

# RADIO

REG.  
U. S. PAT.  
OFF.

THE NATIONAL TRADE MAGAZINE  
JANUARY, 1932

## TRIAD

### TONE PURITY

is a revelation in reception quality

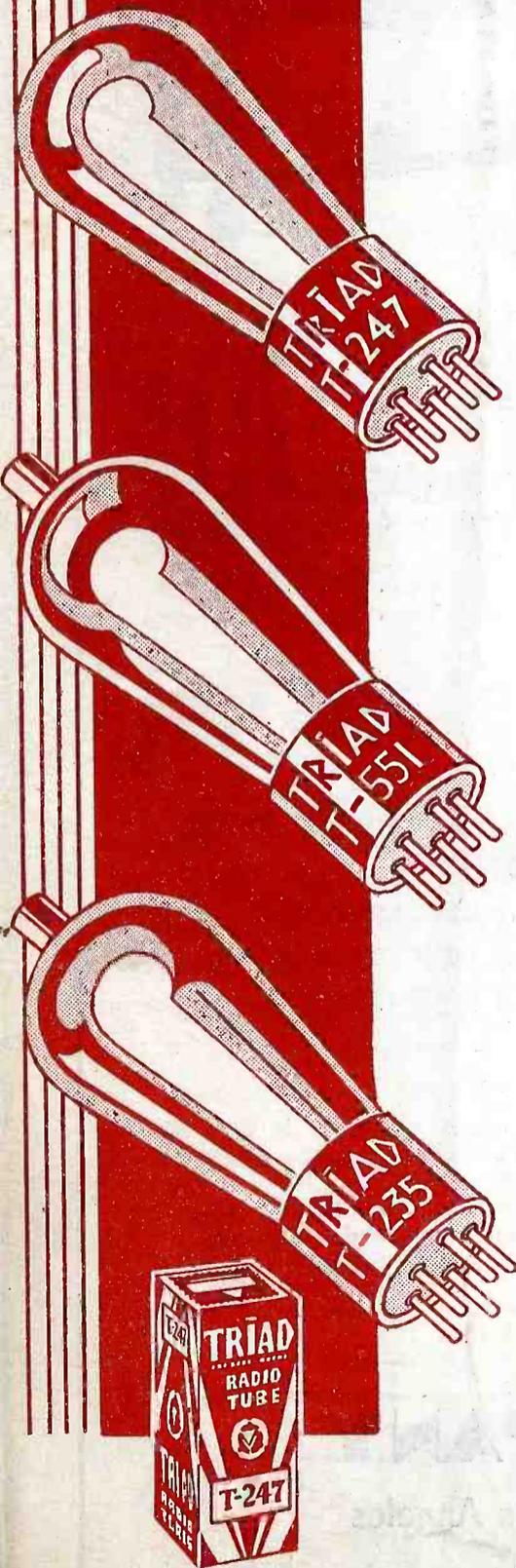
Triad tubes give true-tone, distortionless reception that introduces a new richness in tone values—and is the very nearest approach to sound quality at the source of the broadcast. We believe that these three tubes set aside all previous standards of reception and achieve a perfection never before attained.

Triad Tubes are quick heating and their rugged construction provides filament protection that is the best assurance of uniform quality and long life.

TYPE T-247, THE NEW *DEPENDABLE PENTODE* HAS AN EXTREMELY HIGH AMPLIFICATION FACTOR COMBINED WITH A VERY HIGH POWER OUTPUT. INCREASING SENSITIVITY WITH A GAIN IN VOLUME OVER THE 245 TYPE POWER TUBE.

Type T-551 eliminates cross talk and distortion and reduces static to a minimum. It can replace type 224 in most present circuits with decidedly beneficial results.

Type T-235 has characteristics of the 224 type, with additional feature of a plate current grid voltage curve that makes it adaptable for use in automatic control circuits by virtue of its low percentage of distortion at a very high grid bias.



Licensed under patents of Radio Corp. of America, General Electric Co. and Westinghouse Electric & Manufacturing Co.

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.

# Patterson SUPER-HETERODYNE

RADIO'S GREATEST VALUE!



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

**\$59<sup>50</sup>** WITH TUBES

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

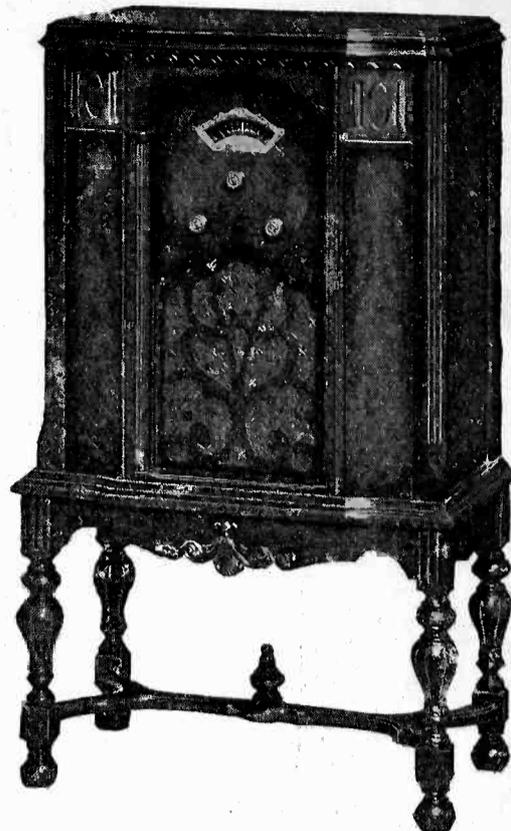
**\$69<sup>50</sup>** WITH TUBES



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

**\$49<sup>50</sup>**

With Tubes

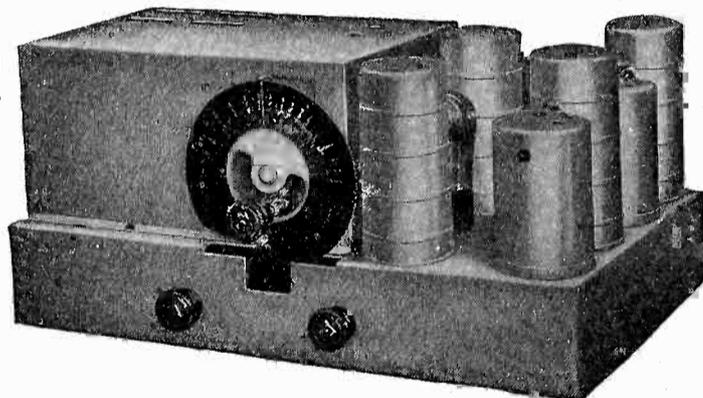


**MODEL 500** Lowboy Console with Patterson 9-tube chassis and Magnavox 12-inch Dynamic Speaker. 43½ inches High, 25 inches Wide, 14 inches Deep

**\$79<sup>50</sup>** WITH TUBES

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

**\$89<sup>50</sup>** WITH TUBES



## IMPORTANT

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

## FEATURES

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

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

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

Write, Wire or Telephone for Information

# PATTERSON RADIO COMPANY

1320 S. Los Angeles Street

Los Angeles

Manufacturers

Since 1920

**A BIG NEW DEVICE DEMAND PROFITS**

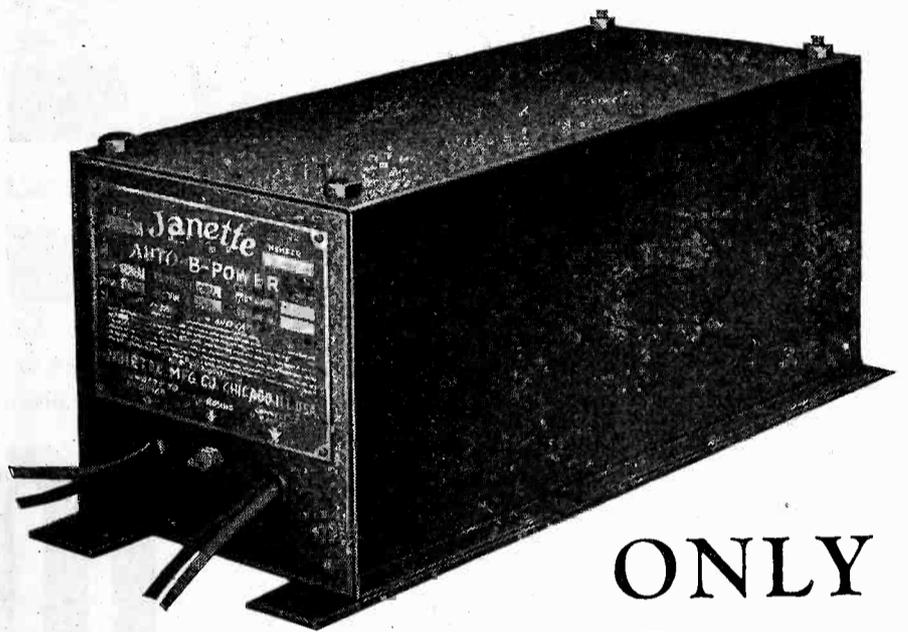
**Janette**

**AUTO-B-POWER**

**for Every Auto Radio Set!**

Now every owner can get better satisfaction out of his auto radio set.

Janette Auto-B-Power means finest reception—comparable with the reception right in your own home—always uniform. This improved reception comes through *constant* B power which this unit supplies, replacing the B battery whose power is ever-weakening from the minute it is installed.



**ONLY \$29.50**

**Janette Auto B Power**

The Janette Auto-B-Power is a compact, smooth-running unit driven right off the regular Auto Battery, transforming 6 volts D. C. to 180 volts D. C. with a remarkably low current consumption.

Stock up. Get in line for the assured demand for this new device. Push the Janette Auto-B-Power for new profits and more satisfied auto radio owners.

**NEW MILLIONS CAN BUY AC SETS**

Every farmer with a DC lighting plant can now enjoy the finest AC Radio Reception.

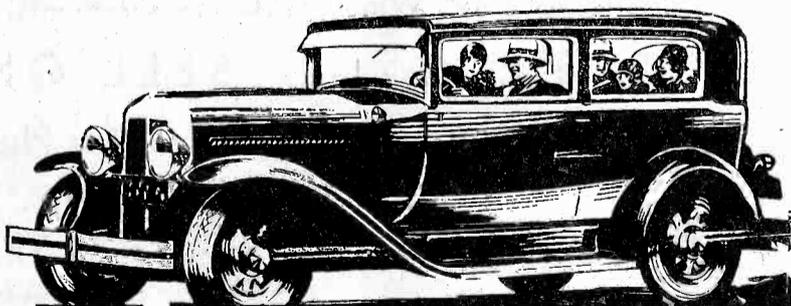
And the dealer makes a plus sale of a

**JANETTE Rotary Converter**

which changes DC to AC!

Low prices — quick sales — liberal dealer discounts.

Write for Bulletin 431-R



*Write or wire for liberal dealers' discounts and further description.*

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

**JANETTE MFG. CO.**

557 WEST MONROE ST., CHICAGO, ILL.

Singer Bldg., 149 Broadway, New York, N. Y.    Real Estate Trust Bldg., Philadelphia, Pa.  
HARRISON SALES CO.,    LOMBARD SMITH CO.,  
314 Ninth Ave. N., Seattle, Wash.    324 N. San Pedro Ave., Los Angeles, Calif.

Please send me full information and discount on your:

- JANETTE "Auto-B-Power"
- JANETTE DC-to-AC Converters

Name.....

Address.....

City and State.....

Tell them you saw it in RADIO

# Let's MAKE THIS A "PARAMOUNT" YEAR

New Low Prices Effective January 1st, 1932



PARAMOUNT  
"KEWPIE"

Retail Price  
\$29.95

Sold  
Direct to Dealers  
at a Net Price of

**\$10<sup>95</sup>**  
LESS  
TUBES

CASH WITH ORDER  
or \$12.95 Complete with  
Arcturus Tubes

## The Smallest Radio Made

Size 9<sup>3</sup>/<sub>8</sub>" High, 7<sup>1</sup>/<sub>2</sub>" Wide (inside measurements)

### 1932 FEATURES

- 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 1932. We use the new full range control.

### SELL ON SIGHT

- 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*

Tell them you saw it in RADIO

Hundreds  
of Letters  
Like This One  
... from all over  
the world ...  
are in our  
files



330 Aberdeen St.  
Rochester, N. Y.  
December 23, 1931.

Los Angeles Radio Mfg. Co.,  
3683 So. San Pedro Street,  
Los Angeles, California.

Gentlemen:—

You will hardly believe that the Paramount Pee Wee radio of your manufacture is capable of reaching out into distance and selecting stations giving loud speaker reception of a large super-heterodyne set. Yet I have logged the following stations with such volume that it was necessary to reduce the control. Here they are as recorded in one evening.

WDAF	Kansas City, Mo.	WGY	Schenectady
WTMJ	Milwaukee, Wis.	WBAL	Baltimore
WGN	Chicago	WJZ	New York
WMAQ	Chicago	WFIW	Hopkinsville, Ky.
WCCO	Minneapolis	XER	Del Rio, Tex.
WHAS	Louisville	CKOC	Hamilton, Canada
WABC	New York City	KDKA	Pittsburgh
WENR	Chicago	WBZ	Springfield, Mass.
KYW	Chicago	WHO	Des Moines
WTAM	Cleveland	WHEC	Rochester
KMOX	St. Louis	WHAM	Rochester
WOWO	Fort Wayne	WGR	Buffalo
WKBF	Indianapolis	WOR	Newark, N. J.
WSM	Nashville	WBEN	Buffalo
CKGW	Toronto	WPG	Atlantic City
WLW	Cincinnati	WJR	Detroit
WSB	Atlanta	WSYR	Syracuse
KFBI	Milford, Kan.	WFAA	Dallas
WGR	Buffalo	WHK	Cleveland
WEAF	New York	KSTP	St. Paul

For a set with only four tubes this certainly is remarkable, and I am just wondering how many more can be pulled in after a real try. It is a set for everybody and one for those who desire the added set for bed chamber.

Very truly yours,  
(Signed) W. C. JENSEN.

## We Also Manufacture the Following

- 11 tube superheterodyne chassis with 12-inch Utah dynamic speaker, and Arcturus tubes, \$31.50 net.
- 10 tube superheterodyne midget, \$69.50 list, less 40-10%.
- 9 tube all-wave superheterodyne midget, \$79.50 list.
- 7 tube superheterodyne midget, \$49.95 list.
- 5 tube midget, full visioned dial, net \$15.95 with tubes or \$14.95 in quantities of 12.
- AUTO RADIO—requires no batteries; works in home or auto; \$59.50 list.

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

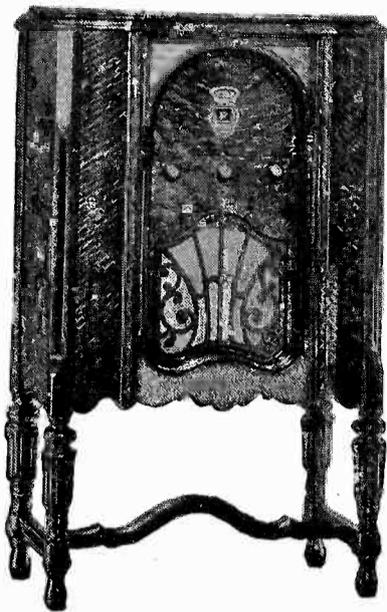
Member of  
Los Angeles  
Chamber of Commerce

**LOS ANGELES RADIO MFG. CO.**  
3681 So. San Pedro Street  
Los Angeles, Calif.

Manufacturers of  
Quality Radios  
Since 1925

Tell them you saw it in RADIO

# PERFORMANCE COUNTS!



**Sentinel No. 118 Ten-Tube Superheterodyne Console, with Automatic Volume Control and Tuning Meter**—The utmost in radio performance. Exclusive refinements in superheterodyne design as well as the most modern engineering developments. Tone control. Oversize electrodynamic speaker. Cabinet with matched burl walnut instrument panel, overlays of maple, and side pilasters of flaked oriental wood; measures 44½ in. high, 36 in. wide and 14½ in. deep.

LIST PRICE  
**9950**

Complete with Tubes



**Sentinel No. 114 Nine-Tube Superheterodyne Console, with Automatic Volume Control**—A superb combination of Sentinel performance and cabinet beauty. Tone control. Tapped-field electrodynamic speaker. Cabinet main panel of center-matched burl walnut with maple overlays, striped walnut sides; 41 in. high, 23 in. wide, 12½ in. deep. Complete with tubes

**7950**



**Sentinel No. 108B Seven-Tube Superheterodyne Lowboy**—Full-toned performance in a medium sized cabinet of the most modern design. Measures 38 in. high and 21 in. wide. Tone control. Dynamic speaker. List price, complete with tubes

**6450**



**Sentinel No. 108B Seven-Tube Superheterodyne Table Model**—Here is Sentinel 108B performance in an attractive table model made of striped walnut with maple overlays. Measures 17 in. high and 15 in. wide. Dynamic speaker, Tone control. List price, complete with tubes

**5250**



**Sentinel No. 116 Five-Tube Superheterodyne Table Model**—The most recent development. Establishes new standards of performance and value in small sets. Tone control. Dynamic speaker. Walnut cabinet, 16 in. high and 13 in. wide.

**3995**

Complete with Tubes

LICENSED BY R. C. A. AND ASSOCIATED COMPANIES

Sentinel performance is making substantial profits for distributors and dealers. Full discounts on all models. You can demonstrate and sell these models with absolute confidence. Furnished as complete sets, or chassis only. Wire or write for sample sets and for detailed information.

SENTINEL RADIO DIVISION

**UNITED AIR CLEANER CORP.**

9705 Cotrage Grove Ave., Chicago, Ill.

# Sentinel

SURPASSING RADIO PERFORMANCE

**STONE QUALITY-SELECTIVITY-SENSITIVITY-CONSTRUCTION**

**All Superheterodynes — The Very Latest in Radio Development. Equipped with Pentode and Variable - Mu Tubes.**

Tell them you saw it in RADIO

# ANNOUNCING

A PERSONAL COURSE OF INSTRUCTION IN

# TELEVISION ENGINEERING

By ARTHUR H. HALLORAN, Television Consultant

for radio men who want to be ready when  
**CATHODE RAY RECEIVERS**  
are commercialized. 1932's big promise.

**T**HE course consists of 30 lessons which explain mechanical and electrical scanning, synchronization, generation, transmission and reception of television signals. Each lesson is accompanied by problems to be answered by the student and corrected and graded by the instructor before the next lesson is mailed.

A working knowledge of the fundamental principles of radio and trigonometry is prerequisite to the course. Only a limited number of enrollments can be accepted, preference being given to those who give evidence of a serious interest in the subject. This course is conducted in co-operation with engi-

neers who have developed the cathode ray tube for television purposes. Its purpose is to prepare men for employment in this new industry wherein yesterday's science is today being engineered for tomorrow's sales.

The cost is moderate. A down payment of \$5.00 brings you the first lesson and four more thereafter as the problems are answered. Similar \$5.00 payments bring each succeeding set of 5 lessons, a total of \$30.00 for 30 lessons. Mail the attached enrollment blank with your initial \$5.00 payment. It marks a turning point in your career.

## ENROLLMENT BLANK

ARTHUR H. HALLORAN,  
430 Pacific Bldg., San Francisco, Calif.

Enclosed is \$5.00 for which enroll me as a student in your course on Television Engineering. I understand simple radio principles and trigonometry and expect to complete the course.

NAME..... STREET AND NO.....

CITY..... STATE.....

# "Sitting On Top Of The World"

**P**ERMANENT success in radio work—as in other things—comes from "making good"—not just "getting by". Making good means protecting your skill and experience with equipment second to none. Radio men who challenge 1932 with the newest SUPREME INSTRUMENTS are literally "sitting on top of the service world"—abreast—ahead—of radio's swift strides. No true service man can resist the combination of simplicity and versatility of the Supreme "master" instrument—the complete answer to every service riddle, namely

## SUPREME DIAGNOMETER

AAA 1

**5** ultra modern testing instruments **1** in 1 at the price of

SUPER DIAGNOMETER, plus SHIELDED OSCILLATOR, plus ADVANCED TUBE TESTER, plus OHM-MEGOHM-METER, plus CAPACITOR TESTER—5 essential instruments in one at the price of one.

## SUPREME TUBE TESTER

MODEL 40

A tube tester of improved design equal to instruments selling for double its modest price. Tests all tubes without adapters, including power and r.f. pentodes and provides for filament or heater potentials of 1.5, 2.0, 3.3, 5.0, 6.3, and 7.5 volts to any of the five sockets on the panel—a very flexible arrangement. A "grid shift" test of all amplifiers is provided with a biasing arrangement automatically determined by the plate current load of the tube under test, so that the controlling grid biasing potential may be observed on the meter. Incorporates a gas test for amplifiers, a cathodeheater short test for heater types, and tests both plates of full wave rectifiers. Everything that could be desired in a high class, efficient tube tester—and at a price that fits the pocketbook.

Dealers' Net Price **\$30.00** Portable **\$3.00** extra  
f.o.b. Greenwood, Miss. type

## Ask Your Jobber For Demonstration

All leading jobbers can demonstrate the economy and investment value of SUPREME TESTING INSTRUMENTS. If yours can't—

## Send This Coupon

SUPREME INSTRUMENTS CORPORATION  
427 Supreme Bldg., Greenwood, Miss.

Please send me full particulars on...  
 Supreme Diagonometer AAA1  
 Supreme Set Analyzer Model 90  
 Supreme Oscillator Model 70  
 Supreme Oscillator Model 60  
 Supreme Tube Tester Model 40

Name .....  
 Address .....  
 City ..... State.....  
 Jobber's Name .....  
 City ..... State.....



AAA 1

Dealers' Net Price  
f.o.b. Greenwood, Miss.

**\$147.50**

Smaller, lighter, handier case. A combined test panel and portable lab. Mounts on the wall as easily as removing the lid.

## SUPREME SET ANALYZER

MODEL 90

A new Model 90 Analyzer borrowing some of the tremendous features of the AAA1 DIAGNOMETER. Greater simplicity, greater range and speed. Analysis of screen grid and Variable-Mu circuits without oscillation, and complete analysis of r.f. and power pentode circuits. The only analyzer providing complete rectifier circuit analysis, including helium rectifiers, and providing direct readings of resistance values up to 500,000 ohms in two ranges utilizing the same 4.5 volt battery potential provided in the analyzer. There is no analyzer on the market today remotely approaching the servicing range and elasticity of the new Model 90.

Dealers' Net Price **\$78.50**  
f.o.b. Greenwood, Miss.

## SUPREME OSCILLATOR

MODEL 70

A thoroughly shielded, completely attenuated oscillator of the highest type. Combined oscillator—output meter—high resistance ohmmeter—can be obtained in a beautiful hardwood carrying case providing unequalled flexibility in service ranges. Send Coupon for details.

Dealers' Net Price f.o.b. Greenwood, Miss. Supreme Oscillator Model 70 **\$49.75**

Supreme Output-Ohmmeter **\$30.00**

Handsome carrying case of hardwood for combined Oscillator, Output-Ohmmeter and Accessories **\$5.00**

## SUPREME OSCILLATOR

MODEL 60

A new handy oscillator designed for use with any output meter such as provided in the Model 90 Analyzer. Each instrument individually calibrated covering all ranges from 90 to 1500 kilocycles. Completely shielded in cast aluminum tray with bakelite covered aluminum panel. 100% modulation—complete attenuation without leakage even with the most sensitive receivers. The biggest value in a really precision instrument ever offered.

Dealers' Net Price **\$30.00** Portable **\$3.00** extra  
f.o.b. Greenwood, Miss. type

*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

# One Customer Brings Another

TO DEALERS STOCKING

## The King of Radios

THE "MULTI-TONE"

# CROWN

CUSTOM BUILT



FOUR AND FIVE TUBE MODELS

### THE 5 TUBE CROWN

15" high—8" deep—14" wide.

BUILT TO RETAIL AT \$39.50

and is sold to Dealers at

**Unusually Large Discounts**

with or without tubes

Coast to Coast DX ability

Equipped

with

MAGNAVOX

Speakers

### THE 4 TUBE CROWN

11" high—7" deep—9" wide

BUILT TO RETAIL AT \$29.85

**\$13<sup>45</sup>**

Net to Dealers

With Triad or Perryman Tubes

**FULLY GUARANTEED**

### THE SAME CABINET DESIGN

is used in both of these popular models, one being eleven inches high and the other fifteen inches in height.

### BOTH ARE GENUINELY GOOD RADIOS

guaranteed to give perfect satisfaction and to be better than the best in their price class.

### LONG LIFE

with a minimum of upkeep is assured by the use of only the best of nationally known materials, an improved circuit and sturdy chassis assembly.

### HERE IS QUALITY MERCHANDISE

that you can sell to your customers with absolute assurance of sustained satisfaction.

## CUSTOM BUILT RADIO CO.

4955 Hollywood Blvd., Los Angeles

Tell them you saw it in RADIO

---

# The Reason for S-M Dealers' Prosperity

Silver-Marshall dealers are selling more receivers in 1931 than they were in 1929. Because—

Silver-Marshall superheterodynes are the only nationally known receivers being sold direct to dealers.

Silver-Marshall has an exclusive ten dollar system to cover trade-ins and time-payments, so that they do not come out of the dealer's pocket.

Silver-Marshall models are lower priced than any other quality set—yet the dealer can name his own profit.

Silver-Marshall makes no effort to overstock its dealers.

Silver-Marshall superheterodynes are sold to all the largest accounts in the country, yet the smallest dealer has the same merchandise to sell at the same price.

Half a million dollars has been spent in the last five months to advertise Silver-Marshall radios.

Silver-Marshall dealers are protected.

Write NOW for full information on the complete line.

6415 West 65th Street, Chicago  
Export: 41 Water Street, New York City

**SILVER-**

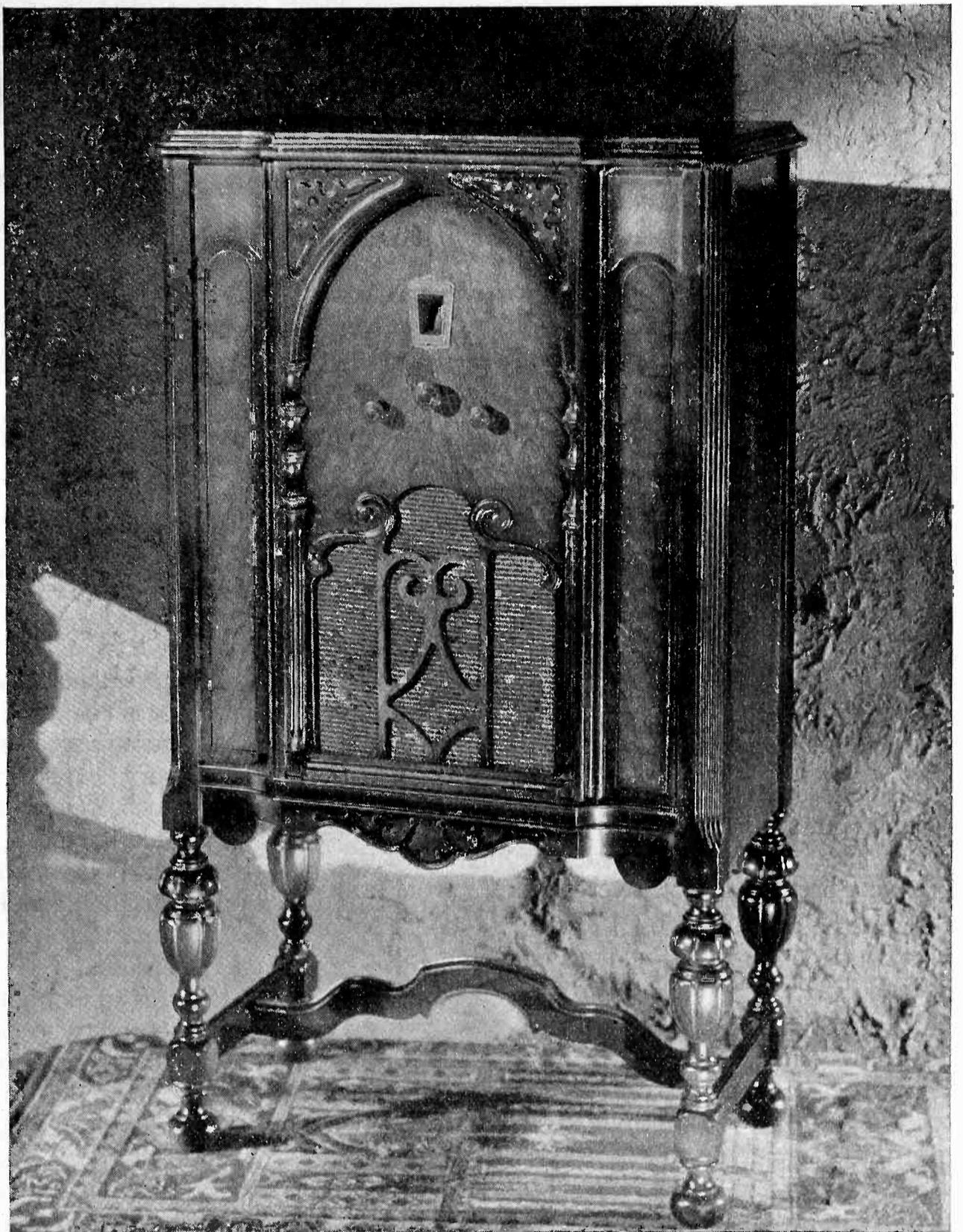
# 9

## TUBES

# \$69<sup>95</sup>

## COMPLETE

•  
BECAUSE  
IT IS SOLD  
DIRECT  
TO  
DEALERS  
•



9-TUBE CHASSIS that will not be outperformed (Model D-18).

2 PENTODE TUBES in push-pull.

3 VARIO-MU TUBES.

SUPERHETERODYNE circuit of the most modern type.

• TONE CONTROL, completely variable.

SELECTIVITY is absolute 10 kilocycle.

SENSITIVITY is from 1 to 2 microvolts per meter.

10½" DYNAMIC SPEAKER of special design.

Eveready Raytheon 4-pillar tubes.

42" CARVED WALNUT CONSOLE cabinet.

# MARSHALL

Canadian Division:  
75 Sherbourne St., Toronto

Tell them you saw it in RADIO

# Radiotorial Comment

By The Editor

## What Are We Waiting For?

BEFORE THE WORLD went broke we sold radio sets and radio accessories — nothing else but.

It was a thrill to be in the radio business. We'd go to work in the morn with a broad grin on the face. As evening approached the grin grew more pronounced. Happy days. Let's pause and cry together for a moment.

Now let's bury the past, especially the year 1931, which would have been a lot worse if many a dealer didn't have all that distress merchandise to sell at a price. Let's not think of 1931 again.

We are now facing 1932. A television year, whether you want to believe it or not. We believe it.

Some manufacturers are STILL in business, others very still. But any dealer who pulls through 1932 . . . and any manufacturer who pulls through 1932 . . . will have a better bankroll twelve months from now.

Stay in the radio business. Keep your doors open wide. Blow out the 1931 glooms and plug for a reward in 1932.

If you quit the radio selling game now, you may wake up some morning in 1932 and read about something that has happened overnight. There will be surprises in 1932. Sell anything, in addition to radio, anything to enable you to stay in business profitably. When we write our 1933 NEW YEAR RADIOTORIAL we will refer back to this issue of "RADIO."



## They Did It!

THEY took on a line of \$24.85 midgets called the "Aetna" and they sold them for cash, with NO SERVICE.

Regardless of whether you are in sympathy with the Wahlgreen chain competition in radio sets you must admit that they know a lot about retailing. They seem to understand that service can't be sold with a \$24.85 set.

If anything goes wrong with the set the customer brings it back to the store. No, the "Wahlgreen man" doesn't call for the set. The customer brings it back.

In spite of the calamity howling which came with the Wahlgreen announcement, two things are certain. One is that it doesn't do any good to protest. The other is that the Wahlgreen no-service policy furnishes a beautiful alibi for a service charge on cheap sets, and maybe more profit than comes from the initial sale. Think it over

## This Man Has Courage

HATS OFF to R. A. O'Connor, President of Magnavox! He answers the prayer of the price-cutter with a curt defy in the form of an *increase* in price of Magnavox dynamic speakers. All those midget set manufacturers who have wailed about their thirty-five-cents-net per peanut set, will either have to raise their list prices or, as they have done for a year, sell their sets at a loss. They always did maintain that they were operating at a loss. Now we can believe it, if prices are not raised.

The price boost amounts to only five per cent. That doesn't sound like much on paper, considering how cheaply a midget dynamic can be purchased from the factory. Nevertheless, five per cent IS five per cent, which, in midget terms, means lots of money.

Wouldn't it be a gentlemanly move for a few of the other parts manufacturers, such as those who build variable condensers, transformers and other essential parts, to also tack an "Up five per cent" sign on their doors?

Perhaps O'Connor of Magnavox is the one parts manufacturer who can look beyond the point of his nose. He's a two-fisted fighting Irishman whose success is one of the bright spots in the radio industry. He took hold of Magnavox when it was down deep in the dumps . . . after all of the velvet had been pocketed by those who came before him and at a time when it was a matter of life and death for the future of the company. He moved the factory from California to Fort Wayne where he put the dynamic speaker business on a production-line basis and cut his prices every time the other fellow made a cut. Now he's getting tired of that kind of monkey business, and, by his announced five per cent increase in price of his speakers, he has taken the whip-hand and deserves the admiration and respect of the entire industry. It takes courage to do things like this in times like this. Remember we told you a few months ago that some speaker manufacturers were working on such a ridiculously small margin that they even asked that the cartons in which the speakers were packed be returned to the factory, for therein was represented the *profit* on speaker manufacturing. That's not business. How can progress be made with such things to contend with? If you want a cold-blooded realization of what price did to the speaker business, go down into your graveyard and dig up a dynamic speaker of five years ago and hook it to a present-day radio set. Then listen.

# Number of Homes with Radio in the United States, as of January 1, 1932

Based on (1) U. S. Census taken in April, 1930.  
(2) Set sales for the remainder of 1930.

The following figures represent the total number of sets in use, plus estimated December sales of 225,000, after deducting replacements. It is worth noting that the 1931 figures for homes with radio were obtained by counting only 50% of the sets sold during the year. In other words, 50% of the sets were deducted as "replacements." If the replacement figure of 17% obtained from the Bureau of Census quarterly surveys of radio dealers were used instead, the total number of homes with radio as of January 1, 1932 would be 16,934,328. This falls approximately 400,000 short of a recent estimate of 17,313,000 sets in use issued before the census figures from Pennsylvania were released. This differential is due to the fact that the state of Pennsylvania was approximately 400,000 below the government estimate.

## New England

Main .....	103,153
New Hampshire .....	70,411
Vermont .....	52,888
Massachusetts .....	783,130
Rhode Island .....	125,594
Connecticut .....	283,571

## Middle Atlantic

New York .....	2,427,098
New Jersey .....	829,839
Pennsylvania .....	1,428,795

## South Atlantic

Delaware .....	36,023
Maryland .....	219,715
District of Columbia .....	90,150
Virginia .....	128,169
West Virginia .....	116,044
North Carolina .....	95,979
South Carolina .....	37,107
Georgia .....	86,033
Florida .....	77,571

## East North Central

Ohio .....	1,075,842
Indiana .....	466,365
Illinois .....	1,427,159
Michigan .....	795,146
Wisconsin .....	483,375

## West North Central

Minnesota .....	381,880
Iowa .....	410,677
Missouri .....	467,377

## West North Central (Continued)

North Dakota .....	78,777
South Dakota .....	94,711
Nebraska .....	218,074
Kansas .....	251,629

## East South Central

Kentucky .....	147,877
Tennessee .....	114,404
Alabama .....	75,026
Mississippi .....	33,785

## West South Central

Arkansas .....	53,323
Louisiana .....	71,814
Oklahoma .....	161,773
Texas .....	341,811

## Mountain

Montana .....	58,249
Idaho .....	43,694
Wyoming .....	25,952
Colorado .....	134,476
New Mexico .....	15,154
Arizona .....	25,695
Utah .....	63,349
Nevada .....	10,534

## Pacific

Washington .....	239,104
Oregon .....	154,449
California .....	1,113,871

## TOTAL FOR THE U. S.

as of January 1, 1932..... 16,026,620

COMPILED BY  
THE COLUMBIA BROADCASTING SYSTEM, Inc.



# The Trend of The Radio Times

**Television transmitted on a beam** of light, utilizing a wave length of only billionths of a meter, has been successfully demonstrated at Schnectady by Dr. E. F. W. Alexanderson in the radio consulting laboratory of the General Electric Company. This use of light waves, Dr. Alexanderson believes, opens the way to a new and valuable era in the art of broadcasting and promises to result in more distinct television pictures.

• •

**The Crosley Radio Corporation** announces the "Autostok," an efficient electrically operated, thermostatically controlled, automatic stoker for steam, hot water and warm air furnaces. It has a capacity of 200 pounds of hard coal or 140 pounds of coke in one filling. The list price is \$175, installed.

• •

**Separate divisions of the Grigsby-Grunow Company** will hereafter manufacture and sell Majestic electric refrigerators and radios. Formerly the same sales staff supervised both products. A distinct group of executives will be assigned to the refrigerator division, under the direction of John F. Ditzell, who has been appointed refrigerator sales manager. The 1932 Majestic plans call for a 100 per greater production of refrigerators. Up to August 31, 1931, Majestic made an operating profit of \$4,637.

• •

**The General Motors Radio Corporation** held its second annual convention of the field organization in Dayton, Ohio, on December 14, 15 and 16. Complete plans for 1932 were presented by factory executives during this three-day meeting. These sales plans include an aggressive campaign to expand the present dealer organization—more dealers on the household receivers and a selective dealer group on the new General Motors Car Radio announced at this meeting. One entire day was devoted to the new car radio, which goes into production in January. It is an eight-tube super-hetrodyne with real automatic volume control. The new line of standard and custom-

built household models to be presented at the trade show in Chicago in May was discussed in detail. Mr. Charles T. Lawson, general sales manager, acted as chairman, each department head in the central office and factory appeared on the program. Nineteen thirty-one was unsatisfactory from many standpoints, but Mr. Lawson expressed himself as feeling optimistic for 1932, for with the addition of the car radio to the General Motors radio line of household receivers, an enlarged dealer organization, a more thorough understanding of the business by both factory and field organization, a real opportunity is ahead if every man picks up his load and does a good job.

• •

**POSITION of the radio industry** to the proposal in Congress of a sales tax of 5 per cent on radios, phonographs and accessories was announced by the Receiving Set Committee of the Radio Manufacturers Association.

"The radio industry recognizes the revenue necessities of the government and also the difficulties of equitable taxation," said the statement of the Radio Manufacturers Association.

"The radio industry always has placed its facilities freely at the disposal of federal, state and local governments, their officials and representatives for free public service. It has borne and will cheerfully bear its fair share of taxation.

"The radio industry will, however, unitedly oppose the proposed discriminatory sales tax of 5 per cent as an unfair, oppressive burden on the radio industry and public. The industry objects to being singled out, together with a few other industries, for special and discriminatory taxation.

"The radio industry would favor a general sales tax of a small fraction of a per cent on all manufactured products, but vigorously objects to and will oppose special sales tax of 5 per cent on radio.

"A general small sales tax on all manufactures would produce much greater revenue than the proposed 5 per cent sales tax on radio and a few other selected items. This year's federal deficit

is estimated at \$2,123,000,000. With our knowledge of the industry, under the greatly reduced radio sales in 1931 the government's return from the proposed special sales tax on radio would probably be not more than one-third of 1 per cent of the federal deficit.

"The radio industry is in no condition to bear increased tax burdens and which are special and not general. A tax of this sort, therefore, becomes one which will be borne directly by the buying public as it cannot be absorbed by the industry.

"Radio cannot be fairly classified as a luxury, semi-luxury or non-essential. It is a great agency of communication, religion, education and daily individual and national development as well as entertainment. It's hourly service covers all fields of information, education and progress. During the present depression it furnishes low cost entertainment to the entire family, education in the home as well as the school, and religious aid to those in despair. To the farmer, harassed enough without special taxes, radio is his reliance for market, weather and other information. Like the daily newspaper radio is a daily means of communication and civic progress. It's cost has been brought so low that its use is universal and we oppose a special tax on this great service to the millions of the radio public.

"The radio industry, represented by the Radio Manufacturers Association, with the support of the Radio Wholesalers Association, the National Federation of Radio Associations, including dealers and jobbers, and the National Association of Broadcasters, feels confident that its reasons for objecting to the unfair and discriminatory sales tax proposal will appeal to the fairness and sound judgment of Congress, the radio industry and the public. We desire to be fair to the government and will ask that the government be fair to radio."

• •

**Despite unfavorable business conditions**, the radio industry went through 1932 without a major failure or considerable inventories, according to reports received at the final 1932 meetings of the RMA Credit Committees.

# Philco's Request for Television License Is Approved By Commissioner

● Application Also Discloses Favorable Financial Condition of Philco

## High-Lights of the Philco Application for a Permit to Broadcast Cathode Ray Television pictures.

**E**LMER W. PRATT, Examiner for the Federal Radio Commission, recommends that Philco's application for a permit to construct and operate an experimental visual broadcasting station be granted. In accordance with the usual precedent, the Commission will issue the permit shortly, if not done so by the time this item is published. The requested allocations cover a band between 105 and 109 meters and three bands in the 5-7 meter range one 3000 Kc. wide and one 20,000 Kc. wide, all with a maximum power of 1500 watts. In addition, special experiments in narrow band transmission and reception of signals are to be made on 34 and 11½ meters.

The 500 line pictures which the applicant's equipment can transmit and receive, normally requires a 2500 Kc. band, though the applicant has good reason to believe that Farnsworth's method of narrow-band transmission will materially reduce the width of band required. Heretofore this equipment has been applied to television transmission over wires. These new allocations will be utilized to determine how successfully such pictures can be transmitted via radio. Both the transmitter and receiver utilize cathode ray tubes, instead of a scanning disc or other mechanical means for sub-dividing and assembling the image.

## Federal Radio Commission Washington, D. C. Examiner's Report No. 303

*In Re Application of Philadelphia Storage Battery Company, Philadelphia, Pennsylvania For Experimental Visual Broadcasting Construction Permit.* } Docket No. 1384

*Requested Assignment:*  
*Frequency—2750-2850, 43000-46000, 48500-50300, 60000-80000 kc.*  
*Power—Maximum of 1500 watts.*

*In Re Application of Philadelphia Storage Battery Company, Philadelphia, Pennsylvania For General Experimental Construction Permit* } Docket No. 1386

*Requested Assignment:*  
*Frequency—8650, 17300 kc.*  
*Power—1500 watts*

### Report of Elmer W. Pratt, Examiner

The above-entitled cases came on for hearing November 2, 1931.

Thomas Hart and C. J. Hepburn appeared for the applicant.

Frank W. Wozencraft appeared for RCA Victor Company, Inc., a respondent.

Philip J. Hennessey appeared for the National Broadcasting Company, Inc., a respondent.

Harry C. Butcher appeared for the Atlantic Broadcasting Company, a respondent.

George B. Porter appeared for the Commission.

The applications in these cases are for construction permits to erect new experimental transmitters at Philadelphia, Pennsylvania.

The application in Docket No. 1384 is for a construction permit to erect a new experimental television station to be operated in the frequency bands 2750-2850, 43000-46000, 48500-50300 and 60000-80000 kilocycles with a maximum power of 1500 watts.

The application in Docket No. 1386 is for a construction permit to erect a transmitter for general experimentation on the frequencies 8650 and 17300 kilocycles with a power of 1500 watts.

### Statement of Facts

The applicant company, manufacturer of radio receiving apparatus, has been engaged since 1928 in television research. In March, 1931, the applicant made an arrangement with Television Laboratories, Ltd., of San Francisco, whereby the latter's laboratories and the principal part of its technical staff were in July, 1931, removed to the applicant's laboratories at its plant in Philadelphia.

The applicant has an authorized capital stock of \$5,000,000, of which \$4,906,200 is issued and outstanding—all very closely held among about fifty stockholders who are practically all employees of the corporation and all citizens of the United States with perhaps the exception of one or two whose holdings are very small. The corporation has no intention of going into a stock-selling campaign or of issuing stock in connection with its future work. The applicant's surplus, as of March 31, 1931, was \$7,751,327.54, making its capital and surplus as of that date \$12,657,527.54. On that date its current assets were \$11,909,155.83, of which \$4,947,433.82 was cash, and its current liabilities were \$1,697,157.97. It has, at present, facilities for a maximum production of 12,000 radio receivers per day and during the current season has been producing 30,000 to 40,000 receivers per week. The sum of \$250,000 was appropriated for television research for the fiscal year ending March 31, 1932. Of this amount \$133,000 had been expended up to September 26, 1931. The applicant will finance its future experimental work entirely from its own resources and will itself provide and build the necessary equipment for future experimentation.

The applicant has research laboratories covering 21,500 feet of floor space, equipped with every modern facility which might be helpful in the furtherance of radio development work. About 110

men, many of whom are trained radio engineers, are employed in these laboratories.

A special well-equipped television research laboratory is maintained under the immediate direction of Philo T. Farnsworth, a competent and well known inventor and radio engineer. A thoroughly trained technical staff of 14 men is engaged in work in this laboratory and the entire research facilities of the applicant company are available to these men if and when needed.

Work in this laboratory has progressed to a point where it is possible to produce a brilliant picture about 4 inches square on the end of a cathode ray tube with fair detail and with a different kind of cathode ray tube to project an image on a screen with sufficient illumination to produce a practical image of about a foot square. The applicant has developed apparatus capable of transmitting images with 100 to 500 lines. It has also developed amplifiers capable of passing bands of 1000 kilocycles with good fidelity as regards overloading, noises, etc., and has been successful in producing apparatus capable of satisfactorily utilizing a somewhat narrower band than that at present required for television. The transmitting and receiving equipment which applicant is engaged in developing has no mechanical or moving parts of any kind, the only method of scanning employed being electrical.

The progress of the applicant's experimental work has reached a point where further development is dependent in large measure upon a study of actual transmission and reception conditions on radio waves in order not only that the laboratory results which heretofore have been produced over wires may be checked but that studies may be made of such problems as the distribution of service, the suitability of frequencies, the width of frequency band necessary for satisfactory transmission, interference, antenna design, efficiency in transmitting, etc. Much of the development work in television is bound up with problems of transmission and reception. The applicant now plans to explore this field with experiments based upon data already obtained from the research work heretofore carried on in the laboratory.

The applicant plans to use the frequency band 2750-2850 kilocycles for experiments with pictures of a low number of lines in further research based on data already obtained indicating that detail does not increase in proportion to the number of lines transmitted. For this and other purposes this particular frequency band is desired.

An important field of investigation is the 43000-46000 kilocycle band. According to Mr. Farnsworth, who testified as a witness, this is on the border line "between the point where we can work and the point where we cannot work." This

band is peculiar with regard to frequency propagation characteristics and, according to T. A. M. Craven who also testified, information concerning the propagation qualities of television transmission on these frequencies is highly important. Experiments in this band will have a relation to interference and distribution of service.

As to the band of 60000-80000 kilocycles, it is desired to experiment with synchronization of sound and picture in an effort to promote a more economical use of frequencies.

With reference to the application in Docket No. 1386, the applicant intends to use 8,650 and 17,300 kilocycles for experiments directed to the narrowing of the transmission band. In this connection the applicant is developing a "transient generator". It is planned to use these frequencies for transmission of "transient impulse" which will not be a television signal but will have a direct relation to visual broadcasting in a general way. Experiments in these bands are necessary to gain essential information relative to transient modulations.

All of the frequencies specified in both applications are reserved for the services for which they are requested. Although there is a possibility of interference in case of simultaneous operation in the band 2750-2850 kilocycles between the proposed television transmitter of the applicant and a station of the Atlantic Broadcasting Corporation at New York City, tentative arrangements have been made with the Atlantic Broadcasting Corporation for time division on that channel should the interference be objectionable.

Station W3XAD of the RCA Victor Company is licensed for visual broadcasting experimentation in the bands 43,000-46,000, 48,500-50,300, and 60,000-80,000 kilocycles. RCA Victor Company is actively engaged in television experimentation through this station on regular schedule, five days each week from 8:00 A.M. to 5:30 P.M. and three nights each week, three hours a night. The plant and laboratories of RCA Victor Company are located at Camden, New Jersey, and the distance between the RCA Victor experimental station and the proposed location of the applicant's experimental television station is 3.7 miles. Serious interference would result from the simultaneous operation, on the same frequencies, of the two stations so located. No arrangement has been made for a division of time in the use of these frequencies as between the applicant and RCA Victor Company.

RCA Victor Company is regularly carrying on experimental transmission in the bands 43,000-46,000 and 60,000-64,000 kilocycles. A band of such width is used in transmission by the RCA Victor Company that other simultaneous transmission at a distance of 3.7 miles in

these bands will necessarily result in interference.

RCA Victor Company, a wholly owned subsidiary of the Radio Corporation of America, is spending, during the current fiscal year, the sum of \$300,000 in television experimentation. Over \$1,500,000 has been spent in such work by this company and, before its organization, by the Radio Corporation of America, and by the General Electric Company and the Westinghouse Electric & Manufacturing Company on behalf of the Radio Corporation of America. Although it was contended on behalf of the RCA Victor Company that reduction of the time regularly employed by station W3XAD would measurably decrease the usefulness of its expensive equipment and the large staff of its television experimental laboratories and would retard the work being done by this company in the development of television, it appears that the license issued to the RCA Victor Company for the operation of station W3XAD contains a condition requiring time division with similarly licensed stations if interference is caused by simultaneous operation.

Transmission by the applicant, within the bands 43,000-46,000 and 60,000-64,000 kilocycles at hours different from the regularly established hours of usage of these bands for transmission by RCA Victor Company would not cause objectionable interference and the use by the applicant of the bands 48,500-50,300 and 64,000-80,000 kilocycles for transmission would not interfere with any regularly established transmission periods of RCA Victor Company.

RCA Victor Company is using expensive equipment, both for transmission and for reception, which has been constructed for these particular bands, and which it would be expensive to shift to another band. The choice of the frequencies upon which RCA Victor is transmitting experimentally was not the result of any particular qualities or advantages of the bands selected. The evidence showed that there is practically no advantage throughout the band 40,000-80,000 kilocycles except that the attenuation of the waves is slightly more at the 80,000-kilocycle end of the band than at the other end.

One of the most important problems requiring solution in the television field has to do with interference and the evidence indicates that should the RCA Victor Company's station and the applicant's proposed station operate simultaneously for experimental purposes much could be learned with reference to the interference problem, and in this connection much data could be gathered which would promote the economical use of frequencies, efficiency of transmission, and methods of minimizing interference.

A study of the ratio of field strengths which must be maintained between de-

sired and undesired signals in order to avoid objectionable interference could and should be made. Problems of selectivity and sensitivity of receivers could be studied under interference conditions as well as problems of wave propagation characteristics, of various vision modulated radio frequencies with respect to serviceable signals in the presence of interference, etc.

It appears that the applicant has no intention of engaging in commercial operation of a visual broadcasting station or, through such a station, of promoting the sale of television receivers. No commercial announcements of any kind will be made by means of facilities which may be granted pursuant to these applications, and television receivers will be manufactured and placed on the market by the applicant only if and when television becomes a practical success.

#### Conclusions

It is concluded:

1. The applicant is competent, properly organized and financially able to undertake research in experimental visual

broadcasting and in general experimental matters.

2. The applicant is engaged in bona fide research in the field of visual broadcasting and has contributed substantially to the developments in the art of television.

3. The granting of these applications would enable the applicant to continue and extend television research activities which would probably result in further substantial contributions to the development of the visual broadcasting art.

4. The granting of these applications would probably require a time division arrangement between the applicant and the RCA Victor Company at Camden, New Jersey, and the Atlantic Broadcasting Corporation in New York City.

5. A time-sharing arrangement is compulsory under the rules, regulations and practice of the Federal Radio Commission with respect to all types of experimental licenses in cases of interference caused by simultaneous operation. These time-sharing arrangements are entered into by direct negotiation between licensees when interference results.

6. The financial and technical responsibility, the past accomplishments, and the proposed program of research and experimentation of the applicant give assurance of such substantial contributions to the development of the visual broadcasting art as would warrant a reduction in time used by other experimenters.

7. Cooperation between experimental licensees in the observation of interference and the solution of problems relating thereto would probably result in valuable contributions to the development of the television art. The opportunity for such cooperation is here presented.

8. The granting of the applicant's applications for construction permits will serve public interest, convenience and necessity.

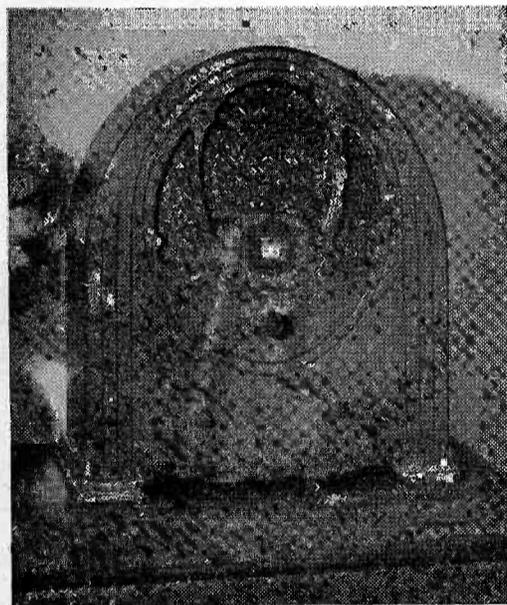
#### Recommendation

It is accordingly recommended that said application be granted and that construction permits be issued to said applicant in accordance therewith, subject to the usual conditions contained in experimental licenses.

(Signed) ELMER W. PRATT,  
Examiner.

Submitted December 5, 1931.

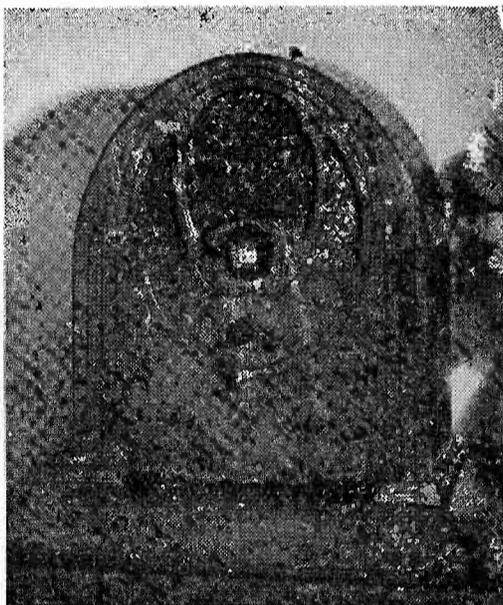
## Some of the New Philco Models



**Baby Grand**  
Model 50

5-Tube T. R. F. . . . Balanced Unit Screen Grid Power . . . Pentode Power Tube . . . Electro-dynamic Speaker . . . Genuine Mahogany Cabinet . . . Complete with Philco Balanced Tubes.

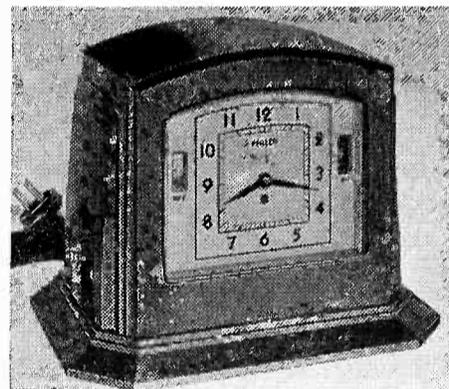
List Price . . . . . \$36.50



**Baby Grand**  
Model 51

5-Tube Superheterodyne . . . Balanced Unit . . . Screen Grid Power . . . Pentode Power Tube . . . Electro-dynamic Speaker . . . Genuine Mahogany Cabinet . . . Philco Balanced Tubes.

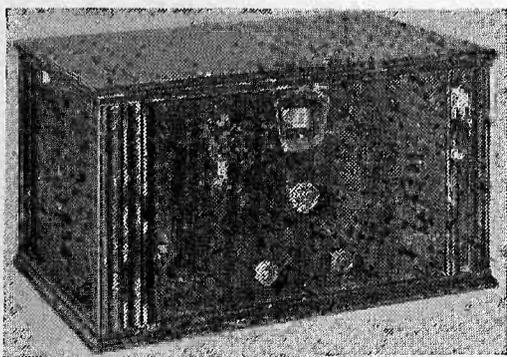
List Price . . . . . \$39.50



**PHILCO**  
**All-Electric Clock**  
**and**  
**Radio Regulator**

A fine electric clock for mantel, bookcase, table or radio set. Accurate synchronous motor movement, a perfect timepiece. Has attachments for automatically turning radio on or off at any time, day or night. In fine, hand-rubbed Mahogany case.

Price . . . . . \$39.50



**Philco Short Wave**  
**Converter**  
Model No. 4

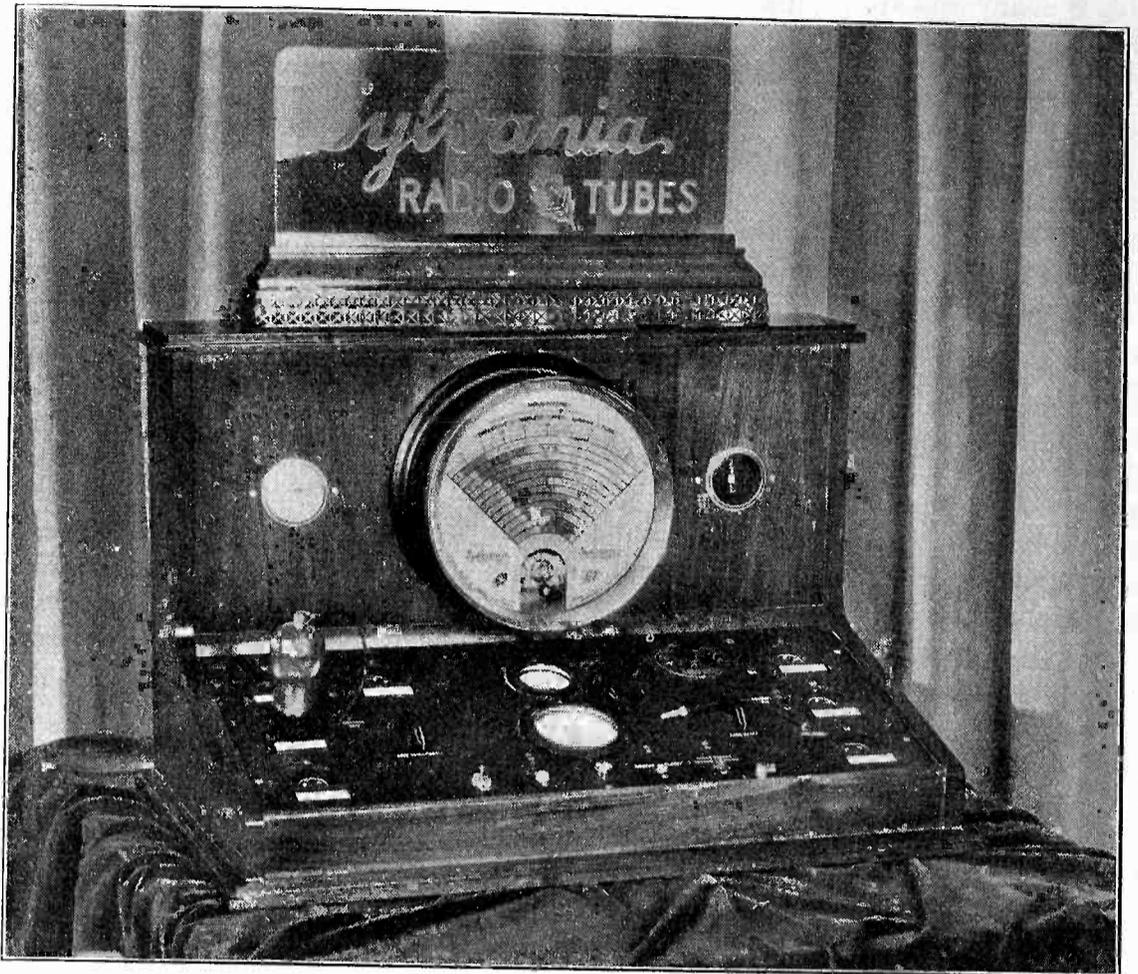
To meet the large and growing demand for a Converter that may pick up Europe, South America, airplane, police, amateur and all short wave messages. Attaches to any standard broadcast receiver in less than a minute. Complete with its own power supply. Operates with a single illuminated dial. Genuine Mahogany Cabinet, hand-rubbed.

# Sylvania Display Merchandiser Going Big!

THE PACIFIC COAST REPRESENTATIVE for the Hygrade Sylvania Corporation of Emporium, Pennsylvania, the genial Bill Cooke, is an extremely busy man these days explaining why shipments of the New Sylvania Display Merchandiser should be delayed. The answer, of course, is the unusually enthusiastic acceptance of this "dealer help" by the trade, according to Gene Burns, Assistant General Sales Manager for "Sylvania", who adds "we make it possible for the dealer to acquire this instrument without 'actual' cost and 'something for nothing' is usually appealing. The jobber-dealer response to this plan is far beyond expectations—our delivery demands on our suppliers are tying them up and yet demand very much exceeds supply."

The Sylvania Display Analyzer has been designed to meet the needs of radio dealers and jobbers who recognize the importance of putting radio tubes and tube-testing in the foreground as all-the-year-round profit builders. Many practical suggestions from dealers and jobbers have been incorporated in the design, and the tube tester has been mechanically improved and simplified to provide accuracy and ease of operation for the dealer and an easily understood reading of the test by the customer.

The display cabinet is built of solid walnut, finished and decorated to harmonize with the radio cabinets with which



it will be displayed. The display section of the cabinet is of patented show-case construction. The mirrored background, distinctive three-sided crystal glass panel front and illumination make it an immediate focus for the attention of customers. The design provides maximum display surface and uninterrupted vision from every angle, it is said. The combination is pictured herewith.

The lower rear compartment, hidden from view behind the mirrored doors of the display section, is fitted with special shelves where a complete stock of tubes may be stored behind locked doors. A single electrical connection from the lower back leads to the power supply.

The tube analyzer is enclosed in a beautifully finished walnut cabinet, with chromium-plated fittings, matching the display cabinet. When in position on the top this very handsome unit is calculated to impress customers with the fact that good tubes are as important as a good radio receiver.

The Sylvania Tube Analyzer is constructed to permit complete and accurate reading of all types of tubes used in standard radio receivers. All readings appear on a single colored dial, marked so that the average customer will get a clear picture of the condition of each tube.

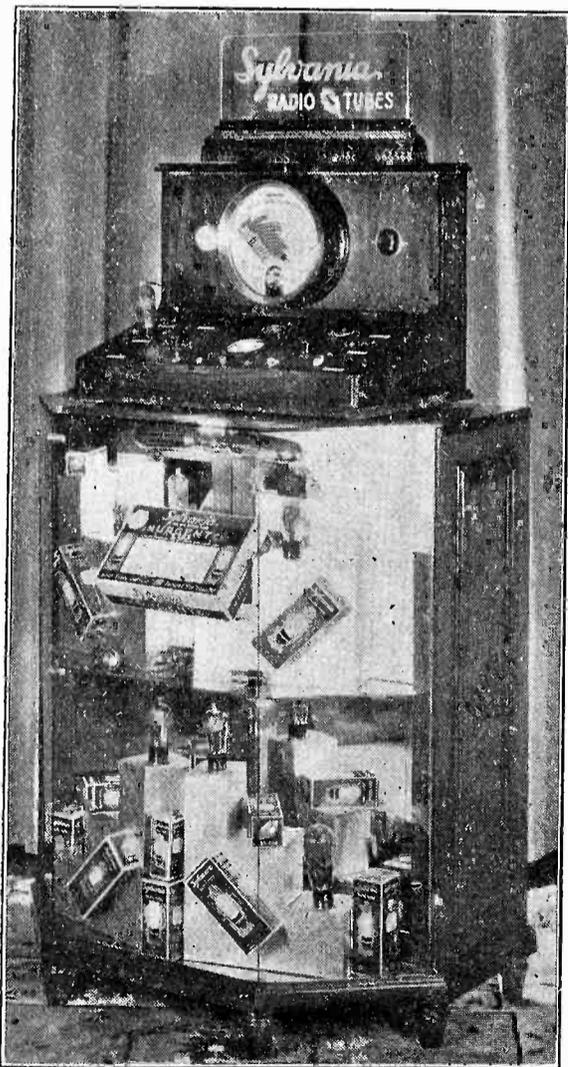
This instrument embodies the most modern scientific principles of tube-testing equipment. Among its advantages from the point of view of the dealer are the following:

Short circuits are shown by direct meter reading; provision is made for testing new types of tubes; tests rectifier

tubes; has preheating sockets for quickly testing slow-heater types of tubes; provides a special dial reading for tubes of doubtful value, giving the dealer an argument for the immediate sale of emergency replacement tubes, which he carries in a convenient form—The Sylvania Emergency Kit.

So immediate was the acceptance of this improved tube merchandiser following the first announcement made by Mr. McCarthy, General Sales Manager for Hygrade Sylvania Corporation, to the trade, that he has had temporary difficulty in keeping pace with the demand, he said today. The fact that the cabinet was specially designed, and that absolute accuracy is required in the mechanical construction of the analyzer prevented the filling of early rush orders.

"This temporary difficulty was then overcome," says Mr. McCarthy, "and a sufficient stock was constructed to permit immediate shipment of all anticipated orders up to January 1st. The demand, however, has been so great that despite the large commitments, our stock was again depleted last week, and another substantial stock immediately ordered. It now happens that concurrent commitments have been placed to make absolutely certain that orders will be filled within a day or two of their receipt at Emporium. It looks very much as if we have been fortunate in offering the dealer exactly the kind of "Analyzer Deal" for which he has been waiting. This, in brief, probably accounts for this entirely unanticipated 'rush' the end of which most certainly is not yet in sight."



Attractive Dealer Display showing Sylvania "Merchandiser"

# News of the Month

## Magnavox Price Move Seen as Favorable Trade Sign

**A**N INDICATION that the radio industry may be starting to come out on the other side of the "depression price" woods is seen in the announcement made December 1 by Magnavox Company, Ltd., Chicago, of a 5 per cent price advance on its dynamic speakers.

Commenting on this move, R. A. O'Connor, Magnavox president, states: "The step is dictated by sound economic policy—and it is time, I believe, that such a policy should prevail in the radio industry. All manufacturers supplying the radio industry are noticing an upward tendency affecting their raw materials, and this tendency should be promptly reflected in the manufacturer's selling price. This is important not merely because it is industry's duty at this time to sell only at a profit, however small, but also because every justified price advance will help restore a normal buying psychology. When the public senses that prices, instead of going lower, have started to move up, it buys. It's the same in radio as on the stock exchange—people wait for a rising market.

"The Magnavox Company has been steadily improving the tone quality of its speakers. Better broadcasting and better programs mean that radio sets must provide better reception in order to keep pace. This is especially true of the "replacement market," catering to the millions of present owners who will demand improved tone quality before they discard their old sets and purchase new ones. Sooner than some of us realize, replacement sales will become our biggest market, just as they have in the automobile industry. This tendency means that the radio manufacturer who concentrates too much on price and neglects performance will find increasing difficulty in selling to present owners of radio sets."

Magnavox's reputation for tone quality has been advanced by the recent 40 Series Symphonic Speaker, which reproduces the full range of voice and music, from low G to high C. The latest Magnavox model 150, a dynamic speaker with 5½-inch cone, is a successful demonstration, according to Magnavox engineers, that tone quality need not be sacrificed in midget sets.

## Arcturus Reduces List Price on Type 122 D. C. Screen Grid Tube

Effective December 14 the Arcturus Radio Tube Company, Newark, N. J., announces that it has reduced the list price of the Type 122 D. C. Screen Grid Tube to \$3.00.



J. M. SPANGLER

**N**ATIONAL CARBON COMPANY, INC., has announced the appointment of J. M. Spangler as manager of its Eveready Raytheon Tube Division, succeeding Fred D. Williams, who recently resigned to become an officer of P. R. Mallory & Co., New York City. Mr. Spangler's appointment follows sixteen years connection with the company, during which time he has held many important positions.

Prior to taking over his new duties in the Tube Division he was manager of the Eastern Division of his company, a position he has held several years. His services with National Carbon Company began in 1915 as railroad sales engineer. In 1918 he organized the railroad department in which he served as manager until 1923, when he was appointed manager of the company's Central Division. He held this position until 1930, at which time he was made manager of the Eastern Division. Mr. Spangler is a graduate of the electrical engineering department of Pennsylvania State College, class of 1911.

## Sparton Gives Chicago Territory to One Exclusive Jobber

The Sparks-Withington Company, Jackson, Michigan, announces the appointment of Young, Lorish and Richardson, Inc., 710 West Jackson Boulevard, Chicago, as exclusive distributors for Sparton Radio in the Chicago territory.

Commenting upon the appointment, E. T. H. Hutchinson, sales manager of the Sparks-Withington Company said, "Young, Lorish and Richardson have been one of two Sparton distributors in the Chicago area and they are now taking over the entire territory, effective at once.

"Their long association with us, together with their remarkably successful record, qualifies them to assume the added responsibility, which has been given them."

Young, Lorish & Richardson, Inc., will have all Sparton authorized dealers in the Chicago territory associated with them in the sale of Sparton Radio for home, automobile and police use.

## Ohmite Offers Free Charts

Mr. D. T. Siegel, general manager of the Ohmite Manufacturing Company, 636 North Albany Avenue, Chicago, announces that this company has developed a new simple Color-code Chart for use with R. M. A. coded resistors.

This chart, which may be carried in the pocket or hung upon the wall, consists of a full size drawing of a coded resistor and a reproduction of the actual colors used in the code. This makes it possible to read the value of any coded resistor at a glance without any manipulation or bother.

The Color-code Chart is offered free to any radio dealer, service man, or manufacturer who writes the Ohmite Manufacturing Company on his business stationery.

## Chicago Radio Week Successful

It was the opinion of all of the leading wholesalers and retailers that Chicago Radio Week did a great deal to stimulate business in the "Windy City." A large amount of the interest created in radio will be capitalized on at a later date.

Under a direct supervision, this same plan can be inaugurated and successfully promoted in every city in the United States with a resultant benefit to the entire trade. The cost per wholesaler was ridiculously small, amounting to less than \$20 apiece, exclusive of the money spent for advertising their own individual lines.

# Midget Radio . . . . Today

By L. P. NAYLOR, Manager, Western Division,  
Arcturus Radio Tube Company

IT IS DIFFICULT to discuss so-called midget radio without indirectly indicating partisanship in the big argument of opinions regarding radio profit and radio price level. However, a big business has been done and is now being done in the manufacture and sale of small midgets, peewees, kitchenettes or baby radio receivers, and when we think of these, we naturally think of their origin and capital.

A greater number of midget manufacturers are located in Los Angeles, California than in any other city of the world. Many of the bigger eastern manufacturers at one time wondered how these fellows could make a radio to sell for \$79.50. However, while they were pondering the question, sales were being lost to them and dealers were rapidly changing from cabinet to band box. Jobber and dealer organization interests soon changed to the new small models.

When it was almost too late, the better known manufacturers began to swing in line and met the new condition with a "full line of radio sets." The trend continued with predominance of the midget until practically every manufacturer advertised a "complete line," and included the small job.

With broader experience, finer organization, and well advertised name—plus the major factor of capital, eastern competition gradually retrieved lost business. This brought about competition in price between eastern and western midget manufacturers. By reason of the less experienced Los Angeles midget manufacturers' effort to hang on with lower prices, the battle raged until the consumer opinion of radio receiver prices had reached a low level and their respect for radio reception was reduced to a point where they searched for price rather than quality.

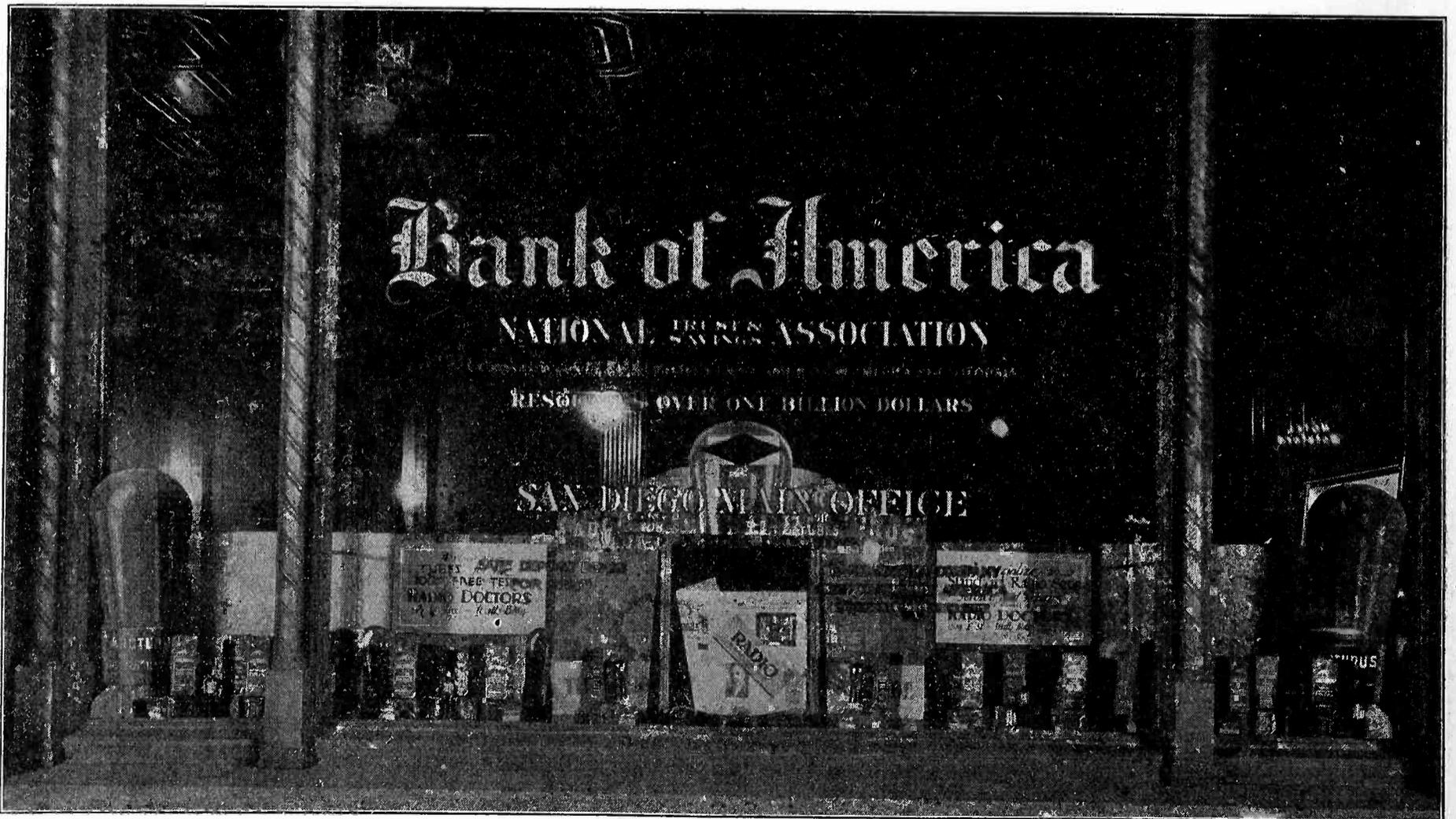
I quote a prominent midget radio manufacturer: "If they (meaning the bigger eastern manufacturers) had left us alone, I would have been a millionaire today."

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# Midget Radio . . . . Today

By L. P. NAYLOR, Manager, Western Division,  
Arcturus Radio Tube Company

IT IS DIFFICULT to discuss so-called midget radio without indirectly indicating partisanship in the big argument of opinions regarding radio profit and radio price level. However, a big business has been done and is now being done in the manufacture and sale of small midgets, peewees, kitchenettes or baby radio receivers, and when we think of these, we naturally think of their origin and capital.

A greater number of midget manufacturers are located in Los Angeles, California than in any other city of the world. Many of the bigger eastern manufacturers at one time wondered how these fellows could make a radio to sell for \$79.50. However, while they were pondering the question, sales were being lost to them and dealers were rapidly changing from cabinet to band box. Jobber and dealer organization interests soon changed to the new small models.

When it was almost too late, the better known manufacturers began to swing in line and met the new condition with a "full line of radio sets." The trend continued with predominance of the midget until practically every manufacturer advertised a "complete line," and included the small job.

With broader experience, finer organization, and well advertised name—plus the major factor of capital, eastern competition gradually retrieved lost business. This brought about competition in price between eastern and western midget manufacturers. By reason of the less experienced Los Angeles midget manufacturers' effort to hang on with lower prices, the battle raged until the consumer opinion of radio receiver prices had reached a low level and their respect for radio reception was reduced to a point where they searched for price rather than quality.

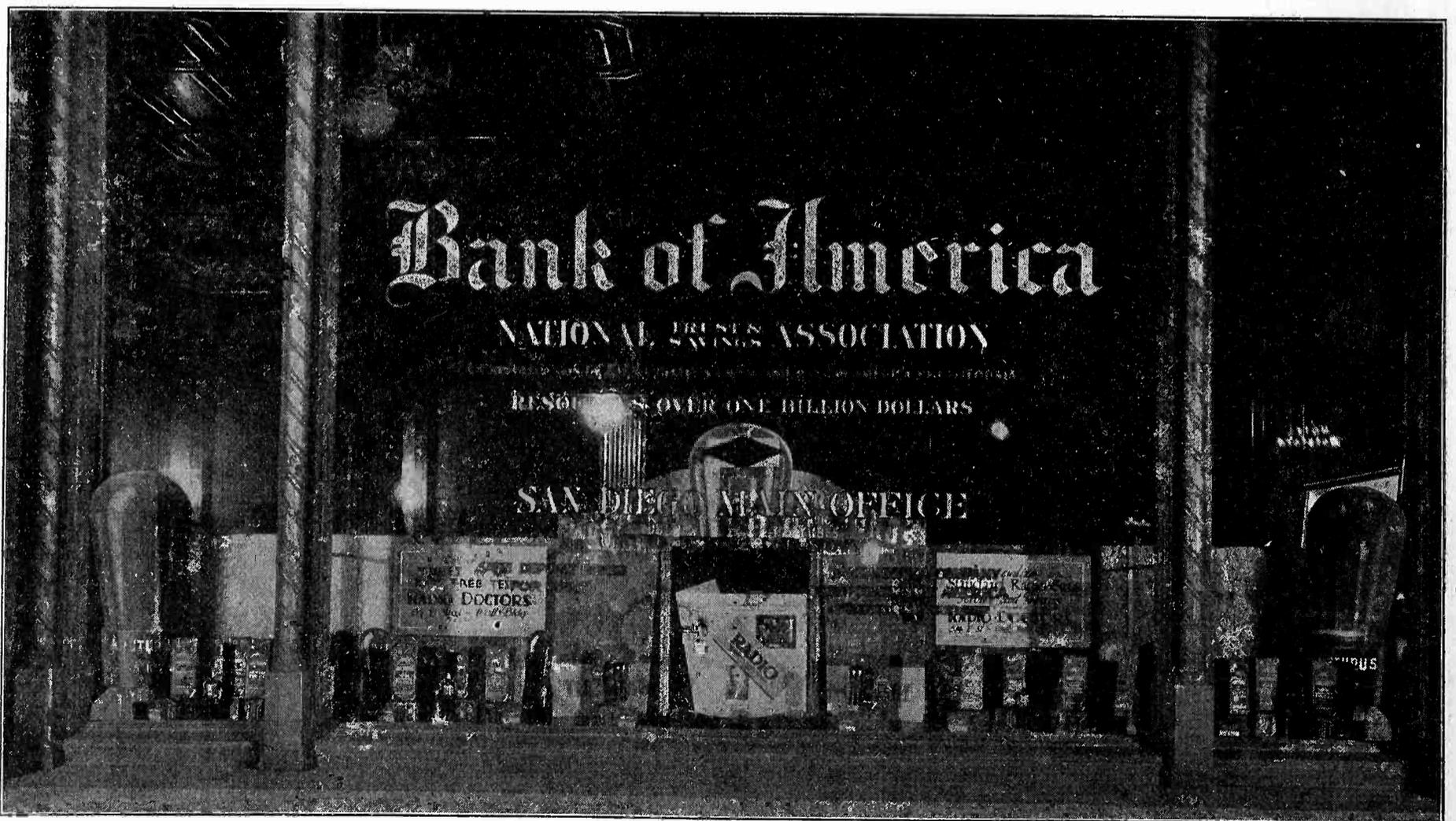
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# Sylvania Display Merchandiser Going Big!

THE PACIFIC COAST REPRESENTATIVE for the Hygrade Sylvania Corporation of Emporium, Pennsylvania, the genial Bill Cooke, is an extremely busy man these days explaining why shipments of the New Sylvania Display Merchandiser should be delayed. The answer, of course, is the unusually enthusiastic acceptance of this "dealer help" by the trade, according to Gene Burns, Assistant General Sales Manager for "Sylvania", who adds "we make it possible for the dealer to acquire this instrument without 'actual' cost and 'something for nothing' is usually appealing. The jobber-dealer response to this plan is far beyond expectations—our delivery demands on our suppliers are tying them up and yet demand very much exceeds supply."

The Sylvania Display Analyzer has been designed to meet the needs of radio dealers and jobbers who recognize the importance of putting radio tubes and tube-testing in the foreground as all-the-year-round profit builders. Many practical suggestions from dealers and jobbers have been incorporated in the design, and the tube tester has been mechanically improved and simplified to provide accuracy and ease of operation for the dealer and an easily understood reading of the test by the customer.

The display cabinet is built of solid walnut, finished and decorated to harmonize with the radio cabinets with which



it will be displayed. The display section of the cabinet is of patented show-case construction. The mirrored background, distinctive three-sided crystal glass panel front and illumination make it an immediate focus for the attention of customers. The design provides maximum display surface and uninterrupted vision from every angle, it is said. The combination is pictured herewith.

The lower rear compartment, hidden from view behind the mirrored doors of the display section, is fitted with special shelves where a complete stock of tubes may be stored behind locked doors. A single electrical connection from the lower back leads to the power supply.

The tube analyzer is enclosed in a beautifully finished walnut cabinet, with chromium-plated fittings, matching the display cabinet. When in position on the top this very handsome unit is calculated to impress customers with the fact that good tubes are as important as a good radio receiver.

The Sylvania Tube Analyzer is constructed to permit complete and accurate reading of all types of tubes used in standard radio receivers. All readings appear on a single colored dial, marked so that the average customer will get a clear picture of the condition of each tube.

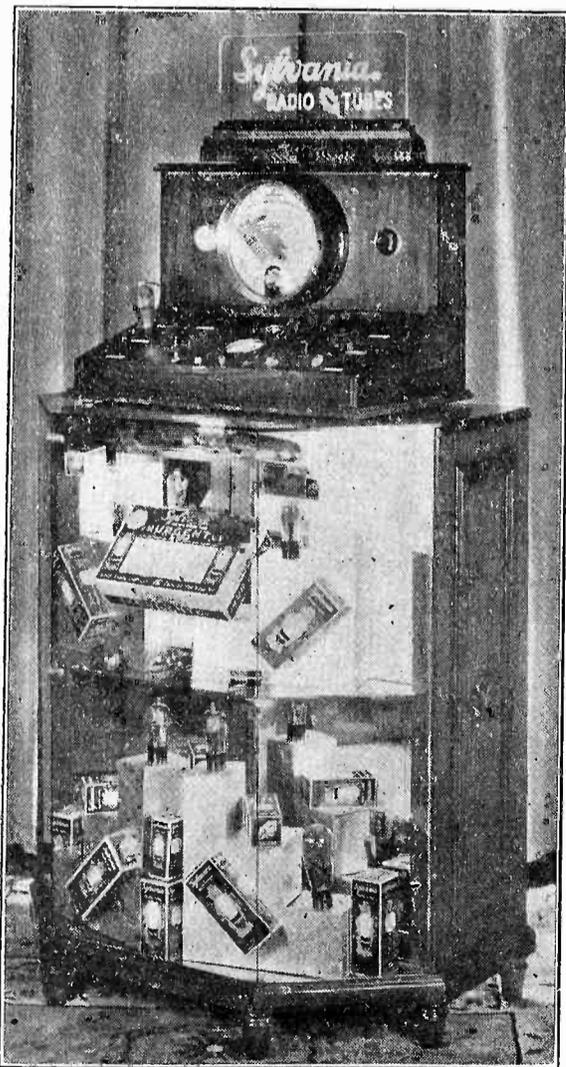
This instrument embodies the most modern scientific principles of tube-testing equipment. Among its advantages from the point of view of the dealer are the following:

Short circuits are shown by direct meter reading; provision is made for testing new types of tubes; tests rectifier

tubes; has preheating sockets for quickly testing slow-heater types of tubes; provides a special dial reading for tubes of doubtful value, giving the dealer an argument for the immediate sale of emergency replacement tubes, which he carries in a convenient form—The Sylvania Emergency Kit.

So immediate was the acceptance of this improved tube merchandiser following the first announcement made by Mr. McCarthy, General Sales Manager for Hygrade Sylvania Corporation, to the trade, that he has had temporary difficulty in keeping pace with the demand, he said today. The fact that the cabinet was specially designed, and that absolute accuracy is required in the mechanical construction of the analyzer prevented the filling of early rush orders.

"This temporary difficulty was then overcome," says Mr. McCarthy, "and a sufficient stock was constructed to permit immediate shipment of all anticipated orders up to January 1st. The demand, however, has been so great that despite the large commitments, our stock was again depleted last week, and another substantial stock immediately ordered. It now happens that concurrent commitments have been placed to make absolutely certain that orders will be filled within a day or two of their receipt at Emporium. It looks very much as if we have been fortunate in offering the dealer exactly the kind of "Analyzer Deal" for which he has been waiting. This, in brief, probably accounts for this entirely unanticipated 'rush' the end of which most certainly is not yet in sight."



Attractive Dealer Display showing Sylvania "Merchandiser"

# News of the Month

## Magnavox Price Move Seen as Favorable Trade Sign

**A**N INDICATION that the radio industry may be starting to come out on the other side of the "depression price" woods is seen in the announcement made December 1 by Magnavox Company, Ltd., Chicago, of a 5 per cent price advance on its dynamic speakers.

Commenting on this move, R. A. O'Connor, Magnavox president, states: "The step is dictated by sound economic policy—and it is time, I believe, that such a policy should prevail in the radio industry. All manufacturers supplying the radio industry are noticing an upward tendency affecting their raw materials, and this tendency should be promptly reflected in the manufacturer's selling price. This is important not merely because it is industry's duty at this time to sell only at a profit, however small, but also because every justified price advance will help restore a normal buying psychology. When the public senses that prices, instead of going lower, have started to move up, it buys. It's the same in radio as on the stock exchange—people wait for a rising market.

"The Magnavox Company has been steadily improving the tone quality of its speakers. Better broadcasting and better programs mean that radio sets must provide better reception in order to keep pace. This is especially true of the "replacement market," catering to the millions of present owners who will demand improved tone quality before they discard their old sets and purchase new ones. Sooner than some of us realize, replacement sales will become our biggest market, just as they have in the automobile industry. This tendency means that the radio manufacturer who concentrates too much on price and neglects performance will find increasing difficulty in selling to present owners of radio sets."

Magnavox's reputation for tone quality has been advanced by the recent 40 Series Symphonic Speaker, which reproduces the full range of voice and music, from low G to high C. The latest Magnavox model 150, a dynamic speaker with 5½-inch cone, is a successful demonstration, according to Magnavox engineers, that tone quality need not be sacrificed in midget sets.

## Arcturus Reduces List Price on Type 122 D. C. Screen Grid Tube

Effective December 14 the Arcturus Radio Tube Company, Newark, N. J., announces that it has reduced the list price of the Type 122 D. C. Screen Grid Tube to \$3.00.



J. M. SPANGLER

**N**ATIONAL CARBON COMPANY, INC., has announced the appointment of J. M. Spangler as manager of its Eveready Raytheon Tube Division, succeeding Fred D. Williams, who recently resigned to become an officer of P. R. Mallory & Co., New York City. Mr. Spangler's appointment follows sixteen years connection with the company, during which time he has held many important positions.

Prior to taking over his new duties in the Tube Division he was manager of the Eastern Division of his company, a position he has held several years. His services with National Carbon Company began in 1915 as railroad sales engineer. In 1918 he organized the railroad department in which he served as manager until 1923, when he was appointed manager of the company's Central Division. He held this position until 1930, at which time he was made manager of the Eastern Division. Mr. Spangler is a graduate of the electrical engineering department of Pennsylvania State College, class of 1911.

## Sparton Gives Chicago Territory to One Exclusive Jobber

The Sparks-Withington Company, Jackson, Michigan, announces the appointment of Young, Lorish and Richardson, Inc., 710 West Jackson Boulevard, Chicago, as exclusive distributors for Sparton Radio in the Chicago territory.

Commenting upon the appointment, E. T. H. Hutchinson, sales manager of the Sparks-Withington Company said, "Young, Lorish and Richardson have been one of two Sparton distributors in the Chicago area and they are now taking over the entire territory, effective at once.

"Their long association with us, together with their remarkably successful record, qualifies them to assume the added responsibility, which has been given them."

Young, Lorish & Richardson, Inc., will have all Sparton authorized dealers in the Chicago territory associated with them in the sale of Sparton Radio for home, automobile and police use.

## Ohmite Offers Free Charts

Mr. D. T. Siegel, general manager of the Ohmite Manufacturing Company, 636 North Albany Avenue, Chicago, announces that this company has developed a new simple Color-code Chart for use with R. M. A. coded resistors.

This chart, which may be carried in the pocket or hung upon the wall, consists of a full size drawing of a coded resistor and a reproduction of the actual colors used in the code. This makes it possible to read the value of any coded resistor at a glance without any manipulation or bother.

The Color-code Chart is offered free to any radio dealer, service man, or manufacturer who writes the Ohmite Manufacturing Company on his business stationery.

## Chicago Radio Week Successful

It was the opinion of all of the leading wholesalers and retailers that Chicago Radio Week did a great deal to stimulate business in the "Windy City." A large amount of the interest created in radio will be capitalized on at a later date.

Under a direct supervision, this same plan can be inaugurated and successfully promoted in every city in the United States with a resultant benefit to the entire trade. The cost per wholesaler was ridiculously small, amounting to less than \$20 apiece, exclusive of the money spent for advertising their own individual lines.

# 1932 Report From Midget Headquarters

● What the Los Angeles Manufacturers Will Do in 1932. A Complete Summary of Interviews From All of the Southern California Midget-Makers.

By DR. RALPH L. POWER

Manager, Southern California Division of "RADIO"

1. Production will be sustained.
2. Prices will be higher.
3. Cabinets have gone up 25% in price.
4. Auto Radio will be big seller in 1932.
5. Four manufacturers will build television sets.
6. Racketeering has stopped.
7. Only substantial manufacturers have survived.

RADIO MANUFACTURERS of the southwest are nearly unanimous in their belief that 1932 will be full of promise for a rousing good year in all their various lines of activity.

Despite a few who think otherwise, there appears to be all indication that the midget will not be boosted as the ultimate of all things radio.

Instead, consoles look as though they would come into their own with, of course, full and half-sized midgets still in the running.

Almost no activity is expected in combination radio-phonograph sets, but the new all-wave receiver and the automobile set loom up as big prospects for the year's effort.

By far the majority of Los Angeles factories unite in predicting better quality merchandise and consequently a wider margin of profit on which to base advertising and sales campaigns.

The export field is just in the background with exceptional opportunities for greater sales effort. The average radio manufacturer dislikes to lay his cards on the table about his foreign trade endeavor, even though he may be coining money from trade across the water.

In much the same way, none of the firms have much to say about television. But their very silence shows that they are busy in the workshop for visual broadcast. Though only one factory makes mention of television, it is known that at least five have preparations under way in this line.

## Shelves Are Bare

THE SHELVES of distributing agencies are almost bare and manufacturing outlook seems to point towards a good sized spurt in current production. The month of December showed feverish activity to keep up on production and with some factories somewhat behind in schedule. It would take very little activity to put California set-makers on increased production schedules and a return of laid-off employees.

The usual run of fly-by-night backyard manufacturers, always evident around the holiday season, has come and gone. Practically all of those now in the set field are old-time companies of established reputation.

But let some of their executives tell, in their own words, what they think of the prospects for business in 1932. Here are some, listed alphabetically by firm name.

## STATEMENTS FROM EXECUTIVES

### Custom Built Radio Company

"It seems to us that the upward trend, heralding better business in practically every line, has already demonstrated itself. This movement will undoubtedly continue through the coming months, and in the latter part of 1932 will show that the country is well along the road to prosperity once more. In our own business it looks as though the first quarter of the new year will at least equal the final quarter of 1931 and that period, so far as Custom Built trade is concerned, was good.

"In a general way there are many indications pointing towards a lessening in the number of models which manufacturers will put out during the coming twelve months. Then, too, the public will probably not demand so many changes in cabinet designs. This has been one of the bugaboos of the industry.

"Our own business for 1932 will largely center around our regular production schedule. Of course our midgets have been and probably will continue to show the most rapid turnover. These TRF sets include the Crown, a five-tube and the Crown Junior, a 4-tube affair. Of course the console models and a new clock model console (Clock-Trola) will remain standard in our lines."

Nick Hiriart, owner, and H. C. Block, sales manager.

**Davison Radio & Television Corporation**  
(Formerly the Davison-Haynes Radio Mfg. Co.)

"There seems to be no doubt but that we have struck rock bottom. Many business interests believe that we are already on the upward trend and, although in some quarters the improvement is hardly perceptible, still I am somewhat inclined to agree that the ascent to higher levels has already begun.

"One thing is certain. The radio business of the next calendar year will be on a sound basis. I think, too, that this will mean somewhat higher prices and, of course, a wider margin of profit. As a matter of fact, commencing this month, our own line will sell at a slight increase over the 1932 rate.

"The year will find our regular Angelus line in production and it will naturally include both console and midget types. But I anticipate a cordial reception for our new short wave set and the new all-wave set which we are ready to put out. The change in the firm name naturally intimates that we shall have something to say by way of television. This is true, though our formal statement has not yet been issued."

**Frank Davison, president.**

**Herbert H. Horn, Inc.**

"Despite considerable ballyhoo for prospects a year or so ago, it seems to me that we are really crossing the threshold of a return to something more nearly normal. There is widespread divergence of opinion as to what level we will return but, at any rate, things are getting much better.

"Our own experience has been that the holiday trade was better than it has been in December the past four or five years. The average stocks of jobber and retailer are low. I think we can reasonably expect a spurt along manufacturing lines very soon. Practically all dumping and liquidating is over and, though things may not show another boom-time, the radio business will get more steady and stable through the coming months. Higher prices, with margin to advertise, is inevitable.

"Our new all-wave set will be our 1932 feature. The Tiffany Tone lines, of course, will likewise include midgets and console sets. Present price range goes from \$39.50 to \$139.50. But the all-wave outfit, with no coils to change and with television Jack, looks like a sure winner."

**Herbert H. Horn, president.**

**International Radio Company**  
(Formerly Western Radio Co.)

"Most authorities seem to be in accord with the thought that all business has launched out on the highway of improvement and recovery. Certainly in the radio industry things have started to pick up. One noticeable trend of the coming year will probably be finer goods and higher prices.

"Though fluctuations are sure to be evident from time to time, it looks as though radio sales become less seasonal year after year. People are now buying radios with the idea of getting standard merchandise. They will expect them to last more than a few months. This does not mean that we will reach the sales saturation point for, along with the idea of buying a set to last some time, there is a decided tendency to purchase more than one receiver.

"The Westeraire line has already gone into production for higher priced merchandise. The 1931 showing will bring out the regular console models, considerable emphasis on our new automobile receiver and our 'mystic ball' type of midget receiver."

**Ray J. Noel, national sales agent.**

**Jackson-Bell Company, Ltd.**

"I look for no radical change in the radio industry for the forthcoming year so far as new developments are concerned. But it is quite evident that things have turned for the better and we are slowly going uphill once more.

"The next year will experience no ups and downs such as strewed the 1931 pathway. Prices will slowly advance, but I am not so sure that this will mean more profits. To the contrary, raw materials are on the increase. Cabinets, for instance, are up at least 25%. Copper and speakers cost more than they used to. The manufacturer can find no way out except to raise his selling price.

"The past year or two has been a period wherein most of those in the industry have learned many lessons. Now is the time to profit by such experiences.

"Our Jackson-Bell and Peter-Pan lines will continue along commonly accepted lines of production and distribution with consoles and midgets in the limelight."

**Herbert Bell, president.**

**Keller-Fuller Manufacturing Company**

"It goes almost without saying that we have long since landed on the bottom. But for some weeks the gradual rise has been shown in nearly all quarters. Nothing could be any worse than the past year and so, by the same token, we may cheerfully figure on 1932 as one to look forward to with increased prospects and actual business.

"The majority of manufacturers have already made up their minds as to courses of production, even though some laboratory and research activity continues.

"Our own K-F line for the next year will continue along lines previously laid out. This will comprise the console and midgets for which potential and actual markets are ready. At the outset of 1932 it seems evident that higher prices will be the general rule.

"Though we do not make automobile sets, I am convinced that this line will show a substantial increase during the current year. I think our mourning days are past, as an industry, and the next few years will be days of rejoicing for those who keep abreast of the times and who retain the merited confidence of the trade."

**Harry Keller, president.**

**Los Angeles Radio Manufacturing Co.**

"I don't see how anyone could be other than hopeful for 1932 prospects. Our bad times are over. Happy days are on the horizon again. Current indexes of economic conditions obviously chronicle a gradual return to something bordering on the normal, though the process will be slow in final culmination.

"Radio manufacturing around the southwest has already picked up, and is full steam ahead so far as United States trade is concerned. The export angle has also made a turn for the better.

"The Paramount pee wee and kewpie line of small midgets will continue to the forefront in our catalogue. But we are also ready with an all-wave set that, with a background of laboratory tests, seems to augur exceptionally well as one of our 1932 'best sellers.'

"Our latest offering to the trade is an automobile set without batteries. It may be used either in the home or in the car and lists at \$59.50.

"And even though there is no Santa Claus, we have considerable cause for rejoicing and looking forward to a brisk twelve months for nearly every set-maker."

**Don Rodgers, owner.**

## Mission Bell Radio Co. (Consolidated Radio Co.)

"Everything else being equal, there seems to be no obstacles in sight which might prevent American business getting on its feet in the next year.

"Certainly it is true that all of us know a good deal more now than we did a year ago. We can profit out of the experience of the past and most of us will.

"Business requires more concentration and effort than it used to. But this survival of the fittest works out for the best interests of the ultimate consumer.

"Our Mission Bell line for 1932 will be centered around our new low-priced, all-wave set and we confidently predict it will become a big factor in retail sales. The same is true of our new automobile receiver.

"The all-wave set will come in both 10-tube and 14-tube models. The console line will be limited to a 6-tube super. The midgets will offer both a 6-tube TRF and a 6-tube super.

"Activities of both Consolidated and Mission Bell will be centered around these lines. Mission Bell products go out as our trade name. Consolidated is primarily for lines made for individual distributors."

**Percy Fleming and  
Herman Schmieter, partnership.**

## Powell Manufacturing Co.

"By comparison I think we will all find, at the end of the first half of 1932, that the aggregate business will go way ahead of the same period in 1931.

"One noteworthy event will undoubtedly be in the public acceptance of the fact that they pay for what they get. If they pay ridiculously low prices they don't get much. The 'something for nothing' idea has been pretty well exploded.

"Maybe Barnum was right in his day. But that day is over. The manufacturer who puts out shoddy merchandise and resorts to shady dealings is digging his own business grave.

"The following year will unquestionably be one in which radio set-making will find better parts used in manufacture and a finer quality of workmanship all around.

"The Powell line will continue as usual with emphasis on the midget-size radio and will more or less feature our new automobile outfit.

"At the opening of the new year both United States and foreign trade is on the upward swing for nearly every line of business. It cannot help but be reflected in the field of radio manufacture."

**Hayward Powell, manager.**

## Patterson Radio Company

"The past year has been besmirched by the 'jalopi' set. But it looks as though radio will more rightfully come into its own for 1932 with a higher quality of merchandise which will sell for higher prices.

"The public, I am pretty well convinced, is fed up on cheap lines. The retailer is tired, too, of a low margin of profit. The set buyer is wary of low-priced goods with possible excessive service charges.

"We have been in the radio business since 1920. But we have never entered the 'jalopi' field. Of course this doesn't mean we haven't marketed midgets. We have. But we believe they were good sets and represent real values with a manufacturer's reputable guarantee behind them.

"Yes, I think we have no need to fear what the coming year will bring to all of us in the radio industry. So far as the Patterson line is concerned, we figure on no particular model changes though prices will certainly have to become higher to leave a fair margin of profit to everyone. Consoles and midgets will predominate in our factory and showrooms."

**Emmett R. Patterson, owner.**

## Waltham Radio Co.

"I look for the first quarter of 1932 to be as good if not better than the final 1931 three months period.

"The general business indication points towards getting back on our feet again, soon. Still, I believe that the low priced set will continue to fit the times.

"It seems to me also that the public has about had its full of supers. Of course not everyone will agree with me in this, but I am honest in that belief.

"Our Waltham line will continue manufacture of the automobile set but only as a side line. The financing of this type of radio presents almost unsurmountable difficulties as only those in the trade can know and understand.

"Other sets from the factory will feature the 4-tube pee wee, the small console size, and the 5 and 6 tube TRF midgets. In the meantime every manufacturer must not only continue to 'square every promise with performance' to his established trade, but he must also be exploring every nook and cranny for new business. This is the life blood of any modern business enterprise."

**Harry Howard, owner.**

## Secondary Selling Season Is Endorsed by Smith

"The radio industry, by and large, has never concentrated on an aggressive secondary selling season which should begin about the first of February, after the holiday slump, and continue well into May. There have been individual and spasmodic attempts, but no concerted action to sell sets during the very period when radio reception is at its best and when the networks put on their best programs.

"Such a plan is a merchandising step in the right direction and merits nationwide adoption by all the factors in the industry.

"The recognition of the secondary season by the public and trade is bound to stimulate greatly the yearly total of sales by dealers, jobbers and manufacturers. There is no reason why the secondary selling season should not ultimately approach the autumn selling season in volume.

"It seems logical that the vast replacement market which exists for radio sets in America affords a fertile field for attack during the secondary season. A family already sold on radio is as susceptible to attack in March as in October."

**C. B. SMITH, Chicago.**  
President, Stewart-Warner Corp.

While on many occasions I have been amused by customers who inquire whether a radio tube can be "revived" or "recharged" or possibly the question, "What is the trade-in value?"; my recent visit to the store of Radio Doctors in San Diego, California, produced one for record.

A gentleman called personally to explain his radio troubles, and explained that his set must certainly need a new needle, because the reproduction was no longer clear and loud.

While a new "dynamite" speaker might produce "loud" result, Radio Doctors reached for a set of Blue Arcturus Tubes, that the desired clear, rich tone might be obtained.

**L. P. NAYLOR,**  
Western Manager, Arcturus Radio Tube Company.

# Radically New Departure in 1932 Philco Line

## ● Inclined Sounding Board and Echo Screen are Featured

OBVIOUSLY, the first radically new feature of the 1932 Philco is the heavy, hard wood inclined sounding board which carries the speaker firmly attached. This new construction eliminates the tone chamber; sends to ear level the high tones ordinarily projected below the range of hearing; and delivers tone in all the brilliance of the full musical register. Even that severest of all radio critics, Leopold Stokowski, director of the Philadelphia Symphony Orchestra, changed from passive acceptance of radio to enthusiastic appreciation of this model and now looks forward eagerly to broadcasting his concerts from the Academy of Music, confident that receiving capacity has been balanced with broadcasting faithfulness.

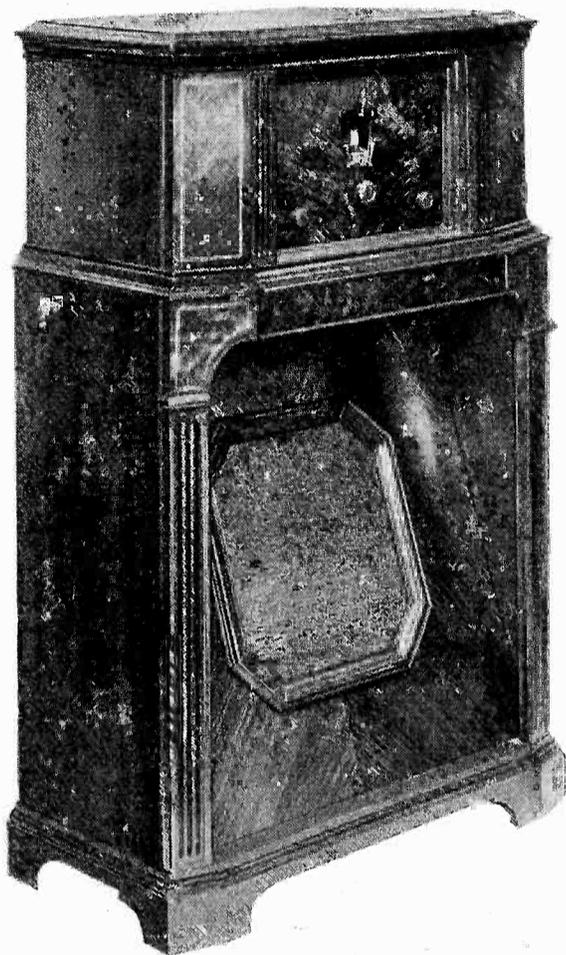
The second radically new feature is the echo screen in the back of the cabinet. The incline of the sounding board deflects the reverse delivery of sound to the floor of the cabinet and sound blankets absorb this secondary broadcast so that it cannot re-echo from the back to become confused with the primary broadcast from the front of the speaker.

The new construction eliminates, of course, the "tubbiness" of receivers in which the speaker is mounted within a tone chamber.

Model 112X Philco Balanced Superheterodyne complete with Philco Balanced Tubes, 2 Pentode Tubes, Push-Pull Circuit, Philco Automatic Volume Control, 4-point Tone Control; illuminated station recording dial, in a cabinet whose beauty has kept pace with its advance in reproduction. Inside is the Philco 11-tube Superheterodyne. \$150.

*These are the six new exclusive Philco features which distinguish Model 112X.*

1. PHILCO Sounding Board pitched to throw all sound directly into field of listener. Ordinarily the high notes (which travel chiefly in straight lines and do not readily spread out), are projected below ear level and are, consequently, only partially audible. This inclined Sounding Board, exclusive with PHILCO, makes the full musical register available for radio reception for the first time.



The photograph shows the new PHILCO Radio 112X, the first radio ever designed both as to chassis and cabinet for sound reproduction.

2. PHILCO Echo-absorbing screen at back of speaker chamber prevents echo and "blur". The first radio to deliver sound only from front of speaker, thus eliminating even the slight blur caused by the sound from the back reflecting from the wall of the room and reaching the ear a fraction of a second later.
3. Absolute rigidity of Sounding Board, made of extra-heavy laminated hard wood and securely anchored preventing vibration and blur from this source.
4. Great weight of cabinet and Sounding Board still further prevent all cabinet vibration and attendant blur.
5. Large area of Sounding Board and unobstructed opening from speaker, affording full, round, unboxed tone.
6. PHILCO Electro-dynamic 112X Speaker.

---

Central Commercial Co., Kings Building, Hong Kong, China, wishes to get in touch with manufacturers of radio receiving and transmitting sets, sound installations, vacuum tubes and accessories, for sole distribution rights for South China.

They are actively in the radio business and maintain a modern and efficient radio service station. Manufacturers desiring connections in Hong Kong please write.

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## Majestic and Columbia Merge

Grigsby-Grunow Co. of Chicago and the Columbia Phonograph Co. of New York have merged, according to a joint statement issued by B. J. Grigsby, president of Grigsby-Grunow, and H. C. Cox, president of Columbia Phonograph Co., Inc., New York. From the statement it appears that Grigsby-Grunow gets almost complete control of Columbia. The voting trustees of Columbia have entered into an agreement to sell to Grigsby-Grunow all the shares of Columbia Phonograph Co., Inc. These shares were deposited with the Voting Trustees under a Voting Trust agreement created in June of last year. However, it appears that the control of the Columbia interests are secured only for the United States and for South America. Owners of the Columbia stock will receive \$10.00 a share as a stock dividend and will also get approximately 4½ shares of Grigsby-Grunow stock for each share of Columbia.

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## FADA Announces "Wireless Iron"

F. A. D. Andrea, Inc., announced its entry into the electrical appliance field with the introduction of a wireless electric iron of new design.

There is no electric cord attached to the iron itself to wear out, get in the way, or require replacing. There is no dusty cord to drag across, wrinkle or soil surfaces that are being ironed. There is no cord attached to the iron to prevent completely free movement of the iron itself.



## one OF OUR BELL HOPS...

SAID—

"Tell the folks how we take care of them when they come here."

He saw from the inside our mail service to the rooms . . . our public safety campaign . . . our extra kitchen for making more delicious dishes . . . our particular courtesy to ladies and children . . . and many other services in which we pride ourselves.

Rooms with bath, \$3.50, \$4.00, \$4.50, \$5.00 and \$6.00. Rooms without bath, \$2.50.

# BISMARCK

## HOTEL

### CHICAGO

RANDOLPH AT LA SALLE

### Sparton Donates Sets to Hospital

EVERY room in the new London, Ontario, hospital, which is to be built at a cost of \$1,000,000, will be equipped with a Sparton radio, and a complete electric refrigeration unit will be installed in the building, through the generosity of Captain William Sparks, president of the Sparks-Withington Company of Jackson, Michigan, and Sparton of Canada, Limited. This gift was announced at a dinner in London on November 23, and is in addition to a very personal contribution which Captain Sparks had previously made to the hospital fund.

During the evening Captain Sparks was presented with a golden key to the city and was made a freeman of the City of London by Mayor George Hayman.

Introduced by Mr. Ivey as the principal speaker on the program, Captain Sparks said in part: "This a gloomy moment in history. Thousands of our citizens are turned out of work to face the cold winter. France is uncertain, and all the influences of the British Empire are sorely tried, while no man can see the end."

"That is an editorial, published in Harper's Weekly 74 years ago. Yet it covers the feelings you all have today.

"Since 1879 we have had fifteen of those 'mild boom' periods, yet I prophesy that the conditions of 1921-22 are going to happen again.

"The London plant of our radio product is not standing still. We will enlarge it in the very near future.

## A Book on Eliminating Radio Interference

George R. Walters has made inspections and cleared up 15,000 cases of interference caused by "man-made" devices. His work as engineer of the interference division of the Southern California Radio Trades Association furnishes the background for the contents of his book, "RADIO INTERFERENCE . . . Its Effects and Cures." This is a book which will save time and money for many people in the radio industry, especially for those who are not so fortunate as to receive assistance from their local trade associations in locating and eliminating interference. Walters has prepared his book in a concise, understandable and educational manner. A copy can be secured by sending 50c to George R. Walters, 234 Chamber of Commerce Bldg., Los Angeles, Calif.

### Complete Television Set in Console Form

COMPLETE and self-contained, simple yet efficient, suitable for an audience of one to several dozen persons, the Jenkins Model A Radio-vision Console marks the advent of television in the average living room. What is more, it offers a choice of either broadcast reception or short-wave reception in addition to the television function, thereby providing maximum entertainment value in a single radio set.

The attractive console cabinet contains an all-purpose receiver and a projector-radiovisor. The receiver is designed for operation in the television, short-wave or broadcast band, by an ingenious and unique interchangeable tuning system. The proper degree of selectivity is provided for each band—sharp for broadcasting and short-wave, broad for television. The plug-in coils are matched "plug-in" units for ready handling. The receiver, fully A. C. operated, handles the highest frequencies now used for visual broadcasting. The audio-frequency system has an excellent amplification curve from twenty cycles to the highest picture frequency employed. The output stage has two 45's in parallel to provide the distortionless current required for the latest development in crater lamps used in the projector type of radiovisor. A loud-speaker, ingeniously concealed from view, provides ample volume and tone quality for aural programs. A pair of phonograph jacks permits utilizing the exceptional audio system for realistic reproduction of records.

The projector type radiovisor employs the latest form of crater lamp as well as

## What is ahead for you IN RADIO

. . . and what  
RCA Institutes offers



ARE you just plugging along? Doing the same old jobs over and over again? Here is a splendid way to get out of the rut . . . increase your present knowledge of radio by study at RCA Institutes. Knowledge is power. Your possibilities for advancement becomes greater.

These radio schools . . . the oldest in America, founded 22 years ago . . . are part of the industry. They offer elementary and advanced courses in every branch of practical radio . . . at four resident schools in New York, Boston, Chicago and Philadelphia and through extension courses, which enable you to study at home in your spare time. Free university scholarships and advanced resident school scholarships are available to outstanding graduates.

The equipment in the schools is unquestionably fine . . . modern . . . up-to-date. The instructors are men of practical experience. You can choose a course fitted to your own particular needs. Day and evening classes start about every six weeks. Tuition rates are modest!

New developments come almost every day in radio. Be ready to meet them. Write today for catalog and full information. Check the branch of radio in the coupon that interests you most.

A Radio Corporation of America Subsidiary



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Please send me your General Catalog. I am checking below the phase of radio in which I am interested.

- Aircraft Radio     Talking Pictures     Television  
 Disc and Film Recording     Broadcast Station or Studio  
 Servicing Home Entertainment Equipment

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Address \_\_\_\_\_

Occupation \_\_\_\_\_ Age \_\_\_\_\_

a sixty-line lens disc. The pictures are projected on a ground glass screen held in a frame in front of the console. The image may be adjusted and focused for any size up to 8 3/8 x 10 inches. The silent motor is synchronized with the intercepted television signal by automatic means. By eliminating the usual magnifying lens for enlarging the viewed image, in favor of a flat translucent screen, the pictures may be viewed by a group arranged in a quarter circle, without troublesome distortion.

Tell them you saw it in RADIO

# Better Broadcasting Contest Brings Out Listener Opinions

THE BETTER BROADCASTING CONTEST sponsored by the Higrade Sylvania Corporation is bringing out some interesting sidelights on what the radio public thinks about radio as it is, and as it ought to be. The first question in the contest, "What one thing do you think would improve radio broadcasting most?" brought a deluge of answers from every corner of the United States. Many of the writers stated with positive conviction what they do not like, but were not so certain in their choice of features to improve radio programs.

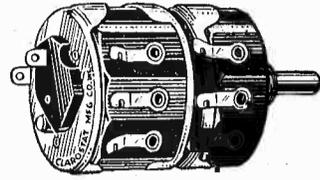
Strangely enough, after all the popularity contests, much of the criticism was aimed directly at announcers who "should be more human," "are too high brow," "yell too loud," and are apparently to blame for static interference, tube blow-outs, and the late disaster in the stock market. A surprisingly small proportion of the answers criticised the advertising feature of sponsored programs. The strongest and most often repeated objection was to advertising talk inserted in the midst of the program.

Mrs. Mary Zulke, Buffalo, N. Y., was

the winner of the Bosch 20L Radio Receiver awarded for the best answer to the first question in the series. The dealer prize of \$50 went to Charles Liske, 1637 Genesee Street, Buffalo. The prize for the second week, a Stewart Warner Combination Receiver, has been awarded to Mr. William McIlwaine, Verdun, Ill., for his answer to the question "How has radio broadcasting benefitted your home?" Mrs. Gertrude Shevlin, Cortland, N. Y., is the winner for the third week. She receives a Stromberg-Carlson Model 26 for her answer to the question "What type of program do you consider best for children?"

The contest was inaugurated on October 11, 1931. One question was announced each week during the Hygrade Sylvania program, "Charlie and Oscar," Sundays at 7:15 and Tuesdays at 6:30 P. M., E. S. T., over the Columbia System. A radio receiver of standard make and de luxe quality and a cash award of \$50 to the dealer whose name is mentioned in the winning answer will be awarded each week until the close of the contest.

## FREE Clarostat Control Handbook and Catalog



1932 Edition

A real handbook of radio and sound information—A handbook for the Manufacturer, Distributor, Dealer, Serviceman and Experimenter. Many circuits explained including Volume Control, Tone Control, Voltage Regulation, Television, etc. Here is a book for constant reference.

Write for the "Clarostat Control Handbook" and mention this magazine—No Charge, of course.

**Clarostat Mfg. Co., Inc.**

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

# Increase Your PROFITS by Eliminating Radio Interference!

Lost sales and unnecessary service calls are expensive. All interference except natural static can be eliminated. Where to look for the causes—How to correct them—Practical solutions based on six years' experience and 15,000 cleared cases form the background for the booklet.

## RADIO INTERFERENCE, ITS CAUSES, EFFECTS AND CURES.

By George R. Walters, Radio Engineer, Radio Interference Department, Radio Trades Association of Southern California; Chairman, California Radio Interference Association.

Every Radio Dealer and Service Man should have a copy. Write for yours today.

Price 50 cents.

### Major Subjects

Power Lines  
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Medical High-Frequency  
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Special Antennas  
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and  
Methods of Tracing  
Interference

GEORGE R. WALTERS - 234 Chamber of Commerce Bldg. - Los Angeles, Calif.

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234 Chamber of Commerce Bldg.,  
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Here is \$.....for copies of "RADIO INTERFERENCE, ITS CAUSES AND EFFECTS."

Send these copies to:

Name.....

Street and Number.....

City and State.....

Tell them you saw it in RADIO

## 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.**

288 Golden Gate Ave. San Francisco

## 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**

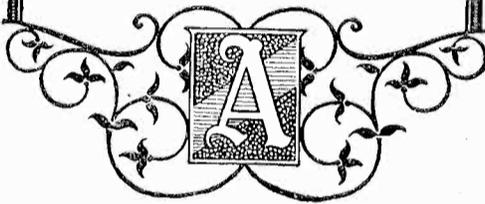


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**LOS ANGELES**

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## SHORT WAVE SET

with  
Built-in Power Supply

**\$24.50**

Net Price  
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4 Tubes.

Order  
a Sample  
NOW

"THE WORLD RANGER"  
... a 4-tube complete short wave set in a midget cabinet . . . the latest in short wave sets. Marvelous reception from stations all over the world.

**S. F. RADIO EXCHANGE**

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530 ROOMS

Finest location in Portland in the Hub of the shopping and theater districts and facing park block. Convenient garage just across the street.

### RATES

Single room with bath \$2.50 and up  
Double room with bath \$3.50 and up

Concerts twice daily on \$25,000 organ  
HARRY E. HEATHMAN  
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Portland, Oregon

HOTEL WASHINGTON

## HOTEL WASHINGTON

**200 ROOMS**

150 ROOMS WITH PRIVATE BATH

Centrally located.

Convenient to  
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\$1.50 to \$3.00 per day.

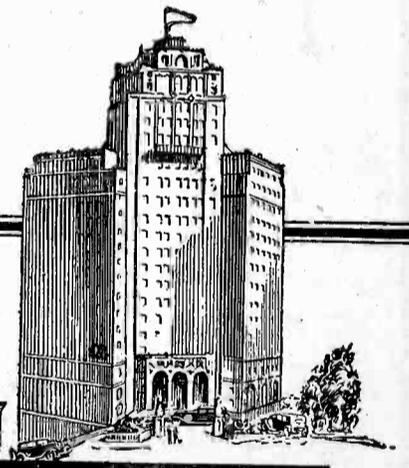
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OUR OWN FIRE-PROOF  
GARAGE



GRANT AVENUE  
AT BUSH STREET

**SAN FRANCISCO**

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Nob Hill~overlook-  
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*The*  
**MARK HOPKINS  
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FAIRMONT  
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Quiet~new~comfortable  
only five minutes from  
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terrace~dancing nightly

GEO. D. SMITH  
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**1100 ROOMS WITH BATH**

Single—5, 7, 8 Dollars a day  
Double—7, 8, 9, 10, 11, 12 Dollars a day  
Parlor Suites—15, 18, 20 Dollars a day

**SAN FRANCISCO**

Tell them you saw it in RADIO

# Headquarters For All Replacement Parts

FAST MAIL ORDER SERVICE TO ANY PART OF THE WORLD

**LOWEST  
PRICES**

## JANUARY SPECIALS

4 Tube Midget with Magnavox Speaker and Triad Tubes.....	\$13.90
4 Tube Midget AC Short Wave Set, 15 to 200 Meters, complete with Magnavox Speaker and Tubes with built-in power supply.....	\$24.50
5 Tube Midget in Beautiful Large Walnut Cabinet, complete with Magnavox Speaker and Triad Tubes.....	\$16.90
World Hand Mikes.....	\$1.19

**LARGEST  
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### Transformers—Power

Gardner 2-2½ volt 5-5 volt filament 700 volt CT for 45s or pentode \$1.95  
Inca shielded 2½ volt 5 volt 700 volt CT for 45s or pentode \$1.85  
Inca 1½ volt 2-5 volt winding 425 volt CT for 71 tubes \$2.15  
Special transformer for 210 or 250 tubes 7½ volt 1200 volt CT \$4.10  
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Thordarson Power Compacts #2115 7½ volt CT 2-30 henry chokes 450 volt CT \$3.75  
Stepdown transformers 110 volt primary 15 volt secondary 69c  
Power transformers 220 volt primary 2½ volt 5 volt 700 volt CT \$2.75  
Heavy duty transformers 2½ volt 16 amp 5 volt 700 volt CT \$4.40  
Heavy duty transformers 1½ volt 2½ volt and power for 71 tubes \$4.25  
Filament transformers 2 2½ volt and 2 5 volt windings \$1.25  
30 henry chokes 80 mils 45c  
30 henry chokes double 80 mils ea side 70c  
30 henry chokes double 125 mils ea side 85c  
Step down transformers 220 input 120 output \$3.25  
Heavy duty step down transformers 220 input 120 output \$3.75  
Best prices on both Philco and Willard transformers, chokes and condensers  
Complete line PILOT power transformers 40% Off List

### Transformers—Audio

Super volume tone 5 to 1 ratio 45c  
Ritco 5 to ratio 40c  
Remler #922 90c  
General radio all ratios (used) 75c  
Kellogg output push pull transformers 65c; lots of 25 50c  
Silver Marshall #220 Audio \$1.50  
Silver Marshall #221 Audio output \$1.50  
Silver Marshall #222 Audio Output \$1.50  
Thordarson R200 (used) \$1.50  
Thordarson R300 (used) \$1.75  
Sangamo Type C-171 push pull output \$12 \$3.50  
Sangamo Type B push pull input \$12 \$3.50  
Sangamo Type A 3 to 1 ratio Audio \$12 \$3.50  
Sangamo Type H 171 push pull output \$12 \$3.50  
Bosch push pull transformers, pair 80c  
Pilot Transformers all types 40% off list

### Coils

1" Coils .00035 Antenna and screen grid 27c  
1¼" Coils .00035 Antenna and screen grid 32c  
Shielded super het coils Intermediate 175 kilocycles 79c, Litz 89c  
Remler shielded screen grid coils 29c  
Conoid shielded grid coils .00035 RF and Antenna 29c  
Remler type 600 Intermediate transformers 65c  
Full line Pilot Coils all types—40% off list

### Condensers—Fixed

Elkon-square type electrolytic  
8 mfd 66c 1 mfd 36c  
4 mfd 45c ½ mfd 32c  
2 mfd 40c ¼ mfd 29c  
Concourse-electrolytic in cans  
5 mfd 50 volt 33c 10 mfd 25 volt 36c  
1/10 mfd 300 volt (cube type) 14c  
1 mfd 400 volts \$ .33 14 mfd 400 volts 1.90  
2 mfd 400 volts .42 16 mfd 400 volts 1.95  
4 mfd 400 volts .53 24 mfd 400 volts 2.65  
8 mfd 400 volts .65 32 mfd 400 volts 3.25  
8 mfd 400 volts .98 (2-4s in 1 can)  
Mounting rings for above 10c ea.  
Cub condensers—pig tail type—all sizes: 10c, 12c, and 19c  
Complete stock PILOT condensers 40% off list. Write for catalog.

### Resistors

5 Watt RMA CODED in the following sizes:  
450 ohms 650 ohms 750 ohms 1000 ohms  
2000 ohms 2500 ohms 3000 ohms 5000 ohms  
1500 ohms 10,000 ohms 500,000 ohms  
14c ea.; \$1.50 doz.  
1 Watt RMA Coded all sizes 9c ea., 95c doz.  
10 and 20 ohm CT resistors 9c ea  
Pilot Resistors, all sizes, 40% off list

### Condensers—Variable

Remler .00035 1 gang 50c 2 gang \$1 3 gang \$1.50  
Defiance Midget type with trimmers: 2 gang \$1.40, 3 gang \$1.55, 4 gang \$1.75  
All types one, two, three and four gang both new and used—lowest prices  
Remler drum dials with escutcheon plate, pilot light and socket and tuning knob—fits any condenser 75c  
Pilot Condensers all types 40% off list

### Speakers

9" Baldwin single magnetic chassis \$1.25 ea., lots of 10 or more \$1.15  
8½" Rola DC 90 volt dynamic chassis with output transformers for 71s, 45s or 47s tubes \$1.75 ea.  
8½" Rola DC 6 volt dynamic chassis with output transformers for 12s, 71s, 45s and 38s tubes \$2.40  
8½" Rola AC dynamic chassis using 80 rectifier \$4.90  
8½" Rola AC dynamic using 80 rectifying tube in beautiful Rola cabinets \$5.40  
11" Oxford AC dynamic in beautiful two tone walnut cabinets \$7.50  
7½" Magnavox DC dynamic model 144, 1500 and 2500 ohm field \$3.90  
11" Magnavox DC dynamic model 143, 1500 and 2500 ohm field \$4.75  
6½" Magnavox DC dynamic model 150, 2500 ohm field \$3.40  
7½" Magnavox 6 volt DC dynamic model 144 8½ ohm field \$4.10  
11" Victory DC dynamic chassis 2500 ohm 90 volt \$4.40  
11" Victory DC dynamic chassis 6 volt with output for 38 tubes \$4.75  
13" Jensen Auditorium type DC speaker chassis \$14.85  
9" Baldwin DC 90 volt dynamic chassis \$2.25  
9" Baldwin AC dynamic in beautiful walnut cabinet 80 rectifier \$6.10  
18" Western Electric cone speakers, used, in perfect condition \$3.00  
RCA #104 power amplifier and speaker, less tubes \$11.25  
RCA #105 power amplifier and speaker, less tubes \$22.25  
All makes and types of magnetic and dynamic speakers both new and used in stock—lowest prices.

### Tubes

27s and 45s—Guaranteed to light and play 29c  
Western Electric 211E \$7.00  
Western Electric 211D \$8.00  
Full line Pilot tubes, many others, 40% off list  
ROLA SPEAKER CABINETS:  
Large, finished \$1.08; small, finished 70c  
Large, unfinished 70c; small, unfinished 40c  
Majestic #52 cabinets only \$2.39  
Cardinal cabinets with legs \$3.00  
Large assortment of both set and speaker cabinets both new and used—lowest prices.

### Meters

Weston, Jewell, Hoyt, etc., new and used—best prices.

### Eliminators & Accessories

Philco A&B Reconstructed, all new parts \$7.95  
Willard A&B Reconstructed, all new parts \$8.45  
Willard 135 volt B Eliminators \$3.45 used  
Willard 180 volt B Eliminators \$4.45  
Philco 135 volt B Eliminators \$3.25  
Philco 180 volt B Eliminators \$4.25  
Majestic B Eliminators with tube \$3.95  
Philcotrons 40c ea.  
Acme B Eliminators with tube \$3.75  
2 amp charger bulbs \$2.10  
6 amp charger bulbs \$4.85  
CRA 125 mil rectifier tubes \$2.40

### Batteries—Wet

100 amp storage batteries \$3.50  
6 volt Philco glass jar batteries \$3.75  
4 volt Philco glass jar batteries \$3.00  
6 volt Willard glass jar batteries \$3.75  
Hydrometers 35c  
Battery clips: Small 2c, med. 3c, large 4c

### Amplifiers

Sampson MIK 1 \$50, P A M #19 \$65, Remler #111 \$14.50, Erla Type E \$19.50, Webster Type RA245 \$26.75, Sterling dyn. amp's \$6.75

### Wire & Insulators

100 ft. rolls #14 tinned 3/64 18-27 stranded rubber covered 49c  
100 ft. rolls Stranded aerial wire 7/26, 5 rolls for \$1.00  
100 ft. rolls #14 Enameled aerial wire 35c  
100 ft. rolls 7/22 bare aerial wire 32c  
100 ft. rolls 7/22 Enameled aerial wire 37c  
100 ft. rolls inside aerial wire 42c  
100 ft. rolls 7/24 gold plated aerial wire 65c  
25 ft. rolls hookup wire—7 colors 17c  
¼ lb spool #28 enameled magnet wire 15c  
1 lb spool #28 enameled magnet wire 55c  
1 lb spool #34 enameled magnet wire 90c  
1 lb spool #38 S. C. magnet wire 90c  
250 ft. spool parallel silk lamp cord \$1.95  
Acme celecite 30" lengths 2c  
Victory antenna and static eliminator 40c  
Double pole, double throw bakelite switches 32c  
Plain copper ground clamps 3c  
Screw type ground clamps 7c  
100 Blake insulated staples in box 22c  
Window lead in strips 7c  
2" stand off insulators 11c  
6" stand off insulators 12c  
Little Joe porcelain insulators 3" 4c ea., box of 25 90c  
Glass insulators 3½" 5c, 4" 6c, 4¾" 7½c, 5½" 10c  
Emly knobs 3" 5c, 6" 6c  
Wellston Gold Test Aerials 85c  
Spring aerials 21c  
Aerial tighteners 21c  
20 ft. extension cords 29c  
Friction tape #1 3½c, #2 7c, #4 11c, #8 17c  
Wire cable 5 wire 5c ft. 6 wire 6c ft. 7 wire 7c ft.

### Miscellaneous

Bakelite speaker plugs, 4 prong 14c, 5 prong 15c  
Remler Bakelite sockets, 4 prong 9c, 5 prong 9c  
Eby wafer sockets with springs, new type, 4 prong and 5 prong 6c  
Eby wafer sockets with springs, old type, 4 prong and 5 prong 3c  
Centralab volume controls 5000 ohm or 50000 ohm 19c  
6 volt or 2½ volt pilot lights 10 to box, 45c box  
Ohio spark plugs, suppressors for auto sets 22c  
Aluminum tube shields with base 12c  
Continental voltage controls 250 volt 10 amp 19c  
Jackson heavy duty voltage controls 45c  
Jackson electric soldering irons 69c

**FREE**

A heavy 9x12 loose leaf ring binder (\$1 value) given free with every order for \$2 or more.

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20% With Order, Balance C. O. D.

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# NOW—Wright-DeCoster Quality in a Small Low-Priced Speaker!

HERE is our challenge to the present-day low-price level in the radio industry ... the Wright-DeCoster No. 235 Infant Chassis ... a small A C speaker with the quality characteristics of our larger models, with the traditional Wright-DeCoster clarity and tone beauty—yet brought within the reach of every lover of real music. Chassis alone \$19.00.

## Available in an Attractive, Compact Cabinet

—complete for \$34. This cabinet can be set on a table, mantle, shelf or most any place you want to put it. 8 feet of A C cord goes with speaker to permit distance plugging.

## Increase Your Enjoyment

from your radio or phonograph with one of these wonderful speakers. In addition to the fine Wright-DeCoster tone quality ... a treat to anyone who hears it for the first time ... is the convenience of being able to place the speaker wherever you want the music instead of being limited to the room in which you have your radio or phonograph.

The Wright-DeCoster No. 235 Infant Chassis is capable of handling 245 tubes in push-pull. Why not enjoy this finer reproduction now available at such low cost! If you contemplate buying a new radio, insist that it be equipped with a Wright-DeCoster—the "Speaker of the Year".

Write for complete information and address of the nearest sales office.

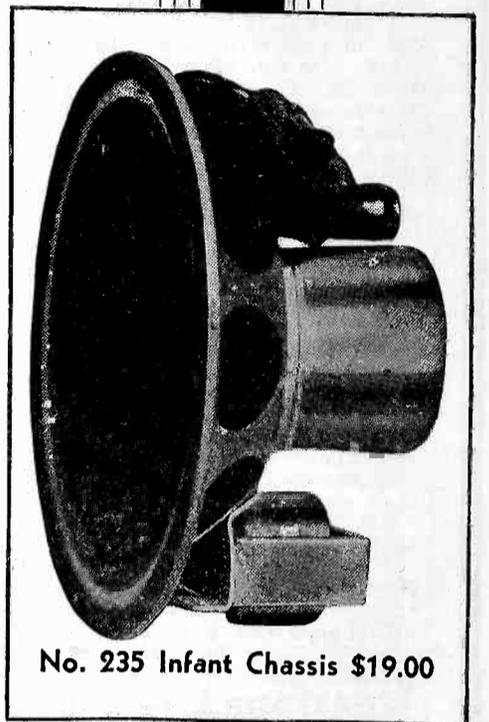


The Speaker of  
the Year

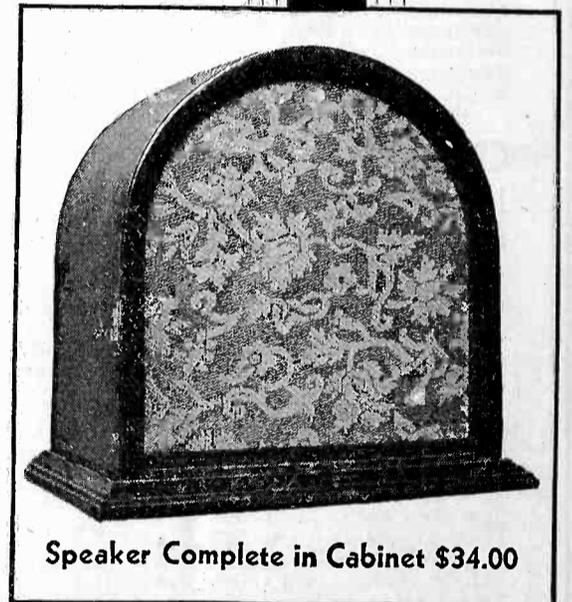
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No. 235 Infant Chassis \$19.00



Speaker Complete in Cabinet \$34.00

# CROSLEY

Offers the Greatest

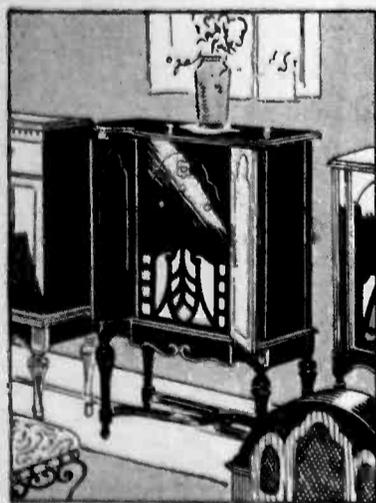
# VALUES

# in Radio . . .

at lowest possible prices



*Low Crosley prices attract prospects to your store.*

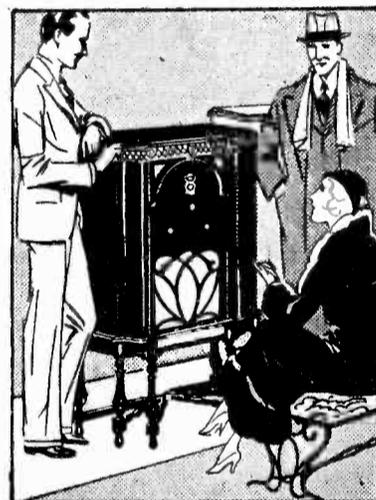


*Crosley incorporates the latest radio refinements.*

**S**UPERLATIVE performance at the lowest possible price! This requirement is uppermost in the minds of those who today are contemplating the purchase of radio receivers. And so, in accordance with the Crosley policy of providing what the public will buy, Crosley has set about to meet this demand.

In doing so, Crosley engineers and technicians have left nothing undone to give you, the radio dealer, and in turn, your customers, the greatest and most sensational values that have ever been offered in the radio industry. Consequently, Crosley radio receivers are in demand today. And they are priced so that the radio dealer can operate at a profit—**TODAY.**

Today's "buyers' market" has put its stamp of approval on the amazing Crosley models. It has professed its satisfaction in terms of greater sales. So perfectly does Crosley reflect the needs, requirements and tastes of the radio-buying public that *no dealer can afford not to handle Crosley.*



*The customer automatically "trades himself up."*



*Greater satisfaction for you and your customers.*

**THE CROSLEY RADIO CORPORATION**

Powel Crosley, Jr., President

**CINCINNATI**

Home of "the Nation's Station"—WLW

**YOU'RE THERE WITH A CROSLEY**

# CROSLEY RADIO

# Summon

# Your Business

# for trial in 1932

**I**T is up to you, Mr. Radio Dealer, to chart your course for 1932. Economists indicate that business revival is already under way, but that the rebuilding of business must be on different and sounder principles. Today you must summon your own business for trial. You must weigh carefully your possibilities and decide now whether you will build with the times or stagnate. Radio tubes are being sold and will continue to be sold as long as radio tubes require replacement. The radio tube replacement market has reached tremendous volumes and this market can constitute an important and profitable part of your business. The sale of radio tubes, however, must be undertaken with the idea of making it both beneficial and profitable.

## **What tube is it wise to select?**

**You want quality.** The quality of a tube can best be gauged by its approval and use by the most reputable set manufacturers.

**You want acceptance.** Select that tube that has grown in public sales without being slaughtered in price to produce sales results.

**You want** a tube that is not imitative, but that has led in the development of the art. Study the major advances since the introduction of a.c. tubes and select the progressive manufacturer.

**You want** a tube that is individual and has characteristics that distinguish it from all other tubes.

**You want** a tube that is profitable to handle. Your profit can only be safeguarded if the price of a tube is not slaughtered on the market, because price maintenance means insurance of profits that rightfully belong to you.

If you select these vital factors you can build soundly for the future. You will not find your shelves stocked with obsolete merchandise. You will not find that you have to sacrifice profit to get a turnover. You will then be in tune with the new business revival.

**By your decision now, you chart your own course for 1932**

Arcturus Radio Tube Company, Newark, N. J.

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