

Radio Doings

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What Was Accomplished

THE Third Annual Radio Conference, which has recently ended its labors in Washington, has accomplished more constructive recommendations than any previously put forth.

The fact that, in its final report to Secretary Hoover, its recommendations were unanimous speaks for itself.

In dealing with public broadcasting and the troubles of interference, both from the proximity of wave-lengths, radiotelegraph signals and outside electrical sources, the conference have recommended an increase of assigned wave-lengths, bringing the total up to 100, and includes all bands from 200 to 545 meters.

New classifications of stations is also dealt with, creating four in place of three classes.

Wave lengths assigned to the Marine Radio Service are 660, 730, 875 and 706 meters. Six hundred meters is reserved for signals of distress.

Amateurs were assigned practically the same band heretofore used, namely, those below 150 meters.

Regarding the so-called "higher power" stations, which the smaller stations were fearful would "hog" the air, the conference went on record as being against any monopoly in broadcasting, however, they were in favor of experiments along these lines, as they had no data that could guide them. It is only after such experiments are carried out that it will be possible to determine if these "super-power" stations would interfere with others of less power.

A full report of the recommendations of the conference will be found on another page.

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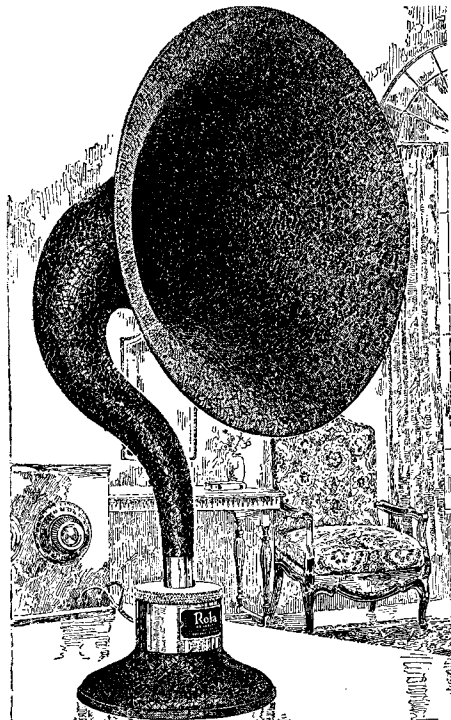
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Report of Third National Radio Conference

To the Hon. Herbert Hoover, Secretary of Commerce, Washington, D. C.

The Third Annual Radio Conference respectfully submits its report to you upon its deliberations:

The Conference convened at Washington on October 6 and has been in continuous session until today. The work was divided among subcommittees upon important subjects, and the recommendations of these subcommittees have been co-ordinated into a whole and they are submitted herewith as the unanimous report of the Conference.

The Conference has kept constantly before it the thought that its only purpose is to devise ways for the betterment of all phases of radio and the elimination of all possible impediments to its full realization of public service. The art is one of continuous flux due to the rapidity of progress through scientific discovery and invention. It requires constant revision in the relationships between different members and in the relationships of the Government and its regulation. We have given consideration to the progress of development and to the needs of the service.

For better understanding of the reports upon special subjects, which are necessarily of a highly technical character, the following summary of the outstanding recommendations is given:

PUBLIC BROADCASTING

The great problem in broadcasting is that of interference. It may arise in several ways, either by direct interference of one station by another, because of too close proximity of frequency, interference by radiotelegraph signals, and interference from outside electrical sources.

In dealing with the first of these causes, the Conference has been successful in providing additional channels so that stations may not conflict with one another. To accomplish this the present broadcasting band has been extended so as to include all wave lengths from 200 to 545 meters. Furthermore, a new system of zoning has been worked out by which it is possible to obtain still additional channels. The net result will be that instead of the number of wave lengths now used by general broadcasting stations, there will be an increase of 30 wave bands or channels, bringing the total up to 100.

In order to do away with the interference with broadcasting by radio-telegraph signals, used chiefly in marine communication, the Conference recommends that the use of the 300 meter wave length, which fell within the above band, this wave length being left exclusively for broadcasting. The 450 meter wave length which up to a short time ago was likewise used for marine communication, has already been discontinued. The Conference recommends that the 600 meter wave length, which is close to the upper end of the broadcasting band, be limited to distress signals and used as a calling wave, which means that general marine communication will not be carried on in this wave length. This effectually clears the general broadcasting band as above of code signals.

As to interference from outside electrical sources, the Conference took affirmative action in recommending that there be a general co-operation with the

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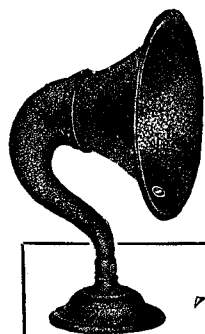
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producers and users of electrical energy by which this interference is now caused. The Conference is glad to be able to say that with very few exceptions there has been manifested the greatest desire on the part of such interests to minimize this interference.

DESIGNATION AND ALLOCATION OF STATIONS

The Conference recommends a new classification for stations. Present Class B stations are hereafter to be known as Class 1; Class A stations as either Class 2 or 3, and Class C stations to go either into Class 1, 2 or 3, according to their character.

The Conference recommends that the Class C stations still remaining on a wave length of 360 meters be assigned new wave lengths. This, of course, does not mean the abolition of Class C stations, but merely that instead of all of them operating on one wave length as at present and interfering with each other they shall have separate assignments and be distributed through the broadcasting band.

The details as to the allocation of wave lengths to the particular stations under the new zoning system are being worked out by a continuing committee in co-operation with the Radio Supervisors of the various districts. The report will be completed within a few days.

The marine communication interests willingly accepted the recommendation of the Department for the abandonment of their use of the 450 meter wave. Their representatives at this Conference should receive our thanks for the fine spirit of co-operation they have shown in further removing their operations from the broadcasting band.

MARINE RADIO SERVICE

While providing additional channels for broadcasting, the Conference has been able likewise to provide additional channels for marine use. This has been done by specifically designating for ship communication the wave lengths of 660, 730, 875 and 706, with the 600 meter wave length as a calling and distress wave. This provides five channels instead of the two now in use and means a vast improvement in the present congestion near our coasts, while at the same time the interference with broadcasting will be, it is hoped, largely eliminated.

The question of reports giving the positions of ships was considered by the Marine Communications Committee. It declined to recommend the prohibition of free TR reports, but indicated its approval of the voluntary efforts to reduce the number of unnecessary reports. This action was taken in the hope that it would eliminate interference much complained of by broadcasting stations.

AMATEURS

The Conference has allocated to amateurs substantially the same frequency bands that are now in use, with some minor changes in their location. The temporary allocation of waves below 150 meters made by the Department to the amateurs some months ago is given definite approval with some slight changes in the bands.

The net result of this is to give to amateurs an increase over what they had at the end of the Conference a year ago, and to allow them a much greater area for operation.

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CENSORSHIP

The Conference thoroughly discussed all angles of program directing and heard a great many arguments on this important subject. As a result it recommends that the policy of the Department of non-interference in programs sent out by broadcasting stations should be upheld. Any other attitude would necessarily involve censorship in some degree.

INTERCONNECTION

The interconnection of stations so as to provide for simultaneous broadcasting has been the most important development of the last eighteen months. It has now made possible a wide extension in knowledge of national events. It means a vast improvement in program. It makes the talent of our great cities available everywhere. It has reached the point where a few stations are now thus interconnected as a matter of routine and regular procedure. There have been very recently several actual demonstrations of the possibility of nationwide simultaneous broadcasting by interconnection. The Conference affirmatively finds that simultaneous broadcasting of national events is today practicable over a large portion of the United States. It believes that nationwide broadcasting by interconnection of stations deserves every encouragement and stimulation, and to that end recommends the appointment by the Secretary of Commerce a continuing committee which will give consideration to the working out of the necessary plans for its full accomplishment.

HIGHER POWER FOR BROADCAST STATIONS

Some confusion has arisen from the general use of the term "higher power," while as a matter of fact there is a sharp distinction in its significance in two entirely different fields; one, the increase in power in all stations, the other the so-called "superbroadcasting" stations.

The Conference has been impressed with the necessity of placing broadcasting upon such a basis that it may be of continued service at all times of the year and all time of the day, its signals reaching with proper intensity and clarity all classes of our people. We must have at all times a special thought

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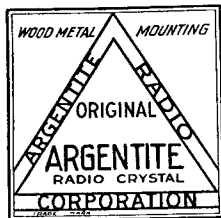
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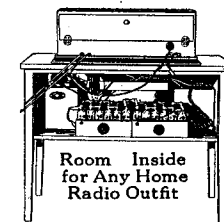
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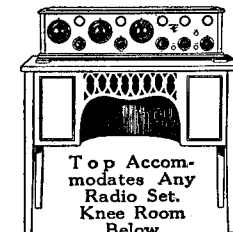
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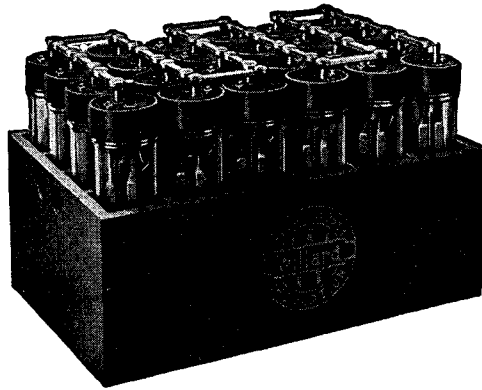
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for the owners of small sets and for those whose homes are far from great centers of population. The true mission of broadcasting will not be realized until its service is available to each one of them at all times as it is now available in our larger cities. It has been conclusively demonstrated by experimental work during the past year that by the use of higher power only can static and other kinds of interference be overcome, and that some general increase over the 1000 watt limitation now imposed is therefore very desirable. This is especially true as to transmission during the summer and day time. Many listeners have crystal sets and many located in the agricultural regions who are largely dependent upon radio for their immediate contact with the markets, weather reports and news, are not able to receive any such signals continuously. In order that they may have a continual and dependable service an increase of power should be allowed to the stations upon which they are dependent with due regard to distance and interference with other stations.

This, however, presents entirely different considerations from those involved in the so-called "superpower" stations which contemplate the use of power up to 50,000 watts. The Conference has been strongly urged to recommend the abolition of all limitation on power but it refuses to do so. There has been no experience in this country and little anywhere else in the world with broadcasting by stations of such power. In the absence of actual knowledge of their effect or usefulness, the Conference refuses to recommend any authorization of the general use of licenses for stations of this character. The Conference does recommend that experimentation should be allowed but that this experimentation be carried on under strict limitation, so that it be without interference with the service of any other stations or with the reception now enjoyed by listeners. Only after such experiments have been made will it be possible to determine whether such broadcasting will interfere with the existing system or whether it will be in public interest.

The Conference is unalterably opposed to any monopoly in broadcasting.

The funds appropriated for the enforcement of the radio law by the Department have become wholly insufficient. The inspection districts are so large and radio activities within them have multiplied so rapidly that it is a physical impossibility for the inspectors to cover their districts in the most efficient manner. Complaints come to them from all parts of the district which require their personal attention. We strongly recommend to Congress an increase in the appropriations made for the enforcement of the radio laws by the Department of Commerce.

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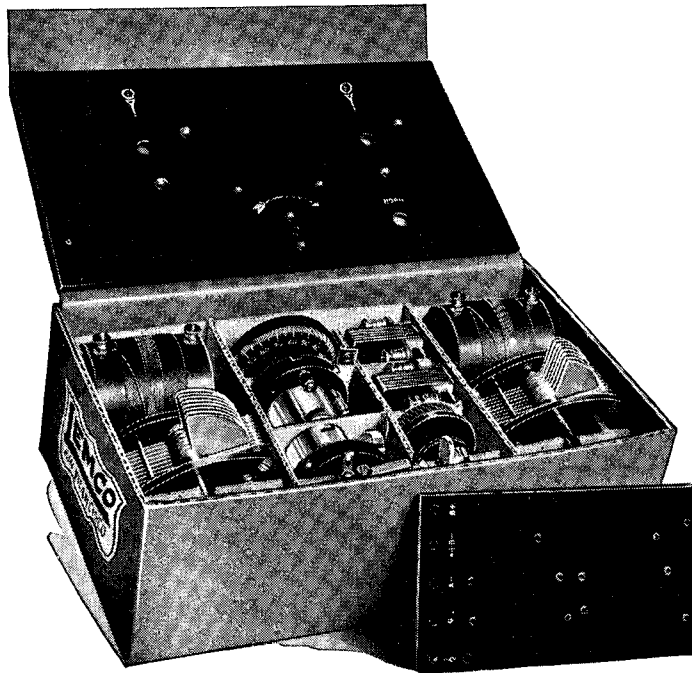
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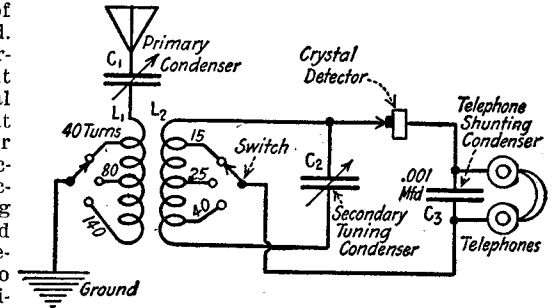
A Selective Crystal Set

By K. G. ORMISTON

With the increasing number and power of broadcasting stations, many broadcast listeners seem to have the idea that they will be forced to purchase expensive receiving sets to continue to enjoy radio. Such is not the case, however. It is a matter of efficiency, not price. The cheapest crystal set may be highly efficient, combining sensitiveness and selectivity in a high degree and give satisfaction, even though there may be a large number of local stations on the air.

Radio receivers are something like automobiles,—there is a wide range of prices, and while they all get you over the ground, some do it with greater comfort and satisfaction than others. But all of them, if efficiently constructed and operated will do all that can be expected of them. A crystal radio set is capable of selectivity, and to encourage popular belief in this fact we are describing this week what we believe to be the most selective of crystal receivers.

To begin with, selectivity in a crystal set required the use of two circuits, inductively coupled. The diagram illustrates this arrangement. The antenna circuit contains the necessary electrical properties for tuning the circuit to any desired frequency or wave-length, — namely, inductance and capacity. The secondary circuit, also comprising the necessary inductance and capacity for tuning to the desired wave-length is coupled to the antenna circuit with variable coupling. This secondary circuit supplies energy to the crystal detector and headphones circuit.



The reason that the usual two-circuit crystal set is lacking in selectivity is that the shunting of the crystal and phones across the condenser C2 absorbs energy so rapidly that the oscillations are dampened and the tuning broadened. In this arrangement shown in the diagram the detector and phones are shunted across but a portion of the secondary winding, and the fewer number of turns included in the detector circuit, the greater will be the selectivity. Taps are taken off the secondary winding and a switch provided so that the number of turns included in the detector circuit may be decreased until the desired selectivity is attained.

The primary consists of 140 turns of No. 26 double cotton covered wire, wound on a 3-inch tube, tapped as shown. The secondary consists of 50 turns of the same wire on a 2½-inch tube or ball, tapped as shown and arranged to either slide or rotate inside the primary tube. The condensers are of a good low-loss type, 43 plates.

Use the best adjustable crystal detector procurable and shunt the phones

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with a .001 MF mica fixed condenser. The tuning of the primary is controlled by the tap switch on the winding and the variable condenser C1. The tuning of the secondary is controlled by the condenser C2. The selectivity is controlled by the degree of coupling between the primary and secondary, and the tap switch on the secondary winding. With the coupling close and with the secondary switch at 40 turns, the tuning will be broad. Reducing the coupling will increase the sharpness, and turning the secondary switch to 25 turns or to 15 turns will further greatly increase the selectivity. There will be a loss in volume when fewer turns of the secondary are used to supply energy to the crystal, but this is offset by the elimination of interference.

"Radio" Bug Holds Up Baseball Returns

During the operation of the Washington Star radio score board in one of the World's Series games, and at a crucial point, the radio receiver suddenly became silent and as suddenly the assembled fans became noisy and frantic. For ten minutes not a word from Announcer McNamee came in. Back of the score board, radio operators strove to find out what was wrong with the set. Fearing that WCAP was off the air, one operator hooked in a crystal set, only to find that the announcements were going out, although the Star's regular loud speaking set continued to balk. Another of the staff was tearing the set apart and finally found the trouble.

A common office building variety of water bug was found stuck between two plates of a variable condenser. It is believed that in his interest to get the returns first hand, this demented bug had shorted the set. At any rate, as soon as he was removed and the set hooked up again, the voice of WCAP came in as usual.

Wondering what was wrong, but blaming radio temporarily, the fans eagerly lent their ears to the announcements but never knew it was another radio bug which stopped their entertainment.

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We'll gladly prove what we say by a demonstration at our showrooms or a free trial in your home.

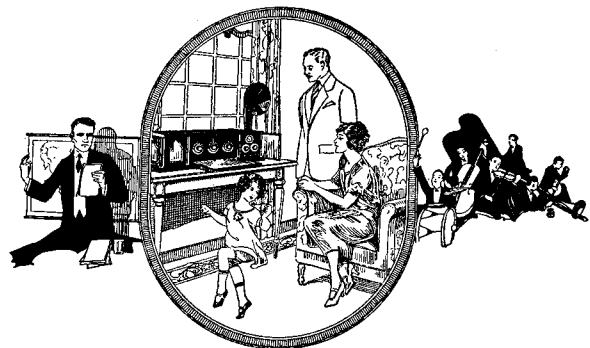
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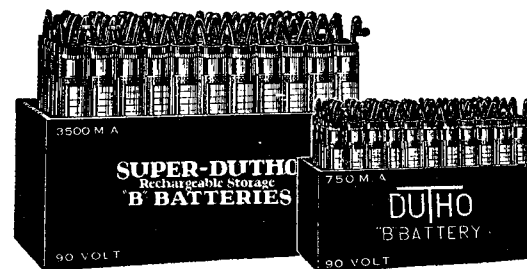


Third Radio Conference Makes for Better Radio Service

The third annual radio battle is over and the clean-up squad of supervisors and technical experts finished its work re-zoning stations and re-allocating wave lengths late Saturday afternoon. Unlike the World Series, it was not a very bloody battle, and few casualties have been reported. Practically everything went through and in general the radio public and, in fact, the whole industry, will be better served in the future.

Although the Government refused to take off the lid in regard to power limitations, experimental licenses for high-power broadcasting are assured and it is up to the radio engineers to show the radio supervisors and the listening public the benefits of high-power broadcasting. The engineers of the Radio Corporation, who propose to erect a 40 to 50 KW station outside of New York in the near future, are going forward with their plans and will request the first super-power broadcasting license under a revised Class D or development permit. As soon as the technicians work out the details of minimum interference and set up the station the public, within a range of a thousand miles of New York, at least, will have an opportunity of listening in on the R. C. A. super-broadcaster. No doubt it will also carry to Europe and South America as well as all over the United States. If the inspectors or the public find that this station interferes with the reception of other stations seriously, the Department will cause the experimenters to close down the station, since this is a requirement of the special permit. But if the station becomes as popular as KDKA and WGY, engineers feel sure it will stay on the air.

It is also probable that nine smaller broadcasters will also apply for permission to broadcast with 5KW sets under the same conditions, and, as was pointed out, a broadcasting system of pure radio may soon be competing for radio popularity with the chain of the interconnected stations served by the



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Among the important decisions reached were: The addition of 30 wave channels for broadcasting stations, bringing the total to 100; the removal of the marine sparks on 300 meter from the broadcast band, and the designation of 600 meters for distress calls only, clearing the air programs of code interference. A re-classification of broadcasters and the transfer of all Class C stations from 360 meters, improves the situation further, while the re-zoning of the country into six zones will further aid broadcast operation. This it is planned will provide a separate zone for the New England States, including New York City and part of New Jersey; Zone Two will comprise the rest of the Atlantic states, Pennsylvania, West Virginia and the western part of New York; Zone Three, Michigan, Ohio, Illinois, Kentucky, Tennessee, West Georgia, Alabama and Mississippi; the Central states are divided horizontally, the southern states forming Zone Four, and the northern, Zone Five; all the Pacific states with Idaho, Utah and Arizona, constitute the Sixth Zone. When assigning experimental stations power higher than now permitted, the Department intends to use this system and in assigning new Class 1 station waves.

Marine communications will be handled on 660, 730, 875 and 706 meters, giving the ships five channels instead of two, also removing coastwise interference and congestion. Amateurs retain substantially the same wave bands as heretofore, but benefit by low wave lengths assigned temporarily by the Department recently; all of which assures the amateurs an increase in channels over what they had a year ago, and permits greater latitude in 24-hour operation.

The Conference voted not to interfere with broadcast programs, discouraging censorship definitely. The conferees found that simultaneous broadcasting of national events is practical over a large area and believes that nation-wide broadcasting by interconnecting stations deserves encouragement.

Additional funds for the administration of matters radio were urged of Congress in a special plea of the whole conference.

In closing the last session of the Third Radio Conference, Secretary Hoover said: "This has been the most constructive and most effective of all three national conferences that we have held. I do not say that in depreciation of the fine efforts which they put forth, but today we were faced with problems more complex than hitherto, and I consider it most remarkable, in face of the unusual technical difficulties, that you gentlemen have found such unanimity of solution. This conference represents every phase of the industry—the listener, broadcaster, manufacturer, and all elements, and there has been a fine feeling of compromise and willingness to make sacrifice to contribute to the advancement of the art. I wish, therefore, to express my personal appreciation of all that you have done.

"I have no doubt that if we survive, we shall have another conference next year, and I have no doubt that it will be faced again with more complex problems, because there never has been an advent in the history of science that has produced such a great change as is going on here, and I think that in these conferences we have found a way in which the great thing could be given to

RADIO EXCHANGE

Bring in your parts and change for parts you now need.

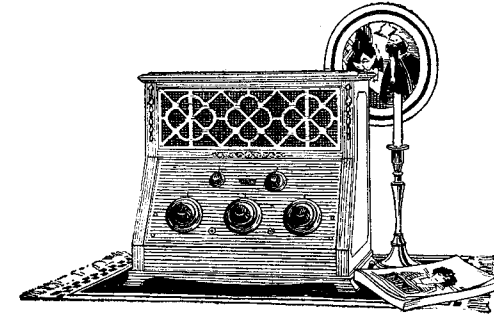
Realizing the need of the Radio public when constructing a new circuit, we offer to you this service—a centrally located Radio firm with a complete stock, offered to you at wholesale prices, practical advice and a work bench ready for you at all times, with our parts exchange department always ready to assist you. Doesn't that put the pep in Radio?

D. C. PHIPPS

726 So. Spring

TRinity 6434

Los Angeles



Get The Station You Want Whenever You Want It

No development in radio has meant so much to the listener as the ability to tune in on any station wanted, at any time, simply by turning the dials to the previously logged settings. With WorkRite sets this is simplicity itself—powerful nearby stations are tuned out sharply and the most distant ones come in clear and distinct.

Such instruments are worthy of the finest cabinets, and in this, WorkRite sets leave nothing to be desired. They are built of selected mahogany by skilled cabinet makers, with mahogany grained panels and gold plated fittings, harmonizing with the finest home interiors.

The "Radio King" Set, shown above, like all WorkRite models, is a 5 tube (2 radio amplifier, 1 detector and 2 audio amplifier tubes) super neutrodyne set. The "Air Master" is almost identical, but with the built-in loud speaker, while the "Aristocrat" is a beautiful console model with a special battery compartment, in addition to the built-in loud speaker. The prices, without accessories, are \$220, \$160 and \$350 respectively. Write for roto-gravure booklet giving complete descriptions.

THE WORKRITE MANUFACTURING CO.

239 South Los Angeles St., Los Angeles

Cleveland, 1800 East 30th St.

Chicago, 536 Lake Shore Drive

WORKRITE

SUPER NEUTRODYNE RADIO SETS



public service. I wish to thank you for your attendance and hope that you will be back with us next year and that we shall have as successful a time as we had on the present occasion."

Previous to his remarks, Secretary Hoover had been thanked personally for his service to radio science, on motion of Earle C. Anthony, of California, who said: "Mr. Hoover has practically given up his time day and night to this work, and it shows the interest our Secretary has in radio. I would, therefore, like to call for a vote of thanks to Mr. Hoover for his personal interest." The motion was seconded and carried with applause.

A reading of the recommendations of the drafting committee, composed of subcommittee heads, followed, and by practically a unanimous vote the many paragraphs were adopted. During the noon hour the drafting committee went over the report of the co-ordinating committee, made up of members of the seven subcommittees, foregoing luncheon and also the last game of the world's series in an effort to report Friday afternoon. Previously, the seven reports of the subcommittees had been filed with the co-ordinators, in the form of a mass of papers including much technical data. This job was in itself a day's work, but the co-ordinating body worked fast in order that the drafting committee might proceed in rounding out a final report.

All that was left of the conference on Saturday was a continuing committee which worked out re-zoning and re-allocation of wave lengths, under the direction of Chief Supervisor of Radio W. D. Terrell. The continuing committee, including the nine supervisors, together with Elam Miller, of the American Tel. & Tel. Co.; Raymond Asserson, W. N. Y. C., New York; John Campbell, Edison Electric Co., Boston; Dr. J. H. Dellenger, Bureau of Standards; A. N. Goldsmith, Tropical Radio Co., New York; H. E. Campbell, Detroit News; C. P. Edwards, Canadian Radio Service; L. B. Henson, Dallas News; F. A. Kolster, Federal Tel. Co., San Francisco; C. M. Jansky, Jr., University of Minnesota; Lamden Kay, Atlanta Journal, and C. W. Horn, Westinghouse Co., Pittsburgh.

H. G. AYLSWORTH

FREDERICK ROBINSON

Aylsworth & Robinson

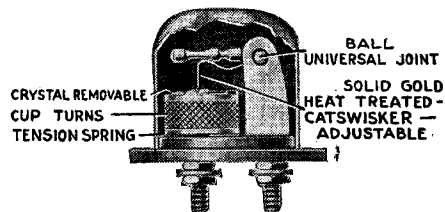
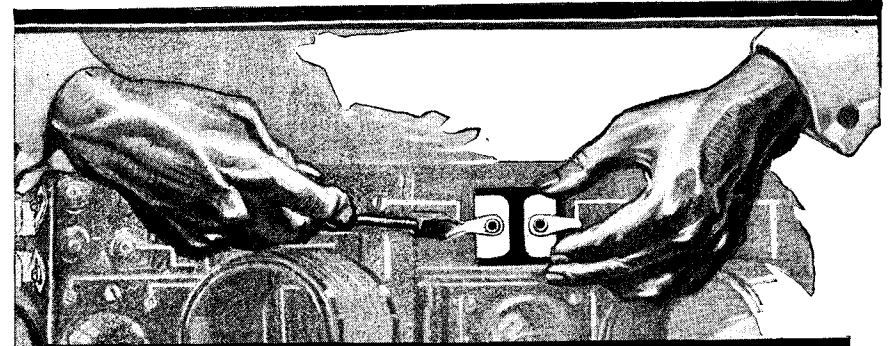
Jobbers of Radio

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Los Angeles, Cal.

TELEPHONE ATLANTIC 1016

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**ARMO***Ask Your Dealer**(When you think of Reflex,
think of Armo)***ARMO RADIO LABORATORIES**

Nine out of ten sets use MICADONS

Nine out of every ten sets made, use MICADONS—the standard fixed radio condenser. Set builders choose them for many reasons.

They know that the MICADON is a Dubilier product: hence supreme in quality and efficiency.

They know that MICADONS can be obtained in accurately matched capacities and the capacity is permanent.

They know that MICADONS are easily installed, equipped as they are with extension tabs for soldering and eyelets for set screw assembly.

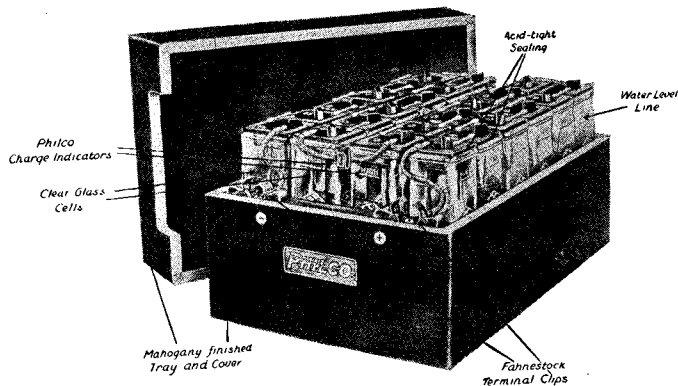
They know that MICADONS are made with type variations to meet every possible requirement.

Dubilier

CONDENSER AND RADIO CORPORATION

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The world's finest "B" Battery



PHILCO Rechargeable Radio Storage Batteries deliver strong, uniform, no-rippling current, **WITHOUT HUM, ROAR or BUZZ**—an absolute essential for clear, unbroken, long distance Radio reception.

GLASS CELLS with acid-tight sealed covers. Safe for use anywhere in your home.

MAHOGANY-FINISHED CABINET. Beautiful and decorative. Needs refilling with water only once or twice a season.

EASILY CHARGED. With the new Philco **NOISELESS** Charger, just a throw of a switch—a plug in a socket. No noise—impossible to overcharge. Recharging only 5 to 10 cents.

Philco Type DXO Battery for the "B" Circuit (48) volts, with handsome mahogany case without cover.

\$16⁵⁰

Philco Type DX Battery for the "B" Circuit (48) volts, with de luxe mahogany finished case with cover.

\$20⁰⁰

YOU'LL want to know more about this remarkable new Philco "B" Battery. See them at your nearest Philco Service Station, Radio or Music Dealer's, or fill out coupon and mail to us. Mail orders promptly filled.

A. J. Tobey Co.
BATTERY SERVICE

Hope Street at 15th

Tel. Atlantic 1641

A. J. TOBEY CO., Hope Street at 15th,
Los Angeles, Cal.
Sirs: I am interested in learning more about the new Philco Rechargeable Storage Batteries.

Name.....
City..... State.....
Type of Tube..... No. of Tubes.....
If you are a dealer in Radio, please state.....

A Decision of Interest

REMICK VS. GENERAL ELECTRICAL CO.

I take pleasure in handing you herewith the opinion of United States District Judge Knox, just released this morning in the Federal Court for the Southern District of New York, denying the motion of the American Society of Composers, Authors and Publishers, made in the name of Jerome H. Remick & Co., to enjoin the General Electric Company from broadcasting the music of the Society played under authorization of members of the Society by the orchestra at the New Kenmore Hotel in Albany. The point of the decision is this, to-wit: That whether or not radio broadcasting of musical compositions can, under any circumstances, be a public performance for profit, it is not an infringement where the playing of the musical composition, which is being broadcasted, is itself authorized by the owner of the copyright, or by anyone representing him. In other words, it is no infringement for a broadcasting station to broadcast performances of musical compositions by orchestras in hotels or elsewhere, when the playing of the piece by the orchestra is itself authorized. On this subject Judge Knox says:

"By means of the radio art he (the broadcaster) simply makes a given performance available to a great number of persons who, but for his efforts, would not hear it. So far as practical results are concerned, the broadcaster of the authorized performance of a copyrighted musical selection does little more than the mechanic who rigs up an amplifier or loud speaker in a large auditorium to the end that persons in remote sections of the hall may hear what transpires upon the stage or rostrum. Such broadcasting merely gives the authorized performer a larger audience and is not to be regarded as a separate and distinct performance of the copyrighted composition upon the part of the broadcaster. When allowance is made for the shrieks, howls and sibilant noises attributable to static and interference, the possessor of a radio receiving set attuned to the station of the broadcaster of an authorized performance, hears only the selection as it is rendered by the performer. The performance is one and the same whether the 'listener in' be at the elbow of the leader of the orchestra playing the selection, or at a distance of a thousand miles."

You will readily perceive the importance of this decision. It overrules the claim, constantly made by the American Society, that broadcasting was a performance in itself, distinct and separate from the performance which was being broadcast. Thus, "an end is put to the claim, constantly made by the Society, that it has a right to tax the playing of a musical composition before an assembled audience, and again to tax the presentation of that very same performance by artificial means with a larger audience." The boon to the public from this decision is obvious, for it has always been evident that if the claims of the Society were, in the end, judicially upheld, radio broadcasting, as at present conducted on a basis of complete freedom to the public, would either have to be discontinued, or a way would have to be found to compel the "listeners in" to pay. This decision goes far to prevent the copyright law from being used in a way never intended by the Congress which enacted it, to deprive the public of the blessing which the freedom of the air now affords.

Just What You Need

If you own a Valley Battery Charger, you need never miss a radio program. The Valley Charger will completely recharge any radio battery overnight.

*Quiet in operation.
Full 6-ampere charging rate
No liquids. No bulbs.*

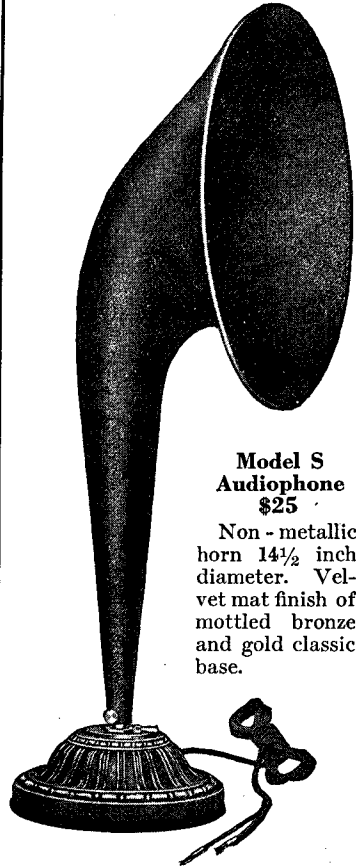
Plugs into the ordinary light socket like a fan or other household necessity, and just as easy to operate. Takes about a dime's worth of current for a full charge.

Grained and engraved Bakelite panel harmonizes with the rest of your set. Clear glass top shows the simple patented working parts at all times. At Radio Dealers.

VALLEY ELECTRIC CO., Rialto Bldg., San Francisco, Cal.



Valley Battery Charger



**Model S
Audiophone
\$25**

Non-metallic horn 14½ inch diameter. Velvet mat finish of mottled bronze and gold classic base.



**Both Must Be
Musical Instruments**

If you are to enjoy the rich resonance of an old Cremona violin, your loud speaker must also be a true *musical* instrument. So designed and powered as to respond as faithfully to the inspiring crescendos of a Wagner opera as to the whispers of a Moonlight Sonata.

The new Bristol AUDIOPHONE does that. With its joyous, open-throated, non-metallic horn, and its finely adjusted transformer, it is on a musical plane with the noblest instrument or voice at your favorite station.

In addition to Model S, shown above, the Bristol line includes Model J, \$20; Baby Grand, \$15, and the "Baby," at \$12.50. Send for bulletins Nos. 3011 and 3017-X, mentioning name of your dealer.

The Bristol Company
Waterbury, Conn.

BRISTOL

AUDIOPHONE

TRADE MARK REG. U.S. PAT. OFFICE

LOUD SPEAKER

Eight New Broadcasters Licensed

Call	Stations	Fre- quency Keys	Wave Lengths Meters	Power Watts
WEBW	Beloit College, Beloit, Wis.....	1060	283	500
WWAO	Michigan College of Mines, Houghton, Mich....	1230	244	250
WEBU	DeLand Piano & Music Co., 139 Boulevard St., DeLand, Fla.....	1160	258	5
WEBT	The Dayton Co-op. Industrial High School, E. Fifth at Eagle St., Dayton, O.....	1110	270	5
WIAS	Home Electric Co., 315 N. Third St., Burling- ton, Iowa.....	1060	283	100
KFRJ	Guy Simmons, Jr., 515 Clifton St., Conway, Ark.	1200	250	10
KFRI	The Reynolds Radio Co., Inc., Portable Station, 1534 Glenarm St., Denver, Colo.....	1340	224	5
Transferred Class C to Class A				
WNAD	University of Oklahoma, Dept. of Elec. Engr., Norman, Okla.....	1180	254	100
Class B Station				
WEEI	The Edison Electric Illuminating Co. of Boston, 39 Boylston St., Boston, Mass.....	990	303	500

That citizens who wish to listen to State-supported operas over the radio have as good a right to do so as have those who pay to get in is the contention of the Combiegne Radio Club in France. This club has just issued a resolution calling upon the French Government to arrange for all State-operated or State-controlled theaters, such as the Paris Opera, the Opera Comique, and others, to be broadcast regularly. The club asks, also, that a microphone be installed on the floor of the Chamber of Deputies, so that every one can hear the oratorical accompaniment of all official ceremonies. The Government has not yet acted.

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Greatest Value in a Five-Tube Tuned Radio Frequency Receiver
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This Includes Five Cunningham Tubes, Loudspeaker and
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Two-Tube Reflex Sets—Improved, Up-to-Date Model
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Perfect Loud Speaker Reproduction. Two Tone Mahogany Finished Console.

\$9750

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TERMS

*Runs on your light
socket*

Built in

**A NEW
FACTORY**
By
AN OLD FIRM

*Dealers! Salesman!—A
real proposition.*



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Phone DR. 7715

Esperanto International Communication Tongue

Esperanto has been adopted as the auxiliary international language in telegraphic intercourse by the League of Nations, according to a cablegram from International Esperanto headquarters at Geneva. This is interpreted as applying to radio and cable communication, as well as purely telegraphic, by those familiar with the plans for its use in international communication. Recently the American Radio Relay League recommended this universal language as the most suitable for world wide communications by radio.

At a cost of three million dollars, the Atwater-Kent Company have just completed a magnificent factory covering twelve solid acres of floor space, every inch of which will be devoted to the manufacture of their radio receiving sets, according to Ray Thomas, president of the Electric Equipment Company, who has just returned from a trip to the Atwater-Kent plant. "There were two thousand people working in the plant when I was there, and there will be four thousand at work inside another month," said Thomas. "Public interest in radio in the East is higher this year than ever before. I went over to the New York radio show at Madison Square Garden. It pulled an attendance of more than 175,000 in a week's time and shattered all records for any attraction ever staged in the history of the famous show place. People were lined up in front of the doors waiting every morning for them to open. Afternoons and evenings the place was jammed inside until you could hardly move around. It is not surprising that millions are being poured into radio manufacture when you see the tremendous interest the public is taking in it today."

GARRETSON & GOODAN

"Radio That Satisfies"

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is located at

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(Corner Kingsley)

LOS ANGELES

CONVENIENT CREDIT TERMS

Oliver S. Garretson

Alan Goodan

6-8 A. M.
PACIFIC TIME

RADIO TIME TABLE

7-9 Mountain Time
8-10 Central Time
9-11 Eastern Time

STATION	WATTS	CITY	METERS	CALL	SUN.	MON.	TUES.	WED.	THUR.	FRI.	SAT.				
					6:00-6:30	6:30-7:00	7:00-7:30	7:30-8:00	6:00-6:30	6:30-7:00	7:00-7:30	7:30-8:00	6:00-6:30	6:30-7:00	7:00-7:30
Reynolds Radio	250	Denver	283	KLZ											
Free Press	500	Detroit	517	WCX		X									
Detroit News	500	Detroit	517	WJ		X									
Woodmen of W	500	Omaha	526	WAOW	X	X									

8-10 A. M. PACIFIC TIME

9-11 Mountain Time 10-12 Central Time 11-1 Eastern Time

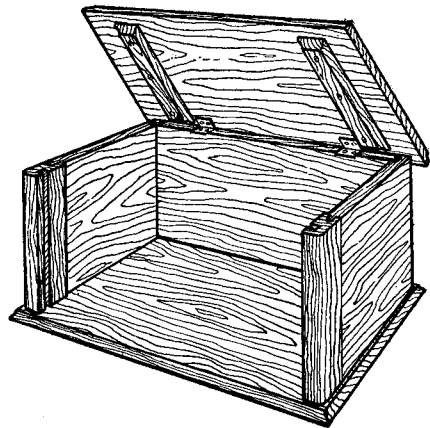
STATION	WATTS	CITY	METERS	CALL	SUN.	MON.	TUES.	WED.	THUR.	FRI.	SAT.				
					8:00-8:30	8:30-9:00	9:00-9:30	9:30-10:00	8:00-8:30	8:30-9:00	9:00-9:30	9:30-10:00	8:00-8:30	8:30-9:00	9:00-9:30
Echophone Radio	100	Long Beach	234	KFON											
Reynolds Radio	250	Denver	360	KLZ											
Star-Telegram	1000	Fort Worth	476	WBAP		X									
News and Journal	500	Dallas	476	WFAA		X									
Palmer School	500	Davenport	484	WOC		X									
John Wanamaker	500	Philadelphia	509	WOO		X									
Federal Tel.	500	Buffalo	319	WGF		X									
Calumet B. Pdr.	500	Chicago	448	WQJ		X									

10-12 A. M.
PACIFIC TIME

RADIO TIME TABLE

11-1 Mountain Time
12-2 Central Time
1-3 Eastern Time

STATION	WATTS	CITY	METERS	CALL	SUN.	MON.	TUES.	WED.	THUR.	FRI.	SAT.
					10:00-10:30	10:30-11:00	11:00-11:30	11:30-12:00	10:00-10:30	10:30-11:00	11:00-11:30
L. A. Times	500	Los Angeles	395	KHJ	X	X	X	X	X	X	X
Earl C. Anthony	500	Los Angeles	469	KFI	X	X	X	X	X	X	X
Bible Institute	750	Los Angeles	360	KJS	X	X	X	X	X	X	X
Angelus Temple	500	Los Angeles	278	KFSG	X	X	X	X	X	X	X
Express	500	Los Angeles	337	KNX	X	X	X	X	X	X	X
So. Electric Co.	50	San Diego	244	KDPT	X	X	X	X	X	X	X
Hale Brothers	500	San Francisco	423	KPO	X	X	X	X	X	X	X
General Elec.	1000	Oakland	312	KGO	X	X	X	X	X	X	X
Tribune	500	Oakland	508	KLX	X	X	X	X	X	X	X
Warner Bros.	250	Oakland	360	KLS	X	X	X	X	X	X	X
Gould	5	Stockton	380	KJQ	X	X	X	X	X	X	X
Fallen & Co.	100	Santa Barbara	368	KFHJ	X	X	X	X	X	X	X
Guy Greason	10	Tacoma	360	KFEJ	X	X	X	X	X	X	X
Rhodes Co.	100	Seattle	455	KDZE	X	X	X	X	X	X	X
First Pres. Church	750	Seattle	360	KTF	X	X	X	X	X	X	X
Meier & Frank	50	Portland	380	KFEC	X	X	X	X	X	X	X
Oregonian	500	Portland	492	KGW	X	X	X	X	X	X	X
Reynolds Radio	230	Denver	283	KLZ							
Winner Radio	50	Denver	254	KFEL							
News and Journal	500	Dallas	476	WFAA		X					
Star-Telegram	1000	Fort Worth	476	WBAP		X					
Palmer School	500	Davenport	484	WOC		X					
Oregonian	500	Portland	492	KGW		X					
Federal Tel. Co.	500	Buffalo	319	WGF		X					
Sears-Roebuck	500	Chicago	345	WLS		X					



"A-1" Radio Cabinets

Prices on unfinished cabinets. Finish them yourself to match your furniture.

Hand Rubbed Finish \$2.00 Extra

Panel Size	Deep	Price	Panel Size	Deep	Price
7x12	8	\$3.00	7x21	10	\$4.25
7x12	10	3.25	7x24	8	4.25
7x14	8	3.25	7x24	10	4.50
7x14	10	3.50	7x26	8	4.75
7x18	8	3.75	7x26	10	5.00
7x18	10	4.00	7x28	10	5.50
7x21	8	4.00			

TERMS: Cash with Order
All prices F. O. B. Los Angeles

"A-1" Radio Cabinets are made of selected, kiln dried Philippine mahogany thruout. The lid is hinged and cleated to prevent warping. The ends are grooved to slide panel in. Tops and bases nicely moulded all around. These cabinets are first class in design and workmanship and will make a creditable appearance in any room.

A-1 WOODWORKING CO.

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For Every Purpose—Every Purse

RADIOLA SUPER-HETERODYNE

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\$280.00

RADIOLA REGENOFLEX
4-Tube Regenerative Receiver
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RADIOLA III-A
4-Tube Regenerative Receiver
\$99.50

RADIOLA III
2-Tube Regenerative Receiver
\$40.00

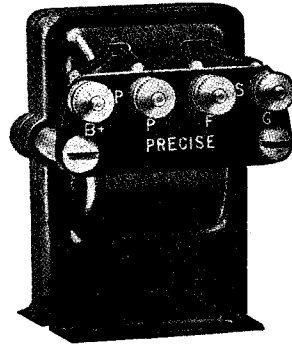
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PRECISE
Model 285-A
Price \$5.00

*It's more than a Transformer
—It's PRECISE!*

Precise is so designed, so balanced and so carefully constructed that each is a perfect replica of the original, that first perfect Instrument which was the result of the concentrated effort of some of the country's foremost engineers and designers. "A Laboratory Instrument at a Commercial Price," each of them made by a company that builds only Transformers for Radio. And those transformers may be depended upon to the last word, up-to-the-minute, even with a touch of tomorrow.

Try just two and you're SOLD!

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PRECISE MANUFACTURING CORP.
Pacific Coast Branch
821 Market St., San Francisco

4-6 P. M.
PACIFIC TIME

RADIO TIME TABLE

5-7 Mountain Time
6-8 Central Time
7-9 Eastern Time

STATION	WATTS	CITY	METERS	CALL	SUN.	MON.	TUES.	WED.	THUR.	FRI.	SAT.
					4:00-4:30	4:30-5:00	5:00-5:30	5:30-6:00	4:00-4:30	4:30-5:00	5:00-5:30
E. C. Anthony	500	Los Angeles	469	KFI	X	X					
L. A. Herald	500	Los Angeles	469	Herald							
L. A. Examiner	500	Los Angeles	469	Exam'n'r	X						
Angelus Temple	500	Los Angeles	278	KFSG							
Express	500	Los Angeles	337	KNX							
Echophone Radio	100	Long Beach	234	KFON							
General Electric	1000	Oakland	312	KGO	X						
Hale Bros.	500	San Francisco	423	KPO							
Oakland Tribune	500	Oakland	509	KLX							
Maxwell Elec.	50	Berkeley	278	KRE							
Portable Wireless	100	Stockton	360	KWG							
Gould	5	Stockton	360	KJQ							
Radio Den	10	Santa Ana	268	KFAW							
Nielson Radio Co.	10	Phoenix	238	KFCB							
Telegram	50	Salt Lake	360	KDYL							
Post Intelligencer	100	Seattle	270	KFJC							
Star Electric	50	Seattle	283	KFHR	X	X	X	X	X	X	X
First Pres. Church	750	Seattle	360	KTW	X	X	X	X	X	X	X
Northwest Radio	100	Seattle	283	KJR							
Meler & Frank	50	Portland	248	KFEC							
Hallock & Watson	50	Portland	360	KGG							
Oregonian	500	Portland	497	KGW							
Star-Telegram	1000	Fort Worth	476	WBAP	X	X	X	X	X	X	X
News and Journal	500	Dallas	476	WFAA							
Southern Egr. Exp.	500	San Antonio	385	WOAI							
Palmer School	500	Davenport	484	WOC							
Post Dispatch	500	St. Louis	546	KSD							
Daily News	500	Chicago	448	WMAQ							
Free Press	500	Detroit	517	WCX	X	X	X	X	X	X	X
News	500	Detroit	517	WWJ							
Star	500	Kansas City	411	WDAF	X	X	X	X	X	X	X
Cresley Mfg. Co.	500	Cincinnati	423	WLW							
Radio Cor. of Am.	500	New York	455	WJZ	X	X	X	X	X	X	X
John Wanamaker	500	Philadelphia	509	WOO							
Federal Tel. Co.	500	Buffalo	319	WGR							
Westinghouse	1000	Pittsburgh	326	KDKA	X	X	X	X	X	X	X
Westinghouse	1000	Springfield	337	WBZ							
Westinghouse	1000	Chicago	536	KYW							
Woodmen of W.	508	Omaha	526	WOAW							
Willard Battery	1000	Cleveland	390	WTAM							
Canadian Nat. Ry.	1000	Ottawa	436	CKCH							
Sears-Roebuck	500	Chicago	345	WLS	X	X	X	X	X	X	X
Cahmet B. Pdr.	500	Chicago	448	WOJ							
Tribune	1000	Chicago	370	WGN	X	X	X	X	X	X	X
Edg. B. Hotel	1000	Chicago	370	WEBH	X	X	X	X	X	X	X

WE KNOW OUR STUFF

If you want your Neutrodyne repaired properly, bring it to us. We repair all types of radio sets
Radio sets built to order—by men who know your wants and can give you expert workmanship and prompt service.

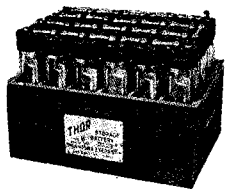
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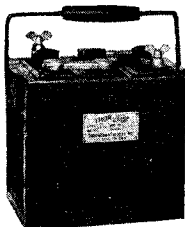
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6-8 P. M.
PACIFIC TIME

RADIO TIME TABLE

7-9 Mountain Time
8-10 Central Time
9-11 Eastern Time

STATION	WATTS	CITY	METERS	CALL	SUN.	MON.	TUES.	WED.	THUR.	FRI.	SAT.
					6:00-6:30	6:30-7:00	7:00-7:30	7:30-8:00	6:00-6:30	6:30-7:00	7:00-7:30
Bible Institute	750	Los Angeles	360	K J S	X	X					
L. A. Times	500	Los Angeles	395	K H J	X	X					
E. C. Anthony	500	Los Angeles	468	K F I	X	X					
Metrop'n Th'tre	500	Los Angeles	468	K F S G		X	X				
Angelus Temple	500	Los Angeles	276	K F S G		X	X				
Express	500	Los Angeles	337	K N X		X	X				
Echophone Radio	100	Long Beach	234	K F O N		X	X				
Hale Brothers	500	San Francisco	423	K P O		X	X				
Radioart Studio	50	San Francisco	280	K F R C	X	X					
Maxwell Electric	50	Berkeley	278	K R E		X					
Tribune	500	Oakland	509	K L X		X					
General Electric	1000	Oakland	312	K G O		X					
Kimball & Upton	100	Sacramento	283	K F B K		X	X				
Radio Den	10	Santa Ana	268	K F A W		X	X				
Southern Elect	50	San Diego	244	K D P T		X					
Nelson Radio Sup.	10	Phoenix	238	K F C B		X					
McArthur Bros.	100	Phoenix	360	K F A D		X					
Wash. State Col.	500	Pullman	330	K F A E		X					
Love Elect. Co.	10	Tacoma	360	K M O		X					
Mullens Elect. Co.	50	Tacoma	252	K G B		X					
N. W. Radio Ser.	100	Seattle	283	K J R		X					
Excel. Motor Cy.	100	Seattle	360	K H Q		X					
First Pres. Church	750	Seattle	360	K T W		X					
Star Electric	50	Seattle	283	K F H R	X	X					
Leese Bros.	20	Everett, Wash.	224	K F B L	X	X					
Oregonian	500	Portland	492	K G W	X	X					
Hallock & Watson	50	Portland	360	K G G	X	X					
Meier & Frank	50	Portland	248	K F E C		X					
Apple Cy. Rad. Clb.	10	Hood River	360	K O P		X					
Boise High School	150	Boise, Ida.	270	K F A U		X					
Bunkerhill-Sul. Co.	10	Kellogg, Ida.	360	K F E Y		X					
Telegram	500	Salt Lake	360	K D Y L		X					
N. M. Coll. Agricul	500	Sta. Col. N.M.	360	K O B		X					
Reynold's Radio	250	Denver	283	K L Z		X					
Fitzsimmons Hospital		Denver	542	A A 3		X					
Winner Radio	50	Denver	254	K F E L		X					
Col. of Agriculture	500	State Col. N. M.	360	K O B		X					
Westinghouse El.	1000	Hastings, Neb.	291	K F K X		X					
News and Journal	500	Dallas	476	W F A A		X					
Star-Telegram	1000	Fort Worth	476	W B A P		X					
Palmer School	500	Davenport	484	W O C	X	X					
W. O. W.	500	Omaha	526	W O A W	X	X					
Daily News	500	Chicago	448	W M A Q	X	X					
Post Dispatch	500	St. Louis	546	K S D	X	X					
Westinghouse	1000	Chicago	536	K Y W	X	X					
Sweeney School	500	Kansas City	411	W H B	X	X					
Star	500	Kansas City	411	W D A F	X	X					
Tribune	1000	Chicago	370	W G N	X	X					
Crosley Mfg. Co.	500	Cincinnati	423	W L W	X	X					
Albertan Pub. Co.	250	Calgary, Can.	410	C H B C		X					
Detroit Free Press	500	Detroit	517	W C X		X					
Radio Cor. of Am.	500	New York	455	W J Z	X	X					
John Wanamaker	500	Philadelphia	509	W O O	X	X					
Federal Tel. Co.	500	Buffalo	319	W G R	X	X					
El Buen Tono	500	Mexico City	425	C Y B		X					
El Universal	500	Mexico City	500	C Y L		X					
Willard Battery	1000	Cleveland	390	W T A M		X					
Westinghouse	1000	Pittsburgh	325	K D K A		X					
Canadian Nat. Ry.	50	Ottawa	435	C K C H		X					
Chamber of Com.	50	El Paso	268	W D A H		X					
Calumet B. Pdr.	500	Chicago	448	W Q J T	X	X					

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 PACIFIC TIME

RADIO TIME TABLE

11-1 Mountain Time
 12-2 Central Time
 1-3 Eastern Time

STATION	WATTS	CITY	METERS	CALL	SUN.		MON.		TUES.		WED.		THUR.		FRI.		SAT.	
					10.00-10.30	10.30-11.00	11.00-11.30	11.30-12.00	10.00-10.30	10.30-11.00	11.00-11.30	11.30-12.00	10.00-10.30	10.30-11.00	11.00-11.30	11.30-12.00	10.00-10.30	10.30-11.00
L. A. Times.....	500	Los Angeles...	395	K H J	X	X		X	X			X	X	X	X	X	X	X
E. C. Anthony.....	500	Los Angeles...	468	K F I	X	X		X	X			X	X	X	X	X	X	X
Angelus Temple.....	500	Los Angeles...	278	K F S G	X	X		X	X			X	X	X	X	X	X	X
Express.....	500	Los Angeles...	337	K N X			X	X		X	X							
Echophone Radio.....	100	Long Beach...	234	K F O N			X	X		X	X							
Hale Bros.....	500	San Francisco	423	K P O			X	X		X	X							
Radioart Studio.....	50	San Francisco	280	K F R C	X	X	X	X										
Herald.....	1000	Calgary	420	C F A C			X	X						X	X			
Northwest Radio.....	100	Portland	360	K G N				X	X									
Oregonian.....	500	Portland	492	K G W						X	X							
Post-Intelligencer.....	100	Seattle	270	K F J C			X	X										
N. W. Radio Ser.....	100	Seattle	283	K J R			X	X										
W. W. Grant.....	500	Calgary	440	C F C N					X	X		X	X					
Westinghouse.....	1000	Chicago	536	K Y W												X		
Sweeney School.....	500	Kansas City...	411	W H B	X	X												
Drake Hotel.....	1000	Chicago	360	W G N			X	X		X	X		X	X	X	X	X	X
Edgewater Beach.....	1000	Chicago	370	W E B H			X	X		X	X		X	X	X	X	X	X
General Elec. Co.....	1000	Oakland	312	K G O			X	X	X	X		X	X	X	X	X	X	X
Honolulu Advtr.....	500	Honolulu	360	K G U	X	X	X	X		X	X		X	X	X	X	X	X
Calumet B. Pdr.....	500	Chicago	448	W O J			X	X		X	X		X	X	X	X	X	X
Winner Radio.....	50	Denver	254	K F E L										X	X			
Tribune.....	1000	Chicago	370	W G N														
Sears-Roebuck.....	500	Chicago	345	W L S			X	X					X	X				
Star.....	800	Kansas City	411	W D A F			X	X				X	X		X	X	X	X
U.S. Playing Card.....	500	Cincinnati	309	W S A I														
Kaufmann & Baer.....	500	Pittsburgh	462	W C A E			X	X										
Outlet Co.....	500	Providence	380	W J A R			X	X		X	X		X	X				

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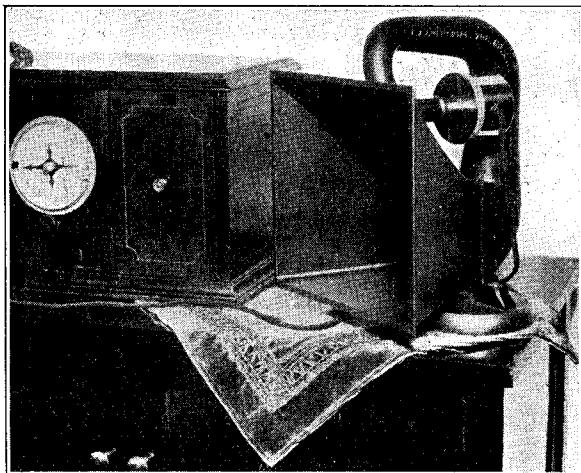
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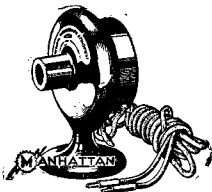
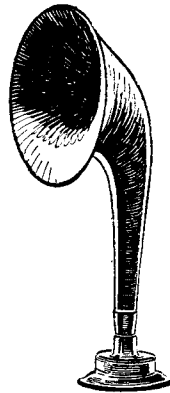
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Daily, except Sunday and Monday, from 10 to 11 p. m., we will broadcast Art Hickman's Orchestra from the Biltmore Hotel. Sunday from 6:30 to 7:30 p. m. and daily except Monday, from 6 to 6:30, we will broadcast Art Hickman's Concert Orchestra from the Biltmore Hotel. 2:30 to 3:30 p. m. daily except Sunday and Monday, Matinee Musicale.

WEEK COMMENCING SUNDAY, OCTOBER 26, 1924

- SUNDAY, OCTOBER 26—**
 10:00 a. m. Sermon from KHJ studio by Dr. Henry M. Radlin, principal of the Congregation Talmud Torah Hebrew School.
 10:30 to 12:30 p. m. Organ recital and entire religious service from the First Methodist Episcopal Church; Arthur Blakeley, organist, and Rev. Elmer E. Helms, pastor.
 6:30 to 7:00 p. m. Art Hickman's Concert Orchestra from the Biltmore Hotel; Edward Fitzpatrick, director.
 7:00 to 7:30 p. m. Organ recital from the First Methodist Episcopal Church; Arthur Blakeley, organist.
 8:00 to 10:00 p. m. Program presented through the courtesy of the Martin Music Co., arranged by J. Howard Johnson.
- MONDAY, OCTOBER 27—**
 12:30 to 1:30 p. m. Program of news items and music.
- TUESDAY, OCTOBER 28—**
 12:30 to 1:30 p. m. Program presenting the Ren-lezvous Ballroom Orchestra.
 2:30 to 3:30 p. m. Matinee musicale.
 6:30 to 7:30 p. m. Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. The weekly visit of the Sandman and Queen Titania. Bedtime story by Uncle John.
 8:00 to 10:00 p. m. Program presented through the courtesy of the Globe Ice Cream Co., arranged by A. K. Berkland.
 10:00 to 11:00 p. m. Art Hickman's dance orchestra from the Biltmore Hotel; Earl Burnnett, director.
- WEDNESDAY, OCTOBER 29—**
 12:30 to 1:30 p. m. Program presenting Abe Perluss and his Rose Room Orchestra playing through the courtesy of the Rose Room, Wm. Leder, mgr. Fred C. McNabb of Aggeler & Musser Seed Co.
 2:30 to 3:30 p. m. Matinee musicale.
 6:30 to 7:30 p. m. Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. Dick Winslow, screen juvenile and reporter. Baby Muriel MacCormac, screen juvenile. Bedtime story by Uncle John.
 7:30 to 8:00 p. m. Program presented by the University of Southern California.
 8:00 to 10:00 p. m. Program presenting Dr. Mars Baumgardt, lecturer. The Gaylord Trio; Lorena Wade, manager.
 10:00 to 11:00 p. m. Art Hickman's dance orchestra from the Biltmore Hotel; Earl Burnnett, director.
- THURSDAY, OCTOBER 30—**
 12:30 to 1:30 p. m. Program presenting Coy Barkley and his Palace Ballroom Orchestra from Ocean Park. Carl Brandenburg, "Shorty," tenor.
 2:30 to 3:30 p. m. Matinee musicale.
 6:30 to 7:30 p. m. Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. Screen juveniles. Bedtime story by Uncle John.
 7:30 p. m. Program presenting Harold Swartz of the faculty of the Otis Institute, who will talk on "Art."
 8:00 to 9:00 p. m. Program presenting the Piggly-Wiggly Girls. Ruth Florence, soprano. George Hood, reader.
 9:00 to 10:00 p. m. Program presented through the courtesy of Robert Marsh & Co., arranged by Thorlief Olsen.
 10:00 to 11:00 p. m. Art Hickman's dance orchestra from the Biltmore Hotel; Earl Burnnett, director.
- FRIDAY, OCTOBER 31—**
 12:30 to 1:30 p. m. Program of news items and music.
 2:30 to 3:30 p. m. Silent.
 6:30 to 7:30 p. m. Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. The weekly visit of Richard Headrick, screen juvenile. A Hallowe'en sketch, "Waiting for the Ghost," presented by the pupils of Edythe McGrath.
 8:00 to 9:00 p. m. Program presented through the courtesy of Rogers' Book Shop. The Isbell Trio. A. Fernandez, dramatic tenor.
 9:00 to 10:00 p. m. Special Hallowe'en program.
 10:00 to 11:00 p. m. Art Hickman's dance orchestra from the Biltmore Hotel; Earl Burnnett, director.
- SATURDAY, NOVEMBER 1—**
 12:30 to 1:30 p. m. Program of news items and music.
 2:30 to 3:30 p. m. Matinee musicale.
 6:30 to 7:30 p. m. Children's program presenting Prof. Walter Sylvester Hertzog telling stories of American history. Helene Pirie, screen juvenile. Bedtime story by Uncle John.
 8:00 to 10:00 p. m. De luxe program.
 10:00 to 11:00 p. m. Art Hickman's dance orchestra from the Biltmore Hotel; Earl Burnnett, director.

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PAUL REESE, Program Announcer

Remote Control Stations:
 Los Angeles Evening Herald: 5:00 to 5:30 p. m. Daily except Sunday
 8:00 to 9:00 p. m. Monday, Wednesday, Friday
 Los Angeles Examiner: 5:30 to 6:00 p. m. Daily except Sunday
 9:00 to 10:00 p. m. Daily
 Hotel Ambassador: 8:00 to 9:00 p. m. Sunday, Tuesday, Thursday
 10:00 to 11:00 p. m. Monday
 11:00 to 12:00 p. m. Wednesday, Friday, Saturday
 7:00 to 8:00 p. m. Sunday.

Metropolitan Theatre:

SUNDAY, OCTOBER 26—

10:00 to 10:45 a. m. L. A. Church Federation Service.
 4:00 to 5:00 p. m. Vesper services.
 6:45 to 7:00 p. m. Paul Reese—Musical Appreciation Talks.
 7:00 to 8:00 p. m. Metropolitan Theatre Program.
 8:00 to 9:00 p. m. Ambassador Hotel Concert Orchestra.
 9:00 to 10:00 p. m. Program from Examiner Studio.
 10:00 to 11:00 p. m. Theron Bennett's Dance Orchestra.

MONDAY, OCTOBER 27—

5:30 to 6:00 p. m. Examiner News Bulletins.
 9:00 to 10:00 p. m. Program from Examiner Studio.
 10:00 to 11:00 p. m. Ambassador Hotel Coconut Grove Orchestra.

TUESDAY, OCTOBER 28—

5:30 to 6:00 p. m. Examiner News Bulletins.
 6:45 to 8:00 p. m. Aeolian Organ Recital.
 8:00 to 9:00 p. m. Hotel Ambassador Coconut Grove Orchestra.
 9:00 to 10:00 p. m. Program from Examiner Studio.
 10:00 to 11:00 p. m. Popular Ballad Hour.

WEDNESDAY, OCTOBER 29—

5:30 to 6:00 p. m. Examiner News Bulletins.
 6:45 to 7:30 p. m. Nick Harris Detective Stories and Orchestra.
 7:30 to 8:00 p. m. Harry Baxter in Recital.
 9:00 to 10:00 p. m. Program from Examiner Studio.
 10:00 to 11:00 p. m. Special dramatic program with Harry James and Georgia McCrone Fifeild.
 11:00 to 12:00 p. m. Ambassador Hotel Coconut Grove Orchestra.

THURSDAY, OCTOBER 30—

5:30 to 6:00 p. m. Examiner News Bulletins.
 6:45 to 7:00 p. m. Y. M. C. A. Lecture.
 7:00 to 8:00 p. m. Norman Kelch, baritone, arr. concert.
 8:00 to 9:00 p. m. Hotel Ambassador Concert Orchestra.
 9:00 to 10:00 p. m. Program from Examiner Studio.
 10:00 to 11:00 p. m. Gertrude Childs Huntington, dramatic soprano, in concert.

FRIDAY, OCTOBER 31—

5:30 to 6:00 p. m. Examiner News Bulletins.
 6:45 to 8:00 p. m. Aeolian Organ Recital.
 9:00 to 10:00 p. m. Program from Examiner Studio.
 10:00 to 11:00 p. m. Vocal concert.
 11:00 to 12:00 p. m. Ambassador Hotel Coconut Grove Orchestra.

SATURDAY, NOVEMBER 1—

5:30 to 6:00 p. m. Examiner News Bulletins.
 6:45 to 8:00 p. m. Dance Orchestra.
 8:00 to 9:00 p. m. Special Recital.
 9:00 to 10:00 p. m. Program from Examiner Studio.
 10:00 to 11:00 p. m. Packard Radio Club.
 11:00 to 12:00 p. m. Ambassador Hotel Coconut Grove Orchestra.

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Class "A" 500 Watt Western Electric Station. G. N. Nichols, Program Announcer.

SUNDAY, OCTOBER 26—

- 10:30 to 12:30 p. m. Complete morning service broadcast from the main auditorium. Aimee Semple McPherson to preach. Music by the revival chorus, male quartet and soloists. Esther Fricke Green at the organ.
- 2:30 to 4:30 p. m. Auditorium service of praise and worship with dispensational sermon by the pastor. Music by the Silver Band and Temple Choir under the direction of G. N. Nichols. Roy Reid Brignall at the organ.
- 7:00 to 9:45 p. m. Evening service opening with special musical hour, featuring the Temple Choir, Silver Band, Sarah Karcher with her violin, and visiting artists. Esther Fricke Green at the organ. Musical hour followed by great salvation sermon of Aimee Semple McPherson, with altar call and after service.
- 10:00 to 11:00 p. m. Organ recital of Roy Reid Brignall with assisting artists.

TUESDAY, OCTOBER 28—

- 10:30 to 11:30 a. m. Sunshine Hour program personally conducted by Aimee Semple McPherson, with prayer for the sick and afflicted of Radioland. Organ recital of Esther Fricke Green, assisted by Elizabeth Wilson-Corning, soprano, and Sarah Karcher, violinist. Organ numbers will include: (1) Andante Cantabile, by Rea; (2) Offertoire in A Flat, by Batiste; (3) The Harmonious Blacksmith, with chimes, by Handel; (4) O Star of Eve, by Wagner; (5) Sweet Hour of Prayer.
- 6:30 to 7:30 p. m. Gray Studio Kozy Hour program presented by Cousin Jim, beloved friend of the children. Harry James Beardesley will be assisted by Eugene Lamb, pianist, and other associates.

WEDNESDAY, OCTOBER 29—

- 10:30 to 11:30 a. m. Sunshine Hour of comfort and cheer presented by Mrs. McPherson, closing with prayer for those of the Church of the Air in need of Heavenly aid.
- 2:30 to 4:30 p. m. Auditorium service. Songs, testimonies and sermon on the subject of "Divine Healing." Aimee Semple McPherson to preach. Altar call. Music by the Ladies' Revival Chorus. Ruth Thomas at the piano. Esther Fricke Green, organist.
- 6:30 to 7:30 p. m. Gray Studio childrens' program presented by Mrs. Edward Hughes of Eagle Rock, assisted by Helen Edwina and Mary Elizabeth Hughes. Mrs. Rose, pianist.

THURSDAY, OCTOBER 30—

- 10:30 to 11:30 a. m. Sister McPherson's personal hour with the mothers, housewives, sick and afflicted folk, hospitals and prisons.
- 3:30 to 4:30 p. m. Afternoon organ recital program of Roy Reid Brignall, assisted by G. N. Nichols in cornet solos and readings.
- 7:30 to 9:15 p. m. Auditorium service. Water baptism and sermon by the pastor-evangelist. Music by the Temple Choir and Silver Band. Esther Fricke Green at the organ.
- 9:15 to 10:00 p. m. Gray Studio program featuring the Temple Choir and the Sierra Trio of Pasadena.
- 10:00 to 11:00 p. m. Organ recital program of Esther Fricke Green, assisted by Alfred C. Green, lyric tenor. Organ numbers will include: (1) Larghetto, Capocci; (2) The Swan, by Saint-Saens; (3) Pastorale, by Handel; (4) Adeste Fideles. Mr. Green will sing "Comfort Ye" and "Every Valley Shall Be Exalted."

FRIDAY, OCTOBER 31—

- 10:30 to 11:30 a. m. Sunshine Hour program presented by the pastor-evangelist, assisted by students of the Evangelistic and Missionary Training Institute.
- 3:30 to 4:30 p. m. Organ recital program of Roy Reid Brignall, with assisting artists. G. N. Nichols, cornetist.
- 7:30 to 9:15 p. m. Auditorium service. "Crusaders' Rally." Ten-minute talk of Judge Carlos S. Hardy. Evangelistic sermon of Aimee Semple McPherson. Temple Silver band and special music.
- 9:15 to 10:00 p. m. Gray Studio program presenting the Silver Band, under the direction of G. N. Nichols. Marjorie Nell Snider, 14 years of age, in readings. N. E. Brown, electrical engineer, in his weekly talk on "Radiology."
- 10:00 to 11:00 p. m. Organ recital program of Roy Reid Brignall, with assisting artists. G. N. Nichols, cornetist.

SATURDAY, NOVEMBER 1—

- 10:30 to 11:30 a. m. Sunshine Hour program. Mrs. McPherson and students of the Bible School in a cheery program and prayer for the sick.
- 3:30 to 4:30 p. m. Gray Studio program. Impromptu. Roy Reid Brignall, accompanist and soloist.
- 7:30 to 9:30 p. m. Auditorium Service. Divine Healing service of Aimee Semple McPherson. Testimonials of those who have been healed through the prayer of faith. Special music.

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5:00 to 5:30—Daily except Sunday—Evening Herald Table Talk and News Items

PROGRAM FOR WEEK OCTOBER 25-NOVEMBER 1
Subject to Change

MONDAY, OCTOBER 27—

8:00 to 9:00 p. m. Evening Herald's Radiolans popular dance music. C. E. Hillis, soloist.

WEDNESDAY, OCTOBER 29—

8:00 to 9:00 p. m. Kennedy broadcasters of Long Beach. William McDougall, Scotch Baritone.

FRIDAY, OCTOBER 31—

8:00 to 9:00 p. m. Hi Moulton's Orchestra. Judge Hugh J. Crawford, traffic talk.

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SUNDAY, OCTOBER 26—

10:45 to 12:30 noon. Regular services of the Church of the Open Door, including sermon by Dr. French E. Oliver. Mrs. Irvin S. Fallis, soprano soloist. Mr. A. A. Butler, organist.

6:00 to 6:45 p. m.

Radio Vesper Service with sermon by Rev. John A. Hubbard. Mrs. Fern Barton, organist. Mr. Sam Carlson, baritone soloist.

8:00 p. m.

Sermon by Dr. French E. Oliver. Mr. C. M. Brooks, baritone soloist. Mr. Alfred A. Butler, organist.

TUESDAY, OCTOBER 28—

8:00 to 9:00 p. m. Organ recital. Vocal and instrumental selections.

THURSDAY, OCTOBER 30—

8:00 to 9:00 p. m. Prof. A. Lowinsky, violinist, director of the Glendale Symphony Orchestra, assisted by Mrs. Irvin S. Fallis, soprano, and Mrs. Richard Parks, pianist and accompanist. Violin numbers: Traumerei (Schumann); Consolation (Mendelssohn); Nearer, My God, to Thee; Jesus, Lover of My Soul; There Is a Green Hill Far Away (Gounod); Berceuse, from "Jocelyn" (Godard).

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SUNDAY, OCTOBER 26—

8:00 p. m. Feature program.

MONDAY, OCTOBER 27—

10:00 a. m. And every hour until 5:00 p. m.—Town Crier.

10:30 a. m. Kate Brew Vaughn, director of the Home Economic Department of the Los Angeles Evening Express.

6:00 to 7:30 p. m. Dinner Hour—program of instrumental music and song.

8:00 to 10:00 p. m. Program sponsored by the Western Auto Supply Company, introducing the Western Auto Orchestra and Gladys Blackwell Pickering, soprano, with other features.

10:00 to 11:00 p. m. "Night Hawks."

TUESDAY, OCTOBER 28—

10:00 a. m. And hourly—"Town Crier."

10:30 a. m. Kate Brew Vaughn.

11:00 a. m. Estelle Lawton Lindsay, "The Skipper," of L. A. Express Editorial Staff.

6:00 to 7:30 p. m. Herbert's Cafe of Los Angeles Arion Trio.

8:00 to 9:00 p. m. Taft Realty Company in program of instrumental and vocal music and with educational lecture on "Hillside Architecture."

9:00 to 10:00 p. m. Paul G. Hoffman's Studebaker Orchestra.

10:00 to 11:00 p. m. Dance program by Hollywood Serenaders.

WEDNESDAY, OCTOBER 29—

10:00 a. m. And hourly—"Town Crier."

10:30 a. m. Kate Brew Vaughn.

6:00 to 7:30 p. m. Dinner Hour.

7:30 to 8:00 p. m. Herbert Hoover.

8:00 to 10:00 p. m. Carson-Baruch Baking Company, sponsoring.

10:00 to 11:00 p. m. Dance program by Hollywoodland Orchestra.

THURSDAY, OCTOBER 30—

10:00 a. m. And hourly—"Town Crier."

10:30 a. m. Kate Brew Vaughn.

6:00 to 7:30 p. m. Dinner Hour program sponsored by Herbert's Cafe of Los Angeles.

7:45 p. m. J. R. Douglas will deliver "Security Business Message."

8:00 to 9:00 p. m. Sponsored by Dr. A. Zimmerman.

9:00 to 10:00 p. m. Dance Program by Paul G. Hoffman's Studebaker Orchestra.

10:00 to 11:00 p. m. Original Hollywood Californians.

FRIDAY, OCTOBER 31—

10:00 a. m. And hourly—"Town Crier."

6:00 to 7:30 p. m. Dinner Hour program.

8:00 to 9:00 p. m. Program sponsored by Guaranty Building and Loan Association.

10:00 to 11:00 p. m. Dance program by Johnny Ogden's Orchestra.

SATURDAY, NOVEMBER 1—

10:30 a. m. "Radio Talk to Radio Fans," Forbes Van Why.

6:00 to 7:30 p. m. Program sponsored by Herbert's Cafe of Los Angeles.

8:00 to 10:00 p. m. Motor Car Dealer's Association presenting Russian String Quartet.

10:00 to 11:00 p. m. Dance program.

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DAILY—7:00 to 7:30 p. m. (except Sunday). News items, United States Weather Bureau bulletin, market and financial news.

SUNDAY, OCTOBER 26—

Silent.

MONDAY, OCTOBER 27—

8:00 to 10:00 p. m.

Program broadcast through KLX from the campus at the University of California by the Associated Students of the University of California, under the direction of the A. S. U. C. Publicity Bureau.

TUESDAY, OCTOBER 28—

6:00 to 7:00 p. m.

Aunt Elsie's Sunset Matinee.

WEDNESDAY, OCTOBER 29—

8:00 to 10:20 p. m.

Studio program: "La Traviata," an opera in three acts, by Giuseppe Verdi. Under the direction of Gregorio Artieda. Characters: Violetta Valery, soprano, Teresina Monotti; Flora Bervoix, mezzo soprano, Grace Gilbert; Annina, soprano, Beatrice L. Sherwood; Alfredo Germont, tenor, Gregorio Artieda; Giorgio Germont, baritone, Marion Vecky; Gaston, tenor, Dixon A. Ervin; Baron Douphol, baritone, E. Arnold; Marquis D. Obigny, bass, C. Alibertina; Dr. Grenvil, bass, L. Leimbach. Augustus Serantoni, pianist. Chorus: I. Frimont, Lena Beccf, Elma Otte, Grace S. Gilbert, Wanda Frentrup, B. J. Marhevich, E. Arnold, P. Alexeeff, A. Ervin, Elynore Benton. First Act—Scene: Drawing room in the home of Violetta. Act Two—First scene: A room on the ground floor of a country house near Paris; second scene: Richly furnished apartment in Flora's mansion. Act Three—Scene: Violetta's bedroom. Following the opera the controls of KLX will be shifted to the American Theater for incidental music by the American Theater Orchestra, Owen Sweeten directing. At 10:10 o'clock Clement Barker, American Theater organist, will broadcast a short organ recital.

THURSDAY, OCTOBER 30—

Silent after 7:30 p. m.

FRIDAY, OCTOBER 31—

8:00 to 10:20 p. m.

Studio program. Instrumental selections by Less Capp's Diablo Country Club Orchestra.

8:50 to 9:05 p. m.

Overture by the American Theater Orchestra, Owen Sweeten directing.

9:05 to 10:10 p. m.

Studio program.

8:00 to 8:50 p. m.

Studio program. Instrumental selections by Less Capp's Diablo Country Club Orchestra.

8:50 to 9:05 p. m.

Overture, American Theater Orchestra, Owen Sweeten director.

9:05 to 10:10 p. m.

Studio program. 1. Flute solos: (a) Serenade; (b) Hungarian Dance, Prof. Sam Schildkret; Elenore Hale, accompanist. 2. Vocal solos: (a) Des Hold My Hands Tonight (Bond); (b) Sing to Me, Sing (Bischoff), Ada Robey Barton. 3. Violin solos: (a) Souvenir (Drdla); (b) Kuiaksaw (Wieaniawski), Celeste Bellarie; Kathryn Brown Palmer, accompanist. 4. Vocal solos: (a) Sonny Boy (Curran); (b) I Know (Spross); (c) A Disappointment (Harris), Ada Robey Barton. 5. Flute solos: (a) Serenade (Schubert); (b) Winking, Blinking Moon (Roberts). 6. Piano solos: (a) Selected; (b) Romance (Rubenstein), Kathryn Brown Palmer. 7. Violin solos: (a) Humoresque (Dvorak); (b) The End of a Perfect Day (Bond); Organ recital by Clement Barker, American Theater organist.

SATURDAY, NOVEMBER 1—

10:10 p. m.

2:30 p. m.

Broadcasting of University of California vs. University of Southern California football game at Memorial Stadium, at Berkeley, play by play.



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Pacific Time

1:30 p. m. Daily except Sunday—Stock reports.
 1:45 p. m. Daily except Sunday—Weather reports.
 3:00 p. m. Daily except Saturday and Sunday—Studio program.
 4:00 to 5:30 p. m. Daily except Sunday—St. Francis Hotel, San Francisco, Orchestra.
 6:45 to 7:15 p. m. Daily Except Saturday and Sunday—Stock reports, weather reports, news items.

SUNDAY, OCTOBER 26—

11:00 a. m. Church service.
 3:30 p. m. Concert by the KGO Little Symphony Orchestra, Carl Rhodehamel conducting; assisted by soloists and speaker. Waltz, The Charmers (Caryll); overture, Light Cavalry (Suppe); selection from "Martha" (Tavan). Soprano solos: (a) The Wings of the Morning (Rigby); (b) Father in Heaven (Doun); (c) Lord, Thou Hast Been Our Dwelling Place (Phillips), Daisy O'Brien. Piano solos: (a) Waltz in E major (Moszkowski); (b) Dance of the Dwarfs (Grieg), Edna Dynan Carlson. Travelogue, fifth in series "Round About Jerusalem," Ford E. Samuel. Piano solos: (a) Pastorale (Scarlati); (b) Capriccio (Scarlati), Edna Dynan Carlson. Three old songs with guitar accompaniment: (a) Afterward (Molloy); (b) Past and Future (Molloy); (c) Love's Old Sweet Song (Molloy), Daisy O'Brien. Menuet Pastel (Paradis), musical comments by Arthur S. Garbett, of "Radiocast Weekly." Slavonic Dance No. 1 (Dvorak); Mazurka Japanese (Ganne); March, The Forester (Jarno).
 7:30 p. m. Church service.

MONDAY, OCTOBER 27—

8:00 p. m. Educational program with musical numbers by the Arion Trio. Courses in Agriculture, Economics, English, and Book Reviews. Pilgrim Chorus (Wagner); By the Sea (Schubert-Wilhelmy); Blue Lagoon (Millocker); Melody (Dawes); Juanita, a Serenade (Garbett); Raindrop Prelude (Chopin).
 10:00 to 1:00 a. m. Dance music program by Henry Halstead's Orchestra and soloists, Hotel St. Francis, San Francisco.

TUESDAY, OCTOBER 28—

8:00 p. m. Studio program. Concert by the KGO Little Symphony Orchestra, Carl Rhodehamel conducting; assisted by Edilberto G. Anderson, baritone, and Mrs. J. E. Bowersmith, contralto. Waltz, Poudre (Francis Popy); Overture, Carnival of Venice (Thomas). Contralto solos: (a) My Heart at Thy Sweet Voice from "Samson and Delilah" (Saint-Saens); (b) Sittin' Thinkin' (Fisher), Mrs. J. E. Bowersmith. The "Unfinished Symphony" (Schubert); musical description of Schubert's "Unfinished Symphony," illustrated by short passages by the orchestra, furnished by Arthur S. Garbett, musical editor of "Radiocast Weekly," San Francisco. Baritone solos: (a) Ay, Ay, Ay (Freire); (b) J'Ai Pleure En Reve (George Hue), Edilberto G. Anderson. Suite, Lyric Pieces (Grieg); Menuet, Pastel (Paradis); Dance of the Gnomes (Ilynsky). Soprano solos: (a) Intermezzo (Ave Maria), from "Cavalleria Rusticana" (Mascagni); (b) I Hear a Thrush at Eve (Cadman), Mrs. Herschell L. Hagen. "Humorous Transcriptions of an Old Folk Song" (Ochs); Kamenoi Ostrow (Rubinstein).

10:00 to 1:00 a. m. Dance music program by Henry Halstead's Orchestra and soloists, Hotel St. Francis, San Francisco.

WEDNESDAY, OCTOBER 29—

8:00 p. m. Studio program. "TARNISH," Gilbert Emery's drama in three acts, presented by the KGO Players, under the direction of Wilda Wilson Church. Music by the Cremona Trio—Ray Marchant, violin; Joziena Von der Ende, cello; Doris Olsen, piano. Cast: Josephine Lee Tevis, Mary Harper; Mrs. Healy, Jean Hansen; Apolline Stutz, Florence Palmer; Letitia Tevis, Leonore Everett; Emmet Carr, Bert Horton; Adolph Tevis, Fred Thomas; Nettie Dark, Jean Hansen; Aggie, Bertha Spring. The entire action of the play takes place in New York, on a New Year's Eve, between 5 o'clock and midnight. Time: The present. Meditation from "Thais" (Massenet), Cremona Trio. Act I—The sitting room of the Tevis flat at 189th Street West. Overture from "Carmen" (Bizet), Cremona Trio. Act II—Nettie Dark's apartment. A Dream (Bartlett), Cremona Trio. Act III. The sitting room of the Tevis flat. Allegro from "Symphony Cantate" (Mendelssohn), Cremona Trio.

10:00 to 1:00 a. m. Dance music program by Henry Halstead's Orchestra and soloists, Hotel St. Francis, San Francisco.

KGO—Pacific Broadcasting Station

GENERAL ELECTRIC COMPANY (312 Meters), OAKLAND, CALIFORNIA

(Pacific Time)

FRIDAY, OCTOBER 31—

1:30 p. m. New York stock reports.
 1:40 p. m. San Francisco stock reports.
 1:45 p. m. Weather Bureau reports.
 3:00 p. m. Studio musical program and speaker.
 4:00 to 5:30 p. m. Concert Orchestra of the Hotel St. Francis, San Francisco, Vinton La Ferrera conducting.
 6:45 p. m. New York stock reports, closing.
 6:55 p. m. San Francisco stock reports, closing.
 7:00 p. m. Weather Bureau report.
 7:05 p. m. San Francisco produce news.
 7:10 p. m. Baseball scores.
 7:15 p. m. News items. Silent Night.

SATURDAY, NOVEMBER 1—

12:30 noon Final reading, New York Stock reports.
 12:40 p. m. Final reading, San Francisco Stock reports.
 12:45 p. m. Weather Bureau reports.
 4:00 to 5:30 p. m. Concert Orchestra of the Hotel St. Francis, San Francisco, Vinton La Ferrera conducting.
 8:00 p. m. Studio program. Yerba Buena Minstrels and Olio: Given by Yerba Buena Lodge F. & A. M. No. 403, Oakland, Calif.; John S. Blowski, Master; George W. Ludlow, Secretary; D. P. Scudder, Director of Minstrels. Part One—Yerba Buena Minstrels. End Men, Richard H. Glissman, Ernest W. Stenberg, Lloyd D. Barzee, A. E. Evers, Sydney H. Hansen and Harry Roach. Interlocutor, George W. Ludlow. Soloists, Carl Anderson, Clarence H. Oliver, R. J. Bishop, A. H. Arneson, E. C. Dowdle, A. C. Kroeger, Chris Hampton and Willard B. Zimmerman. Part Two—Olio: Piano Solo, J. E. Whitehead; Comic Song, Chas. W. Reynolds; Clarinet Solo, A. L. Bangle; Monologue, A. E. Evers; Violin Solo, Sydney T. Maar; Reading, George W. Ludlow; Organ Solo, Chas. T. Besserer; Bass Solo, Newton Deprez; Piano Solo, Howard Tremble; Monologue, Anson Bilger; Saxophone Solo, Wiley R. Martin; Vocal Duet, Carl Anderson and Clarence Oliver; Piano Duet, Mr. and Mrs. Wm. W. Carruth.
 10:00 p. m. to 1:00 a. m. Dance music program by Henry Halstead's Orchestra and soloists, Hotel St. Francis, San Francisco.


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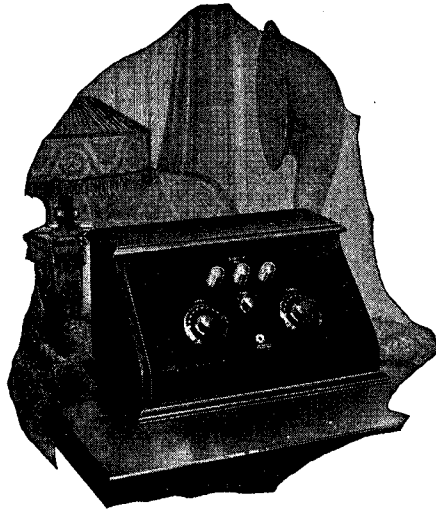
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PROGRAMS FROM OCTOBER 26th TO NOVEMBER 1st, INCLUSIVE

- DAILY EXCEPT SUNDAY—**
12:00 noon. Time signals from the Naval Observatory. Reading of the Scripture.
1:00 to 2:00 p. m. Rudy Seiger's Fairmont Hotel Orchestra broadcast by wire telephony.
- MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY—**
11:45 a. m. Market report on poultry, eggs, butter and cheese, under the auspices of the Poultry Producers of Central California.
- SUNDAY, OCTOBER 26—**
11:00 to 12:00 noon. Undenominational and non-sectarian church services. The speaker will be Dr. Albert E. Kelly, pastor Ingleside Community Church, San Francisco. The soloist will be Mabel Turner Payne. Organ selections by Theodore J. Irwin.
8:30 to 10:00 p. m. Concert by Rudy Seiger's Fairmont Hotel Orchestra, broadcast by wire telephony.
- MONDAY, OCTOBER 27—**
4:30 to 5:30 p. m. Rudy Seiger's Fairmont Hotel Orchestra, broadcast by wire telephony.
5:30 to 6:30 p. m. Children's hour stories by Big Brother of KPO, taken from the Book of Knowledge.
8:00 to 8:30 p. m. Organ recital by Theodore J. Irwin, official organist, at the Wur-litzer.
8:30 to 10:00 p. m. Navy Day program by the members of the Naval Reserve, under the management of Carl Nunan.
10:00 to 11:00 p. m. E. Max Bradfield's Versatile Band, playing in the Palace Rose Room Bowl.
- TUESDAY, OCTOBER 28—**
5:30 to 6:30 p. m. Children's hour stories by Big Brother of KPO, taken from the Book of Knowledge.
7:00 to 7:30 p. m. Rudy Seiger's Fairmont Hotel Orchestra, broadcast by wire telephony.
8:00 to 10:00 p. m. Program by the Olympic Club of San Francisco.
10:00 to 11:00 p. m. E. Max Bradfield's Versatile Band, playing in the Palace Rose Room Bowl.
- WEDNESDAY, OCTOBER 29—**
2:30 to 3:30 p. m. Garry Fisher's Amphians of the Cabiria Cafe.
5:30 to 6:30 p. m. Rudy Seiger's Fairmont Hotel Orchestra, broadcast by wire telephony.
7:00 to 7:30 p. m. Rudy Seiger's Fairmont Hotel Orchestra, broadcast by wire telephony.
8:00 to 11:00 p. m. E. Max Bradfield's Versatile Band, playing in the Palace Rose Room Bowl. Talk, "Vocational Education for Your Boy and Mine," by Wm. T. Elzinga. Soprano solos by Yvonne Farr. Conversational French course lesson. Male quartet selections by the San Francisco Police Quartet.
- THURSDAY, OCTOBER 30—**
5:30 to 6:30 p. m. Children's hour stories by Big Brother of KPO, taken from the Book of Knowledge.
7:00 to 7:30 p. m. Rudy Seiger's Fairmont Hotel Orchestra, broadcast by wire telephony.
8:00 to 9:00 p. m. Organ recital by Theodore J. Irwin, official organist, at the Wur-litzer.
9:00 to 10:00 p. m. Program under the management of H. B. Passmore, pianist.
- FRIDAY, OCTOBER 31—**
12:45 p. m. Talk broadcast from the Commonwealth Club luncheon at the Palace Hotel.
4:30 to 5:30 p. m. Rudy Seiger's Fairmont Hotel Orchestra, broadcast by wire telephony.
- SATURDAY, NOVEMBER 1—**
12:00 noon. Time signals from the Naval Observatory. Reading of the Scripture.
1:00 to 2:00 p. m. Rudy Seiger's Fairmont Hotel Orchestra, broadcast by wire telephony.
3:30 to 5:30 p. m. Tea dansant. E. Max Bradfield's Versatile Band, playing in the Palace Rose Room Bowl.
8:00 to 12:00 p. m. Art Weidner's dance orchestra, playing in the Fairmont Hotel. Soprano solos by May Clark Burns.

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BULLETIN RADIO HEADQUARTERS, HOTEL WHITCOMB SAN FRANCISCO, CALIF.

SUNDAY, OCTOBER 26—
 6:30 to 7:30 p. m. Popular concert by Bem's Little Symphony Orchestra.
 8:00 to 9:00 p. m. Overture, "Tannhauser" (Wagner). Waltz, "Wedding Dance" (Lincke). Selection, "Only Girl" (Victor Herbert). "Ballet Suite" (Lacombe): (a) Carnival March; (b) Harlequin and Columbine, Late news items.
 9:00 to 9:05 p. m. Four Indian Love Lyrics (Woodforde-Finden): "The Temple Bells," "Less Than the Dust," "Kashmiri Song," "Till I Wake." Intermezzo from Opera La Fianceedu Tzar (Rimsky-Kersakoff.) Grand Opera Selection, "Madame Butterfly" (Puccini).
 9:05 to 10:00 p. m. Dance music played in the roof garden of the Hotel Whitcomb by Frank Taylor's El Camino Orchestra.

MONDAY, OCTOBER 27—
 6:30 to 6:45 p. m. Stock news and complete bond quotations
 6:45 to 7:00 p. m. Late news bulletins by direct wire from The San Francisco Bulletin.

TUESDAY, OCTOBER 28—
 6:30 to 6:45 p. m. Stock news and complete bond quotations
 6:45 to 7:00 p. m. Late news bulletins by direct wire from The San Francisco Bulletin.

WEDNESDAY, OCTOBER 29—
 6:30 to 6:45 p. m. Stock news and complete bond quotations
 6:45 to 7:00 p. m. Late news bulletins by direct wire from The San Francisco Bulletin.
 7:00 to 7:30 p. m. Popular concert by Bem's Little Symphony Orchestra
 8:00 to 9:00 p. m. Concert by Bem's Little Symphony Orchestra, playing in Drury Lane, Hotel Whitcomb, San Francisco. "Kamino Ostrow" (Rubenstein). "Der Rosenkavalier Waltz" (Strauss). "Cello solo, "Broken Melody" (Von Bien). Selection, "You're in Love" (Friml).
 9:00 to 10:00 p. m. KFRC Health Service. Answers to questions. Address: "Making Normal Minds of Childhood," by William P. Lucas, professor of children's diseases, University of California, and during the World War in charge under Herbert Hoover of feeding the children of Northern France and Belgium. Baron Keyes singing and playing his own compositions. KFRC educational course in radio, given by members of the technical staff of the Radioart Studio.

THURSDAY, OCTOBER 30—
 6:30 to 6:45 p. m. Stock news and complete bond quotations
 6:45 to 7:00 p. m. Late news bulletins by direct wire from The San Francisco Bulletin.

FRIDAY, OCTOBER 31—
 6:30 to 6:45 p. m. Stock news and complete bond quotations
 6:45 to 7:00 p. m. Late news bulletins by direct wire from The San Francisco Bulletin.
 7:00 to 9:00 p. m. Selection, "Katinka" (Friml). Waltz, "Apple Blossoms" (Kreisler). "Egyptienne Ballet" (Luiginini). Selection, "Rigoletto" (Verdi).
 9:00 to 10:00 p. m. Dance music, with Baron Keyes playing and singing his own compositions during the dance intermission.

SATURDAY, NOVEMBER 1—
 6:30 to 6:45 p. m. Stock news and complete bond quotations
 6:45 to 7:00 p. m. Late news bulletins by direct wire from The San Francisco Bulletin.
 7:00 to 7:30 p. m. Dance music by Elmer Ohlsen's Hotel Whitcomb Dance Orchestra.

K G W—The Morning Oregonian—492 Meters

PORTLAND, OREGON
(PACIFIC TIME)

SUNDAY, OCTOBER 26—
 6:00 p. m. Church services sponsored by Portland Council of Churches.

MONDAY, OCTOBER 27—
 5:00 p. m. Children's Roosevelt program; story by Mrs. W. R. Scott.
 8:00 p. m. Concert by The Oregonian Concert Orchestra.

TUESDAY, OCTOBER 28—
 5:00 p. m. Children's program. Story by Aunt Nell.
 12:30 p. m. Concert.
 8:00 p. m. Agricultural lecture provided by Oregon Agricultural College extension service.
 8:30 p. m. Concert by Portland Civic Music Club Artists.

WEDNESDAY, OCTOBER 29—
 12:30 p. m. Concert by Bill Darby's Orchestra of Cotillion Hall.
 5:00 p. m. Children's program. Story by Mrs. Edw. Guiver.
 8:00 p. m. Concert program arranged by Hanna Davis.
 10:00 p. m. Dance music by George Olsen's Metropolitan Orchestra of the Hotel Portland. (Two hours.)

THURSDAY, OCTOBER 30—
 12:30 p. m. Concert sponsored by Civic Music Club of Portland.
 5:00 p. m. Children's program.

FRIDAY, OCTOBER 31—
 12:30 p. m. Concert by Multnomah Hotel Strollers, Dwight Johnson, director.
 5:00 p. m. Children's Hallowe'en program. Story by Aunt Nell and music provided by Ethel Rand.
 8:00 p. m. Popular lecture provided by University of Oregon extension division.
 10:30 p. m. Hoot Owls, with George Olsen's Hoot Owl Orchestra, Pantages Theater.

SATURDAY, NOVEMBER 1—
 10:00 p. m. Dance music by George Olsen's Metropolitan Orchestra of the Hotel Portland.

KDPT—The Union-Tribune and Southern Electrical Company—244 Meters

Owned and Operated by the Radio Department of the Southern Electrical Company, Located at 3rd and "E" Street, San Diego, California. Phone Main 4730.
 WILLIAM O. HEATHCOTE, Program Director and Announcer
 J. W. SCHRADER, Operator

PROGRAM FOR THE WEEK OF OCT. 26 TO NOV. 1

MONDAY, OCTOBER 27—
 1:30 to 2:30 p. m. Popular program furnished by the Thearle Music Co.

TUESDAY, OCTOBER 28—
 1:30 to 2:30 p. m. Program of late popular music.
 8:00 to 9:00 p. m. Thearle "Nick Harris Program" under the direction of F. R. Settle, featuring Sam Kinella and his Royal Hawaiian Entertainers De Luxe. Talk by District Attorney on "Why Crime Does Not Pay." Bess Wilson and her Dear Nell letters. A Detective Dodo Fable for the children, and vocal numbers.

WEDNESDAY, OCTOBER 29—
 1:30 to 2:30 p. m. Program of instrumental and vocal numbers thru the courtesy of Thearle Music Co.
 8:00 to 9:45 p. m. Regular Wednesday De Luxe program under the direction of F. R. Settle thru the courtesy of the Nick Harris Detectives. Featuring Willis Slee and Lewis Crescenzo, popular Stell and Standard Guitar Team, with solos and vocal interpolations. Marion MacClead's Orchestra, playing and dance program. Miss Chelsea Mills of the San Diego Conservatory of Music, singing soprano solos. And short talk by Lewis J. Utt of the Better Business Bureau of San Diego, Calif.

THURSDAY, OCTOBER 30—
 1:30 to 2:30 p. m. Program of old fashioned numbers.
 6:00 to 6:45 p. m. Program by artists from the Thearle Music Co. Studios.

FRIDAY, OCTOBER 31—
 1:30 to 2:30 p. m. Instrumental program.
 6:00 to 6:45 p. m. Classical program under the direction of Paul Scott. Featuring Miss Ella Palmer, dramatic soprano, protegee of Maestro Sully and Professor Albert Hustler, concert pianist. "Moment Musical," Scharwennka piano solo by Paul Scott. Berceuse, Godard vocal solo by Miss Palmer. Prelude in C Sharp Minor, Rachmaninoff piano solo by Professor Albert Hustler. Where Drowsy Waters Steal, Lierance tenor solo by Paul Scott, with Prof. Hustler at the piano.

SATURDAY, NOVEMBER 1—
 Silent.

K F A U—Boise High School—270 Meters

BOISE, IDAHO
(Pacific Time)

Market reports, weather reports, health talk, and educational features by Home Economics and Agricultural Departments on Monday, Tuesday, Wednesday, Thursday and Friday from 2:30 to 3:15 P. M.

MONDAY, OCTOBER 27—
 7:00 p. m. Mrs. Jones, soprano. Mrs. Luarel Elam on the Methodist Church organ.

FRIDAY, OCTOBER 31—
 7:00 p. m. Mrs. Fred Rosene, contralto, accompanied by Miss Freda Brown on the flute. Mr. Fred Rosene, whistler.



"It Tunes 'Em Out"

You Will Be Surprised

At the Clearness of Tone and the Selectivity
of the

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Ask your dealer for demonstration

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1623 So. Vermont

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Los Angeles

KFAE—State College of Washington—330 Meters

(State College of Washington, Pullman, Wash. Miss Alice L. Webb, News Editor.)

- MONDAY, OCTOBER 27—**
7:30 to 9:00 p. m. Contralto solos, Mrs. LaVerne Kimbrough. Piano numbers, Miss Mary Cameron. Making the Water Supply Ready for Winter, A. B. Crane. Health Talk. Causes of Failure in Concrete Construction, L. J. Smith.
- WEDNESDAY, OCTOBER 29—**
7:30 to 9:00 p. m. Cello and saxophone solos, Vincent Hiden, Rochester. Baritone solos, Harry Isaacs, Seattle. Poultry Management in November, W. D. Buchanan. Results of State College Leaf Roller Experiments, A. Spuler. Readings, Speech Department.
- FRIDAY, OCTOBER 31—**
7:30 to 9:00 p. m. Banjo solos, George Hunt, Spokane. Piano numbers, Jean Fulmer, Pullman. White Pine Blister, E. H. Steffen. Some New and Unusual Lines of Washington Horticulture, M. D. Armstrong. Book Reviews, Miss Alice L. Webb.

KFOA—Pacific Northwest Station—455 Meters

RHODES DEPARTMENT STORE—ARCADE SQUARE, SEATTLE, WASH.
(Pacific Time)

CARL E. HAYMOND, PROGRAM ANNOUNCER

- MONDAY, OCTOBER 27—**
8:30 p. m. The Seattle Post Intelligencer by remote control.
- TUESDAY, OCTOBER 28—**
12:30 to 1:30 p. m. The noonday luncheon program of the Seattle Advertising Club.
8:30 p. m. The Seattle Post Intelligencer by remote control.
- WEDNESDAY, OCTOBER 29—**
12:30 to 1:30 p. m. The noonday luncheon program of the Seattle Rotary Club.
8:30 p. m. The first of a series of monthly concerts to be given by the 116th Medical Regiment Band of the Washington National Guard, Willis A. Calder, band leader. Lt. Harvey M. Dingby, Exec. Off. An address will be given by Col. J. B. W. Corey. 20 minutes of Hawaiian and popular music by Michal P. Bell and Allen Hinton, Seattle guitar artists. This is the first Medical Band in the United States to be recognized by the War Department.
- THURSDAY, OCTOBER 30—**
8:30 p. m. The Seattle Post Intelligencer by remote control.
- FRIDAY, OCTOBER 31—**
12:30 to 1:30 p. m. The noonday luncheon program of the Members' Council of the Seattle Chamber of Commerce.
8:30 p. m. Seattle Chamber of Commerce Night, featuring the newly organized Seattle City Quartet, which is sponsored by the Chamber. Marion London Milholin, soprano, and organizer of the quartet, has enjoyed a very interesting dramatic career in the principal cities of the East. Other members of the quartet are Winifred Parker, contralto, Lawrence Mayer, bass, Herbert Williams, tenor, and John Sundsten, accompanist.
- SATURDAY, NOVEMBER 1—**
2:30 p. m. Play by play returns of the University of Washington and University of Oregon football game being played at Eugene.

KOB—New Mexico State Agricultural College

LOCATED AT STATE COLLEGE, NEW MEXICO. 360 METERS—500 WATTS
PACIFIC TIME

- DAILY—**
10:55 a. m. to 12:00 noon. Standard Mountain Time.
11:00 a. m. to 12:02 p. m. U. S. W. B. Reports.
11:02 to 12:15 p. m. Road Reports, News Briefs.
8:55 to 10:00 p. m. Standard Mountain Time.
9:00 to 10:02 p. m. U. S. W. B. Reports.
- MONDAY, OCTOBER 27—**
6:30 to 7:30 p. m. Radio Talk: Professor J. C. Overpeck, "Selection and Testing of Farm Seeds." Musical program.
- WEDNESDAY, OCTOBER 29—**
6:30 to 7:30 p. m. Radio Talks: L. H. Hauter, "Conditions Affecting Farm Profits in New Mexico." Professor O. C. Cunningham, "Food Value of Milk." Music: College Male Chorus; College Male Quartettes.
- FRIDAY, OCTOBER 31—**
6:30 to 7:30 p. m. Dr. Asa Brunson, Tuberculosis Specialist, on "Tuberculosis." Radio Talk: Professor H. W. Titus, "Nutrition Fads." Music, College Girls' Glee Club.

WBAP—Fort Worth Star-Telegram—476 Meters

(PACIFIC TIME) FORT WORTH, TEXAS (Class B Station)—1000 Watts—476 Meters

- FEATURES—**
8:00 a. m. Opening market quotations.
9:00 a. m. United States weather forecast. Liverpool reports by Department of Agriculture leased wire. Cotton and grain quotations.
10:00 a. m. Market quotations.
11:00 a. m. Market quotations.
12:00 noon. Close on cotton, grain and cottonseed oil. Fort Worth, Kansas City, St. Louis and Chicago livestock markets by Department of Agriculture leased wire. Dun's and Bradstreet's financial reviews on Saturday only.
4:00 p. m. Port of Missing Men. Baseball scores.
4:30 p. m. Sport review.
- SATURDAY ONLY—**
5:00 p. m. Review of the interdenominational Sunday School lesson by Mrs. W. F. Barnum.
- SUNDAY ONLY—**
9:00 a. m. Services of the First Methodist Church, Rev. J. W. Bergin, pastor.
2:00 p. m. Concert from the Rialto Theater.
9:00 to 10:00 p. m. Concert.
- MONDAY, OCTOBER 27—**
5:30 to 6:30 p. m. Moments from the Majestic Theater, featuring stars of the week, organ recital and Majestic Theater orchestra.
7:30 to 8:45 p. m. Concert by the Euterpean Club.
- TUESDAY, OCTOBER 28—**
5:30 to 6:30 p. m. Concert of Old Time Fiddle Music.
7:30 to 8:45 p. m. Butcher School of Hawaiian Music.
- WEDNESDAY, OCTOBER 29—**
5:30 to 6:30 p. m. Concert of dance music.
7:30 to 8:45 p. m. Dance program by the Texas Hotel orchestra.
- THURSDAY, OCTOBER 30—**
5:30 to 6:30 p. m. Quartet Music Company.
7:30 to 8:45 p. m. Chamber of Commerce program broadcast by remote control from Marlin, Texas.
- FRIDAY, OCTOBER 31—**
5:30 to 6:30 p. m. Musical program offered by Mrs. H. E. Nash of Mart, Texas.
7:30 to 8:45 p. m. Walter Collins Fiddlers of Cleburne, Texas.

Stop - Look - Listen

Here is an opportunity to get a standard radio set at a very low price. We have only one of each, so hurry!

- No. 220 Kennedy with No. 525 Amplifier, complete with tubes, batteries and Manhattan Junior Loud Speaker; specially priced \$151.50
C R 9 Grebe, complete with batteries, tubes and Manhattan Junior Loud Speaker 102.00
Cabinet Type Teledyne, complete with tubes, batteries and Manhattan Junior Loud Speaker 137.50
Teledyne Console Model, complete 245.00
Radiola II, complete 38.50
Teledyne Portable, complete 57.50

ACME ELECTRIC CO.

2807 West Pico Street (at Normandie)

Telephone 710-05

Los Angeles

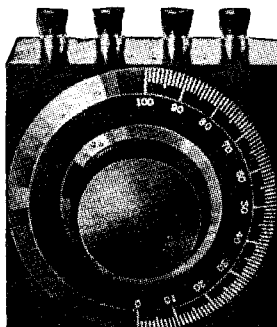
DEALERS:

The demand for Cosmopolitan Phusiformers is exceeding our fondest anticipation. Deliveries are being pro-rated. Get your orders in now for

The Cosmopolitan Phusiformer

\$9.50

*The
Missing Link
in Radio*



1. No oscillation.
2. Non-radiating.
3. Sensitive to distant stations.
4. Freedom from hand capacity.
5. Synchronized and calibrated tuning.
6. Simple operation and construction.

A FIVE TUBE SET USING PHUSIFORMERS IS ON DISPLAY AT OUR STORE

Opinion of Experts

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 "BEST YET".....Chicago Tribune
 "SUPERIOR TO NEUTRODYNE".....Literary Digest
 "NEW RADIO ACHIEVEMENT"....St. Louis Post-Dispatch
 "SELECTIVE & FREE FROM NOISE". Chicago Daily News
 "TRULY REMARKABLE — CALIFORNIA AND MASSACHUSETTS STATIONS WITH GREAT VOLUME ON LOUD SPEAKER. BUILDING PHUSIFORMER SET FOR USE IN OUR OPERATING ROOM".....
Kansas City Star

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W G R—Federal Telephone Mfg. Corp.—319 Meters

HOTEL STATLER, BUFFALO, N. Y.
(Pacific Time)

DAILY, EXCEPT SUNDAY—

- 7:45 a. m. Weather forecast for Western New York and Marine and Aviation interests.
 9:00 a. m. Produce and live stock market reports (except Saturday).
 9:30 a. m. Organ recital, Prof. George Albert Bouchard.
 11:30 a. m. Concert through the courtesy of Buffalo Courier & Enquirer.
 3:00 to 4:30 p. m. Tuesday, Thursday and Saturday, Hallpryd String Quartet.
 3:30 p. m. Monday, Wednesday, Friday, Vincent Lopez Hotel Statler Orchestra.
 4:30 p. m. Digest of the day's news.
 6:00 to 8:00 p. m. Monday, Wednesday, Friday, Concert Program (see below).
 8:00 p. m. Monday, Wednesday, Friday, Vincent Lopez Hotel Statler Orchestra.

SUNDAY—

- 7:45 a. m. Weather forecast for Western New York and Marine and Aviation interests.
 12:00 noon Vesper services.
 4:15 p. m. Pre-service organ recital, Wm. Wall Whiddit, organist.
 4:30 p. m. Evening service, Central Church, R. J. McAlpine, D.D.

SUNDAY, OCTOBER 26—

- 12:00 noon Vesper services, Buffalo Council of Churches, W. W. Shannon and C. H. Wieand.
 4:15 p. m. Pre-service organ recital, Wm. Wall Whiddit, organist.
 4:30 p. m. Musical service, direct from Central Presbyterian Church.

MONDAY, OCTOBER 27—

- 11:30 a. m. Concert, courtesy Buffalo Courier and Enquirer.
 3:30 p. m. Vincent Lopez Hotel Statler dinner music.
 3:45 p. m. Navy Day speaker.
 5:00 p. m. Address by Judge I. R. Wilfley, former attorney-general of the Philippine Islands.
 5:15 p. m. Malie and Little, Cameo Record artists.
 6:00 p. m. Program for the J. N. Adam Memorial Hospital.

TUESDAY, OCTOBER 28—

- 11:30 a. m. Concert, courtesy Buffalo Courier and Enquirer.
 3:00 to 4:30 p. m. Hallpryd String Quartet dinner music.

WEDNESDAY, OCTOBER 29—

- 11:30 a. m. Concert, courtesy Buffalo Courier and Enquirer.
 3:30 p. m. Vincent Lopez Hotel Statler dinner music.
 5:00 p. m. "Buffalo Harbors and Canals," by Cornish Stailey, Secretary of Rivers and Harbors Congress, Washington, D. C.
 5:15 p. m. Malie and Little, Cameo Record artists.
 6:00 to 7:00 p. m. Recital, Isabelle Wheaton Stranahan, accompanied by Miss Ethel McMullen.

7:00 p. m. Program by Miss Eleanor Taft and W. H. F. Tenny.

THURSDAY, OCTOBER 30—

- 11:30 a. m. Concert, courtesy Buffalo Courier and Enquirer.
 3:00 to 4:30 p. m. Hallpryd String Quartet dinner music.

FRIDAY, OCTOBER 31—

- 11:30 a. m. Concert, courtesy Buffalo Courier and Enquirer.
 3:30 p. m. Vincent Lopez Hotel Statler dinner music.
 5:40 p. m. Readings by John Dodsworth.
 6:00 p. m. Recital by James W. Duncan and Assisting Artists.
 7:30 to 8:30 p. m. Program courtesy Buffalo Trust Co., direction Cecile Kertz.

SATURDAY, NOVEMBER 1—

- 11:30 a. m. Concert, courtesy Buffalo Courier and Enquirer.
 3:00 to 4:30 p. m. Hallpryd String Quartet dinner music.

"THE RADIO DOCTORS"

Service that Satisfies

WE can definitely determine the reasons for inferior results with any type set, and can repair or rebuild and guarantee complete satisfaction.

OUR SPECIALTY—Custom-built sets to fit your Console, Phonograph, Book Case, Automobile and bank account. Our sets are doing distance now. Is yours?

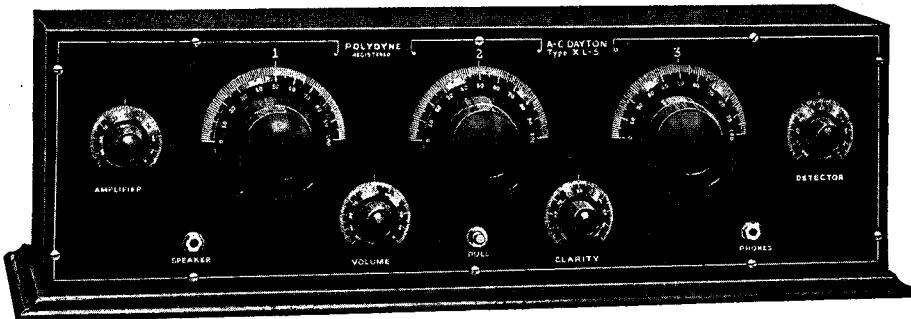
If not, Phone AX. 7294. Consultation Free.

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Five Tube A-C Dayton Receiver



Type XL-5—Price \$120.00

(With Low Loss Condensers)

Engineered by R. S. Copp

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Southern California Distributors

Globe Accessories Corp.

307-309 West Jefferson Street

LOS ANGELES

Letters to the Editor

October 6, 1924.

Editor Radio Doings.

Dear Sir: In the current issue of Radio Doings you speak of the national advertisers broadcasting and ask for opinions.

What would the newspapers do without advertisements? What magazine is there without them? If radio were something to read instead of listen to, it would be full of "ads." What would become of business if the business man could not advertise? And these "ads" cost money.

I do not see how anyone could object to listening in on a program broadcast by some firm that is paying for the privilege of mentioning its name in the way of advertising. The names of hotels are mentioned in broadcasting music, as well as the name of the leader.

Yours for radio,
Hollister, Calif.

MRS. O. A. METZ.

October 13, 1924.

Radio Doings.

Dear Editor: On Saturday morning, October 11, between the hours of 1:00 and 3 o'clock, I picked up a station that was broadcasting jazz music and songs. After the music and songs there was an announcement of names (of people from different parts of the United States), saying that these persons had been given such radio equipment as ear-phones, loud speakers, etc. I did not get the call letters and I would like to know what station was broadcasting at this time. I have a five-tube Atwater-Kent set and my dials were set around 20. I do not know what wave meter length that is.

Yours truly,

JACK DIAZ.

Crockett, Calif.

This was KNX, the new 500-watt station of the Los Angeles Evening Express, 337 meters.

THE LAST WORD IN RADIO
McCALL COMPENSATED CIRCUITS
SUPERIOR IN SELECTIVITY, QUALITY OF REPRODUCTION, VOLUME AND ACCURACY OF LOGGING

Air
Roamer
Price
\$140
Without
Accessories



A McCall Compensated Circuit set of advanced design, electrically and mechanically perfect. Being non-regenerative, it does not re-radiate. Ask for details of this new triumph of radio engineering.

KILBOURNE & CLARK MFG. CO.

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Branches: 1103 W. 10th St., Los Angeles; 171 Second St., San Francisco; 1241 Montana St., Portland, Ore.

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To the Thousands Who Are Buying Radio Receivers:

You should select a Receiver which has—

- (1) Extreme simplicity of the tuning operation.
- (2) Pure and natural tones.
- (3) Selectivity.
- (4) Acute sensitiveness and ease of long distance reception.
- (5) Freedom from body capacity effects.

You get all of these features and more in the

PARAGON

\$50.00 to \$300.00

Complete, Installed in Your Home

In 1915 the first Paragon was manufactured. Since then Paragon has established many records, and today thousands of Paragons are furnishing as many homes with entertainment.

RADIO DEALERS:

The sales franchise on this wonderful line may be open in your territory. If it is, you have an opportunity to make a host of friends and a lot of money. Our sales plan is unique. Write us now for full details.



WALTER W. BIDDICK, Inc.

1316 South Grand
LOS ANGELES

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AT. 1503

116 East Fifth
SANTA ANA

Phone 2525

PARAGON

Letters to the Editor

October 13, 1924.

Editor of Radio Doings.

Dear Sir: I would appreciate it greatly if any of your readers could tell me what station we heard last Saturday evening, October 11, broadcasting on a wave length of about 230 meters, beginning around 6 P. M. (Pacific time). It was from a convention hall in an eastern city. We heard speaker after speaker, but no announcement was made regarding the station up to 7:20, at which time we were compelled to leave our set. They had hoped to have President Coolidge address the meeting, but not being able to be present, he talked to them over the telephone from Washington, "400 miles away," the speaker announced.

We would be lost without your valuable little magazine, and enjoy the "Letters to the Editor" section, which contains many helpful points.

Yours very truly,

GEORGE McCORD.

1520 Manhattan Ave., Hermosa Beach, Calif.

P. S.—We vote for a silent night for all local stations, not because our Los Angeles programs are not of the finest, but because there is a real fascination in trying to pick up distant stations.

October 12, 1924.

Editor Radio Doings.

Gentlemen: Will you or some of your readers kindly inform me what station was broadcasting football scores about 12:40 o'clock Sunday morning?

Yours truly,

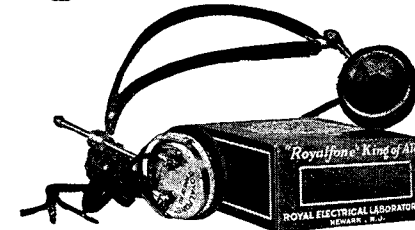
E. BECK.

Hildebrand, Oregon.

Radio Reproduction Adapted to *YOUR* Home

A loudspeaker unit that gives natural, pleasing results. Regulate tone intensity to acoustics of your home by turning the adjusting knob on back of

"ROYALFONE" UNIT
KING OF ALL

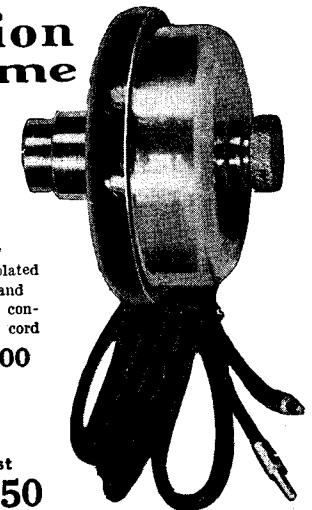


Ideal headset for distant stations. Its balanced diaphragms perfectly reproduce the faintest signal that can be amplified in your receiver.

On Sale at All Good Dealers

Distributed by S. M. LEVY & CO.

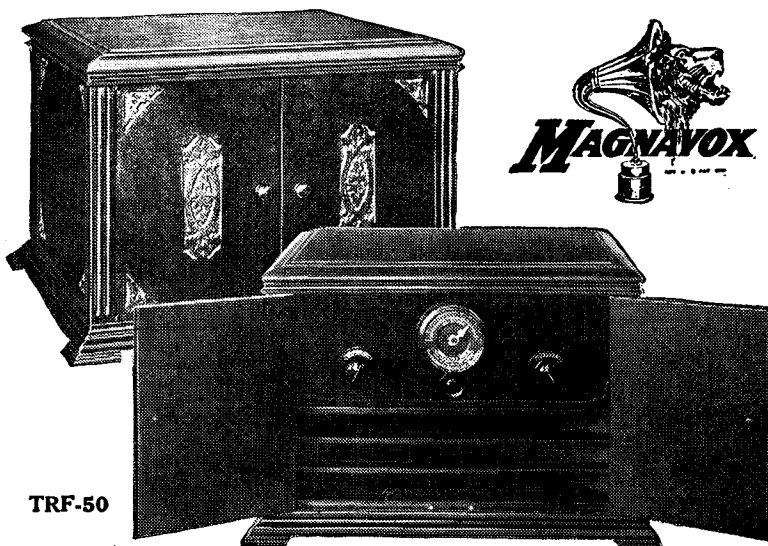
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ROYAL ELECTRICAL LABORATORIES, NEWARK, NEW JERSEY.



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ing cord
\$5.00

List
\$4.50

Los Angeles, Cal.
Dept. C. D.



TRF-50

MAGNAVOX Radio

The Long-Awaited Broadcast Receiver combining supreme efficiency, convenience and beauty, produced at a low cost which brings it within reach of all.

THE BROADCAST RECEIVERS here shown possess three decisive advantages: unequalled simplicity of control; reproduction of exceptional clearness, and handsomely carved period cabinets.

Their unequalled simplicity of control is provided by the Magnavox Unit Tuner which does away with all complicated dialing, and places the novice on the same footing as the radio expert.

Magnavox Receiving Sets, Tubes and Reproducers are sold by reliable dealers everywhere

THE MAGNAVOX COMPANY

OAKLAND

San Francisco Office, 274 Brannan Street

10R

TRF-50

is a 5-tube tuned radio frequency receiver with built-in Magnavox Reproducer unit which consumes no battery. Cabinet measures: height, 14 $\frac{3}{4}$ in.; length, 20 $\frac{1}{2}$ in.; depth, 18 $\frac{3}{4}$ in.

Without tubes or batteries, \$150.00

TRF-5

is identical with the above but encased in smaller cabinet without built-in Reproducer. Cabinet measures: height, 9 $\frac{3}{8}$ in.; length, 20 $\frac{1}{2}$ in.; depth, 14 $\frac{3}{4}$ in.

Without tubes, batteries or reproducer - \$125.00

Letters to the Editor

October 13, 1924.

Radio Doings.

Gentlemen: Relative to Radio Doings as of October 4, regarding our opinion, just have this to say: The letter Mr. Ray Higginson of Del Mar wrote you and published in yours of the 11th hits the nail on the head and expresses our sentiments exactly. I believe if it is handled properly, as Ray points out, it will be a good thing and beneficial all the way round. The broadcast station in this way gets a "lift," the advertiser is benefited, and we of radio land have the pleasure of listening to a variation of programs of high class entertainment.

In closing, wish to compliment you on our little Red Book—Radio Doings. Haven't been missing a copy of it since I ran on it, and expect to get it regularly through the mail shortly, as I have taken a year's subscription. You know I feel as though my radio would not be complete without it.

Sincerely yours,

PAUL V. FOX.

Perris, Calif.

October 15, 1924.

Radio Doings.

Gentlemen: I have come to a problem which does not appear to be answered in "Radio Doings."

Tuesday night, October 13, at about 9:30 o'clock, we heard someone broadcasting "air routes" and mentioning "radio miles." The meter length was 360, and when he signed off about 9:35 P. M. all we could understand was KAQ, but could not hear the location. Have you any idea who it might have been?

On our Neutrodyne we have received 52 stations and have not had it during the winter as yet.

We enjoy Radio Doings and would like to know if the Middle West edition of Radio Doings is for sale in San Francisco.

Yours very truly,

T. B. GRIFFITH, JR.

San Francisco, Calif.

Camco Loud Speaker

\$10.50



The Black Fibre Camco Loud Speaker pictured here will be a Family friend and a very pleasant one. It will bring you the finest music and the best speaking radiocast with such a natural reproduction as to delight the most particular people. Its beauty will at once appeal to you. Twenty-two inches tall, ten-inch bell, black enamel base and six-foot black cord.

The unit is the non-adjustable type and has a clear, mellow tone.

CANNON & MILLER CO., INC., Springwater, N. Y.

Manufacturers of

Cannonball Headsets, \$3.50

Grand Headsets, \$4.75

W. J. PLATT, Distributor

Glendale, Cal.

SOLD BY FIRST CLASS DEALERS AND JOBBERS

FAN OR FAMILY

Some dealers tell you distance hasn't begun to come in even yet. Note the date on this unsolicited letter. Mr. Jordan constructed his own Neutroflex from our kit of parts, and since this letter has a long new list of distant stations.

Seal Beach, California,
September 26-1924.

Mr. C. D. Tanner,
528 W. Washington St.,
Los Angeles, Calif.

Dear Sir:

Please note the following list of stations received on one of your Neutroflex Sets. These stations have all been heard on a loud-speaker, as we do not even own a set of Head "Phones":

K. F. O. N. - Long Beach, Calif.	K. L. Z. - Denver, Colorado.
K. D. P. T. San Diego, "	K. F. P. T. Salt Lake, Utah.
K. F. A. W. Santa Ana, "	K. F. K. X. Hastings, Neb.
K. F. S. G. Los Angeles "	K. D. Y. L. Salt Lake, Utah.
K. G. O. Oakland "	K. F. A. E. Pullman, Wash.
K. J. S. Los Angeles "	K. Z. M. Oakland, Calif.
K. H. J. Los Angeles "	K. O. B. New Mexico
K. P. O. San Francisco "	K. D. K. A. E. Pittsburg, Pa.
K. F. I. Los Angeles "	W. L. S. Chicago, Ill.
K. G. W. Portland, Oregon.	W. B. A. P. Fort Worth, Texas.
K. L. X. Oakland, Calif.	W. F. A. A. Dallas, Texas.

Yours very truly,

R. B. Jordan.

Remember that the Neutroflex has unapproached fidelity of tone and freedom from static.

One set with distance for the fan and music for the family—the Neutroflex.

There is only one Neutroflex, the product of the

C. D. TANNER CO.

Phone ATLantic 4548

528 W. Washington St., Los Angeles

Letters to the Editor

Dear Editor:

I am writing a few more lines that may help some one who is tearing his or her hair in an effort to get the most out of their set.

In the Harkness reflex set the whole thing pivots on the crystal detector. I am quite sure that the Honorable Harkness himself did not use the fixed crystal for his set. Best results were found with the semi-fixed crystal and greater distance resulted. The fixed crystal is fine for local reception, but I'll bet two-thirds of the fans don't get distance outside of Oakland with their sets. (Of course there are exceptions to every rule.) I use a Lincoln detector, but not their crystal. For 25c you can get a crystal that comes in a little transparent envelope, two inches square. (I don't remember the name, but it is easy to locate.) I have tried them all and find this the best. By careful testing I am sure you will find a long distance spot, but remember to use your 100 feet No. 14 insulated wire which I wrote about in the issue of October 12-17.

I have just hooked on to KFON, Long Beach, and they come in on the loud speaker and are heard all through the house. It seems that all the stations are waiting for you if you can but find them on the dial. It took me two weeks to find KFON, and then I thought it was Salt Lake.

I believe some sets would be more selective if they just took off the ground wire and didn't use any. It cuts the volume slightly and gives body capacity, but even then better results might be accomplished, also greater distance. Try it. If it is too weak to suit you, increase your antenna.

But please don't kill me if my suggestions don't pan out. Just remember I only intended to help.

Something tells me I had better ring off. Many thanks again.

K. M. NELSON.

3358 Perlita Ave., Los Angeles, Calif.

P. S.—This is intended for Harkness circuits only.

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WELL FRIENDS!



NICK HARRIS

*Here's What
You Have Been
Waiting For*

I have just figured out how I can do a lot of good and at the same time please and serve you.

To every reader of the Radio Doings who will fill out the coupon below and mail it to me, I will send a copy of "In The Shadows," my book of thirty true Detective stories taken from the pages of the criminal history of California, and including the Bluebeard Murders, The Queen of Safe-crackers, The Father Heslin Case, Witherell Kidnaping, The Mass of Golden Hair, Jimmy the Rat Stories, Exposing the Spanish Swindle, The Murder of Detective John Fitzgerald, and twenty-two other gripping and thrilling stories from true life; also one Nick Harris Official Police Whistle—a total value of \$3.00—all for the sum of \$1.98.

This is a special offer arranged for readers of the Radio Doings.

This book may save your boy or girl from the Penitentiary.

The Police Whistle might prevent a burglar entering your home, or a dastardly assault.

Every woman should have one.

RADIO DOINGS COUPON

Nick Harris Detectives,
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Enclosed find \$1.98. Mail me one personally autographed copy of "In The Shadows," and one Nick Harris Official Police Whistle.

Name.....

Address.....

City.....

????

QUESTION—I am enclosing a diagram of my set which works very good with the exception of not being able to tune as close as I desire. My antenna is 125 feet long, including the lead-in. I have heard KLX, 509 meters, down to KFDD, 252 meters. I receive regularly KFKX, WBAP, KFOA, KFAU, KGW, KJS, KFI, KPO, KGO, KDYL, KHJ, WOAW, CNRC, CNRR, CFAC and CKCD. I have good volume, but sometimes I get two or three at once and cannot tune unwanted stations out. Radio Doings is the best yet.

D. M. GRUBER, Meridan, Idaho.

ANSWER—The diagram you enclosed is that of the de Forest ultraudion, but of the single circuit type. Would suggest for improving selectivity that you use coupled circuits as shown in Radio Doings, issue of October 12 to 18, inclusive.

QUESTION—I wish to thank you for the information you gave me in a recent number of Radio Doings. As I have said before, I am not an electrician, and know little about radio. Would you please explain to me what is meant by body capacity effects?

KENNETH WEAVER, Los Angeles, Calif.

ANSWER—When we speak of body capacity, we mean the effect which the close proximity of the hand and body of the operator has upon the electrical properties of the circuits of the receiver. The presence of your hand on the dial of a variable condenser, for example, serves to slightly increase the capacity of the condenser. You tune in a station under this condition, and then when you remove your hand the capacity automatically decreases a little, which detunes the station. Or if it is a regeneration control, when you take your hand away, the set may begin to howl, due to oscillation, because of the change in values. You get the idea? To prevent this, condensers are usually so connected that the rotor plates and shaft are grounded. In some cases a grounded metal shield is placed between the "touchy" parts of the circuit and the operator.

QUESTION—I have a five-tube Neutrodyne and it is impossible for me to get anything except KFON and KGO outside of Los Angeles. I have tried to get KPO and KLX, but in trying for KPO I have either KFI or KHJ and cannot get anything above KFI. My aerial is 50 feet long, east and west. It stretches from the eaves of the house to the garage (about 12 feet above the ground), lead-in about 20 feet and ground is to cold water pipe 10 feet away. I have had my set neutralized by an expert, and he says it is perfect from that score. Can you tell me what to do in order to make my set capable of picking up KLX and other stations on the coast?

BERNARD HARRIS,
Los Angeles, Calif.

ANSWER—Your antenna is particularly good for long distance reception, being but 12 feet high. Would suggest that you raise it as high as possible, but do not increase the length.

**"The Crystal With the
Power of a Tube"—L. B.**

**A-1 The WONDER
CRYSTAL**

"The best I've used. They don't wear away as some others do."—C. B., San Antonio, Tex.

"I have twelve other crystals all in the discard since the A-1 Wonder Crystal arrived."—J. R. M., Alexandria, Va.

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FOR REFLEX OR CRYSTAL SET
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Sent Postpaid, 50c Each
60c C. O. D.

"Pleased to say have not had any of your A-1 Crystals returned. This affords me real merchandising satisfaction."—W. E. Dorman, San Jose, Calif.

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Burlingame, Calif.



????

QUESTION—How could we do without Radio Doings? I have read your answers to others' troubles during the past year, and now my time has come. I have lately finished a Harkness neutroflex, as per sketch inclosed, and think it is a good set when adjusted properly. This set was designed to use the Diode tube, but I replaced it with a crystal. My first trouble was no volume, and I remedied that by connecting a .00025 mf. condenser across the primary of the first A. F. transformer. Now, KJS, KFSG and KGO all stand out with about equal volume and I cannot separate them. Tried cutting down the antenna and taking turns off the primary of the first coil, but no good. Connected a crystal set in series with the antenna and it did the work O. K., but I cannot continue to use it. What can I do?

W. E. THEOBALD, Glendale, Calif.

ANSWER—The crystal set connected in the aerial lead served as a wave trap. You can construct a simple trap by shunting a 50 turn coil with a 23-plate condenser and hooking this combination in your antenna. Often, simply connecting a .00025 mf. in series with aerial greatly increases selectivity.

QUESTION—I picked up the "Shenandoah" Thursday at 12:40 p. m., calling KHJ. They were complaining about the aeroplanes flying too close to them. Could you give me their wave-length and the number of watts output? They came in on the loud speaker, and by the reading of my dials they were around 550 meters. Could you send me a diagram of how to connect a 25-watt lamp to protect my tubes from being burned out by wrong connection of the B battery? I am a booster for your wonderful little "Red Book."

CHRISTOPHER CLARKE, Santa Barbara, Calif.

ANSWER—The big navy airship operates on 1140 meters with an output of 100 watts. You were listening to their first lower harmonic. Their transmission was successfully re-broadcast by KHJ on the day you mention. (2) Simply connect an ordinary lamp socket holding the 25-watt Mazda in series with the negative B battery lead, for the protection of your tubes.

OH BOY! NOT A BIT OF INTERFERENCE!

The "SELECTAGADGUT" Does It!

Makes your dials behave, and tune to the station you want, when you want it. GOES THROUGH LOCAL AS THOUGH IT WASN'T THERE. Any type of receiver, from crystal to super het, can use the "SELECTAGADGUT" to real advantage.

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"CHIEF CRYSTAL"

The Ultra-Perfect Radio Crystal, Cat's Whisker included, has the Following Distinctive Features:

1. ARGENTITE Mineral.
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3. Every point super-sensitive.
4. Unexcelled for REFLEX or CRYSTAL sets.
5. Tones louder, clearer—more volume.
6. Packed in individual sealed packages.
7. SATISFACTION GUARANTEED.

For maximum efficiency equip your set with a "CHIEF CRYSTAL"
ACCEPT NO OTHER

CHIEF RADIO CRYSTAL CO.

Box 14

Los Angeles, Calif.

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variable condenser to hear local programs and hence become interested in your magazine, I venture to ask the following: (1) What is the best circuit for tapped coil and condenser crystal set for this locality. (2) What is the best length aerial? (The writer continues at length with description of antenna, etc., and concludes as follows): It is time for the chief engineer of this outfit to make remarks about, "Is that rat-cage going to keep you up all night, or will you come to bed?" She listens over it, too, but has no illusions about her husband being a genius of electricity.

E. D. COOKE, Los Angeles, Calif.

ANSWER—An efficient selective crystal set is described elsewhere in this issue. Use about 75 feet antenna, including lead-in. Remind your better half that every great inventor once monkeyed with a cigar-box, a bit of string and a hair-pin, and that your "rat-cage" already shows promise, being able to bring into your home the artistry of the Southland's greatest musicians, the latest in news, the best in sermons,—the symphony orchestra and the great organ.

NOTE—F. S. Klinker, C. F. Staples, Robert Hamlin, R. B. Conroy, and Arthur H. Collins requested a diagram of a selective crystal set. Elsewhere in this issue we have given the diagram and description of just such a set.

QUESTION—Would like to avail myself of your question and answer department. I have a 5-tube neutrodyne, and while I can get plenty of volume, we are bothered with a great deal of static. Can I use an indoor loop with this set?

H. R. PHILLIPS, Arroyo Grande, Calif.

ANSWER—Static is seasonal, being at its worst during the summer months. It is abating considerably, and will soon be entirely absent for the winter. Your best move to eliminate some of the static is to cut your antenna down as much as possible, still retaining satisfactory volume on signals.

QUESTION—Having thrown together a bunch of wire, crystal, and 23-plate

- ATTENTION -

Dealers

Set Builders

I have just purchased the entire stock of a standard brand of radio "B" batteries from a local concern that went broke and am in position to give you advantage of an enormous saving in the purchase of "B" Batteries for installation in sets, etc. It will pay you to see me today. I am selling these batteries at a price that will make you sit up and take notice.

Room 202, Radio Building

LOS ANGELES

1111 Wall St.

????

QUESTION—As a reader of your wonderful little book, I would like to ask a few questions. I have a Teledyne receiver, using dry cell A and B batteries, and type C 299 tubes. When we bought the set amplifiers 1 and 2 worked perfectly, but now, no matter how far we turn them, they will not amplify at all. When we receive a distant station like KFKX, in order to bring them in louder, we have to turn the detector tube dial way over. I am using three 1½-volt dry cells for A battery.

ERNEST GRAHAM, Glendale, Calif.

ANSWER—Either your A cells are nearly dead, or the tubes have decreased electron emission. Replace the A battery with new ones, and if you still have the same trouble, burn the tubes for half an hour with the B battery disconnected. Then replace the B battery connection, and you should have normal operation.

QUESTION—I have a radio freq., one stage, detector and two stages of audio freq. I am using one variocoupler on same. Can you tell me how I can cut out KFI and bring in KGW over them? I also have trouble with KGO and KFKX the same way,—I cannot separate them. (2) Will you please tell me how I can use regeneration in connection with this same hook-up, and will it make it more selective? I am using R. F. transformer coupling.

R. ST. CLAIR, E. San Diego, Calif.

ANSWER—To increase your selectivity I would suggest that you eliminate the transformer coupling and make your radio frequency stage of the tuned type. Use a type of coupling that makes the first tube incapable of oscillation, such as is used in the neutrodyne circuit. Then to further increase volume and selectivity make the detector tube regenerative by tuning its plate circuit by means of a variometer of high inductance value.

The Reason for No DX All the Time A New Theory

By **WILLIAM D. HOPPE**

You savey sometimes you get distance, and pronto gone, maybe soon comes back strong. There is a reason why we cannot get distance all the time, so I have formed a theory that probably will explain the reason.

The earth is a magnet, and is surrounded by a magnetic field. Some writers not knowing what to call this medium surrounding the earth have called it ether. We all know that if a magnetic field is fluctuated in the presence of a conductor of electricity, that an electric current is set up in the conductor.

Now, in wireless transmission, we simply fluctuate our natural magnetic field, these fluctuations set up minute currents in the aerial and we receive them with our instrument.

At the transmitting station the aerial is rapidly charged to positive and negative, and this rapidly changing magnetic field at the aerial sets up a like change in the natural magnetic field as I have pointed out.

At certain times of the year, due to external influences, such as the action of other planets on the earth's magnetic field, the magnetic particles are forced farther apart, and when this condition exists, waves can not travel as far, or with the same force that they do when the magnetic particles are close together.

You can demonstrate the above theory by an arrangement of magnets and iron filings. You will find that iron filings will arrange themselves in a certain form when placed over a magnet, and then if you impose another magnetic field on them they will rearrange themselves.

You will also find that heat will weaken a magnetic field, and it is probable that at certain times of the year heat weakens the magnetic field surrounding the earth, and forces the magnetic particles farther apart, thus cutting down the distance that the waves can travel.

The magnetic field surrounding and penetrating the earth is influenced by other planets, and at times this external influence is of such nature that it makes it possible to transmit a great distance, and the waves come in strong, and at other times this external influence makes it almost impossible to transmit.

I think there are spots on the earth where it is impossible to either transmit or receive. These spots are places where external magnetic influences have divided the magnetic lines of our atmosphere making a void in it, and at such places there being no magnetic field, we can neither transmit or receive.

I believe the whole universe is a mass of magnetic fields, and that the planets are held in suspension and kept in rotation by magnetic force.

The Pacific Motor Supply Company, 926 South Main Street, Los Angeles, are the jobbers for the Royalfone and Royalfone Units.

SPECIAL! Tune Sharpe Couplers Green Silk

Wound, in other words, Best Made, \$1.95

Three-Tube Counterflex, we've got them, parts and sets

We carry a full stock of supplies for the New Cockaday

Circuit

Two Stage Amplifier, special.....\$20.00

Pennsylvania Head Sets, guaranteed for one year, special.....	\$ 2.75
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Sharpe Special Reflex Set, two tubes, complete.....	45.00
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Monodyne Set, complete.....	15.00
B Batteries, our own, guaranteed, 45 volts.....	2.50
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The phenomenal "step-up" in popularity of Gilmore Gasoline is because its users recognize Gilmore as being consistently better.

Mouth-to-mouth advertising has "amplified" the demands with increased "frequency" until over 278 service stations are now required to supply those who desire to "tune in" on this higher quality gasoline.

Look for the Lion's Head at your neighborhood Service Station and be convinced of Gilmore's superiority.



GILMORE OIL COMPANY

LOS ANGELES

Watch Your Batteries

Due to neglect to pass on to customers correct information as to the care of batteries, many radio dealers have necessarily lost good customers.

When it is considered that due to carelessness or inexperience some sets are being operated at home at a cost as high as 30 cents an hour, whereas others of equal range and performance cost but a few cents an hour, it becomes evident that batteries must be properly chosen and cared for if the receiver is to be operated economically.

The choice of proper batteries is usually left to the dealer. He should know how to choose so that his customers will get the greatest satisfaction. Likewise, is he responsible for making sure that the correct hook-up is used and that the right amount of "juice" is given the tubes.

Here are some pointers on batteries that the dealer should pass on to his customers:

1. Use the size battery adequate to the need of the particular set. It is impossible to get results from multiple-tube apparatus with the smallest size of "B" battery, and the experiment will also be costly because of the rapid depreciation of fuel supply and the consequent need for frequent renewals. The number and type of tubes, as well as the range sought, should determine the size of battery required.

2. Be sure that the "B" battery is not connected to "A" battery terminals, as the filament in the latter is designed to operate on low voltage, whereas, the voltage of "B" battery is many times that of the filament voltage rating.

3. Use no more tubes than are sufficient for the results desired. It frequently happens that inexperienced operators will have more tubes burning than are necessary, and then de-tune to lessen the volume of sound. For local stations, for instance, the first audio stage is sufficient.

4. Burn the tubes at the lowest point compatible with good reception. Excess filament current not only drains the batteries unduly, but reduces the life of the tubes. Once the rheostat is fixed at the proper point, it should not be touched again.

5. Turn off the filament the moment you stop listening. Current is flowing as long as the filament is lighted, regardless of whether or not you are receiving.

SITUATION WANTED

Radio executive, technical, thoroughly posted on sets, parts, buying and selling. Open after November 15th for proposition as manager radio department or factory representative.

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Your choice of either
"Pay as you listen in"

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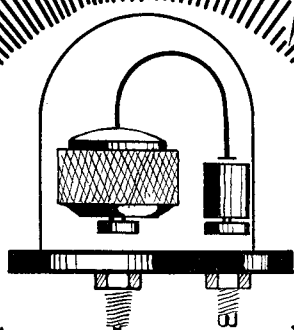
2135 West Pico St.

LOS ANGELES

ASK ANY DEALER ABOUT The Lincoln Detector

Price

\$ 1 50



Trade Notes

The Graham-Reynolds Electric Company, one of the oldest electrical wholesale houses on the Pacific Coast, is a very welcome addition to the jobbing branch of the Radio business. They have taken over Day-Fan line and have exclusive distribution for it in the Southern California territory.

Oliver S. Garrettson, formerly of the Radio Sales and Service, which organization he founded, has recently opened up a radio store at 4312 Beverly Blvd., Los Angeles. His associate in this new venture is Alan Goodan, formerly of Goodan-Jenkins Furniture Company. The feature of this new organization is immediate and efficient neighborhood service and convenient credit terms.

Carl A. Stone Company have moved to their new quarters at 429 Insurance Exchange Building, Los Angeles. They represent the following lines: Chas. A. Branston, Inc., Bremer-Tully Mfg. Co., Chelton Elec. Co., Gordon Elec. Mfg. Co., Hoosick Falls Radio Parts Mfg. Co., Ogden Mfg. Co., R-U-F Products Company, Rauland Mfg. Co., Shamrock Mfg. Co. and Trimm Mfg. Company.

The return of A. E. Ravenscroft of Kierulff & Ravenscroft with less than the limit, as a result of his recent hunting trip, was explained by him to be due to the fact that he could not forget radio long enough to leave his new Model XV and its delightful L. D. reception. Isn't it terrible that a hunter of Ravenscroft's fame should be furnished with such a fitting alibi?

The Wireless Shop have moved into their new building, 150 Glendale Blvd., Los Angeles. They are now fully equipped to handle their fast-growing business. Mr. Edgecomb, the manager, is well known in the radio world, and he has left nothing undone that would increase the efficiency of the plant.

Thomas L. Kennon, of the Kennon Radio Laboratories of San Francisco, was a recent visitor to our office. Mr. Kennon told us that Mr. E. K. Evans, formerly of the Zenith organization of Chicago, is now connected with his firm. Charles E. Thompson, also a member of the Kennon Radio Laboratories, designed and constructed the broadcasting station at Mazatlan, Mexico. This firm specializes in radio research work and reports great interest in the higher grade sets. Mr. Kennon is visiting Los Angeles with the view of establishing a laboratory here.

Mr. B. D. Keller, of the Precise Manufacturing Company of Rochester, New York, in a recent visit with our editor, told us that the new Super Multiforner, which combines in one unit the usual four stages of intermediate frequency transformers, is creating unusual interest. The instrument was designed by James L. McLaughlin of the Precise Corporation, and is said to be the only great advancement that has been made in Superheterodyne design since the circuit was conceived.

FOR LEASE OR RENT

Ground Floor space in the Radio Wholesale District, especially desirable for manufacturing, manufacturers' agents or warehouse space. Reasonable rent.

For full particulars apply.

RADIO DOINGS, 308 Van Nuys Bldg., Los Angeles

"Out of the Air"

We cannot but help calling attention to the very excellent programs that are being given by the Metropolitan Theatre in Los Angeles, over KFI. It is to be regretted that they are on the air only one hour each week, namely, from 7:00 to 8:00 P. M., on Sundays.

For every dollar spent on furniture in the United States, 33 cents is spent on radio.

Use low ratio transformers for good, clear reception with the least distortion.

First act requiring use of radio on passenger-carrying vessels was approved June 24, 1910.

Purchase or operation of radio sets in China is prohibited.

A new 500 watt Western Electric broadcasting station is now being erected on the campus of the Kansas State Agricultural College. It will not be ready for operation, however, until about January 1, 1925. The station call letters are KSAC.

Through the courtesy of radio station KFKB, located at Milford, 25 miles from Manhattan, the radio extension course will be broadcast by remote control on a wave length of 286 meters until the time station KSAC is ready.

KFKB will be on the air daily except Sundays and Saturdays at 5:30, Pacific time, continuing this course.

Ceylon has been getting very busy on the subject of radiocasting and the committee which has been sitting to investigate the question advocates that it should be controlled by the Post Office. The programs will take the usual form of musical items and news with commercial information supplied by the Chamber of Commerce.

French West Africa has now been put into wireless communication with France by the opening of the wireless station at Bammaro on the Niger. This is one of the four French colonial stations. Saigon has been in operation for some months. The one at Stanley Pool on the Congo and the other at Antananarivo in Madagascar have yet to be built.

There are more than 3000 manufacturers of radio supplies in the United States.

Who says the radio listener-in is not appreciative? Results of the recent contest from KNX, conducted by Kierulff & Ravenscroft, donators of the prizes, seem to prove two theories: First, that the public IS appreciative, and, secondly, that they will listen in even to the wee, small hours of the morning.

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LONG BEACH, CALIF.

Phone 635-213