## HOOK - UPS COMMENT

### Board Praises Congress in Second Annual Report

Radio's "Public Interest" Yardstick Declared Good by Commission.—Ether Problems to Increase, Rather Than Decrease, in Future, Body Believes

to each station.

tclevision.

channels.

The commission has maintained its

Chains Not Favored

"The recent advances in radio tele-

band on their assigned channels on condition that this form of communi-cation be limited to a small amount of

time per day and be so conducted as not to cause interference on adjacent

"There is also a distinct development of television in the high-frequency band. It has been urged upon the

Another Problem.

The commission discusses high fre quency communication at length.

"One of the most difficult problems facing the commission will arise in connection with the determination of

the proper policies to apply in the field of point-to-point fixed stations in commercial field for commercial pur-

poses," is the commission's viewpoint.
"There are pending before the commis-

sion applications on the part of severa

large concerns desiring to establish public systems of point-to-point radio communication in the United States.

duplicating the wire systems between the larger cities.

applications from more or less private interests' desiring to set up a more

for these privileges for use in regions and under circumstances where the

present wire systems are inadequate or non-existent. There are thus brought

nccessity. One interpretation is that in general the public utilities test should

be applied to the extent that no ap-

plicant be licensed unless it has a legal status which obliges it to serve the en-

tire public on an equal basis; this in-

terpretation leads to the Cuplication of the existing wire systems with one or more radio systems between the larger

cities, the chief advantage to the pub-lic being that competition will thus be introduced between wire and radio.

"The other interpretation argues that radio should be employed primarily for services which cannot be duplicated by

wire as a practical matter and that

preference should be given to such uses in assigning the limited number of channels."

VOLUME CONTROL

Placing of Variable Resistor in R. F. Recommended.

volume controlling device is connected in some portion of the audio amplifier This method has a distinct disadvan-

tage. The radio frequency tubes may be developing so much energy from cer-

tain powerful stations that the detector

tube is really overloaded. Thus the de-tector tube will deliver distorted im-

pulses and even though the volume control which follows it cuts down the strength of these impulses so that the

speaker does not receive more volume than it should the "quality" of such impulses cannot be improved.

Hence the volume controlling syster should be one that actually varies the

In a great many receiving sets, the

"There are also a large number of

After using it as a sort of yardstick gency, to justify a liberal policy with by which to measure almost everything regard to his operation.

coming before it, the Federal Radio There are now 16,926 amateur stacommission, in its second annual retions licensed. declares itself convinced that Congress acted wisely in providing for criginal policy of preserving a 10-kilo-tits standard that of "public interest, cycle separation between channels used convenience, or necessity," and it is for broadcasting. Even a 10-kilocycle endeavoring to apply this standard to separation is a compromise with the cach new set of problems in a manner ideal of good radio reception and any consistent with the best interest of the decrease in the separation would lead entire public, both present and future. to disastrous results by way of interfer-Looking into the future of radio the commission sees more problems than in the past.

A majority of the commission is reported as believing that the realloca-

"The likelihood is," the commission tion plan is the best which could be reports, "that, as the art progresses, radio problems will increase rather than decrease. The possibilities of the possibility of high-frequency spectrum are almost 80 per cent. of the channels," the com-without limit. The future of such matters as radiotelevision, picture and fac-simile transmission and relay broadsimile transmission and relay broad-casting can only be matters for specu-lation. How soon and to what extent the frequency spectrum above 23,000 kilocycles will be developed for practical use is also a matter of guesswork.

To what extent future advances will
make possible an increasing number of channels and the accommodation of a larger number of stations is unknown. Amateur Recognized

The commission feels that the amateur has sufficiently demonstrated his usefulness, both in furthering the progress of the science of radio and in furnishing service in times of emer-

### Radio Questions and Answers

Radio Editor, Sunday Journal: Radio Editor, Sunday Journal:

Recently I purchased a dynamic loud-speaker that is operated from the life loud-speaker that is operated from the loud-speaker that is operated from the life loud-speaker that is operated from the life loud-speaker that is operated from the loud-speaker that is operated from the

(Yes. If you are unable to have the power supply wires of the loud-speaker connected to the 110-wolt circuit inside your set so it will be switched on automatically, another plan may be adopted. Insert a "cord switch" in the flexible wire leading from your set to the lighting socket. You can then al-ways leave the set in the "on" posi-tion and turn it off and on by means of the cord switch. The power wires to the speaker are spliced into the flexible cord between the cord switch and the set, so that turning on the cord switch will turn on both set and speaker.-Ed.)

Radio Editor, Sunday Journal:

I used to send my battery out to be charged, but finally bought a trickle charger, one ampere rate. A friend charger, one ampere rate. A friend says it will damage the set to have the charger running while I am receiving. I have been doing this, however, and the set seems to operate all right. There is a slight humming sound, however R. B. H. R. B. H. ever. Rumford.

(You will not damage your set in the least. The "hum" is usually fairly strong when the charger is operated while you receive, but if this doesn't bother the quality of reception, there is no reason why you should not do this at all times.-Ed.)

Radio Editor, Sunday Journal: Will you kindly explain what it means when a transformer is said to have a 3 to 1 ratio or a 5 to 1 ratio? Which ratio should be used?

N. C. K.

Providence.

(A 3 to 1 transformer has three times (A 3 to 1 transformer has three times as many turns of wire on the secondary coil as on the primary coil. This is not an indication of how the transformer will work, as the number of turns on the coils could be greatly varied, so long as the ratio was the same, and still have a 3 to 1 ratio. In general, the larger the number of turns the more effectively will a transformer amplify all the tones. However, other factors count greatly, too, such as the type of iron used in the core, location of coils, etc. In general, a higher ratio transformer is used in the first stage than in the second as more first stage than in the second, as more amplification can be handled in the first stage without distortion. In some special circuits, these conditions are changed, however.-Ed.)

Radio Editor, Sunday Journal: I am anxious to build a fairly sensitive set from a kit of parts, and have been considering a set with two stages of radio frequency using 201A tubes or a set with one stage, using a screengrid tube. I want economical operation as I have to use a storage battery and am a long way from a charging New Shoreham.

(I would advise the circuit using the strength of the radio frequency energy delivered to the detector tube. The as sensitive as two of the other type and more saving on battery current.—

The strength of the radio frequency energy delivered to the detector tube. The ldcal method of accomplishing this is to connect a variable resistance device in shurt to the primary window of accomplishing the strength of the radio frequency energy to the strength of the radio frequency energy and the strength of the radio frequency energy to the strength of the radio frequency energy delivered to the detector tube.

Radio Editor, Sunday Journal:

My see has lately developed a howl
that starts up after it has been operating for a while. Sometimes it will run all right all evening. At other times, I cannot seem to do anything with it. If I shut off the set and turn it on again later, it will work all right for a while. Then the howl starts. I enclose a circular describing my set. M. E. S.

M. E. S.

Providence.

(Unfortunately the loud-speaker is built into the set so that you cannot improve matters by moving it farther away. Such a course usually stops the trouble you deteribe. Your only recourse, presumably, is to get another detector tube, perhaps two others, and try to find one that will work quietly. The detector socket, if not mounted on rubber springs, could be so equipped. The detector socket, if not mounted on rubber springs, could be so equipped, so as to eliminate the howling. Also, you might try a rubber cap for the detector tube, as sold at radio stores, The could be considerable confusion has arisen as result of careless use of the terms tector rube, as sold at radio stores, The could be considerable confusion has arisen as result of careless use of the terms which do not cause international intersection.

It was recognized as inadvisable to write into the regulations definite protysions of a technical or engineering tubes.

Considerable confusion has arisen as result of careless to power to the grid by electrostatic attraction of the plate. The result is an inoperative tube. If, however, the tube is struck on the open palm, in the direction that tubes.

For the convenience of radio fans the following hourly schedule of broadcasting today is given in brief form. Figures following station denote wave length.

The hours are based on Eastern standard

LOCAL STATIONS

10:00—Conference, WLSI, 248.

11:00—Church, WEAN, 545.

12:15—Organ, WEAF, 545.

1:00—Music, WEAN, 545.

1:00—Music, WEAN, 545.

2:15—Sunday School, WEAN, 545.

2:15—Sunday School, WEAN, 545.

3:00—Music, WEAN, 545.

4:00—Music, WEAN, 545.

5:00—Talk, WEAN, 545.

5:00—Talk, WEAN, 545.

5:00—Talk, WEAN, 545.

5:30—Church, WEAN, 545.

5:30—Church, WEAN, 545.

Band, WJAR, 337.

6:00—Music, WEAN, 545.

Band, WJAR, 337.

6:30—Music, WEAN, 545.

Feature, WJAR, 337.

7:11—Feature, WEAN, 545.

7:00—Music, WEAN, 545.

Feature, WJAR, 337.

7:11—Feature, WEAN, 545.

8:00—Correct time, WEAN, 545.

8:00—Correct, WJAR, 337.

7:29—Correct time, WEAN, 545.

8:00—Correct, WJAR, 337.

Music, WEAN, 545.

8:00—Talk, WJAR, 337.

Music, WEAN, 545.

9:15—Feature, WJAR, 337.

10:00—Music, WEAN, 545.

9:15—Feature, WJAR, 337.

10:30—Music, WEAN, 545.

9:15—Feature, WJAR, 337.

10:30—Music, WEAN, 545.

9:15—Feature, WJAR, 337.

10:30—Music, WEAN, 545.

Special, WJAR, 337.

10:30—News, WJAR, 337.

11:00—News, WJAR, 337.

EASTERN STATIONS A survey made at the request of the commission shows that 12,000,000

receiving sets are serving an audience of 40,000,000 people. The commission declares it has never favored chain stations in its assignments because of any affiliation with the chain. The commission has not yet deternined its final policy with reference to

## EASTERN STATIONS

9:00—Music, WICC, 210.
Children's hour, WJZ, 395.

9:30—Church, WKBW, 304.
9:45—Feature, WICC, 210.
10:00—Children's hour, WHN, 297.
Feature, WCSH, 319.
10:30—Church, WHAM, 261; WGY, 380.
10:45—Church, WGR, 545; WKBW, 204;
WEEI, 508; WIP, 492.
10:50—Church, WICC, 210.
11:00—Church, WRC, 469; KDKA, 306;
WBZ, 303; WCSH, 319; WGAO, 297.
12:30—Music, WEAF, 454; WHN, 297.
12:30—Music, WEAF, 395; WKBW, 204; WBZ, 303; WHAM, 261;
Feature, WHN, 297; WBAL, 296; WICC, 210.
1:30—Music, WGR, 297; WBAL, 296; WICC, 210.
1:30—Music, WGR, 297; WBAL, 296; WICC, 210.
1:30—Music, WGR, 297; WBAL, 296; WGZ, 380; WBZ, 303.
2:00—Music, WTIC, 500; WTAG, 517; WHAM, 261; WGR, 422.
Roxy and his gang, WRC, 469; "In recent advances in radio terevision threaten to create serious problems," is the conclusion reached on
this. "The commission has allowed a
few broadcasting stations to experiment with television in the broadcast

Today's Programs in Brief

Feature, WICC, 210; WCSH, 319; WEEI, 508. Drama, WEAF, 454.
2:30—Music, WEAF, 454. WGBS, 254.
3:00—Music, WRC, 469; WJZ, 395; WTIC, 500; WEAF, 454; WGR, 422; WEZ, 303. Feature, WICC, 210; WGBS, 234; WKBW, 204. Church, WQAO, 279; WGR, 545; WBAL, 283.
3:15—Forum, WLWL, 273.
3:30—Music, WGBS, 254; WICC, 210.
4:00—Music, WEAF, 454; WTIC, 500; WHAM, 261; WBAL, 283; WICC, 210. Feature, WJZ, 395; WEEI, 508; WGY, 380; WTAG, 517; WGR, 545. Church, WRC, 469; WSCH, 310. Organ, KDKA, 308.
4:30—Music, WPG, 273; WHAM, 261; WGBS, 254. Church, WFI, 536.
4:45—Ensemble, WBZ, 303. Music, WOR, 422. Church, KDKA, 306.
5:00—Forum, WOR, 422. Music, WJZ, 395; WBAL, 283; WHAM, 261; WICC, 210.
5:15—Religious service, WPG, 273.

210.

5:15—Religious service, WPG, 273.

5:30—Feature, WEEI, 508; WJZ, 395; WBZ, 303; WBAL, 283; WHAM, 261; WGY, 380; WTIC, 500; Music, WRC, 469; WGR, 545.

5:40—Music, WEAF, 454.

6:00—Feature, WOR, 422, Music, WCSH, 319; WEAF, 454; WEEI, 508; WFI, 536; WGR, 545; WGC, 469; WTAG, 517; WTIC, 500; KDKA, 306; WGY, 308.

6:15-Music, WKBW, 204.

308.
6:15—Music, WKBW, 204.
6:30—Feature, WOR, 422. Music, WEAF, 454; WBAL, 283; WGR, 545; WHAM, 261; WGY, 380; WJZ, 385; WRC, 649; WTAG, 517; WTIC, 500; WBZ, 303; WCSH, 319; WEEI, 508; WFI, 536; KDKA, 306, 7:00—Church, WKBW, 204. Music, WPG, 273; WBAL, 283; WEAF, 454; WTIC, 500; WTAG, 517; WJZ, 385; WRC, 469; WGY, 380; WCSH, 319; WEEI, 508; WGR, 545; WHAM, 261; WOR, 204; WFI, 538.
7:45—Talk, WJZ, 395; WBZ, 303.
8:00—Church, WLWL, 273. Feature, WBZ, 303; KDKA, 306; WJZ, 395; WHAM, 261; WBAL, 283; WEEI, 508, Music, WTAG, 283.
8:15—Music, KDKA, 306; WBZ, 303; WBAL, 283; WHAM, 261; WJZ, 395; WHAM, 261; WJZ, 395; WHAM, 263; WHAM, 261; WJZ, 395; WHAM, 261;

395.
8:30—Music, WOR, 422.
8:30—Music, WOR, 4231. Talk, WGR, 545:
WTAG, 517: WGY, 380: WTIC, 500:
WTAG, 509: WEAF, 454; WCSH, 319.
9:10—Planist, WEEI, 508.
9:15—Music, KDKA, 306: WBAL, 283:
WTAG, 517: WJZ, 395: WBZ, 303:
WHAM, 261. Atwater Kent Hour,
WGR, 545: WEAF, 454; WGY, 380:
WFI, 536: WEEI, 508; WRC, 469.
Reading, WHAP, 231.
9:25—Music, WPG, 273.

WBAL, 287; KDKA, 306; WJZ, 395; WBZ, 303. WBAL, 283; WBZ, 303; WBAL, 283; WBZ, 303; WBAL, 283; WBC, 303; WBAL, 283; WBC, 273. 300—Music, WBA, 261; WBAL, 283. WICC, 210; WGR, 545; WBAL, 283. WICC, 210; WGR, 545; WBAL, 283. WICC, 210; WGR, 545; WBAL, 283. WICC, 210; Cathurch, WQR, 273. WGR, 545; WBAL, 283. WICC, 210; Cathurch, WGB, 254; WTIC, 500; WBAL, 261; WBAL, 261; WBAL, 261; WGR, 545; WBAL, 263. WICC, 210; Cathurch, WGB, 254; WTIC, 500; WGR, 545; WBAL, 283. WICC, 210; Cathurch, WGR, 545; WGR, 545;

2:00—Music, WMAQ, 448; KYW, 294; WOC, 300.
3:00—Music, WMAQ, 448; KYW, 294; KGO, 380; KFI, 469.
4:00—Music, KYX, 296; WCCO, 370.
Feature, WLW, 428; WSM, 461.
4:45—Trio, WLW, 428.
5:00—Music, KYW, 294; WMAQ, 448; KFI, 469; WLW, 428.
5:30—Music, KYW, 294; KOA, 361.
6:00—Music, KOA, 361; KYW, 294; WSM, 461.

5:30—Music, KYW, 294; KOA, 361.
6:00—Music, KOA, 361; KYW, 294; WSM, 461.
6:30—Music, WLW, 428; KGO, 380; KOA, 361; KYW, 294.
7:00—Orchestra, WLW, 428; WSB, 405; WMAQ, 448.
10.10—Organ, KYW, 294.
7:20—Organ, KYW, 294.
7:30—Talk, KYW, 294.
7:30—Talk, KYW, 294.
6apitol Theatre program, KFI, 469; KOA, 361; WSB, 405; KGO, 380; WSM, 361.
8:00—Music, KFI, 469; WMAQ, 448; KYW, 294; WSM, 461; WOC, 300; WSB, 405.
8:15—Music, WLW, 428; WSB, 405; KOA, 361; KYW, 294.
8:30—Music, WCO, 370, 990—Talk, WSB, 405.
9:15—Music, WLW, 428; KYW, 294.
Atwater Kent hour, KGO, 380; KOA, 361; WSM, 461; WCCO, 370; KFI, 469; WSB, 405.
9:30—Music, WLW, 428; KYW, 294.
Atwater Kent hour, KGO, 380; KOA, 361; WSM, 461; WCCO, 370; KFI, 469; WSB, 405.
9:30—Music, KYW, 294; KFI, 469.
10:00—Music, KFI, 469; KNX, 286; KYW, 294; WSB, 405; KOA, 361; KYW, 294; WSB, 405; KYB, 406; KYB,

ing with human nature generally, it must be admitted that more of our

Suggestion for Soldering.

Before soldering to nickel-plated parts, use sandpaper or a file to remove the surface so that the brass or copper

shows through. Otherwise it will be imposible to attach wires to the highly

polished metal.

# AMATEURS GAIN

Gives Them Recognition

On Jan. 1 the International Radio Convention agreed upon Nov. 25, 1927, by delegates from 79 countries, becomes

This treaty was accepted by the Senate, signed by President Coolidge and becomes operative so far as the United States is concerned. Other countries interests the state of communication, such as between chain stores, brokers offices, mail-order houses and their Holland, and officials of the State Department expect that France, Great Partment expect that France, Great Partm "In some cases, the applicants ask

Britain, Italy and Germany will ratify before Jan. 1, 1929.

One of the very interesting princi-pals accepted by the conference was the ill was recognized and his continued activity assured by the allocation to him of certain specified wave-lengths. This recognition was accomplished through the efforts of the delegations of Canada, Italy, Australia, New Zealand and the United States. The treaty provides a new system of amateur calls

to indicate nationality.
U. S. Has Already Ratified This treaty, which, as stated before, has been accepted by the United States and others and which will later doubtsists of three parts: First, the convention; second, the general regulations,

in Washington in 1920, the technical features having been revised at an interallied conference in Paris in 1921.

The provisions of the convention cover such matters as the licensing of radio transmitting stations and operators, the secrecy of messages, intersecommunication between coastal and ship stations the mutual exchange of the stations of the secret of the secr ship stations, the mutual exchange of information necessary to facilitate international radio communication to workmanship put into a set, the circuit formational radio communication to the control of the control o

clement of disputes by arbitration.

Most Important Article
Perhaps the most important article of the regulations is No. 5, which deals with the allecation of frozzerow of the superscript of the superscr with the allocation of frequency of every dollar expended. wave-length bands to radio services. Ir in shunt to the primary winding of one the R. F. coils. the first instance by their frequency in An ordinary potentiometer of at least kilocycles per second. Following this 400 ohms or a variable resistor reaching a maximum of 5000 ohms and one that can be reduced to near zero is sugthe first instance by their frequency in gested. This variable resistor is suggested. This variable resistor is mounted on the panel or substituted for the former volume control knob, and the two wires leading from it are connected to the two ends of the primary winding (smaller coil) of the R. F. transformer nearest the detector.

Not only does this system gives a consist of frequency bands to cords consist of stranded wingst the second of the primary winding (smaller coil) of the R. While the conference recognized that the allocation of frequency bands to cords consist of stranded wingst these

possible in making assignments to stations which are international in their effect. Only international stations, therefore, must comply with the allo-cation. Freedom is left for the assign-

during the next few years. Instead, general provisions calling for the maintenance of a high technical standard were adopted. It was provided for example, in the general regulations, that the waves emitted by a station must be maintained upon their authorized frequency as closely as the state of the art permits, and their radiation must receiver can be adapted to receive television by the addition of certain apparatus. Television signals, however,
will subject the broadcast listener to
objectionable noises."

International Radio Convention

The band frequency as closely as the state of the
art permits, and their radiation must
be as free as practicable from all emissions not essential to the type of communication carried on.

The band frequency as closely as the state of the
art permits, and their radiation must
be as free as practicable from all emissions not essential to the type of communication carried on.

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munication carried on.

The band from 550 to 1500 kilocycles is recognized as the broadcasting band. Permission is given in the convention to use one frequency in this band, namely 1365 kilccycles for small ships. The entire band may be used for mobile service in any part of the world where tem and Assure Their Continued casting. The band from 1500 to 60,000 Operation.—Pact Expected to kilocycles was divided into 40 smaller bands and apportioned between mobile services, communication between fixed stations, broadcasting and amateur stations. Radio officials of the United States Government are of the opinion that the going into effect of this convention on the first of the year is going to accomplish a lot for radio communication and lead to a better understanding among countries.

RADIOS IMPROVING

Receivers Satisfactory in Proportion to Their Cost.

That the radio industry rapidly is present wire systems are inadequate or non-existent. There are thus brought international recognition, for the first time, of amateur radio operators. The into conflict two opposing interpretations of public interest, convenience, or necessity. One interpretation is that in general the public utilities test should radio receivers are good-and in that belief they may be quite correct—it is unquestionably true that that day is drawing much nearer, and that the sit-vation now presented is far better than it was a year ago.

Furthermore, it is a fact that nearly all receivers today are satisfactory in direct proportion to their cost.

What that means is that the number of "duds" has been cut to the vanishing point. It was not many years less be accepted by more countries, con- ago when a person might purchase an expensive set and find it a mighty poor performer. Many makers came, adverand third, the supplementary regula-tions. The regulations are based to some extent on a draft of regulations for mobile radio service which was for-mulated at an interallied conference in Washington in 1920, the technical

The selfsame thing had happened in the automobile industry. Today it is

ernational radio communication, the used and many other obvious factors. ternational radio communication, the settlement of accounts in the mobile service, the establishment of an international consulting committee on radio communication, the allocation of blocks of call letters to countries and the setclement of disputes by arbitration.

Most Important Article

Rewiring Five-Tube Set.

The expense of having a good fivetube set rewired for the more modern audio transformers and a power tube in the last stage is relatively small if an eliminator with the proper higher voltage tap is provided.

the allocation of frequency bands to cords consist of stranded wires, it nat-specify services was necessary in order urally is difficult to join the broken to minimize interference, there was a strands so as to provide an unintercorresponding desire to leave to each country or to any group of countries in a certain region as much freedom as ter still, to care for the cord in the first place and avoid the need of re-placement.

CUSTOM DYING OUT

Fans Sending Fewer Applause Cards to Broadcasters

Is the radio applause card idea dying

son been listening in he would have upon reversing the process for a sec- ity. Under such circumstances the logit into the mail. He hadn't even heard is for the cells to become noisy. This ground connection.

couple of years ago.

Frequently the broadcasters are besieged by telephone calls from listeners --some pleased, some irate. One broad-

caster remarked recently that "in keep-

phone calls are complaints than bou-Regular features on the air are much ore likely to receive favofable, or ad-

phone—than others except, of course, events of great importance. Telegrams usually flood the broadcasters in the

latter instance. Remember This One

The natural inclination is to put the battery on charge before the ap-

erse attention—through mail or tele-| may prove to be considerably annoy. ing in the case of a program where indelity of tone and absence of inter-

Affected the Ground.

A radioist who was puzzled to find when he disconnected the trickle charg-A comparative newcomer recently enjoying hugely a certain radio feature exclaimed, "I certainly would like to left them know how much I liked that, but there doesn't seem to be any good way to do it."

A few years ago, had this same person been listening in he would have the person been listening in he would have the possible that the possible that the charger had been to be any good through a chemical action that directly reverses the normal process which prevails during discharge. The tendency the reduction in volume and DX ability that the process of page 2. ond time in order to use the battery cal step is to provide a better regular

AUTHORIZED DEALER FOR

Atwater Kent \$77.00 Grebe . . . \$196.00

| Majestic . . . \$137.50 R. C. A. Radiola \$95.00

Each set is serviced by us for 10 months without cost to you

Liberal Allowance for your Old Set



39 Plainfield St.

12 Months to Pay

Next to Royal Theatre

Do Your "Service Shopping" Early

**MERRY CHRISTMAS** 

**BRIGHT NEW YEAR** FOR ALL RADIO TROUBLES CALL

RADIO JIM

DEXTER 7274

SALES AND SERVICE

Trained Experts at Your Service—For Consultation in Your Home by Appointment.

There is No Charge for Our Advice.

RADIO : THE RHODE ISLAND SHOPPING MECCA

Open 9

Now Till

We Announce a Startling RADIO SALE

The New RADIOLA 60

—and a New "Bay View"

Radio Table With Built Radiola Speaker

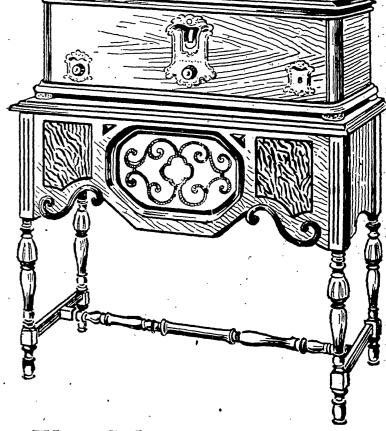
This extraordinary outfit will be sold by us at an amazingly low price.



Complete With All Accessories Price of Set Only, Less Tubes, \$147

### A Small First Payment

-places this set in your home. Under our budget plan it is extremely easy to take advantage of this unusual sale with its exceptional saving. Why deny yourself any longer. Let us install this set in your home NOW, and have it in readiness for Christmas enjoyment.



### Think of the Quality in This Sale at This Price!

We believe this Radiola Super-Heterodyne to be one of the greatest radio table sets ever built. Its only limitations are the limitations of radio itself.

Sensitive! Selective! 8 tubes give it almost unlimited power! It is the kind of a set whose performance brings sheer delight whenever you turn it on.

-has beautiful selected walnut veneer top, front and sides; and R. C. A. Speaker carefully mounted on Baffle board behind artistic grill, so that proper acoustics always

The Bay View Radio Table

Radio and Speaker and table harmonize beautifully, forming a charming article of furniture for the home.

See It By All Means—Hear It Demonstrated—Don't Miss This Timely Radio Event Boston Store-Radio Department-Fourth Floor



# PROVIDENCE GETS NEARLY \$100,000 WORTH OF SPARTON RADIOS



Huge Carload Just Arrived in Providence, Friday, from the Sparks-Withington Company of Jackson, Michigan

Those who have not yet heard the amazing new Sparton lone purity

**GET** IN TOUCH WITH YOUR **DEALER TODAY** 

And you will find the answer to this world-wide demand

> 'Let your own ear be the judge'

"Home of the Famous New SPARTON EQUASONNE"

This big shipment will take care of only part of the hundreds of back orders now on file with Providence dealers. The immense Sparton plants are running night and day to catch up with the enormous public demand for this wonderful new radio instrument

## The SPARTON EQUASONNE

RADIO'S RICHEST VOICE

PRICED FROM \$147 to \$875.00

EVERY SPARTON IS COMPLETE WITH TUBES AND ACCESSORIES. NOTHING ELSE TO BUY

RHODE ISLAND AND BRISTOL CO. DISTRIBUTORS FRANKLIN AUTO SUPPLY CO

CORNER BROAD

The Opening of—

Announcing

### Special Notice

For 14 years we have served the public direction all Automotive and Radio Products, but now owing to the rigid contract with the Sparks-Withington Co. as distributors, we can only sell Sparton Radio to high grade dealers whose standing is approved by the Sparks-Withington Co. However, we stand back of every Sparton dealer just as the Sparks-Withington Co. stands back of us. Every Sparton set, regardless of where it is bought, is guaranteed for one year. -All Sparton Tubes are guaranteed

FRANKLIN AUTO SUPPLY CO.

Demonstration OF THE NEW

**SPARTON** EQUASONNE

UNIVERSAL

69 Exchange Street CORNER HIGH ST. Pawtucket, R. !.

Say: Merry

Christmas

Equasonne

From Dad to the whole family. Not only a fine radio but hundreds of evenings' entertainment by the finest artists in the country.

Place your order now for Christmas delivery. Eagle Park Radio offers you terms, will take your old radio and give one year free service on all Sparton Radios. OPEN EVENINGS

EAGLE PARK RADIO

479 DOUGLAS AVE.

TELEPHONE DEXTER 7417

### Me SPARTON **EQUASONNE**

Triumphantly new! Tonal purity and magnificence that is thrilling....inspiring rich beyond compare. Still more amazing is complete mastery of the lower end of the dial; enormously increased range; complete elimination of the "AC hum" and extremely selective. By all means HEAR the new SPARTON EQUASONNE radio for it is truly revolutionary.

Time payments may be arranged

523 Elmwood Ave.

## Providence, R. I. We Will Be Pleased

The Amazing Performance Of The New

To Demonstrate

Sparton **Equasonne** 

"The Pathfinder of the Air" IN YOUR HOME AT YOUR CONVENIENCE YOUR PRESENT SET TAKEN IN TRADE **OPEN EVENINGS** 

### **DURFEE'S RADIO SHOP**

H. M. DURFEE, PROPRIETOR 1207 BROAD ST. Formerly the Bungalow Telephone Broad 3411 featuring The SPARTON

PEWSEY'S RADIO SHOP

1548 BROAD STREET



"RADIO'S RICHEST VOICE"

OPEN CONSOLE—MODEL 79-A PRICES COMPLETE WITH TUBES

AN EQUASONNE set with every one of the patented features found in the Senior Console. The EQUASONNE built-in speaker is made especially for this model and is balanced perfectly to the instrument. A marvelous set at a very reasonable price.

Visit Our New Radio Store and See This and Other Sparton Models. Prices Range From

CONVENIENT CREDIT TERMS

YOUR PRESENT SET TAKEN IN TRADE

We Will Be Glad to Demonstrate Any Sparton Set in Your Home Without Obligation

## PEWSEY'S RADIO SHOP

1548 BROAD ST.

TEL. BROAD 8130-W

### INTRODUCING TO PAWTUCKET and CENTRAL FALLS

A Richer . . . . Finer . . . . Still More Amazing Musical Instrument

The SPARTON **EQUASONNE** 

NOT just another radio but a new musical instrument . . . new in conception . . . new in principle . . . new in fundamentals that are revolutionary... and magnificently new in power, range and richness of musical expression. In the Equasonne Sparton presents a new radio development of a genuinely sensational nature that will sharply affect the whole radio industry. Come to our newly equipped Radio Shop and hear this marvelous instrument, or we will be pleased to demonstrate in your home.

LIBERAL TERMS IF DESIRED

TEL. PAWTUCKET 7865

**对东京东京东京东京东京东京**东京

### Radio Compass Proves Vital Aid to Navigator

Ships and Aircraft Given Exact Positions by Shore Stations Equipped with Direction-Finders. Loop Aerial Has Important Part in Work.

Americans used French apparatus ex-

it during any appreciable wind was so great as to make the bearings inaccu-

ate, and the Americans, assisted great

smaller and lighter loop that could be

At any rate, the enemy stations and planes giving artillery signals could be quite accurately located, and the

followed very well. The Americans also

The radio compass receiving set us-

ually calls for an extra amount of

locations for himself—getting bearings on the different broadcasting stations. In the daylight the results will be

the 360 mark) should be toward true

held more steadily.

Three Mobile Stations

BY BRAINARD FOOTE.

One of the most interesting and now one of the most essential branches of radio utility is found in the radio compass methods by which ships, airplanes, dirigibles, etc., may find their locations. In this work the old and familiar loop aerial is used. The loop. you will recall, is used with extra-sen-sitive receiving sets like the superhet-erodyne and has its special value in its ability to receive best from certain

In practice, the loop used at a compass station is quite large and very rigidly constructed. It is usually housed in a special room built for it right over the radio apparatus room. The shaft the radio apparatus room. The shaft on which it rotates extends down into the radio room and usually through a ratus is placed. There is a large wheel or handles by which the radio opera-tor can turn the loop and there is a circular scale, usually of metal, with 360 degrees marked off on it, on the for the purpose, being quickly moved from place to place as the position of

When a ship desires a position report it sends long "dashes" or buzzes for several minutes and there are usually three compass stations located along the coast that operate together. Each one will listen in to the ship and obtain its direction as follows:
Loop Slowly Turned

Loop Slowly Turned

The loop is slowly turned until the ship's signal just "fades" out and can't be heard. The degree at which this occurs is noted. Moving the loop a bit further along the operator comes to a point at which the signal just barely begins to "come in" again. He notes this figure, too. By adding together these numbers and dividing by two, he has a true bearing, or the direction in which the ship lies from his particular station. sensitivity because the loop aerial does not pick up as much energy as the ordinary overhead wire.

Anyone who has a loop receiving set and equips the loop with a circular scale from zero to 360 degrees can easily have quite a bit of fun trying map

his particular station. The same process is going on at the other two stations, of course, and as 500n as the three have finished their work, the results are telephoned or telegraphed to the coastal communicat-ing station and radioed out to the ship. In the daylight the results will be quiet accurate, but he may find sometimes, especially at night, that the bearings will not be correct in direction. This is because surrounding buildings, etc., reflect and diverge the radio waves. The plane of the loop should lie true east and west and the location of the pointer on the scale and the zero mark of the scale (also The captain can then draw a line from each station, according to the bearing given him, and, if all the bearings have been accurate, the three lines will cross at a certain point and accurately lo-cate the ship on the map. Where the bearings are not accurate, the three and the zero mark of the scale (also lines will not cross exactly, but even the 360 mark) should be toward true so, the intersections will form a small north. triangle and will usually place the ship

triangle and will usually place the ship fairly accurately.

Think of the great value of that service to ships in time of fog or storm! As the direction-finding work is of especial value when ships get near shore and in case of inaccurate work might run aground, the bulk of the service is given to ships near the shore. Their radio signals are therefore loud, and accurate bearings can be secured. The writer at one time used to spend his summers as a ship radio operator and can recall very well one occasion when can recall very well one occasion when the ship was passing Nantucket and when radio bearings were the only means the captain had to guide him through the channel. In that case, bearings were secured about every half-

### Airplane Service Aided.

The use of the radio service for direction-finding is gradually being extended to airplanes and has been employed for dirigibles for some time. The difficulty in the case of the airplane is successful operation of the receiving set in the case of the airplane is successful operation of the recelving set in spite of the deafening roar of the motor. A visual indicator has been developed, however, and a special system of radio compass direc-tion worked out, particularly for planes carrying the mails.

In war-time, great use was made on both sides of the radio compass device. The Allics, it seems, had the advantage in this particular instance because the Germans used extensively the spark type of transmitting sets. These are very easy to get bearings on. The writer was a member of the Radio Division of the Intelligence Section and was engaged mostly in radio compass work The French had developed a standard method for the work and at first the





If You Need Money Come to Us-Family Loans \$10 to \$300

\$100 LOAN payable \$5 monthly, plus lawful interest. \$200 LOAN payable \$10 monthly, plus lawful interest. \$300 LOAN payable \$15 monthly,

plus lawful interest. Cost fixed by law. Every repayment reduces the cost. All loans in strict privacy. CALL, WRITE OR PHONE

Personal Finance Co. PHONE GASpee 5-8-7-3

Room 415, Union Trust Bidg., 170 West American Loan Company PHONE GASpee 6-8-0-9

Room 203 Lauderdale Bldg., 144 Westmin

Beneficial Loans PHONE GASpee 7-4-1-0 Room 201 Woolworth Bldg., 187 Westmin-ster Street.

Open 8.30 to 5-Saturday 8:30 to 1. LICENSED BY THE STATE.

rate of 10,000 words an hour, Variety

Arguing against certain phases of diplomatic intercommunication Repre-sentative LaGuardia of New York mainof the envoy plenipotentiary is past.

"The laws and precedents as to the customs and powers of Ambassadors were made in the days of sailing ships The French "Goniometric" station, as it was termed, consisted of a small "shack" of wooden sections that bolted together. There was also a high and months to get a communication from one country to another and a re-ply back, but today all the negotiations ramework and above the shack a large loop was erected, being turned from within. The difficulty experienced with are conducted right from the home. "The radio cable, railroads, airplanes and steamships have made an Ambassador only a messenger boy in spats.' y by Maj. Armstrong, the inventor of the regenerative circuit, devised a

There was no effort on the part of William R. Dawes of Chicago, brother of the Vice President, to qualify as an expert when he testified in Washing-

Will the radio audience rise also? Handel's "Messiah," the most popular from place to place as the front changed.

Nowadays the radio compass has come into very wide use and many of days.

The custom of the audience rising the composed in only 24 days.

The custom of the audience rising the performance of the "Halle-

during the performance of the "Halle-lujah Chorus" dates back to its first these they are able to take "bearings" on the various shore radio stations. By taking bearings on a number of known taking bearings on a number of known shore stations, the captain can locate himself in still another way and is independent of the compass stations who was present, rose to their feet and remained standing until the end of the

There are fewer insane patients in Alaska than at any time since the Klondike gold rush. Insanity was generally described as caused by the long ciety. Miners, trappers, and reindeer

herders were its victims.

But, according to the San Francisco Chronicle, radio and airplanes have reduced this malady. Practically all the distant camps have radios to tell of events around the world and to diffuse entertainment. Almost daily, airplanes may be seen in every section of the territory, bringing letters, newspapers and supplies to the most isolated settlements.

Vagrant Waves Newspaper stenographers, taking Newspaper stenographers, taking down Husing's play-by-play accounts of football games, credit him with 180 words a minute. It beats average court reporting and the stenographers comof Interest

♦ ♦ ♦

The Musical Saw: "That announcer thinks quite a bit of himself, doesn't be?" The Ukulele: "Rather! He won't an nounce for a station unless it has an exclusive wave."-Radio News.

Use Accurate Voltmeter. In testing the condition of B bat-teries, it is important that you use an accurate voltmeter-not watchcase affair-and that you test the batteries while they are under actual load. The practice of testing batteries while at rest leads to faulty conclusions, since any battery recuperates momentarily while at rest, so that a false reading is obtained.

ain it is too fast for their own tran-

Some radio owners have failed to consider the breaking down of a by-pass condenser or an audio transforme. planes giving artillery signals could be planes giving artillery signals given giving g breakdown of a tube or the lowering of efficiency in batteries.

> Battery Intelligence. If you are using a trickle charger for your storage battery, it is a wise thing to have your battery charged by a storage service station every three months at least. Most trickle chargers do not keep a battery fully charged, with the result that sulphate forms on the plates, unless an occasional full charge is given the battery.

INDEXING terms are the nes" in every Classified Ad.

to Fans

The average person cannot hear tones bove five or six thousand cycles.

The electric iron is the ideal tool for

A horn speaker must be seven feet or longer to give the depth of tone of the usual cone speaker. It is impossible to operate the A-C or socket-power receiver in a house that is not provided with electricity.

A worn-out battery connected with a new battery will shorten the life of the

It is advisable to replace tubes throughout when the ones in use have been in service for more than a year.

The buzz in a Balsa wood speaker is due to a split. This condition can be remedied by the application of a special cement which joins the separated sections of the wood.

When soldering on nickel-plated terminals be sure that the surface is cleaned with a file so that the brass or copper beneath shows through. It ossible to solder wire on nickel.

A C battery minimizes the drain

DR. JAMES C. COLTON

Dentistry for Children Ages 4 to 16 inclusive

189 Mathewson Street

SPECIAL

FOR ONE WEEK ONLY-FROM DEC. 17 TO 22nd

WILKS-BARRE DE

EDGEWOOD COAL CO.

Ted Husing, the Columbia Broadcasting System's crack announcer, talks at

# All-American Mohawk Corporation



### iner Christmas (

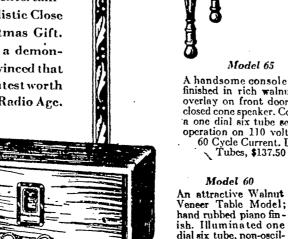
twists, squeals or buzzes, brings shouts of glee from the kiddies -momentary amusement-that is all that is expected.

But when it comes to selection of a radio for Christmas-that is a different matter. Radio is no longer a novelty. It has graduated from the toy class-and Lyric Radio stands right at the head

MCRACKS are fine for of the class-supreme in all that youngsters—anything that is desirable in modern Radio. With perfection of performance, Lyric Radio gives positive assurance of permanency . . . of continuously satisfactory servicethe utmost of Radio entertainment in "Radio's Realistic Close Up." The ideal Christmas Gift. Come in and witness a demonstration. You'll be convinced that Lyric presents the greatest worth in actual value of the Radio Age.

Waite Auto Supply Co. 560 Westminster St. Gaspec 7821 DISTRIBUTORS

See Your Nearest MOHAWK Dealer



—in the purity of every tone -in the positive and magic-like control -in the amazingly fine degree of selectivity in fulness of volume -in extreme excellence of every detail of construction -in efficiency of every

of finish

phase of operation. 2000

All-American

Mohawk Corporation

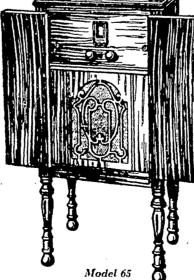
LYRIC Radio has

gained and will

retain leadership:

-in the exquisite beauty

—in the stately designs



A handsome console finely finished in rich walnut with overlay on front doors. Enclosed cone speaker. Contains a one dial six tube set. For operation on 110 volt A. C. 60 Cycle Current. Less Tubes, \$137.50

lating receiver and selfcontained power unit For 110 volt A.C. eration. Less speaker or tubes, \$92.59

on the B batteries and improves tonal erated among the 4000 prisoners in the main training centres in Scotland. quality. The C battery voltage depends upon the amount of B voltage. Ninety volts B calls for 4½ volts C. Ohio State Penitentiary,

lemonstration schools at the four for communicating with one another

Television transmission in color has been accomplished in England. Camel caravans crossing the Sahara re to carry portable transmitting sets.

It takes a radio wave only one-seventh of a second to travel entirely round the world.

Fully 800 receiving sets are now op-

### **Breakfast Nook Sets** O'Driscoll Bros.

GASPEE 2588

### Manufacturing Floor Space

for rent in sptendid location in city of Pawtucket. Will furnish areas to suit. Rental 26c and 28c per square foot, including heat-ing and watchman service. Build: ing located corner Fountain, Middle and Blackstone streets. See your own broker, or apply to Box-788, Pawtucket, R. I.

Radio sets are to be installed in the

A League of Nations wireless station is planned in Geneva, Switzerland, to be used by the members of the League



They make mothers even more fond of their children; they make wives love their husbands more and they make mothers-in-law truly appreciative.

So-why not buy one, and, since the recipients are beyond the Santa Claus stage, bring 'em over and let 'em see one burning.

We'll Be Looking For You!



R. I. Welding Co.

25-31 BATH STREET

P. S. Complete line of Oil Burners on display

at our showroom, Valley and Ayrault streets at Davis Park. Also Silent Glow at 80 Arthur Ave., Providence, and 1932 Union street, Attle-

CHARACTERIZED BY VISITING ENGINEERS AS

### ONE OF THE FINEST EQUIPPED RADIO DEPARTMENTS in NEW ENGLAND

WITH A DISPLAY OF RADIOS SECOND TO NONE

And Your Own Terms Within Reason WHY NOT BUY YOUR NEW RADIO AT

M. STEINERA & SONS

### SELECTION OF THE RADIO CO. For the one, or ones, you love best-



For Christmas

Whether you pay \$150 or \$2500 for a Zenith electric radio, you are guaranteed an uncomprising standard of quality. Electric sets (A. C. or D. C.) exclusively using

AUTOMATIC TUNING in many models, several with

DYNAMIC POWER **SPEAKER** Model 34-P:

all-electric receiver. 9 tubes including rectifier tube. Built in Dynamic Speaker of humanized tone in Low Boy Console of figured walnut vencer. Less

Tubes.

all-electric reincluding rectifier) in a table cabinet of exceptional beauty. From g racefully rounded walnut veneer corners to satin - wood overlay on front panel. every detail is of the finest.

(less tubes)-

\$150

Zenith 23: fine

When It Concerns Those Who Are Dearest, Only the Best Will Do!

A radio, more than almost any other gift can be a constant reminder of the thoughtfulness and generosity of the giver. You should leave nothing undone to make sure your Zenith will continue to deliver lasting satisfaction!

No radio is better than its installation. If it pays to invest in a Zenith, certainly it pays

1 YEAR TO PAY

to get an Empire installed Zenith,

YOUR OLD RADIO accepted as part payment



23-25 Empire Street

CARLES EN CARLES

**新歌歌歌歌歌歌歌歌歌歌** 

### RADIO **PROGRAMS**

ed Continued from Page Eleven.

2:00 p. m.—Down melody lane,
4:00 p. m.—Back to melody,
4:30 p. m.—Same as WJZ.
5:00 p. m.—Same as WJZ.
5:30 p. m.—Same as WJZ.
6:30 p. m.—Firestide forum,
7:00 p. m.—Clark travelogue,
8:00 p. m.—Same as WJZ.
8:15 p. m.—Same as WJZ.
9:15 p. m.—Same as WJZ.
9:15 p. m.—Same as WJZ.

WHAP—NEW YORK—231.

9:00 p. m.—Sacred music.

9:15 p. m.—Christian Science reading from the writings of Mary Baker Eddy.

9:40 p. m.—Christian Science reading from the writings of Augusta E. Stetson, C. S. D.

WHN-NEW YORK-297.
0 a. m.—American children's hour.
0 p. m.—Organ recital.
0 p. m.—Studio program.
0 p. m.—'Home Sweet Home' hour.
0 p. m.—Organ recital.
0 p. m.—Everglades Orchestra.

WICC—BRIDGEPORT—210.

8:30 a. m.—The voice that serves.
8:35 a. m.—Radiogram morning news.
9:00 a. m.—Sunday breakfast music.
9:45 a. m.—Mother thrift club music.
70:50 a. m.—Park Street Congregational
Church service.
1:00 p. m.—Music from foreign lands.
2:00 p. m.—International Bible Students'
program.

2:00 p. m.—International Biole Students program.

3:00 p. m.—Al Bablon, Billy Cooper and Art Withstandley.

3:30 p. m.—National Council of Catholic Men.

4:00 p. m.—Orchestra,

5:00 p. m.—Etude School of Music.

6:00 p. m.—Correct time.

WIP-PHILADELPHIA-492.

10:45 a. m.—Service from Holy Trinity Church.

10:00 p. m.—Symphony orchestra.

10:00 p. m.—Symphony orchestra.

\*\*WJZ—NEW YORK—395.

\*\*00 a. m.—Children's hour.

1:00 p. m.—National string orchestra.

1:30 p. m.—White House dinner music.

2:00 p. m.—Roxy symphony concert.

3:00 p. m.—Young People's conference.

4:00 p. m.—The Continentals.

5:00 p. m.—The Continentals.

5:02 p. m.—South Sea Islanders.

5:25 p. m.—Summary of programs.

5:30 p. m.—Dr. Harry Emerson Posdick.

6:30 p. m.—Whittall Anglo-Perslans.

7:00 p. m.—Correct time.

7:00 p. m.—Tragments of fancy.

7:45 p. m.—"The Practicability of the Airplane in the Far North," by Gapt.

Donald MacMillian.

5:00 p. m.—Enna Jettick melodies.

1:15 p. m.—Collier's radio hour.

1:15 p. m.—Utica jubilee singers.

45 p. m.—E Tango Romantico.

30 p. m.—Correct time.

30 p. m.—Correct of the control of the made for good diction on the radio.

WKBW—BUFFALO—201

radio.
WKBW-BUFFALO-201 \$:30 a. m.—Morning prayer.

10:45 a. m.—Tabernacle service;

1:00 p. m.—Organ recital.

3:00 p. m.—Columbia broadcasting system.

6:15 p. m.—Dinner music.

7:00 p. m.—Evangelistic service.

10:15 p. m.—Back home gospel melody hour.

WLWL—NEW YORK—273
3:15 p. m.—Columbus Council, K. of C., forum.
8:00 p. m.—Service from Paulist Fathers' Church.

WOR—NEWARK—422 2:00 p. m.—Selbert's Caucasians. 3:00 p. m.—Philharmonic symphony 2:00 p. m.—Philharmonic symphony orchestra.
4:45 p. m.—Raymond Hunter, baritone.
5:00 p. m.—Sunday forum.
6:00 p. m.—St. Peter's Church carillon.
6:30 p. m.—Great Cathedrals, Nantes.
7:30 p. m.—Choir invisible.
9:30 p. m.—Choir invisible.
9:30 p. m.—Market and Halsey street playhouse.

10:30 p. m.—Pipe dreams.

WPG—ATLANTIC CITY—273
4130 p. m.—Community vocal and instrumental recital.
5:15 p. m.—Religious service.
7:00 p. m.—Sunday concert.
19:15 p. m.—News flashes and weather re-

WQAO—NEW YORK—297 m.—Calvary morning service. m.—Inspiration hour, m.—Calvary evening service.

WTAG—WORCESTER—

WTAG—WORCESTER—

OP, m.—Same as WJAR,

OP, m.—Same as WEEI,

OP, m.—Same as WJAR,

OP, m.—Correct time.

OP, m.—Cor

WTIC-HARTFORD-500 p. m.—Same as WJAR. p. m.—Same as WEAF. 2:30 p. m.—Same as WEAF.
2:00 p. m.—Same as WJAR.
4:00 p. m.—Same as WJAR.
5:30 p. m.—Dr. S. Parkes Cadman.
6:00 p. m.—Same as WJAR.
6:00 p. m.—Same as WJAR.
7:00 p. m.—International Mercantile Marine program.

### The Dial's Diary By the Trouble-Shooter

Occasionally I drop in to see someone the has purchased a set from me just as a matter of maintaining contact. Frequently I can offer a suggestion or make a small change that works wonders in the final product. That's how I happen to run into radioists who are having trouble without knowing it.

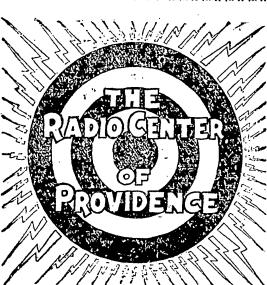
The other evening I found a customer sitting in front of a loud-speaker that was emitting what I would consider rather poor reception. It did not seem possible that the owner could have been satisfied with what his equipment was giving him, but there he was, enjoying every minute of it.

For a time I was puzzled. Then suddenly the truth came to me. He had not noticed the way his reception deteriorated for the simple reason that he was what we know as a "radio bug."
Every evening he spent at least a scouple of hours with the set. That is why he had not noticed what was happening to his receiver. The deteriora-tion was so gradual he was not at all aware of it.

The other type of radio user—the person who listens in when there are big features on the air—is more likely to note anything that does not seem to be just right about his set. Its stages of deterioration come in more pronounced breaks, with the result that he orders are to result that he orders an investigation and finds out what's wrong.

I have found the poorest reception in those homes where the entire family is radio-enthused. This may surprise the extensive radio user, but it is a fact. Such users become a little bit self-sat-sfied. They do not listen to other people's sets and, since most people own radios of their own there is not so much chance of the outsider telling them what they are missing.

If I were an every night radio fan I Would make it a point to have an out-sider listen in and criticise. It would mean a lot and would help me keep my set up to date by pointing out the things that I would be sure to over-look.



# LETT BE ARADIO THIS CHRISTMAS

ITS joy will continue for years after the event has been forgotten. Having decided on buying a radio, the next question is-WHICH IS THE BEST STORE?

Don't go to the store that asks two prices and shows a limited variety, so that real choice is out of question. Don't go to the shop that handles inferior sets. .

If you want the best assortment to select from, if you desire a set that will embody all the newest improvements-if you prefer to have an installation that is scientific and accurate and that will give you the best results—THEN COME TO US, and we'll serve you so that you'll be well pleased.

Radio Provides Entertainment the year round—it is not used for a short time and then laid aside. A Radio Set must be properly installed and balanced in your home to give satisfaction. This cannot be done properly during the Christmas Rush of the last few days.

Make Your Appointment Now for Demonstrations, have your selection of sets brought to your home for approval—and then properly balanced and installed.

Avoid Unknown Sets and Obsolete Models. There are no "miracle sets" or bargains. You get just what you pay for and no more.

# For The BEST in RADIO We Offer-

ADIOLA

THE Radiola Super-Heterodyne-

finest achievement of the radio art

—is the broadcast receiver that the

engineers in RCA, General Electric and Westinghouse Research Labor-

One of radio's greatest values ! The fa-

mous All Electric Radiola 18 is a finer

instrument at a lower price—that's the

story in a nutshell. Formerly selling at

a list price of \$115. NOW ......

atories use in their own homes...



Famous For-Long Distance Reception Famous For—Ultra Selectivity Famous For—Tone Quality

Now! Make Your Radio

Brand New-With

MAGNETIC and DYNAMIC REPRODUCERS

MODEL 7-A

A Fine Magnetic Speaker

Manufactured with utmost care for tonal quality—marve-lous volume—true separation of all orchestral instruments—a wonderful gift! At a price you can afford! Come to B. & H. and get this genuine Peerless Speaker!



MODEL 17-AR-60 This Speaker Improves

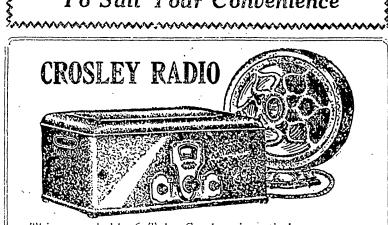
Any Set

Dynamici Make your radio fully modern with this wonderful speaker. Encased in a subtly beautiful Gothic Cabinet—rich in the melody of perfect musical reproduction—capable of amazing volume—this speaker is rivalled only by Peerless Model 19-AR-60. At B. & H.

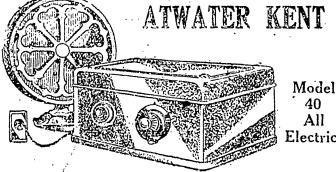
B. & H. offers Automatic Radio in time for Christmas! The new Dynamic Zenith is quality radio — economical radio when purchased from B. & H. This set with dynamic speaker and automatic tuning. Come to B. & H. now and arrange for a free trial of Zenith in your own home. Zenith Radio is priced

\$150 and more

# To Suit Your Convenience



This remarkable 6 Tube Gembox is entirely contained in an attractive metal cabinet and equipped with an illuminated dial., Price-



This famous 6-tube model has few equals when it comes to performance. Contained in metal cabinet. Less tubes.....

40

All

## When the Great Artists Sing

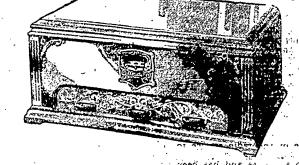
Trust your enjoyment to a Grebe Synchrophase Seven and Natural Speaker. Hear the famous tenors...baritones... sopranos...naturally...as they would like you to hear them. Tone quality of a Grebe receiver is superbly lifelike. Voices reach you with their original full-throated richness...as they left the studio.

Such unusual reception of a Grebe is due mainly to Grebe workmanship — the result of 19 years experience in building better radio apparatus.

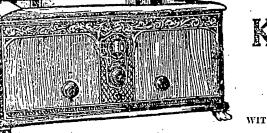


Complete with Tubes and Grebe Speaker

CONSOLE MODELS **PRICED** HIGHER



**FAMOUS** 



Kolster 20 \$187.50

One turn of the single dial and the entertainment of the air comes to you —distinctly and clearly. The Kolster is particularly successful in picking up distant stations. Come in and hear this wonderful radio.

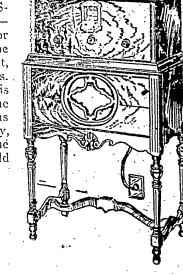
Other Kolster Models from \$285 to \$450

MODEL 71-7 TUBE

## MAJESTIC

WITH BUILT-IN DYNAMIC SPEAKER

TERE is the radio ideal—the MAJES-TIC. For clear tone-selectivitydependability-it excels them all. As for tone, the DYNAMIC speaker puts the MAJESTIC in a class by itself. Its soft, life-like tone is a revelation to radio lovers. Everything comes in perfectly from this loud speaker. As for selectivity, the MAJESTIC at no time receives 2 stations at the same time. And for dependability, just place the plug in light socket and the power is always there. What more could you ask for in a radio?



**斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯** 

"If It's New and Worthwhile in Radio We Have It"

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MATHEWSON

**MODEL 19-AR-60** 

This is the finest speaker made. There is no need to describe it—you have heard of it! Now all you need do to want it for yourself is to come to B. & H. and hear it yourself—and see the exquisite perfection of its decorative Gothic Cabinet!

**PHONES: GASPEE 5550-1-2-3** 

### RADIO PROGRAMS

WEER'S HIGH LIGHTS
Today

Today

MIAR-1:30 p. m., Peericss Reproducers half
hour of harmony; 3:00 p. m., Dr. Stephen
8. Wise; 4:00 p. m., Dr. S. Parkes Cadman; 6:00 p. m., Weymouth band; 6:30 p.
m. Acousticon hour; 7:00 p. m., Old Company's program, Reinald Werrenrath; 7:30
p. m., Capitol Theatre program; 9:00 p.
m., Talk by David Lawrence; 9:15 p. m.,
Atwater Kent Second National Radio Audition; 10:30 p. m., announcement of an

m. 121K by David Lawrence; 9:15 p. m.,
Awater Kent Second National Radio Audition: 10:30 p. m., announcement of an
sward to be made for Good Diction of
the Radio.

WEAN—11:00 a. m., Service from Mathewson. Street Methodist Episcopal Church;
12:15 p. m., organ recital; 1:00 p. m.,
Dulley radio carollers: 2:00 p. m., Lancaster Theatre children's chorus; Columbia Chain programs, 3:00 p. m., 4:00 p.
m., 5:30 p. m., 8:30 p. m., 10:00 p. m.;
5:00 p. m.—Florette ensemble; 6:30 p. m.,
Asia concert orchestra: 10:30 p. m., Amerlean Academy of Arts and Letters, announcements of award of medal for good
diction on radio.

inconcements of award of medal for good diction on radio.

\*\*ISI-10:00 a. m., International Bible students' program; 8:00 p. m., Service from the Church of the Seventh Day Adventist.

Monday

\*\*IJAR-7:40 p. m., Edward Keenan, tenor

wan-solots.

wan-solots.

wan-solot p. m., United Choral singers,

wasn-silo p. m., The Criterions,

Tuesday

wan-silo p. m., Auction bridge game,

wan-silo p. m., concert from the PanAmerican Union, Washington, D. C.

wasn-silo p. m., Charles Miller and his

grehestra.

Wednesday Wednesday
WJAR-6:50 p. m., Earl Shean and his orchestra. Such Spean and his or-WEAN-11:10 p. m., Broadcast from Sym-phony Restaurant.

phony Restaurant.

Thursday

WIR-8:35 p. m., Musical program by
Vaughn A. Kazarian, baritone, accompanied by Violette Marks.

WEAN-10:00 a. m., Ida Bailey, Allen, cooking school. ing school. a. in., ida Bailey, Allen, cooking school. Wisi-9:15 p. m., Walter Wasco and his orchestra. Friday

ducted by Radon Community Temple Beth-El.

WEAN-6:00 p. m., Uncle Red and his A.

B. C. Club.

Strollers dance orches WISI-8:10 p. m., Strollers dance orches-Ta. Saturday
WJAR-9:00 p. m., Lew White organ recital.
WZAN-8:00 p. m., WNAC players present
"Turning the Trick."

WJAR-8:00 p. m., Synagogue services conducted by Rabbi Samuel M. Gup from the

WJAR-THE OUTLET COMPANY-337 p. m.—Peerless Reproducers half hour of Harmony—National Broadcasting Peature.

D. m.—Dr. Stephen S. Wise—National.

D. m.—Dr. S. Parkes Cadman—National: processional, ensemble and orchestra; announcement of service; hymn; prayer:—Dr. S. Parkes Cadman; response: Dresden Amen; Evening and Morning." Spicker: Scripture reading by Dr. S. Parkes Cadman: response: Holy, Holy, Holy, from "The Holy City." Gaul: Marche from Scenes Pittoresques, Massenet, instrumental: "God is a Spirit." Beunet; address: "The Reality of Ideals." Dr. S. Parkes Cadman: "The Swan." Saint-Saens, 'cello and orchestra: questions and answers by Dr. 3. Parkes Cadman: hymn: prayer and benediction, Dr. S. Parkes Cadman: "Sovenfold Amen." Stainer: "closing and announcement.

5. m.—Weather report and temperature report.

6. p. m.—Weymouth Post American Le-

ture report.

6:00 p. m.—Weather report and temperature report.

6:00 p. m.—Weymouth Post American Legion band—National.

6:30 p. m.—Acousticon hour, National.

7:00 p. m.—Old company's program, Reinald Werrenrath series, National; "Love's Old Sweet Song;" "Memories;" "Up the Street." Morse, orchestra; "Lindy." "T've Waited, Honey, Waited Long For You;" "Honey That I Loved So Well," quartet; "Operatic Rag," orchestra; two solos by Stelia Mayhew: "Nights of Gladness," waltz, Ancliffe, orchestra; "Hallelujah," from "Hit the Deck," Stella Mayhew: "Chung Lo." Moret, crchestra; "She's More to be Pitled Than Centured," "She Was Happy "Till She Saw You," "Just Tell Them That You Saw Me," "Comin' Thro' the Rye." Taylor, orchestra; closing. "Memorles."

7:30 p. m.—Capitol Theatre program, National.

9:00 p. m.—"Our Government," by David

p. m.-"Our Government," by David

Lawrence, National.

p. m.—Atwater Kent Second National Radio Audition, National.

p. m.—Providence Journal and Evening Bulletin news flashes.

p. m.—Announcement of an award to be made for Good Diction on the Radio: Speakers, Hamlin Garland, Dr. Nicholas Murray Butler, Prof. George Pierce Baker, Hon, Robert Underwood, Augustus Thomas and others; National. Monday 10:00 a. m.—Housewives Radio Exchange, a department conducted by Mrs. Wood on matters of household interest. questions submitted will be answered by radio

by radio.

a. m.—Musical program.

a. m.—Radio household institute—Na

11:15 a. m.—Radio household institute—National.

1:05 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Studio program.

1:30 p. m.—Weather report.

1:35 p. m.—Continuation of studio program.

6:20 p. m.—Providence Journal and Evening Bulletin news flashes.

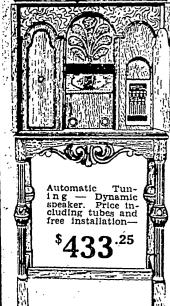
6:30 p. m.—Gibert's sports talk for boys—National.

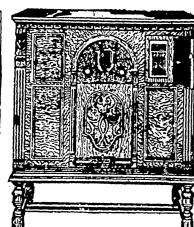
7:00 n. m.—Mutual Savings Bank Hour—National.

n. m.—Mutual Savings Bank Hour—National.
p. m.—"The Rhode Island Historian."
p. m.—Edward Keenan, tenor soloist.
j. m.—Veather report and temperature report.
p. m.—Voice of Firestone—National.

A GIFT For Every Member of the Family for All Year Round Use-

ENITH RADIO LONG DISTANCE AUTOMATIC

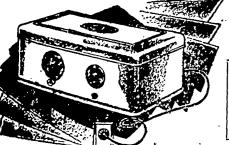




Model 39-A Automatic Tuning

Dynamic speaker-years ahead in design. Price complete, less tubes.... \$510

ATWATER KENT Model 40 shown at left, price less tubes



Every radio we sell is doubly guaranteed -by manufacturer and us.



RADIOLA 60

The radio used by radio engineers is hed cabinet of solid mahogany. In their own homes. Very selective. Dependable in operation, beautiful in appearance. Priced less tubes.



Model 18 Radiola in walnut fin-

in appearance. Priced less tubes. \$95<sup>.00</sup>

**55** DELIVERS any radio we carry to your home—balance may be paid on easy terms if desired.

R. I. ELECTRICAL EQUIPMENT CO.

"FIRST RADIO STORE IN PROVIDENCE"

45 Washington Street Phone Dexter 1052

8:30 p. m.—A. and P. Gypsies—National.
9:30 p. m.—General Motors family party—National.
10:30 p. m.—Correct time.
10:30 p. m.—Providence Journal and Evening Bulletin news flashes.
10:30 a. m.—Good Groceries by Sally Sawyer.
11:00 a. m.—Housewives Radio Exchange, a department conducted by Mrs. Wood on matters of household interest. Questions submitted will be answered by radio.

8:30 p. m.—A. and P. Gypsies—National.
9:30 a. m.—Jane Day and her Polar Bears.
10:30 a. m.—Good Groceries by Sally Sawyer.
11:00 a. m.—Shepard Stores concert ensemble.
11:30 a. m.—Women's Institute program conducted by June Abbott.
11:57 a. m.—Time signals.
12:00 m.—Musical program.
12:00 m.—Providence Journal and Eve-

by radio.

11:00 a. m.—Musical program.

11:15 a. m.—Radio household institute—Na 11:15 a. m.—Radio household institute—National.
4:00 p. m.—Weather report.
4:05 p. m.—Musical program.
4:30 p. m.—Auction bridge game—National.
6:50 p. m.—Providence Journal and Evening Bulletin news flashes.
6:55 p. m.—Weather report and temperature report.
7:00 p. m.—Narragansett Hotel concert orchestra.

b:55 p. m.—Weather report and temperature report.

7:00 p. m.—Narragansett Hotel concert orchestra.

7:30 p. m.—Soconyland sketches—National.

8:00 p. m.—'Safety Talk,' sponsored by the Providence Safety Council.

8:05 p. m.—Arthur Guilmette.

8:15 p. m.—Musical program under the direction of Harold Strong, tenor, accompanied by Violette Marks.

8:30 p. m.—Hawaiian Island quintet.

9:00 p. m.—Evercady hour—National.

10:00 p. m.—Evercady hour—National.

10:30 p. m.—Providence Journal and Evening Bulletin news flashes.

Wedneyday

10:00 a. m.—Musical program.

11:15 a. m.—Radio Household Institute, National.

11:00 a. m.—Musical program.

8:00 p. m.—Home Companion hour, National.
9:00 p. m.—Ipana Troubadours, National.
9:30 p. m.—Palmolive Hour, National.
10:30 p. m.—Correct time.
10:30 p. m.—Providence Journal and Evening Bulletin news flashes.

Thursday

10:00 a. m.—Housewives Radio Exchange, a department conducted by Miss Wood on matters of household interest. Questions submitted will be answered by radio.

10:45 a. m.—A. and P. Bureau of Home Economics.

Economics. 11:00 a. m.—Musical program 11:15 a. m.—Radio Household Institute, National.

1:05 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Studio program.

1:30 p. m.—Weather report.

1:35 p. m.—Continuation of studio pro-

6:45 p. m.—Providence Journal and Eve-ning Bulletin news flashes. 6:55 p. m.—Weather report and temperaning Bulletin news flashes.
6:55 p. m.—Weather report and temperature report.
7:00 p. m.—Narragansett Hotel concert orture report.

7:00 p. m.—Narragansett Hotel concert orchestra.

7:30 p. m.—Coward Comfort Hour, National.

8:00 p. m.—Forhan's Song Shop, National.

8:30 p. m.—Chiropractic Society of Rhode Island talk.

8:35 p. m.—Musical program by Vaughn A. Kazarian, baritone, accompanied by Violette Marks.

9:00 p. m.—Seiberling singers, National.

9:30 p. m.—The Contraitones, National.

10:00 p. m.—The Contraitones, National.

Broadcasting Company feature.

10:30 p. m.—Correct time.

Friday

10:00 a. m.—National Home hour—National.

11:15 a. m.—Radio household institute—National.

11:43 a. m.—Musical program.

11:43 a. m.—Musical program.

12:00 m.—Teeth, Health and Happiness—National.

12:00 m.—Teeth, Health and Happiness—National.

7:30 p. m.—weather report and temperature report.
7:50 p. m.—Col. Alonzo R. Williams, Vice President and General Manager of the Unlited Electric Railways Company, in a "Five Minute Chat with the People of Rhode Island."
8:00 p. m.—Synarogue services conducted p. m.—Synagogue services conducted by Rabbi Samuel M. Gup fram Tem-ple Beth-El.

p. m.—"An Evening in Paris."—National. ( tional. (
9:30 p. m.—Correct time.
9:35 p. m.—Kohala Hawalians.
10:00 p. m.—Providence Journal and Evening Bulletin news flashes.

Saturday
10:45 a. m.—Musical program.
11:15 a. m.—Radio househould institute.—
National.

National

1:05 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Philip Casactenda and his orchestra.

1:30 p. m.—Weather report.

1:35 p. m.—Roseland orchestra.

6:00 p. m.—Musical program.

6:30 p. m.—White House Coffce program.—

National.

orchestra.—National.

10:00 p. m.—Lucky Strike dance orchestra.
—National.

-National.

11:00 p. m.—Correct time.

11:10 p. m.—Provider:2: Journal and Evening Bulletin news flashes.

WEAN-THE SHEPARD'S STORE—545

11:00 a. m.—Service from Mathewson Street Methodist Episcopal Church.

12:15 p. m.—Organ recital.

1:00 p. m.—Dudley radio carollers presenting their Sunshine hour.

2:00 p. m.—Lancaster Theatre children's chorus.

2:00 p. m.—— chorus. m.

1:00 p. m.—Dudley radio carollers presenting their Sunshine hour.
2:00 p. m.—Lancaster Theatre children's chorus.
2:15 p. m.—Radio Sunday School—All Saints Church.
3:00 p. m.—Symphonic hour, United symphony hour, Columbia: Overture 'Haensel and Gretel.' Humperdinck, orchestra: "Symphony No. d.' Beethoven, orchestra: "Festival at Bagdad.' Scheherezede, Rimsky-Korsakoff, orchestra: "Peer Gynt Suite Number 1," Grieg, orchestra.
4:00 p. m.—Cathedral hour, Columbia: Chimes and processional: "In Excelsis Gloria:" Lord's Prayer (a capella) Stainer, choir: "Last Spring," Grieg, orchestra: "Jubilate Deo" (O Be Joyful in the Lord), Leonard Thomas, soprano solo, choir and orchestra: bars solo: "The Lord of Heaven." Forsyth with orchestra: 'God be in My Head," Davis, choir and organ: Interlude: "Au Couvent," Borodine, orchestra: "The Volce in the Wilderness," John Prindle Scott, soprano, allo, tenor and choir with orchestra: alto solo: "O' Divine Redeemer," Gounod: "O Come Before His Presence," Martin, tenor, choir and orchestra: Interlude: "Andante Religioso," Thome, 'cello and orchestra: "Let Us Worship and Fall Down," Healey Willan, choir and organ: soprano solo: With Verdure Clad from "The Creation," Haydn: "Behold, God Is Great," Naylor: "Sevenfold Amen," Stainer, choir: Postlude: "Extase," Ganne, orchestra.
5:00 p. m.—Flerette ensemble.
5:20 p. m.—Service from Tenth Presbyterian Church.
6:00 p. m.—Fledman string quartet.
6:00 p. m.—Service from Tenth Presbyterian Church.
6:00 p. m.—Service from Tenth Presbyterian Church.
6:00 p. m.—Service from Tenth Presbyterian Church.
6:00 p. m.—Plerette ensemble.
7:20 p. m.—Newscasting.
7:20 p. m.—Newscasting.
7:21 p. m.—Newscasting.
7:22 p. m.—Newscasting.
7:23 p. m.—Service from Tenth Presbyterian Church.
6:00 p. m.—Fledman string quartet.
6:00 p. m.—Fledman string quartet.
6:00 p. m.—Service from Tenth Presbyterian Church.
6:00 p. m.—Fledman string quartet.
6:00 p. m.—Service from Tenth Presbyterian or memory of the Viking." Celeridge-Taylor, male quartet: Something Coesting-A

"Naughty Marletta," Olive Kline and ensemble.

9:00 p. m.—Malestic's "Two Black Crows," Moran and Mack, Columbia.

10:00 p. m.—De Forest Audions, Columbia: "El Capitan," Sousa, orchestra: "Fire Music." Die Walkure, Wegner, orchestra: "Hunting Song." Bullard, male quartet and orchestra: "Dagger Dance," Natoma, Herbert, orchestra: "Goin' Home," sextet and orchestra: "Goin' Home," sextet and orchestra: Intermezzo—"Jewels of the Madouna," orchestra: "Gems from Pinafore," orchestra and ensemble.

10:30 p. m.—American Academy of Arts and Letters announcements of award of medal for good diction on radio.

11:00 p. m.—Providence Journal and Evening Bulletin news flashes.

Monday.

9:15 p. m.—Christmas carols, sung by the

9:15 p. m.—Christmas carols, sung by the Shepard chorus,

ble.

11:30 a. m.—Women's Institute program conducted by June Abbott.

11:57 a. m.—Time signals.

12:50 m.—Musical program.

12:50 p. m.—Providence Journal and Evening Bulletin news flashes.

1:00 p. m.—Shepard Colonial luncheon concert.

1:30 p. m.—Herbert Liversidge, baritone; Eleanor Geer, accompenist.

1:45 p. m.—Continuation of Shepard Colonial luncheon concert.

2:00 p. m.—Jack Reilly "The Whispering Sentimentalist." Sentimentalist. 2:15 p. m.-Staff planist.

p. m.—Studio p. m.—Rhode Island Feueran Women's Clubs session.

m.—Beau Brummell and the

tra.
4:45 p. m.—Popular selections by Jimmie Gallagher.
5:00 p. m.—Ted and his gang.
6:00 p. m.—Christmas musical phantasy for childrea.
6:25 p. m.—Providence Journal and Evening Bulletin news flashes.
6:30 p. m.—Port Arthur orchestra.
7:00 p. m.—Weather report.
7:11 p. m.—Yanos 'N' Andy."
7:25 p. m.—Newscasting.
7:30 p. m.—Biltmore Hotel concert orchestra.

tional.

1:05 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Studio program.

1:35 p. m.—Continuation of studio program.

1:35 p. m.—Continuation of studio program.

1:35 p. m.—Providence Journal and Evening Bulletin news flashes.

6:45 p. m.—Providence Journal and Evening Bulletin news flashes.

6:50 p. m.—Earl Shean and his orchestratin a program of dance music.

7:25 p. m.—Weather report and temperature report.

1:30 p. m.—Cerce Couriers, Columbia.

9:30 p. m.—Ceco Couriers, Columbia.

9:30 p. m.—Ceco Couriers, Columbia.

9:30 p. m.—Ceco Couriers, Columbia.

9:30 p. m.—The Adventurers, Columbia.

1:00 p. m.—The Adventurers, Columbia.

1:00 p. m.—The Thirty Minute Men, Columbia.

1:00 p. m.—Home Journal and Evening Bulletin news flashes.

1:10 p. m.—Bourer time. 7.30 p. m.—Bittmore Rote; concert orthestra.
7.59 p. m.—Correct time.
8:00 p. m.—United Choral Singers, Columbia.
8:30 p. m.—Ceco Couriers, Columbia.
9:00 p. m.—Lowney radio hour, Columbia.
9:30 p. m.—Warner Brothers Vitaphone Jubilee, Columbia. 7:59 p. m.—Correct time.
8:00 p. m.—WNAC players present "Turning the Trick."
9:00 p. m.—Rhodes orchestra.
10:00 p. m.—Biltmore Hotel orchestra.
11:00 p. m.—Providence Journal and Evening Bulletin news flashes.
11:10 p. m.—Broadcast from the Arcadia ballroom.

tra.

Tuesday.

9:15 p. nt.—Christmas carols, sung by the Shepard chorus.

9:30 a. m.—Our New England kitchen.

10:30 a. m.—Ida Bailey Allen, Columbia.

10:33 a. m.—Jane Day and her Polar Bears.

11:05 a. m.—Women's Institute program conducted by June Abbott.

11:30 a. m.—Shepard Stores concert ensemble. ballroom.
WLSI-THE LINCOLN STUDIOS, INC.-248

11:57 a. m.—Time signals. 12:00 m.—Staff pianist, 12:15 p. m.—Noon service from King's Chapel. Tuesday 3:45 p. m.—News flashes. Chapel.

1:00 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Shepard Colonial luncheon con-4:00 p. m.—Correct time. 8:05 p. m.—Market report. 8:10 p. m.—Hoffman Battery Hawaiians. 9:10 p. m.—Charles Miller and his orches-

cert.
1:30 p. m.—Shepard Colorial function concert.
1:30 p. m.—Organ recital.
2:30 p. m.—Popular program.
2:30 p. m.—Short story period.
3:30 p. m.—Famous composers' recordings
3:30 p. m.—Beau Brummell and the Dandles of Yesterday.
4:30 p. m.—Boston singers

tra.

Wednesday
3:45 p. m.—News flashes.
4:00 p. m.—Correct time.
8:05 p. m.—Market report.
8:10 p. m.—"Old Fogey" with orchestral
and Hawaiian number. 4:30 p. m.—Boston singers.
5:00 p. m.—Ted and his gang.
5:30 p. m.—Ted and his gang visiting Woonsocket.
6:00 p. m.—'Jimmy Gallagher and his Palais D'or Orchestra.'
6:25 p. m.—Providence Journal and Evening Bulletin news flashes.
6:30 p. m.—Jimmy Walsh and his orchestra. Thur.day
3:45 p. m.—News flashes.
4:00 p. m.—Correct time.
8:05 p. m.—Market report.
8:10 p. m.—Twilight Hawailan quintet.
8:20 p. m.—Wolter Wasco and his orchestra. tra.

Friday
3:45 p. m.—News flashes.
4:00 p. m.—Correct time.
8:05 p. m.—Market report.
8:10 p. m.—Strollers dance orchestra:
9:10 p. m.—Three girl friends.
Silent.

6:30 p. m.—Jimmy Walsh and his orchestra.
7:00 p. m.—Weather report.
7:11 p. m.—"Amos 'N' Andy."
7:20 p. m.—Morey Pearl and his Tent orchestra.
7:59 p. m.—Morey Pearl and his Tent orchestra.
7:59 p. m.—Correct time.
8:00 p. m.—American Legion Band.
9:00 p. m.—Concert from the Pan-American Union, Columbia.
10:00 p. m.—Hank Simmons Show Boat present "East Lynne," Columbia.
11:00 p. m.—Providence Journal and Evening Bulletin news flashes.
11:10 p. m.—After Theatre rhythm hour from the Club Karnak.
Wednesday.
9:15 a. m.—Christmas carol singers, sung

from the Club Karnak.

Wednesday.

9:15 a. m.—Christmas carol singers, sung by the Shepard chorus.

9:30 a. m.—Jane Day and her Polar Bears.

10:15 a. m.—Oakite Redwings.

10:30 a. m.—Home service radio chat by Kathleen Atkinson.

11:00 a. m.—Shepard Stores concert ensemble.

11:30 a. m.—Women's Institute program conducted by June Abbott.

12:00 m.—Port Arthur orchestra.

12:00 p. m.—Providence Journal and Evening Bulletin news flashes.

1:00 p. m.—Shepard Colonial luncheon concert.

1:30 p. m.—Organ recital.

2:00 p. m.—Studio program.

3:00 p. m.—Crgan recital.

KDKA—FITTSBURGH—310.

11:00 a. m.—Church service.

1:30 p. m.—Same as WJZ.

2:00 p. m.—Same as WJZ.

4:00 p. m.—Organ recital.

4:45 p. m.—Service from Shadyside Pres
byterian Church.

6:00 p. m.—Same as WJZ.

7:00 p. m.—Service from Calvary Episcopa

Church.

8:00 p. m.—Same as WJZ.

8:15 p. m.—Same as WJZ.

9:15 p. m.—Same as WJZ.

9:45 p. m.—Same as WJZ.

10:15 p. m.—Correct time.

1:30 p. m.—Organ recital.
2:00 p. m.—Studio program.
3:00 p. m.—Organ recital.
3:30 p. m.—Our New England kitchen.
4:00 p. m.—Beau Brummell and the Dandies of Yesterday.
4:30 p. m.—Magawankapog Centre artists.
5:00 p. m.—Ted and his gang.
6:00 p. m.—Broadcast from Copley Plaza Hotel.
6:25 p. m.—Providence Journal and Evening Bulletin news flashes.
6:30 p. m.—Assa Serenaders.
7:00 p. m.—Weather report.
7:25 p. m.—Westher report.
7:25 p. m.—Musical reverles broadcast from the Forrest organ school.
7:59 p. m.—Correct time WBAL—BALTIMORE—283

1:00 p. m.—Uncle Ed and his dream children.

1:30 p. m.—Same as WJZ.

2:00 p. m.—Same as WJZ.

3:00 p. m.—Same as WJZ.

4:00 p. m.—Same as WJZ.

5:00 p. m.—Same as WJZ.

5:00 p. m.—Same as WJZ.

6:30 p. m.—Same as WJZ.

6:30 p. m.—Same as WJZ.

6:30 p. m.—Same as WJZ.

8:00 p. m.—Same as WJZ.

8:00 p. m.—Same as WJZ.

9:15 p. m.—Same as WJZ.

the Forrest organ school.
7:59 p. m.—Correct time.
8:00 p. m.—Nicholson Thackray "Home Sweet Home."
8:30 p. m.—The Columbians—Columbia.
9:00 p. m.—N. R. Millionaires—Columbia.
9:30 p. m.—La Palina Smoker—Columbia.
10:00 p. m.—Kolster Radio hour—Columbia.
10:30 p. m.—Night Club Romances—Columbia.

6:30 p. m.—white rouse contents.

National.

8:35 p. m.—Providence Journal and Evening Bulletin news flashes.

8:45 p. m.—Exolia Laffman, soprano.

8:55 p. m.—Exolia Laffman, soprano.

8:50 p. m.—Levalia Laffman, soprano.

8:00 p. m.—N. R. Millionaires—Columbia.

9:30 p. m.—Le Palina Smoker—Columbia.

10:00 p. m.—Rolster Radio hour—Columbia.

10:00 p. m.—Night Club Romances—Columbia.

10:00 p. m.—Providence Journal and Evening Bulletin news flashes.

11:10 p. m.—Broadcast from Symphony restaurant.

Thursday

WBZ—SPRINGFIELD—303

1:00 a. m.—Trinity Church service.

1:00 p. m.—Keith Memorial organ recital.

1:30 p. m.—Same as WJZ.

2:00 p. m.—Same as WJZ.

3:00 p. m.—Ensemble.

5:29 p. m.—Ensemble.

5:29 p. m.—Weather report.

6:30 p. m.—Same as WJZ.

7:00 p. m.—Same as WJZ.

7:00 p. m.—Sessions chimes.

7:06 p. m.—Twenty Minutes with the Masters.

7:25 p. m.—World Bookman.

7:30 p. m.—Spotlight hour.

7:45 p. m.—Spotlight hour.

7:45 p. m.—Same as WJZ.

8:10 p. m.—Same as WJZ.

8:10 p. m.—Same as WJZ.

9:15 p. m.—Same as WJZ.

9:15 p. m.—Same as WJZ.

9:15 p. m.—Same as WJZ. taurant.

Thursday

9:15 p. m.—Christmas carol—sung by the Shepard chorus.

9:30 a. m.—Our New England kitchen.

10:00 a. m.—Ida Balley Allen, cooking school—Columbia.

10:30 a. m.—Staff planist. 0:35 a. m .- Jane Day and her Polar Bears

10:35 a. m.—Jane Day and her Polar Bears.
11:05 a. m.—Women's Institute program conducted by June Abbott.
11:30 a. m.—Shepard Stores concert ensemble.
11:57 a. m.—Time signals.
12:00 m.—Staff planist.
12:15 p. m.—Noon service from King's Chapel.
1:00 p. m.—Providence Journal and Evening Bulletin news flashes.
1:10 p. m.—Shepard Colonial luncheon concert.
1:30 p. m.—Organ recital. 9:45 p. m.—Same as WJZ. 10:30 p. m.—Same as WEAF.

1:30 p. m.—Organ recital.
2:30 p. m.—Jack Reilly "The Whispering Sentimentalist."
2:15 p. m.—Staff planist.
2:30 p. m.—Happy stanley and Art Edmondson.
3:30 p. m.—Beau Brummell and the Dandies of Yesterday.
4:30 p. m.—Beau Sherwin and his Crimson Ramplers.
5:30 p. m.—Staff planist.
5:30 p. m.—Perley Stevens and his orchestura.

6:00 p. m.—Preriey stevens and ms orenestra.
6:25 p. m.—Providence Journal and Evening Bulletin news flashes.
6:30 p. m.—Gus Keating's orchestra,
7:00 p. m.—Weather report.
7:11 p. m.—'Amos 'N' Andy.''
7:20 p. m.—Newscasting
7:25 p. m.—Morey Pearl and his Tent orchestra.
7:59 p. m.—Correct time.
8:00 p. m.—Rhode Island artists' hour.
9:00 p. m.—Sonora Phonograph hour.—
Columbia.
10:00 p. m.—A Royal Command to Liszt.—

2:00 p. m.—Biblical drama, "Cain and Abel."

2:30 p. m.—Frances Paperte, mezzo soprano.

3:00 p. m.—Same as WJAR.

4:00 p. m.—Same as WJAR.

5:35 p. m.—Summary of programs.

5:40 p. m.—Same as WJAR.

6:30 p. m.—Same as WJAR.

6:30 p. m.—Same as WJAR.

7:30 p. m.—Same as WJAR.

7:30 p. m.—Same as WJAR.

9:10 p. m.—Same as WJAR.

9:15 p. m.—Atwater Kent hour.

10:15 p. m.—National string quartet.

10:30 p. m.—Announcement of an award to be made for good diction on the radio; Columbia.

10:00 p. m.—A Royal Command to Liszt.—

10:30 p. m.—The Merry Maker.—Columbia.

11:00 p. m.—Providence Journal and Evening Bulietin news flashes.

11:10 p. m.—Broadcast from the Arcadia ballroom.

Friday

Friday
9:15 a. m.—Christmas carols sung by the
Shepard chorus, 9:30 a. m.—Jane Day and her Polar Bears. 10:30 a. m.—Good Groceries by Sally Saw-

yer.

11:00 a. m.—Shepard Stores concert ensemble.

11:30 a. m.—Women's institute program conducted by June Abbott.

11:57 a. m.—Time signals.

12:00 m.—Radio household bazaar.—Columbia.

12:15 p. m.—Studio program.

12:50 p. m.—Providence Journal and Evening Bulletin news flashes.

100 p. m.—Shepard Colonial luncheon concert.

130 p. m.—Organ recital.

Johnson, Augustus Thomas.

WEEL-BOSTON—508.

10:45 a. m.—Service from Old South Church.
12:15 p. m.—Correct time.
1:00 p. m.—Same as WJAR.
2:00 p. m.—Same as WJAR.
2:00 p. m.—Same as WJAR.
5:30 p. m.—Same as WJAR.
6:30 p. m.—Same as WJAR.
6:30 p. m.—Same as WJAR.
6:30 p. m.—Same as WJAR.
7:30 p. m.—Same as WJAR.
7:30 p. m.—Same as WJAR.
7:30 p. m.—Same as WJAR.
7:50 p. m.—Same as WJAR.
10:15 p. m.—Same as WZAR.
10:15 p. m.—News dispatches.
10:25 p. m.—News dispatches.
10:25 p. m.—News dispatches.
10:25 p. m.—Same as WEAF.
10:26 p. m.—Same as WJAR.
6:00 p. m.—Same as WJAR.
6:00 p. m.—Service from the Second Prespoterian Church.
6:00 p. m.—Same as WJAR.
7:00 p. m.—Same as WJAR.
7:015 p. m.—Same as WEAF.
10:15 p. m.—Same as WEAF.
10:15 p. m.—Same as WEAF.
10:15 p. m.—Correct time.
10:15 p. m.—Same as WEAF.
10:15 p. m.—Same as WEAF.
10:15 p. m.—Same as WEAF.
10:10 p. m.—Same as WEAF.
10:10 p. m.—Same as WEAF.
10:10 p. m.—Same as WEAF.
10:11 p. m.—Same as WEAF.
10:12 p. m.—Same as WEAF.
10:13 p. m.—Same as WEAF.
10:15 p. m.—Same as WEAF. cert.

1:30 p. m.—Organ recital.

2:00 p. m.—Studio program.

2:45 p. m.—Short story period.

3:00 p. m.—Organ recital.

3:30 p. m.—Organ recital.

3:30 p. m.—Our New England kitchen.

4:00 p. m.—Benu Brummell and the Dandies of Yesterday.

4:30 p. m.—Musical interlude.

4:40 p. m.—Shepard Colonial tea dance.

5:00 p. m.—Ted and his gang.

6:00 p. m.—Uncle Red and his A. B. C.

Club.

6:25 n. m.—Providence Journal and Eve-Club.
6:25 p. m.—Providence Journal and Evening Bulletin news flashes.
6:30 p. m.—Al Sarazen and his orchestra.
6:45 p. m.—EnnaJettici: Melodies.—Columbia.

7:00 p. m.—Weather report. 7.11 p. m.—"Amos 'N' Andy."

7:25 p. m.—Newscasting.
7:30 p. m.—Asia Serenaders.
7:50 p. m.—Correct time.
8:00 p. m.—United Opera Company, "Romeo and Juliet."—Columbia. and Juliet."—Columbia.

9:00 p. m.—True Story hour.—Columbia.

10:00 p. m.—Then and Now.—Columbia.

10:30 p. m.—The Crystal Gazer.—Columbia.

11:00 p. m.—Providence Journal and Evening Bulletin news flashes.

11:10 p. m.—After Theatre rythm hour from the Club Karnak.

Music Club

OUT OF TOWN STATIONS

To-Day

WRSO-BARSON PARK-384.

WBZ-SPRINGFIELD-303

WCSH-PORTLAND-319

WCSH-PORTAND—319

10:00 a. m.—Feature.

11:00 a. m.—State Street Church service.

2:00 p. m.—Same as WJAR.

6:00 p. m.—Same as WJAR.

6:00 p. m.—Same as WJAR.

6:30 p. m.—Same as WJAR.

7:30 p. m.—Cantral Square Church service.

9:00 p. m.—Same as WJAR.

WEAF-NEW YORK-151.

p. m.—Announcement of an award to be made for good diction on the radio; speakers: Hamlin Garland, Dr. Nich-olas Murray Butler, Prof. George Pierce Baker, Hon, Robert Underwood Johnson, Augustus Thomas.

WGBS-NEW YORK-251.

2:30 p. m.—Kelso mixed quartet. 3:00 p. m.—Variety period. 3:30 p. m.—Orchestra: Edith Grey and John Cattano, soloists.

"Cain and

Church.

4:30 p. m.—"Rambles in Erin," directed by Scamus O'Dougherty. WGR-BUFFALO-545.

WGR—BUFFALO—545.

10:45 a. m.—Service from Westminster Presbyterian Church.

12:00 m.—Correct time and weather.

1:30 p. m.—Same as WJAR.

4:00 p. m.—Same as WJAR.

5:30 p. m.—Same as WJAR.

6:00 p. m.—Same as WJAR.

6:00 p. m.—Same as WJAR.

6:00 p. m.—Same as WJAR.

7:00 p. m.—Same as WJAR.

7:01 p. m.—Same as WJAR.

9:02 p. m.—Same as WJAR.

9:03 p. m.—Same as WJAR.

10:15 p. m.—Same as WEAF.

WGY—SCHENECTADY—380.

10:30 a. m.—Service from First Luthera Church. -Same as WJAR.

the Club Karnak.

Saturday

9:15 a. m.—Shepard Carol singers, sung by the Shepard chorus.

9:30 a. m.—Jane Day and her Polar Bears.

10:30 a. m.—Mrs. Ida S. Harrington, "American Homemaker."

11:00 a. m.—Shepard Stores concert ensemble.

11:30 a. m.—Women's institute program conducted by June Abbott.

11:45 a. m.—Cousin Charlotte and her children's missic club.

11:57 a. m.—Time signals.

12:00 m.—Continuation of Cousin Charlotte's Music Club. D. m.—Same as WJAR.
D. m.—Same as WEAF.
D. m.—Same as WEAF.
D. m.—Same as WEAF.
D. m.—Same as WEAF.
D. m.—Radio diction program. Music Giub.

12:15 p. m.—Asia Serenaders.

12:50 p. m.—Previdence Journal and Evening Bulletin news flashes.

1:00 p. m.—Shepard Colomal luncheon 12:50 p. m.—Providence Journal and Evening Bulletin news flashes.

1:00 p. m.—Shepard Colonial luncheon concert.

1:30 p. m.—Popular songs by George Rogers.

1:40 p. m.—Continuation of Shepard Colonial luncheon concert.

2:00 p. m.—Masterpiece recordings.

3:00 p. m.—Masterpiece recordings.

3:00 p. m.—Al Sarazen and his orchestra.

3:30 p. m.—Beau Brummeil and the Dandies of Yesterday.

4:30 p. m.—Prely Breed and his orchestra.

5:00 p. m.—Ted and his gang.

6:00 p. m.—Port Arthur orchestra.

6:25 p. m.—Providence Journal and Evening Bulletin news flashes.

6:30 p. m.—Shepard Colonial dinner dance.

7:00 p. m.—Weather report.

7:11 p. m.—Namos 'N' Andy.''

7:25 p. m.—Newscasting.

7:30 p. m.—Biltmore Hotel concert orchestra.

WHAM-ROCHESTER-261. 1:00 p. m.—Same as WJZ. Continued on Page Fifteen.

The Lightning Arrester.
The function of a lightning arrester is to permit static charges to leak off the antenna to the ground so that they do not accumulate to such an extens that lightning strikes. The arrester is a protection, but cannot sidetrack a lightning bolt should it strike the antenna.

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If one is using a crystal detector, as in a reflex set, it is not necessary to WLSI—THE LINCOLN STUDIOS, INC.—248 In a tellex set, it is included in the circuit. Cry10:00 a. m.—International Bible students stals, in addition to detecting, serve 10:00 a. m.—International Bible Students states also to rectify the radio current into the Seventh Day Adventist.

Nonday
3:45 p. m.—News flashes.
4:00 p. m.—Correct time.
8:05 p. m.—Market report.
8:10 p. m.—The Criterions.
Tuesday

phones or the speakers, if suitable tubes and audio transformers are used in connection with the detector.

In working with power tubes, it is well to remember that the output of a tube is proportional to the square of the input voltage. Thus, if the input voltage is only half what it should

duced to one-quarter of what it is rated to deliver. A superpower transmitting station is to be constructed at Canberra, Australia, for the purpose of extending the British wireless service around world. The new station, which would have a 5000-mile range, would be in touch with stations at Singapore and Hongkong.

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adio first came into popularity many people used soft-type detector tubes which, while effective because of greater sensitivity, were not successful in the hands of the average operator. The high-vacuum or "hard" type of tube then came into popularity. Today the high vacuum type of photo-electric cell be, the output of the tube will be re- for television work is replacing the gaseous or soft style.

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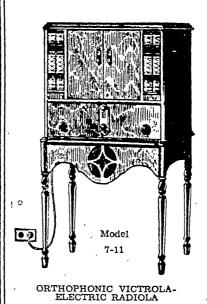
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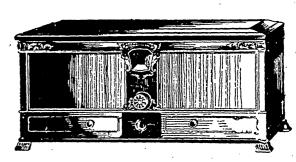
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