Duofold Point that writes with Pressureless Touch—as easily as you breathe.

There isn't another with Parker's Adjustable Clip that lets the pen rest low and unexposed. Not another pen or pencil with Parker's streamlined style—"America's shapeliest"—non-bulging and balanced. Not another with Parker's Invisible Filler—or Parker's range of jewel-like color effects.

Go and compare at the nearest pen counter. See how Parker gives your dollars their old-time buying power.

693



The Parker Pen Company, Janesville, Wisconsin.  
Offices and Subsidiaries: New York, Chicago,  
Atlanta, Buffalo, Dallas, San Francisco; Toronto,  
Canada; London, England; Berlin, Germany.

# Parker Duofold

PEN GUARANTEED FOR LIFE, \$5 ▾ \$7 ▾ \$10

*Other Parker Pens, \$2.75 to \$3.50   Pencils to match them all, \$2 to \$5*

Tell them you saw it in RADIO



# OFFICIAL

Type A. C. 4300

## RADIO TUBE SILENT SALESMAN

SIZE 2 Ft. x 2 Ft. x 3 Ft. IN SOLID BAKELITE

Radio's most perfect tube tester will vastly increase tube sales.

CORRECT R. C. A. LIMIT OF VALUES FOR ALL TUBES PRINTED ON DIAL OF MUTUAL CONDUCTANCE METER



BUILT IN PREHEATER

Correct R.C.A. Limit of Values for all Tubes  
Printed on Dial of Mutual Conductance Meter  
Clear Customer Visibility of Exact Tube Condition. This Feature Builds Confidence.  
Complete Tests. Reads—Mutual Conductance, Plate Current, Gas Content. Shorts between  
all elements shown on colored lamps.

Many Stores Using This Tester Report 100 to 500% Increased Tube Sales. Approved  
and Recommended by All Leading Tube Manufacturers.

List Price ..... \$500.00  
Dealer's Price ..... 326.00

*Time Payments if Desired*

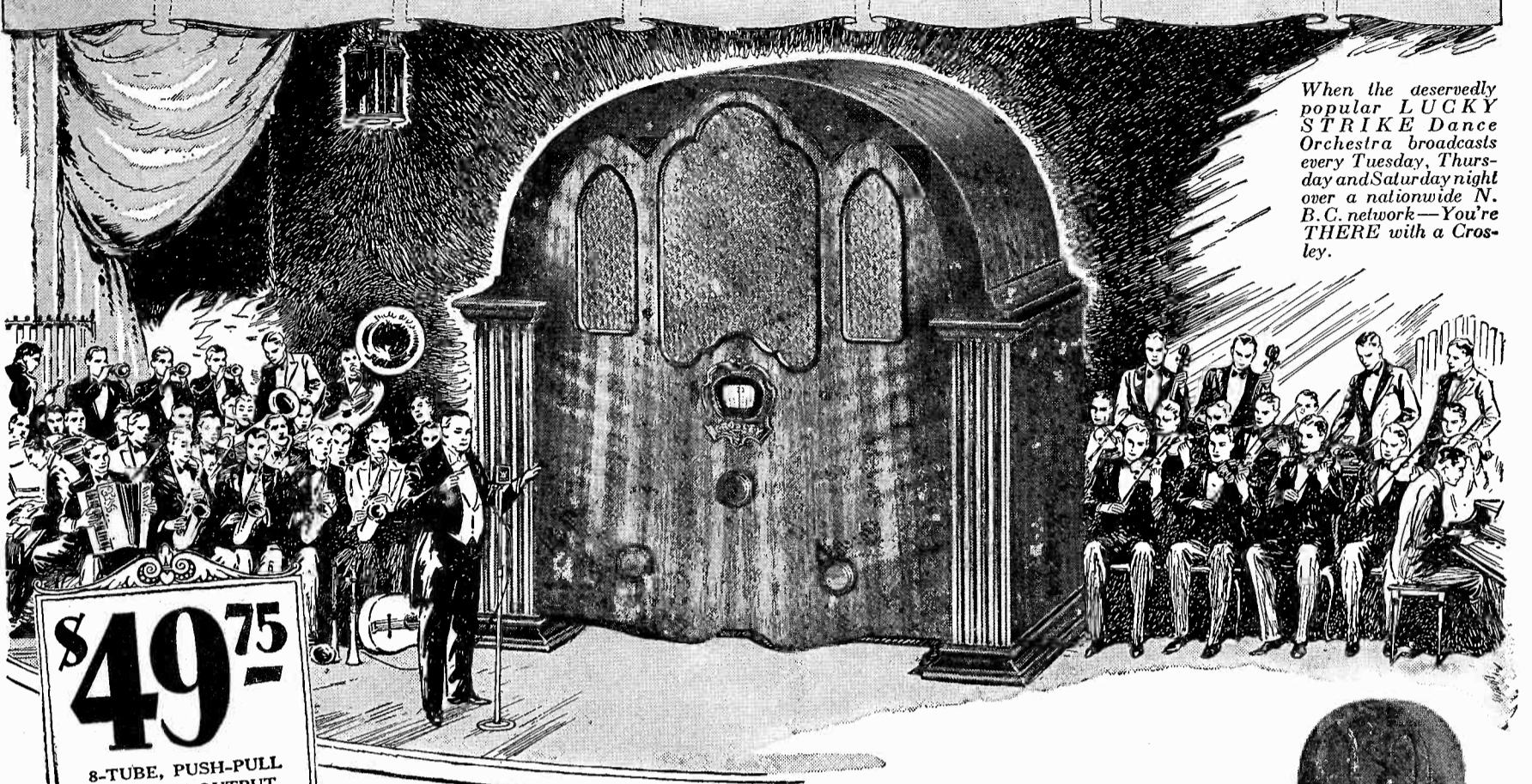
**The Hickok Electrical Instrument Company**  
10514 Dupont Ave. Cleveland, Ohio

Tell them you saw it in RADIO



# YOU'RE *THERE* WITH A CROSLEY

When the deservedly popular **LUCKY STRIKE** Dance Orchestra broadcasts every Tuesday, Thursday and Saturday night over a nationwide N. B. C. network—You're **THERE** with a Crosley.



**\$49<sup>75</sup>**  
8-TUBE, PUSH-PULL  
PENTODE OUTPUT  
SUPERHETERODYNE  
COMPLETE  
WITH TUBES

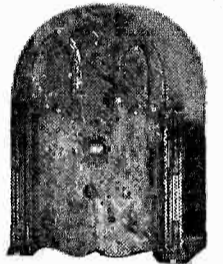
## The Crosley **PLAYBOY**

An exquisitely designed all wood table or mantel model, 17 inches high. Latest type Crosley full floating moving coil dynamic speaker. Embodies all the new Crosley features. Never before such superlative radio performance at so low a price.

More than ten years of successful experience in the manufacture of radio receiving sets . . . enormous manufacturing facilities . . . the use of economical straight line quantity production methods . . . an engineering department which, through its constant reception tests of the broadcasting from "the Nation's Station"—WLW, its sister station WSAI, and its short wave station W8XAL, is able to design radio receiving sets of greatly superior selectivity, sensitivity and tone quality . . . these enable Crosley to offer these new 8-tube push-pull Pentode, variable Mu, Superheterodyne receivers and the new **LITLFELLA**, a 5-tube Pentode output variable Mu compact model Superheterodyne, all incorporating the latest Crosley fullfloating moving coil dynamic speakers, in cabinets of outstanding beauty . . . at prices lower than ever before conceived of for such superlative radio receivers.

The five longer Crosley receivers shown here are priced complete with eight tubes . . . two type -47 Pentode tubes connected in push-pull in the output stage, two type -35 or -51 variable Mu tubes in the radio frequency and intermediate radio frequency stages, one type -24 Screen Grid tube, two type -27 tubes, and one type -80 rectifier tube. Other features, are continuous (stepless) variable static and tone control, illuminated hairline shadow dial with vernier drive, combined volume control and on-off switch. These new Crosley radio receivers offer the greatest values in the radio world today. See your Crosley distributor NOW—or write the factory direct.

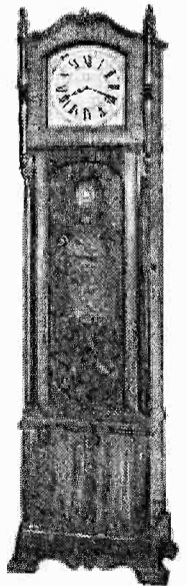
**THE CROSLEY RADIO CORPORATION**  
POWEL CROSLEY, Jr., President  
Home of "the Nation's Station"—WLW  
CINCINNATI  
(Montana, Wyoming, Colorado, New Mexico and west,  
prices slightly higher)



## The Crosley **LITLFELLA**

The new Crosley **LITLFELLA**—a 5-tube table model SUPERHETERODYNE radio receiver incorporating big set features—Pentode output, Variable Mu tubes, full floating moving coil dynamic speaker and other Crosley features.

**\$36.36** Complete With Tubes







## The Crosley **PLAYTIME**

Here it is! A dream come true! A grandfather type A. C. electric hall clock incorporating the new Crosley 8-tube push-pull Pentode, variable Mu, Superheterodyne radio receiver and Crosley Auditorium size, full floating moving coil dynamic speaker. The same A. C. house current connection operates both clock and radio.

**\$95** Complete With 8 Tubes

### NOTE THESE CROSLEY FEATURES

-  Every CROSLEY radio receiver shown here incorporates the new CROSLEY 8-tube chassis with its unusual features—many exclusive.
- SUPER HET** The chassis used in every CROSLEY radio receiver shown, employs the well known and thoroughly proved SUPERHETERODYNE circuit.
-  Two PENTODE tubes, connected in push-pull, in the output stage are an exclusive CROSLEY feature offered in sets at these prices.
-  Variable Mu tubes in the radio frequency and intermediate frequency stages eliminate the necessity for a local and distance switch.
-  Variable tone control delivers brilliant, bright, mellow or deep reproduction, smoothly graduated and blended to the individual ear.

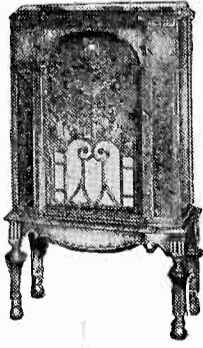
### Then—Note These CROSLEY Prices



**The Crosley **CHEERIO****

A magnificent cabinet of rare beauty, full forty inches high, housing the new Crosley 8-tube push-pull Pentode, variable Mu, Superheterodyne chassis and newest Crosley full floating moving coil dynamic speaker. All new Crosley features are incorporated.

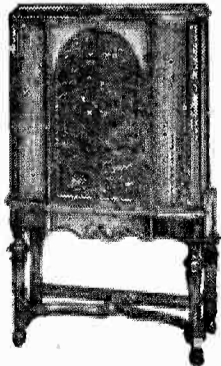
**\$65** Complete With 8 Tubes



**The Crosley **MERRY MAKER****

Another forty inch console of unusually attractive design and sound construction housing the new Crosley 8-tube push-pull Pentode, variable Mu, Superheterodyne chassis plus the new type Crosley Auditorium size full floating moving coil dynamic speaker.

**\$75** Complete With 8 Tubes



**The Crosley **ANNOUNCER****

One of the most beautiful door console models. Stands forty-two inches high. Incorporates the new Crosley 8-tube push-pull Pentode, variable Mu, Superheterodyne chassis plus the new type Crosley Auditorium size full floating moving coil dynamic speaker.

**\$85** Complete With 8 Tubes

**CROSLEY RADIO**

650  
400  
1050

# The Newest 30 Series D.C. TUBES...

with **ARCTURUS** improved features

These tubes are built to the same rigid specifications that make *blue* tubes the decided preference of critical engineers and progressive jobbers and dealers.

The types 136, 137 and 138 are of the heater-cathode construction. This is the construction developed by Arcturus in pioneering the first standard base a.c. tube. Rugged construction that resists shocks and jolts—low current consumption—longer life make these tubes the best yet for automobile sets. They have the usual quick action of all Arcturus Tubes.

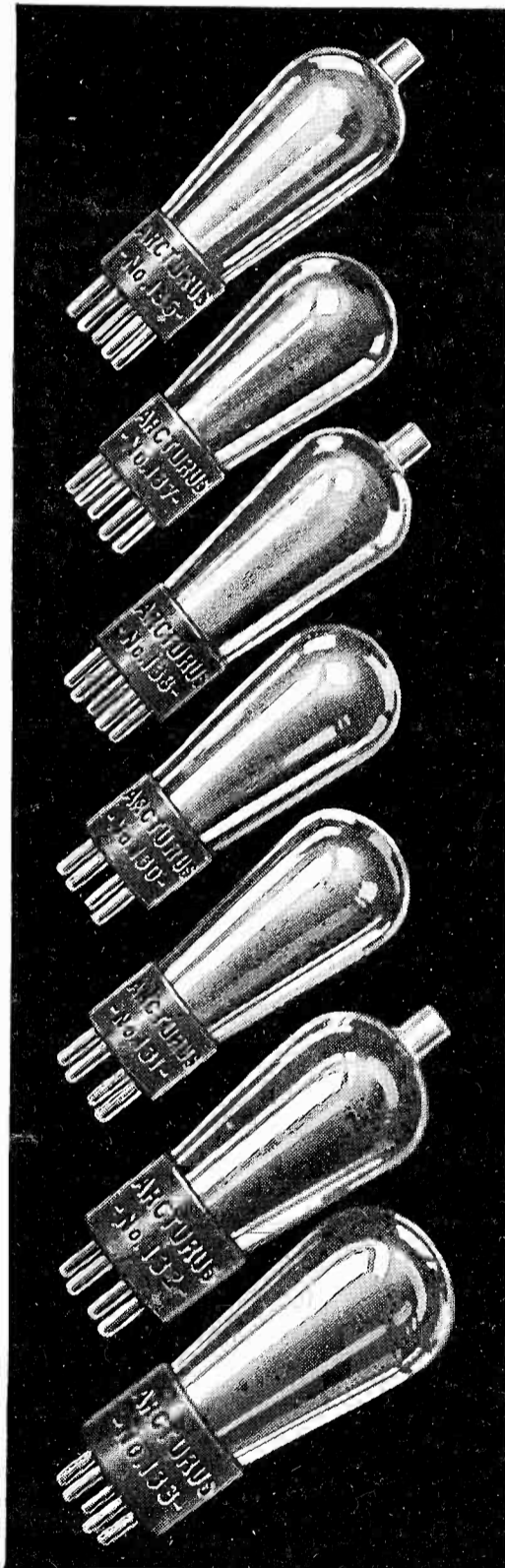
The low drain of 130, 131, 132 and 133 types meets the exact needs of battery sets, and their sturdy construction assures efficient portable set performance.

Arcturus Blue Tubes are the standard tube equipment of more manufacturers than any other tube. Most of this year's sets will be equipped with *blue* tubes. What a tremendous market for renewals that means!

Dealers who push these quality tubes find they reduce expensive service calls, keep sets sold and win the confidence of their trade.

Arcturus jobbers have now added the new d.c. series to their regular stocks of Arcturus Blue Tubes. Stock Arcturus Tubes early and prepare for this new market—and for the big renewal business in Arcturus equipped sets.

Arcturus Radio Tube Co., Newark, N. J.



9000  
1500  
105-  
100  
205-  
1450  
19350

The  
**BLUE**  
Radio  
Tube!  
19250



# ARCTURUS

"The **TUBE** with the **LIFE-LIKE TONE**"

WESTERN DIVISION:

Arcturus Radio Tube Co., 1855 Industrial Street, Los Angeles, Calif.