THE NOVEMBER 1930

RADEX INDEX

The Magazine that Doubles the Pleasure of Radio



(25°)

Radio All Over the House
Multiple Speakers and Remote Controls
What Makes My Set Act Like That?
The Thrill of the Distant Station
World Stations Listed by Frequencies

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THE NOVEMBER 1930



RADEX



FRED CLAYTON BUTLER

Editor and Publisher

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RADIO ALL OVER the HOUSE

7 ITH the continued advancement in radio receiving apparatus there are many users who are no longer satisfied with having merely a radio, be it ever so good, but demand additional equipment which will facilitate using The disadand controlling the set. vantage, they say, of having one central radio set, especially in the case of homes and large apartments, is that the reception can be enjoyed only in the room containing the receiver and in those immediately adjoining it. There are often times when it is desirable to have reception in the bedroom, the dining room, kitchen or other places. Turning up the volume of the receiver located in the living room so that reception can be fairly well heard in the other rooms makes it uncomfortably loud in the living room, which is highly objectionable. The problem has been solved in many cases by using additional loudspeakers distributed at various points about the house, and this method has given a degree of satisfaction. In other instances human indolence demanded still more in the way of controlling the receiver from remote points, for who cares to get out of bed every few minutes to change the program, which seemed promising at first, but lapsed into the monotony of "bla-bla" advertising. So it became necessary to design devices which permitted the user to turn the receiver on and off at one or more remote points, to control the volume and to even tune in various stations as This is what is embraced by remote-control systems applied to radio Obviously, such systems reception. usually include a separate switch so that each individual speaker can be turned off without affecting the reception at other speakers where the continuance of the program may be desired.

Attaching Control

Of course, the selector type of remotecontrol systems are quite expensive, but in many instances such expense can be justified. A wide range of prices make it possible for the radio fan to select the

Multiple Speakers and Remote Control

type which suits his particular requirements. There are a number of remote-control devices on the market that can be attached to almost any single-dial receiver, and the manufacturers provide complete detailed instructions on the method of connecting them to the receiver. However, as a precaution, a buyer should first explain just what kind of a set he has before purchasing a device so that he may be reasonably certain that the device in view can be fitted to his receiver without encountering considerable difficulty.

Just what kind of remote control you can use on your set depends on your particular set. It is possible, in almost any case, to merely extend one or more speaker cords to other rooms and similarly extend remote switches for turning the set on and off. Although a receiver having a power tube will provide sufficient volume for several speakers, a push-pull audio amplifier is preferable.

For the sake of convenience good magnetic speakers may be used instead of dynamic speakers, as the latter have to be supplied with a. c. from a source available to each one. On a receiver having two 245 power tubes in push-pull, enough energy is supplied to operate from 12 to 15 magnetic speakers, if wired up correctly. If a dynamic speaker is incorporated in the receiver, this will consume from one-third to one-half of the total energy, reducing the number of additional magnetic speakers to six or seven, which is more than usually needed.

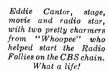
Special Coupling Necessary

In this case a specialc oupling transformer must be used. Its primary winding must be connected in series with the voice coil—the coil around the apex of the dynamic-speaker cone—while its secondary winding supplies the extra speakers. With the use of this output transformer the additional magnetic speakers should be wired in parallel,

that is, the two terminals on each speaker must connect to the two terminals on the output transformer or to leads coming from these terminals. Such a parallel hookup is best for the simple reason that each speaker can be switched off separately by means of a single point switch cut in either one of the leads supplying it from the main lines running to the set. Another advantage obtained in this way is that a breakdown of one speaker will not affect the operation of the others.

Both of these advantages are not had if the speakers are all wired in series, that is, when one terminal of the output transformer connects to one terminal of

and two speakers of the same kind, having equal impedance values, are used in series, the total impedance will be just twice as much as that of each speaker. On the other hand, if two of these speakers are connected in parallel, the total impedance is only one-half that of a single speaker. So to keep the exact impedance value of a single speaker with four speakers, two should be connected in parallel and two in series. The series effect of increasing the impedance will then be counterbalanced by the parallel effect of decreasing it. This rule also holds true in the case of several dynamic speakers hooked to one source of supply.





the first speaker, the second terminal of the first speaker connects to the first terminal of the second speaker, the second terminal of the second speaker connects to the first terminal of the third speaker, etc., until the second terminal of the last speaker in the line connects to the remaining open terminal of the output transformer. By making a diagram while following the exact explanation of parallel and series wiring, you will be able to get a clear idea of the difference between the two methods.

Magnetic Speakers

If your set is equipped with a magnetic speaker, it is absolutely essential that you keep the same impedance value, even though you add several speakers. If the present speaker is disconnected

Remote Selection

The installation of a selector type of remote-control system, or one which enables the fan to actually tune in the stations at distance points from the receiver, either by means of push buttons to bring in any one of a number of predetermined stations, or by means of a device enabling the user to voluntarily set the receiver at any point on the dial. is really not a difficult task if the instructions provided by the manufacturer are carefully followed. Unless suitably protected with special interference-elimination devices, a motor-driven remote control may cause a clicking of considerable volume and annoyance. This objection to motor-driven control is

(Continued on page 21)

WHAT Makes My Set ACT LIKE THAT?

Diseases of Radio and Their Cure

I have a Rogers Model 210 a. c. receiver using the top feed A. C. tubes similar to the Kellog. I had the chassis out of the console and by accident I discovered that I could greatly increase the volume by holding the volume control shaft in my hand and increase it even more by touching the frame of my earphones with my other hand, the frame being insulated from the earphones themselves. I thought this strange so I ran an extra lead on my earphone wire and connected it to the shaft terminal of the rheostat and now without this wire reception is almost impossible. volume isn't up to normal with the wire disconnected. My tubes are almost dead. especially my power tube. Could this have any bearing on my trouble?

Your method on increasing the volume in your receiver is quite extraordinary, but the real cause of your low volume is poor tubes. Have the tubes renewed and you will no longer need the extra lead attached to the headphones.

Using 199 Tubes

Will a Freshman Five-tube Masterpiece work when equipped with UV199 tubes as well as it does on UX201A tubes? I want to put adapters in the sockets and try the small tubes. I am having a lot of trouble with my storage battery but would like to have the set last me until I can get an all-electric, which will be about a year from now. I have operated the set for three months and have logged 110 stations, 75 of which are out of town, and many more that I could not hear distinctly.

You cannot expect as good results from a set equipped with UV199 tubes as you could from the same set equipped with UX201A tubes, as the latter have a much greater amplification value. However, the small tubes may give satisfactory results for your purpose, especially if you are having trouble with your storage battery, although it may be possible to pick up a new storage battery for practically the same price as new UV199 tubes, which should also

be considered. In view of the trouble you are experiencing, your number of DX stations is rather surprising.

Poor Reception on 660

I have a little trouble with my receiver. It is a nine-tube Priess battery-operated set. When I turn the dial up to WEAF, I get a grumbling sound and I don't get any music or other reception. The only station is the local station WRAW which I get satisfactorily. I can't even get a Philadelphia station although not very far

from that citu.

There is really not enough information in your letter to tell precisely where the trouble lies. The fact, however, that you cannot get any outside stations seems to indicate a lack of sensitivity and poor amplification, both of which can undoubtedly be remedied by providing your set with new tubes. Low batteries will also case the same trouble in the event that your tubes are still in good condition. At any rate, have the tubes and batteries tested. It seems that your set breaks into oscillation when the dial is turned to a certain point, which might indicate that the A-battery is very weak in proportion to the Bbattery. In case you are using a Beliminator, the recifying device should he tested.

Broad Tuning

Some time ago I made radio-frequency coils for a receiver I was building. After the set was completed I found that it gives satisfactory reception except that the tuning is too broad. I suspect that the coils are responsible for this trouble. The secondary windings are 2 inches in diameter and have 110 turns. While the primary winding is 1¾ inches in diameter, and has 20 turns. There are two stages of r. f. in this set and it has three coils.

You are correct about suspecting that your trouble is caused by the coils. The secondary windings are all right, but a diameter of 1½ inches instead of 1¾ inches, will give looser coupling which will increase selectivity. Also reduce the number of turns of the primaring winding on the first or tuning

coil to about 10 or 12, which will greatly help to make the set sharp. Another method of obtaining loose coupling without changing the size and winding of the primaries, is to pivot them so that they can be turned out of line or at an angle to the secondaries.

Too Much Bass

On our console radio having a resistancecoupled audio amplifier and a dynamic loudspeaker incorporated in the set, the bass notes are over-emphasized, while the reproduction of the higher frequencies is really insufficient. Is there any method of making a minor change in the set that will remedy this fault?

There are two simple methods you can follow in reducing the bass notes and at the same time increasing those on the other end of the frequency band. One is to lower the resistance value of the grid leak, which connects to the detector tube and the other to decrease the value of the blocking condensers that are inserted between the resistors of each stage of audio in a resistance coupled amplifier. Cutting down the grid leak value has a tendency of decreasing the volume of all notes, but especially those of the lower end of the scale.

Remote Control

Is a remote-control device that operates the tuning dial of a receiver dependable, or is it likely to function incorrectly, thus causing more trouble than convenience?

The degree of satisfction of a remotecontrol device varies in accordance with the degree of precision it is made. Obviously, when purchasing such a device, one should get the best on the Usually a reputable manufacturer will not turn out an inferior product. These devices are adjustable and can be accurately set to turn a dial where it is wanted. One should bear in mind that these devices will function better and without the tendency of getting out of adjustment on a receiver that tunes just a little broad, than it will on one that tunes extremely sharp. Similarly, a control may be found satisfactory for tuning in local staions, while it might be a rather difficult matter to adjust it to bring in distant stations to (Continued on page 15)

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OUR Readers Give Their Views on RADIO

VERY once in a while readers try to catch us napping by checking their RADEX with a list of stations issued by the Federal Radio Commission and write us regarding the differences they find. Thus Joseph J. Becker, 415 South 11th Street, Hamilton, Ohio, says: "You list WJBC as owned by the Kaskaskia Broadcasting Company and the Federal Radio Commission lists them as the Hummer Furniture Co. You still have WGM and WOOP listed, but the Radio Commission says no."

We always welcome having errors or discrepencies called to our attention, but the Commission issues a new list but infrequently, while RADEX is corrected monthly. As a result we are often ahead of the Commission's list. This is the case with WJBC. It was transferred from the Hummer Furniture Co. to the Kaskaskia Proadcasting Co. in September and the next Commission list will undoubtedly show this change. With regard to WGM and WOOP, the Commission indicates that these are outlaw stations, but as long as they are on the air and received by our readers, we will continue to include them. We cannot stop them from kroadcasting but the Commission presumably can. the way, have any of our readers heard these two stations lately?

Discourteous Stations

Mr. Pecker says further: "I have written to WODX and KFKB four times and if I don't get an answer soon, why then I will give it up as an impossible task." As these two stations are not shown in RADEX as welcoming letters from listeners, the fact is indicated that they do not care to verify reception or hear from their listeners-in. Several readers have sent us lists of the stations which have acknowledged their reception in order that we might add them to our list of stations which verify. We do not avail ourselves of this help for the reason that we want a definite acknowledgement of their practice from the stations themselves for then the symbols given in the Index by Frequencies will

Pithy Comment on Sundry Matters

be authentic and official. Quite often one reader will report some particular station verifying while other readers complain that that very station fails to answer their letters or even their dimes! Our readers may take our symbols. therefore, as indicating that we have a letter on file from the station giving its practice as shown by the symbol. Among those who have been kind enough to send us their lists are: Victor J. Ball. 226 Sumner Avenue, Aurora, Ill., Wm. Hanauer, Jr., 25 Johnson Avenue. Newark, N. J., George R. Parker, 1103 Clifton Avenue, Collingdale, Penna.. and several others.

Some Cuban Stations

The broadcasting situation in Cuba is still evidently unstable and stations there seem to be moving around the ether trying to find a more comfortable William Helfer, 9909 Heath Avenue, Cleveland, Ohio, writes: "On September 27th I received a station in Havana, Cuba, at 1:26 operating between 1200 and 1210 kcys., and on October 1st I received one at 8:30 operating between 590 and 580. There are no Cuban stations listed in RADEX at these frequencies and I couldn't get the call letters clearly. Can you tell me what stations these were?" The nearest stations to the frequencies given of which we have any record are, CMBC on 1225 and CMW on 595, respectively.

John Malone, Lacon, Ill., calls our attention to the following Cuban stations which are not listed and asks if they have been discontinued—CMJA, CKJC, CMHF, CMJB, CMJD. These stations still exist according to the Cuban government but they are not listed in RADEX because of their extremely low power. The location, power and frequency follows:

CMJA, Camaguey, 1333 kcys., 10 w. CMJC, Camaguey, 1321 kcys., 15 w. CMHF, Camajuani, 1500 kcys., 20 w.

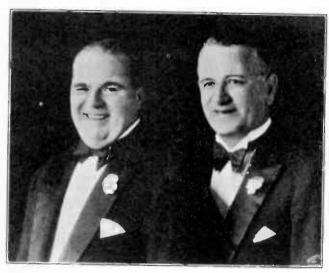
CMJB, Ciego de Avila, 1333 kcys., 10 w. CMJD, Ciego de Avila, 1561 kcys., 15 w.

More Power Wanted

Deane S. Kintner, Director of Public Relations of Station WHK, Cleveland, writes us that unfortunately that station is not entitled to the symbol given in RADEX indicating that a construction permit had been granted to increase power. We find that this symbol was added when WHK was given authority to increase their facilities and not their power. Mr. Kintner adds: "No one could be better pleased than ourselves if this were the case, but so far as we are

from WHK. RADEX is on record as favoring obedience to the umpire's decicions, but it is difficult to follow the Commission's logic in this case.

"A Daytonian," R. F. D. 1, Osborn, Ohio, commends Philip M. C. Armstrong, of Detroit, for his letter regarding WWJ. "I have been a fan for a long time and I know that WWJ has been given a mighty rotten deal. Use your influence to help a real station that deserves a break. Good old WWJ. And sometime give a word to WSMK at Dayton; they're getting there." This unknown friend adds: "'What Our



Here, ladies, are two handsome stars of WLW You may hear them every Wednesday at 10:00 p.m. on the Kingstaste Night Club program. On your left Mr. Billy Church and on your right, Mr. Jack Richards, both graduates of Al. G. Field's Minstrels.

aware, it is not. Since our new transmitter was completed, we have been on record as desiring 5,000 instead of 1,000 watts, but so far only the smaller amount is permitted. We have been refused 2,500 watts in the daytime when liklihood of interference would be at a minimum. WHK is one of the early pioneers in the broadcasting era. Their programs have been good and they have a large following in Chio and nearby states who would be glad to see the Commission grant this station additional power. But so far the Commission has refused to do so although this month they are permitting a new station in Cleveland to operate on 1450 kilocycles-only six channels

Readers Are Thinking' is a source of much pleasure, knowledge and food for thought. Your little magazine is a peach. I have read it for a long time and enjoy it a whole lot."

The new station for Cleveland, which will be known as WGAR, is a consolidation of WFJC at Akron, Ohio, and WCSO at Springfield, Ohio. It will use the 1450 frequency with 1000 watts power. The new station is said to be backed by the interests controlling WJR, Detroit, and will carry the NBC programs not now broadcast from Cleveland.

Some Elusive Calls

"I have received a station whose call letters are KSHI, broadcasting between

1270 and 1310 keys.," writes Albert Brehm, Hamilton Apartments, Cincinnati, Ohio. As there is no such call, the nearest guess we can make is KFJY, at Fort Dodge, Iowa, on 1310. Martin Howard, 14-year-old DXer of 1721 Linden Avenue, Baltimore, Md., asks about WHFK, Westinghouse, Pitts-This was probably the shortburgh. wave station W8FK heard on a harmonic. Martin sends us a radio magazine which he is publishing (on a typewriter) named "Station Static." We offer our felicitations to our brother editor. Benjamin Wood, 7 Stony Brook Place, North Plainfield, N. J., wants to identify a station he heard on 1360 keys. with call soul dinglike WSTL. We venture the guess that it was WFBL at Syracuse, N.Y.

Several readers have written us about the Buffalo changes and particularly our deletion of WMAK. Valentine Sadowski, 188 Miller Avenue, Buffalo, says: "WMAK is operating on 1040 kcys., using 1000 watts. You see, the Buffalo Broadcasting Corp. changed the call letters of station WKEN to WMAK. Now the new Euffalo station WBEN. owned by the Euffalo Evening News, is operating where WMAK was, 900 keys. Here are the Buffalo stations: WBEN 900; WEBR 1310; WGR 550; WKBW 1480; WSVS 1370; and WMAK 1040-WMAK broadcasts altogether. Columbia programs until between 5 and 6 in the afternoon and then WKBW gives the remaining ones, WMAK signing off between 8:30 and 9 in the evening." James Y. Stein, 147 16th Street, Buffalo, confirms this information.

Every day or two we receive an inquiry regarding police broadcasting stations and queries as to why they do not appear in RADEX. In the first place, such stations are not broadcasting stations in the usual sense of the word and, second, they do not (with one exception) use the broadcast band. Thirdly, they do not desire to have the public tune them in as secrecy is part of their value to the forces of law and order.

"I have been hearing a new station in Pittsburgh the last few nights. It is station WAXT and it is owned by Westinghouse and broadcasts on about 670 kcys," writes Wm. Wright, 32



Thomas Breen, Jr., NBC Announcer in the Chicago Studios.

Second Avenue, Scottdale, Pa. This is undoubtedly W8XT the short-wave station referred to in another article relative to the synchronization of WEAF, KDKA and WGY.

A Few Complaints

A number of subscribers have written complaining that they often see RADEX on the newsstands before they receive their copy. It has been our practice, in common with that of other publishers, to ship the first copies off the press to the newsdealers because they must go by the more slow method of freight and express and pass through several hands before they reach the dealers. We are now adopting the policy of mailing the very first copies printed to our subscribers and hereafter each issue should be received by the 25th of the previous month. We feel that this is a courtesy due to those who give us their annual subscriptions.

E. F. Becraft, 96 Maplewood Terrace, Springfield, Mass., thinks "the Index by Frequencies is most complete and accurate but is published hind-end-to! It appears to me," writes Mr. Becraft, "that the stations coming in at the top of the dial should be listed by you at the top or in reverse order to the positions

now occupied. This certainly applies to the Radiola 66 which I use and to other makes with vertical dial which I have seen." It isn't RADEX which is "hindend-to" in our opinion but the manufacturers who still insist upon arranging their dials in accordance with the old wave-length theory instead of the modern method of frequencies. We must arrange our Index either one way or the other-either from 540 up or from 1500 down. We choose the former because, first, it is the natural arithmetical progression and it is less confusing in looking for a particular number. Second, dials should be arranged in the same progression as frequencies and not as wavelengths; those set manufacturers who are behind the times should get in line. We think we should play with those who are right rather than those who are wrong.

Where Is CKIC?

"I see you are listing station CKIC, Wolfville, N. S., as operating on 930 kcys.," writes H. P. J. Hills, Y.M.C.A., Halifax, Nova Scotia. "This is wrong; this station has been operating under 580 kcys. for over six months." Taking the matter up with the Canadian Department of Marine, which has jurisdiction over radio matters in the Dominion, we are advised by the Director of Radio Service as follows: "CKIC did recently conduct some tests on the 580 channel but the same was abandoned as it was not found suitable. The licensed frequency of this station is 930 kcys., but it is quite possible that in the near future it will be shifted to 1010 kcys., if tests on that channel should demonstrate its suitability. In the meantime, it would be advisable to allow your listing to remain at 930 kcys."

While we are in Canada, we will quote from a letter received from Jas. F. Young, Radio Editor of The Evening Telegram, of Toronto: "When we decided to organize a radio club to be known as 'The Evening Telegram Radio Listener's Club,' a member wrote to RADEX and his letter was published telling of the club organization. That was only a few months ago, but our membership now totals something like 3.000 and I may say that at least 500 of these members have come from those who learned of the club from RADEX. . . . We shall have special radio broadcasts for the club members during the winter, using radio station CKGW. Toronto. . . . I might add that the morthly copy of RADEX eliminates the necessity for using any other radio log and the dozens of telephone calls received by us, are all answered by reference to RADEX."

Unlicensed Stations

In spite of the fact that radio stations WBBS. WRK and WCHI are no longer licensed, as noted in a letter from the Radio Commission in our October issue. C. M. Falconer, 414 Water Street, Baltimore, Md., writes that he has heard WCHI on seven different days since their license expired, although in a later letter he says he has just heard them (Continued on page 18)

One of these Boys Will Fail~IF

Both possess equal health and intelligence, both have qualities for success—but one stammers. Where the one will succeed the stammerer will fail. He will dread to meet people, he will lack the self-confidence so necessary in business. The hundilation of his disability will impair his nervous system—a condition often the beginning of ill health. This handleap can be removed. As hundreds of other stammerers have been cured permanently at legue Institute, so he can be cured. The Institute was founded in 1901 by Benjamin N. Begue, who cured himself after stammering twenty years. Instruction is based on the principle of co-ordination between the mind and speech organs. No drugs or medicines. Endorsed by physicians. The history of the liegue Institute and description of its methods embodied in Mr. Bogue's book, "Stammering—Its Cause and Its Cure," furnished on request, Addiess. Address

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The THRILL of the DISTANT STATION

In Which the Editor

THE DX department opens this month with criticisms of some of - the letters we have published. Two of these in particular come to us on letterheads of "The Smallest DX Club in the World, Syracuse, N. Y.." and are signed by Leonard L. Hoffman and Robert M. Hoffman, both of 618 North McBride Street, Syracuse, N. Y. The Hoffman brothers take RADEX to task for what Robert calls "the fabulous statements of certain contributors which would put Baron Munchausen and Major Hoople to shame." thinks that "after RADEX seriously considers some of the facts mentioned in these letters it will be a little less credulous of some of these marvelous records." Leonard says, "Certainly someone on the staff of RADEX is competent to examine and edit these contributions of fiction which would be perfectly apparent to a four-year-old child, as hallucinations originating in the minds of someone gifted with abnormal powers of imagination, or an insatiable appetite for publicity."

Leonard takes exception to a number of claims of reception recently published in RADEX. He says that no one can convince him that WQDM using a power of 5 watts and operating on the 1420 channel with 35 other stations can be heard in Chicago from St. Albans, Vermont, at noon. Or that WDHL. 10 watts, Tupper Lake, N. Y., on the same channel, can be heard in California. He also fails to understand how it is possible to receive EAJ19 in Spain at 5 a.m. when that would be noon at Madrid. Leonard also concludes his letter as follows: "Doesn't every one of you who is really sincere want to cooperate with every bit of your ability and do everything possible to weed out these frauds? I really believe it can be done and I believe RADEX is the medium through which it can be done with the hearty support of each and every DXer who is head over heels in radio as a hobby or pastime alone, not as a means of seeking publicity and cheap advertising."

Verification Impractical

RADEX wishes that it might be possible for it to guarantee the accuracy of all the records it publishes, but this is quite out of the question. The editor has seen too many records made in his own neighborhood which he could scarcely believe and certainly could not duplicate with an even more powerful set. Radio reception is most peculiar in that, given two sets exactly alike and location very similar, one of them will make records which the other can never equal. It is therefore useless to attempt to check records of reception by make or power of the receiving set. Frequently a one or two-tube set will bring in distant stations which an eight-tube set seems powerless to receive.

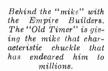
Again, the hour of the day or night is an important factor for a small-powered station which might be received at night would be heard during the daytime only as almost a miracle, vet who will say that it cannot be done. It seems to the editor that he has but two alternatives. either to publish letters from correspondents without vouching for their accuracy in any way or to close the columns of RADEX to all DX records. In view of the wide interest in these letters, the editor is loath to do the latter and must, therefore, depend in the future as in the past, upon the integrity of his correspondents.

Bootleg Stamps

Leonard Hoffman takes the occasion to vent his indignation upon the so-called stamp exchanges which are offering radio station stamps all different, three for 10 cents, or 15 for a dollar. These exchanges have the effrontery to publish a list of their clients so that these collectors may exchange with each other. We can see no possible use in buying a station stamp except with the intention of making the claim to one's friends that it is proof of reception of that station.

People will collect most anything, however, and it may be that the collection mania is extending to the radio stamp field. An anonymous reader from Chicago sends us a list of "members" published by one of these exchanges which advertises regularly in a radio magazine. Heading this list, unfortunately, is the name of one of our correspondents. While it does not improve one's standing as a DXer to have his name appear in such a list, we do not believe it is prima facia evidence of any attempt to make claims based upon the stamps that may be purchased. If any one desires to make baseless claims of

Street, Newton, Ill., "Here is the method I use which I have passed on to my friends. When RADEX comes I take a blue pencil and make a small check mark in front of each station I have heard and with a red pencil I make a dash after the call letters to show if it has verified me or not. Thus I can tell at a glance if I have the station and if it has been verified. I also keep a program book in which I record programs sent in for verification, as sometimes it is necessary to write a station twice, so I jot down the date mailed in the margin of the page as a handy reference." In regard to Ekko stamps, Mr. Everly thinks





reception he does not need stamps in order to do so.

What do our other readers think about this problem?

We frequently receive letters from readers asking us if we can verify their reception of certain stations. This is obviously outside our province, as it would require a voluminous library, laboratory and staff to attempt to do so. We have as yet no data on hand even regarding the hours stations broadcast, although such a list is under consideration.

Keeping One's Records

"Many complain that they cannot keep stations logged correctly," writes Ray E. Everly, 102 West Washington "they are nice to collect for their appearance in a radio album, but they have become useless for verification and each station should have its own stamp. Most DXers would rather have letters than stamps anyway."

LeRoy House, of Plant City, Fla., has just decided to take up DXing in earnest and go after a record. He asks how long he should check a station to get a verification and whether he should give the time of beginning each number on a program as well as the time of ending. All that any station requires is sufficient information to enable it to know beyond doubt that its program was received. Therefore it is only necessary to give them the feature heard and the time it

was received, although it is well, if possible, to give something of the announcement, if that was heard. It is not necessary to listen to a program for half an hour in order to secure sufficient data to warrant a verification.

For Pittsburgh Readers

Two RADEX readers, Joseph Stokes and Cyril P. Engelmeier, have recently gotten together and discussed DXing. They now want to know how many others there are in the Pittsburgh district who have heard say 400 stations or more, including some of the distant foreign stations. They would like to hear from other readers perhaps with a view to forming a small select group of DXers in and around Pittsburgh for mutual benefit. Mr. Stokes' address is 7318 Woodlawn Avenue, Swissvale Station, and his telephone is Prandywine 3494-M. Mr. Stokes has now heard 533 stations since 1928 and Mr. Engelmeier 450, but he is adding new stations nearly "I have heard HJL, every night. Bogota, Colombia; KFQD and KGBU in Alaska, as well as the usual run of Cuban, Mexican and Porto Rico." writes Mr. "I am using a Silver radio concert grand model at the present time."

Oscar W. Schmidt, 45 Edison Street, Pontiac, Mich., would also like to know of any other DXers in his vicinity who have their RADEX comfortably filled. "I have a 1930 ten-tube Sparton and have logged 135 stations since May, but we are hemmed in by powerful stations on three sides and there is nothing to receive north of us. I am only 25 miles from WWJ but cannot receive them without interference by other stations."

Reception Reports

"Radio is my one great hobby," writes Joseph J. Becker, 415 So. 11th Street, Hamilton, Ohio. "The part I like best about radio is seeking new stations and many a morning I am at my Majestic radio between the hours of 1 and 5 a.m. The past week I have logged six 100-watt stations and I have had stations from California, Oregon, Washington, Utah and New Mexico. I have not yet been lucky enough to get Nevada, Wyoming, Vermont or New Hampshire. I have the Majestic Model No. 91 and I can use either a long or short aerial, with a



The professor of radio dramatics at KSTP, Thomas Dunning Rishworth, versatile 23-year-old student of dramatics at the University of Minnesota.

double copper ground, which I keep damp always. I have heard WLW at four places on the dial. I get them regularly on 62½ and 7 and the other night I heard then on 12½ and once before I heard them on 21. Are these harmonics?" Yes. you are undoubtedly receiving this powerful station on its harmonics.

A 15-year-old DXer, Martin Howard, 1721 Linden Avenue, Baltimore, Md., now has 44 verifications and is aiming for 200. He has heard KOA, Denver twice but they were broadcasting a chain program for which they will not send a verification. "I have listened for the outlaw stations on 840 kc., but so far have heard only CMC, which has been coming in very well on my set lately," says Martin.

Louis Rewald, 483 Wilmot Avenue, Burlington, Wis., says he does a lot of DX work during the winter months. He has a Bosch all-electric seven-tube with dynamic speaker. His best radio catch so far is a 50-watt station in Vancouver, B. C., from which he has two verifications.

Two-Tube Record

Geo. Lilley, 227 West Bernard Street, Westchester, Pa., thinks receiving KFI, KEX. KMIC, and other coast stations with a nine-tube set is not so much. "Maybe you would care to know that on September 27th, using my own twotube set (built it myself) I brought in KNX, Hollywood, Calif., at 10 p.m. I had it good and clear, but of course not overly loud. Later on that evening I had KEX and KJR good and clear while KFI, KMIC, KHJ and a few other western stations came in poor to fair." George adds this postscript, "I can't see where it is fair to count stations you get while traveling in an auto. Why, this way you could get every station in the United States."

"I have received a station on each of 95 of the 96 channels with two or more on 90 of the channels." This is the record of Guy B. Welsh, 114 Brown Street. Revnoldsville, Pa. He has received 11 stations on 1200 kc., 10 on 1210 kc., 13 on 1310 kc., and 10 each of 1370 and 1420, which we agree is pretty good.

Joseph J. Becker, 415 So. 11th Street, Hamilton, Chio, wants us to give WHBD a big hand because they announce after each selection. "I have listened to some stations as long as 45 minutes and they never announced their station," says Mr. Becker. "The best catch I have made, I think, was KFPM, Greenville, Texas, on 1310 kc. and using only 15 watts. For a ground I have a five-eighths inch copper wire and a one inch copper pipe in the earth about five feet. I connected my ground wire to these and soldered them firmly. Every other day I water my copper ground and I find it much better than a water pipe ground. I have a long aerial of about 85 feet and also a short one of about 30 feet, which I use when there is much static. July and August were two long months for me because there was no RADEX published. Without it I am completely lost. Radio is my hobby and I am at it at all times of the night and early morning. The small and distant stations can be caught best in the early morning."

Wants More Announcements

"There is nothing more disappointing than being cheated out of a verification (Continued on page 19)

RADIO and other Technical Books

At a Glance

Radio and Telegraphy "Audio Power Amplifiers" by Anderson and Bernard \$3.50

"Foothold on Radio," by Anderson and Bernard 1.00
"The Superheterodyne," by Anderson and Bernard. 1.50
"Trouble Shooter's Manual," by Rider 3.50
"115 Latest Commercial Set Diagrams," by Rider 2.50
"Mathematics of Radio," by Rider
"Official Radio Service Manual and Directory of
Commercial Wiring Diagrams," by Gernsbach and
Fitch. 3.50
"Drake's Radio Cyclopedia," by Manly 6.00
"The Electric World," by Shubert
"Elements of Radio Communication," by Morecroft. 3.00
"Experimental Radio," by Ramsey 2.75
"Fundamentals of Radio," by Ramsey
"Practical Radio," by Moyer and Wostrel 2.50
"Practical Radio Construction and Repairing," by
Moyer and Wostrel (new edition, new price) 2.50
"Principles of Radio," by Henney 3.50
, Principles of Radio Communication," by Morecroft. 7.50
"Radio Blueprint Library"—AC Hook-ups
"The Radio Manual," by Sterling
Camp
"Radio Receiving Tubes," by Moyer and Wostrel 2.50
"Radio Telegraphy and Telephony," by Duncan 7.50
"Radio Trouble Shooting," by Haan
"Storage Batteries," by Morse
"Storage Batteries Simplified," by Page 2.00
"Telegraphy Self-Taught," by Theodore A. Edison 1.25
"The Thermionic Vacuum Tube," by Van der Bijl 5.00
Television

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RADIO WORLD

New York, N. Y 145 West 45th Street

(Pazin World is the only National Radio Weekly 15 cents a copy, \$6.00 a year. Send \$1.00 for 8 weeks' trial subscription, and FREE set of 3 socket wrenches; 3 different sizes.)

WILL OSBORNE, Versatile Musician



He is one of radio's outstanding crooners and for that reason nobody thinks of him in his true light as a versatile musician. He is a competent artist and a master of rhythm and the instruments he plays are many, the only exception being the flugle horn. However, he will soon play that one too, because that is Will Csborne's way.

His music and his will to succeed have been the outstanding factors of his life, driving him onward in the face of all

kinds of opposition.

Osborne started crooning in Toronto, Ont., November 25, 1904, at the age of one minute, and a few years later, while other little boys were scratching the floors with tin soldiers and breaking windows with baseballs, Will was breaking his mother's best glassware in an effort to draw tunes from it with the cutlery. This habit, he says, was abandoned when his mother succeeded in drawing tunes from him with the back of a hairbrush.

During boyhood the family moved to London and he received elementary education from tutors. Later he graduated from St. Andrew's College, Toronto, and his father decided to send him to medical school. Will did not fancy this idea, but his grandfather had been one of the most renowned surgeons in England, so he was directed to follow that profession.

For two years he traveled in Europe, South America and Mexico, studying medicine and music. He had begun by learning to play the piano when he was eight years old and the drums in the school orchestra at St. Andrews.

The Osborne parents fought and cajoled, but Will refused to be a doctor. Twice he ran away from home in Toronto and hitch hiked to New York to land an orchestra job. Each time he tired of juggling freight, wiping dishes and returned. Nevertheless his ambition never wavered. He was a rabid theatregoer and would always watch the musicians in the pit, criticizing and selecting those he would have in his perfect orchestra, if he ever had one.

And then his dream came true. He landed his first professional engagement in 1924 with the Wayne Country Club at Tyler Hill, Pa. He had four men in his orchestra. They got \$18 a week; his salary was \$20.

Osborne introduced slow rhythm for dancing to radio audiences in 1925. It was not particularly well received at first but he kept it up. He had faith in the slow, rhythmic, harmonious type of music as opposed to the noisy, jerky, jazz which was popular at the time.

Crooning vocal choruses were a natural outcome of this new type of dance music. The music was so soft that a singing voice would efface it and soft and slow singing had no carrying power, so something had to be done. Osborne decided not to stick to the conventional beat. He began to talk the lyrics, adding a soft, singing tone. The effect was tremendous and the reception was immediate.

Scratch an artist and you find a pet superstition. Osborne collects elephants. They are not live ones, of course, though his ambition is to own a real one some day. In the meantime he contents himself with elephants of ivory, jade, wood, crystal, in fact of anything from which one can be fashioned. They must all have their trunks raised, otherwise they bring bad luck. It began when someone presented him with a small jade elephant

and told him, after he got seven as gifts, he could begin buying them. He now has almost a hundred in his collection.

When Mr. Osborne is not leading his orchestra, he is dancing. When he is not golfing, riding, or playing poker, he is reading humorous stories or writing his forthcoming book, "Tramp's Dream, or Sleepy Valley."

What Makes My Set . . .

(Continued from page 5)

their full advantage. In this issue you will find an article especially devoted to remote-control devices from which you can gather still more information.

Controlling the Control

It seems that the volume control on our set is defective. Tuning it to the right about half way from the extreme left-hand position of the pointer increases the volume. Tuning it still further to the right, decreases the reception or rather muffles it. Should I have a new volume control installed? Of course, I get plenty of volume before reaching the critical point, but would just like to know whether I should be able to control the volume over the entire range of the volume control.

Your trouble is really quite a normal occurance in many radio receivers, even if it is not ideal, and that manufacturers should try to overcome this objection, although it is not always within their control. What happens is that the set breaks into oscillation at a certain point as you mention, which in some sets results in a growl or a squeal, but usually a muffling of the signal. I have found that if the plate voltage on the tubes, especially the r. f. and detector tubes is reduced, this trouble will cease. doing this, the variable control of the plate voltage, if your set is equipped with such a control, must be cut down until the volume previously obtained just before the breaking point, is had when the volume control is tuned entirely up toward the right.

What About a Choke?

Will you tell me what effect a radiofrequency choke has when connected from the plate to the transformer just behind the detector? Do you think it will improve the quality of reception?

The question whether a radio-frequency choke, which keeps radio-frequency current out of your audio amplifier, would be of actual benefit in your case, depends mostly on what kind of set you have. If you have transformercoupled audio amplifier, a radio-frequency choke is not necessary, as the transformer winding serves the same purpose as the choke. On a resistancecoupled set, when no such inductance is found in the coupling of the states, an r. f. choke is advisable. Furthermore, if a resistance-coupled set has a regenerative tuning circuit the need for such a choke becomes still more acute

Life of "B" Batteries

How long can I reasonably expect good results from 45-volt B-batteries, in other words, when should I discard them and substitute new ones?

45-volt B-batteres should be discarded when they drop as low as 38 volts as they are apt to become noisy due to the breaking up of the active material in the cells. For ideal results, however, one should at all times maintain the exact voltage necessary for the best operation of the receiver.

Working the Short Waves

I have made a short-wave receiver, which is claimed to be able to pick up foreign stations. So far I haven't had any luck and the only stations I get are those in this country. Will an additional r. f. amplifier help?

The more r. f. stages there are in a receiver the greater will be the distance covered, although tuning may be also made a trifle more difficult. making any additions I suggest that you go over ground in trying to get foreign stations. It is possible that, after all, you can get them on your receiver if you tune in at the exact time that they are on the air, taking into consideration the difference between their time and ours; also knowing exactly what their frequency is at which they are operating. Finally, it is of the utmost importance that you tune with extreme care, taking for granted that your tubes and batteries are in perfect condition, and that you have a good aerial and ground. Handle the dials very delicately, turning them slowly in the neighborhood of the station desired. Also use headphones instead of a speaker, as the former are much more sensitive to weak impulses, or rather, a person can detect weak impulses on phones more easily than on a speaker.

Recording Programs

How can I impress a radio program on a phonograph record so that it will be preserved?

Go to your local phonograph dealer and get a diamond point used for the purpose of recording, and also get some blank recording records, which come in different sizes to suit the amount of reproduction desired. Substitute the recording point for the present reproducer, which is attached to the movable arm connecting to the horn or sound chamber. Then place your radio speaker directly in front of the phonograph horn and when the radio program comes in, start the turntable with a recording record on it, at the proper speed, and set the recording point on the record in the same way that the records are ordinally played. The volume of the radio should be quite loud but not distorted.

Matching Tubes

I would like to be sure to have matched tubes in the intermediate stages of my superheterodyne, but do not know how to go about matching the tubes. Will you kindly give the necessary information?

Matching tubes is really a simple but somewhat tedious task. A serious difficulty, however, arises from the fact that tubes vary so much in their characteristics, and therefore finding matched tubes, or rather those nearly so, is like looking for a needle in a haystack, making it necessary to have a large number of tubes on hand in order to find the few that match. The work is done with a tube tester and the exact plate emission at various plate voltages and C-biasing voltages is noted. Tubes running alike in respect to these readings are matched.

The Neon Tube

Will you kindly explain the difference between a neon tube and a photo-electric cell which are used for television purposes? A neon tube emits a light which varies in direct proportion to the amount of electric current running through it, while a photo electric cell works just the opposite way, that is, the fluctuations of light to which the cell is exposed allows a corresponding amount of electric current to pass through the cell and a connected circuit. For instance, a large amount of light permits a large current flow, and a small amount of light a small current flow.

Long vs. Short

Is it better to use a long or a short antenna on a five-tube t. r. f. receiver, than a short one? Will I be able to get more volume on a long antenna?

Just what length of antenna is best in your particular case depends on several factors. A long antenna picks up more energy than a short one, also more static; consequently signals and static will both come in louder, and distant stations can be more easily brought in. If you are located quite a distance from broadcasting stations, a 75 or 100-foot antenna would be much better than one only 25 feet in length. On the other hand, if vou are located in a city where one or more stations are broadcasting, a long aerial would pick up so much energy that it would ruin the selectivity of the receiver, and one station might overlap another so that you would get two or even three stations simultaneously, one being tuned in louder than the other two. In cities. then, a short aerial, even an indoor aerial, strung around the picture moulding, is often sufficient for a five tube t. r. f. set, although such a short aerial reduces the possibility of tuning in distant stations. It may be best to have both a long and a short antenna so that you can use one or the other, and thus experiment with both in order to get satisfactory results.

This copy of RADEX contains another important improvement for the convenience of our readers. We'll let you discover it for yourselves. You'll never know how much additional work it makes for us but if it pleases you, we are happy.



BIRTHDAY PARTY for WBAL

The popular Baltimore station celebrated its fifth year on the air on November 1st, nearly one hundred radio artists and musical artists taking part in a gala broadcast. All types and classes of music were heard during the program, light, classic, concert numbers, old-fashioned songs, musical comedies, dance music, sentimental songs and ballads, as

well as modern and popular hits of the day. Studio groups appearing before the microphone were the "Baltimorians," the "Merrymakers," the "Romany Trail," the "Masqueraders," the WBAL concert orchestra, the WBAL string quarter, the WBAL male quartet, the WBAL ensemble, the "Calvertons," the "Arundels," and the "Marylanders."

THIS MONTH'S CHANGES

The following alterations are being made in this issue:

Additions:

WMAK 1040—Buffalo, N. Y. WCOA 1340—Pensacola, Fla. WSDA 1400—Brooklyn, N. Y. WGAR 1450—Cleveland, Ohio.

Deletions:

WLIB 720—Chicago, Ill. WBOQ 860—New York City. KMAC 1370—San Antonio, Texas. WABO 1440—Rochester, N. Y.

Consolidations:

WCSO 1450—Springfield, Ohio. WFJC 1450—Akron, Onio, with WGAR 1450—Cleveland, Ohio.

Change Frequencies:

WIBA—Madison, Wis., 1210 to 1280.

Power Increases:

KGHL 950—Billings, Mont. 500 to 1000.

KMOX 1090—St. Louis, Mo., 5000 to 50.000.

WSEN 1210—Columbus, Ohio, 50 to 100.

XEW 780—Mexico City, 500 to 5000. Call Changes:

WMAN 1210—Columbus, Ohio, to WSEN.

WAGM 1310—Royal Oak, Mich. to WEXL.

WNBJ 1310—Knoxville, Tenn., to WROL.

WNRC 1440—Greensboro, N. C., to WBAM.

Our Readers' Views (Continued from page 9)

announce as "WCHI and WORD," indicating that the former WCHI has amalgamated with WORD. Can some of our Chicago readers give us the facts?

Mr. Falconer also calls our attention to the fact that WCOA, Pensacola, Fla., which was suspended during the summer, is again on the air and that KMAC, San Antonio, Texas, should be deleted, as a card sent them was returned.

Iowa readers claim that both WBBM and WFAB broadcast during the day on 770 kcys., although they are required to share time at night. The result is chaos at least in Iowa, and listeners are unable to get either station on this wave. A letter from the Secretary of the Radio Commission says: "In some cases simultaneous daylight operation is permitted provided interference is not caused. It appears from your letter that there is interference being experienced. If you could give further details on the extent and area over which this interference is heard, it would facilitate the Commission in taking steps to relieve the interference." If other readers are annoyed by any interference between these two stations and will write us, their letters will be laid before the Commission.

G. H. Snyder, Jr., P. O. Box 202, Ridgewood, N. J., writes us that the Newark News is authority for the statement that stations WBOQ, WABO and WLIB though licensed are never used. Lloyd Rees, Box 612, also of Ridgewood, sends us letters from WHEC and the Columbia Broadcasting System saying that WABO and WBOQ are no longer used. Mr. Rees also says that WSDA, Brooklyn, is again on the air, although double calls are sometimes used (WSGH-WSDA). The station is on 1400 kcys. with 500 watts.

Interference

"On 920 kcys. there is considerable interference," writes A. W. Jensen, of 196 Elmwood Avenue, Oshkosh, Wix. "Sometimes I get KPRC, Houston, and sometimes WWJ, Detroit. But they have a funny wavey sound; the voices sound as if the announcers were hoarse or were gargling. Sometimes the announcer's voice is double like a duet.

What causes this duet?" Mr. Jensen is inclined to blame his set but the trouble is typical of two stations trying to use the same wave length and so interfering with each other that neither is understandable. It was such situations as this which the Commission tried to clear up last spring but were stopped by the courts.

We cannot close our letter-box this month without quoting a few kind words from our readers. From G. R. Trotter, 302 Bethesda Avenue, Mena. Ark.: "There are some things I wish to commend RADEX for: first, for being undoubtedly the best radio magazine on the market, and, second, for remaining the best through constant improvement. Unlike most magazines who are content to rest on their laurels. RADEX is improved in some way in almost every issue through the addition of valuable information or betterment of old features." From Ray E. Everly, 102 West Washington Street, Newton, Ill.: "RADEX sure gets more information crammed between its covers than any log I ever saw published. It is truly the DXer's Bible." And from Walter H. Adams, 80 Hazelton Avenue, Toronto 5, Ontario: "As to RADEX itself, it's A No. 1 and it sure does the very best possible for us radio bugs. I am always telling my little world to buy it as they can find nothing better."

Licenses to operate two low-powered stations "for the extermination of insects" have been granted by the Federal Radio Commission to a spray concern of Wenatchee, Washington.

The licenses are for a three-month period and call for operation from 3 a.m. to 6 p.m.

The concern, which was granted licenses for experimental purposes about a year ago, in its petition for renewal claimed not only the killing of insects by radio, but the stimulation of plant growth termed "marvelous." The system used was not described.

The application was opposed by federal radio engineers, who expressed doubt as to the value of radio in this particular field. They also held that that type of transmitter caused interference.

The Thrill of DX

(Continued from page 13)

after one has spent considerable time bringing in a station or, in reporting it, to receive no acknowledgement of any kind," writes Stanley H. Bond, Oakland. Md. "Couldn't we DXers arrange some sort of petition to the Federal Radio Commission so that they would enforce more vigorously the ruling regarding announcing call letters every 15 minutes? There are enough DXers to do something, so let's write to the Commission and see what can be done. Some nights one can tune in on some stations that won't announce call letters until the program is ended and others that go for an hour to an hour and a half without announcing." Richard Bogert, 1416 Linden Street, Allentown, Pa., seconds Mr. Bond's motion and suggests that DXers raise a fund to carry on a campaign with broadcasting stations in an effort to induce them to have their announcers give their call letters more frequently.

From Milton E. Christa, 18092 Fairfield Avenue, Detroit, Mich.: "On September 10th I received a verification from JOGK, Kumamato, Japan. letter I sent them was written February 27th and was answered in August. This is the longest wait I have ever had for a verification. I have also heard from JOAK and JOIK. I am now receiving XEW, Mexico City, every morning from 1 to 2. They are on 780 kc. and their address is Box 2516, Mexico City. They announce as 'The Voice of Latin America'." From Narragansett, R. I., comes a letter from H. W. Rose: "I am an ardent radio fan. There are only six states, Vermont, North Dakota, Wyoming, New Mexico, Nevado and Idaho, from which I have not received stations. My best low-powered catch is KTSL. 100-watter of Freeport, La. I also have had KCRC and KGFG of Enid and Oklahoma City, both 100-watters."

Robert N. Nulty, 163 Duke Street, Hamilton, Ontario, has received 227 stations, 40 of them less than 30 watts; 8 of 50 watts, and 22 of 100 watts. Mr. Nulty is anxious to see a time table with station, particularly those of 250 watts or more. Each night, he says, he notices that KDKA is a little bit louder and thinks there must be something doing at Saxonburg.

"On 702 kcys. I received XEZ, Mexico City," writes Russell Overman, 13953 La Rue Street, San Fernando, Calif. "I received a station in Mexico on 750, but they did not give their call letters in English. Can you tell me what it is? I lost them at 8 p.m. when KMTC returned to the air." Mr. Overman says that KMJ has been a member of the Columbia chain since he has had his Philco, eight months. This seems strange, as the Columbia does not list this station and ordinarily would not hook up a 100-watter.

Some Distant Hauls

"Being a member of the Newark News Radio Club I have heard a great deal about RADEX so I bought a copy yesterday and my verdict is great," writes Edmund Walbrecht, Box 124, Dover, N. J. "As a DXer I have had fair success, having logged 472 stations in the past two years, 39 of them on the Pacific coast and all but a couple verified to date. I have received 2BL, Sydney, Australia; 2YA, Wellington, New Zealand, both verified; HJL, Bogata, Colombia, 18 Cubans, 30 Canadians, 4 Mexicans, Port Au Prince, and Porto Rico. All of these have been received on a Radiola 20, which uses four tubes with the phones and five with the speaker. I use a 325-foot antenna, but can still get excellent selectivity, due to the fact that this set uses a regenerative detector."

"My achievements in the way of DX work will not compare with those who receive Japan, Alaska and other far away stations, but I do enjoy getting what I have time for on my little TCRF five-tube set. I have heard VAS giving weather reports for Sable Island, Canada, and have had Halifax at 6 o'clock in the evening." This is the report of Harold R. King, R. F. D. 15, Groton, N. Y., who goes on to say, "Folks living in town undoubtedly get a lot of fun with a radio, but we who live on farms and have no movies or concerts, wonder the accurate time on the air of each h what we would ever do without it, now that we have grown so accustomed to being in touch with the whole world."

"Last Saturday night the local papers said 'Distant reception will be poor to fair in all directions." Yet I heard both JOAK and JOBK clearly between 4:45 and 5:35 a.m. I guess that was the 'fair' and KMPC heard about 2:45 a.m. was the 'poor' part of the reception." This from M. Tuchinsky, 3436 Filbert Street, Philadelphia, Pa.

E. Miller, 53 Hamilton Street, Harrison, N. J., DX Meteor Ace of the Newark News Radio Club, writes that he has verifications from 2YA, New Zealand, 2BL and 2FC, Sydney, Australia, and JOAK from Japan, CKMO, 50-watter in Vancouver, B. C., and KGY, 10-watter of Lacey, Wash. Mr. Miller gives the following schedule Eastern Standard Time for JOAK, 5-6:15 p.m., 8:30 to 10:30 p.m., 11 p.m.-2:30 a.m., 3:45-6:00 a.m., and for 2BL, 6:15-9:00 p.m., 10 p.m.-3:45 a.m., 4:15 a.m.-6:00 a.m.

Mexico and West Virginia

"I can get nearly everything in the country as well as Canada and Cuba, but have had no success with Mexico," writes Henry C. Brown, 100 No. 19th Street, Wheeling, W. Va. "I am wondering if there is a dead spot in this part of the country as far as Mexico is concerned. Have there been other complaints of this kind from this vicinity? It seems queer to me as it is no farther to Mexico City than it is to the Coast and I have received several 500-watt stations on the Coast."

Frank S. Macolly, 4514 Mitchell Street, Roxborough, Philadelphia, has heard 735 stations since February 5. 1923, which include every state in the Union with two exceptions. He has over 600 verifications, including one from KGU, Honolulu, and he thinks that he and C. M. Falconer are the only members of the Newark News Radio Club who have verifications from this station. Mr. Macolly, who is an electrical contractor and ought to know his currents, has heard 76 stations in one night in five hours' time, including six in California, one in Oregon, one in Port Rico, and four in Cuba.

Want to be an Amateur?

EADERS who have become intensely interested in broadcast radio frequently write us for information as to how they may become amateurs and secure licenses to send and receive. As our readers are probably aware, there is an association of amateurs known as the American Radio Relay League, Inc., whose offices are in Hartford. Conn. The League has just published a 32-page booklet entitled "How to Become a Radio Amateur," giving the answer to this question in the most complete detail. Those interested may secure a copy of the book by sending 10 cents to the secretary of the League at Hartford, Conn.

The book begins with a description of the short wave band, the field of the amateur. It contains the code alphabet regarding which it says, "Learning the code is the first stumbling block for some people. But it has to be learned—the government won't issue you any kind of an amateur license until you know it. Don't let it scare you; it really isn't at all difficult. The entire alphabet can be memorized in one or two evenings. A few weeks practice listening in to code transmissions will develop speed. If you make up your mind to settle down and lick the code within a few weeks, you will be surprised to see how fast you progress." A description and diagram is given for hooking up a telegrapher's key to a simple buzzer for practice in sending and learning to recognize the code signals.

Full descriptions with diagrams are given for building both a receiving and a sending set with instructions for operating both. Simple but practical layouts are given for arranging the stations, with full instructions regarding applying and taking the examination for your license. In fact, anyone who wants to become a regular "ham" will find the full prescription in this booklet.

The New Radio Map of North America is meeting unanimous approval.

Another Reallocation Just Missed Us

NOTHER sweeping reallocation of broadcasting stations — one which would have again changed the dialing habits of American radio listeners everywhere—was averted when a majority of the Federal Radio Commission ast week rejected a proposal of Judge E. O. Sykes, commissioner from the third zone of Southern states, to amend the 1928 allocation order to permit duplicated operation on virtually all wave lengths under a plan permitting closer geographical separations between stations.

Judge Ira E. Robinson, former chairman, voted with Judge Sykes on the, plan which, according to Judge Sykes was designed to bring about a more equalized zone and state division of broadcasting facilities. Hardly a station in the country would have been unaffected had the scheme gone through, but it was voted down by Commisssioners Saltzman, Lafount and Starbuck.

The use of practically all the present cleared channels would have been duplicated by two or more stations under the Sykes plan. Though 20 channels would have been reserved, as 40 are now, for stations of 5,000 to 50,000 watts power, two or more such stations would have been placed on the same channel if separated 2,500 miles from one another. If 10 kilocycles apart, the separation would be 600 miles; if 20 kilocycles, 350 miles, and if 30 kilocycles, 250 miles.

On the 20 other channels now cleared for nocturnal use by only one station at a time, the simultaneous operation of not more than three or less than two stations with maximum powers of 10,000 watts would be permitted, their separation to be 1,800 miles from one another when on the same frequency; 400 miles when 10 kilocycles apart; 200 miles when 20 kilocycles apart, and 150 miles when 30 kilocycles apart.

The present mileage separations of stations in the lower power ranges was also narrowed down, while provision was made that each zone should have the same number of stations and equal power. The majority overruled the scheme as technically inexpedient because of the interference possibilities and the widespread confusion it would occasion in present broadcasting practice and in the habits of American listeners. Nevertheless, Judge Sykes will undoubtedly press some of his points in order to obtain a compromise with the majority when the whole problem of high power on the cleared channels is taken up.

Commissioner Starbuck is understood to be prepared to advance a proposal to set aside one cleared channel in each zone for duplicated operation. This would leave 35 channels free for high power assignments to the numerous applicants now being heard by the Commission on their requests for powers of 50,000 watts.

Radio All Over the House

(Continued from page 3)

satisfactorily met by several manufacturers, but the prospective purchaser will do well in making sure on this point.

Concerning the wiring of several leads to various rooms, it is often preferable to make a permanent installation in which the wires are entirely concealed in the walls, instead of running along the moulding where they are exposed. It may be advisable to have a local electrician fish the wires through the walls for you as he is equipped with the proper tools for this kind of work and knows exactly how to proceed. many home owners can do the work themselves, which is not nearly as difficult as is commonly supposed. for the outlets are carefully made so that the outlet boxes can be screwed to the plaster lath. One end of a chain is then dropped down into the partition and a hole is drilled through the subfloor and sill from the basement, taking care to drill the hole in the partition and between the same two studs as the chain. After this the chain can be "fished" out at the lower end. Then both ends of the chain are accessible and a cable attached to one end can be pulled up through the outlet. Similarly, leads are dropped through a partition directly behind the receiver. It is an easy matter to connect corresponding leads together

This explanation in the basement. applies to cases where the remote-control outlets are located in rooms on the first floor. If a second-floor outlet is desired. the same procedure is followed, but it is slightly more difficult to drill through the second-floor sill and subfloor. This can be done by carefully removing the baseboard, cutting away a section of plaster which is ordinarily covered by the baseboard and then drilling down, avoiding the mistake of going through the ceiling in the lower room. Use an angle brace for drilling. Also be sure to use armored cable for all concealed work in order to reduce fire hazard. Several kinds of outlets are available for remote installations, some incorporating a jack to accommodate a plug on the speaker cord, some having a separate switch for the speaker or for the a. c. and others having a small compensating coil which is cut into the circuit to take the place of the speaker impedance when the latter is removed, so that the volume of other speakers in operation on the circuit will not be varied to an appreciable extent.

Elaborate jobs of remote-control apparatus are meeting serious competition in so-called mantel receivers. These are small receivers that can easily be carried about where desired and plugged in at any convenient outlet, the power supply, receiver and speaker all being contained in a single unit that occupies very little snace. It is evident that the provision of a number of separate receivers has two distinct advantages over remotecontrol installations of considerable expense, one of which is the cost factor itself, and the second is that John can listen to the ball game or prize fight while Mary tunes in something entirely different. With one central receiver it is, of course, impossible to tune in two separate stations at the same time.

The new Radio Map of North America will add immensely to your pleasure and satisfaction. It's large enough to put a ring around every city you hear, thus giving an interesting illustration of your results. Canada, Mexico, Central America and the West Indies receive the same consideration as the United States.

Behind the Mike

By Lyman W. Packard

EW people realize just what an undertaking it is to broadcast a program from the East. A local announcer is heard saying, "We will now transfer controls to New York where you will hear the —— orchestra." Click — and a jazzy New York orchestra fills the home with the latest popular music.

It all sounds very simple when sitting comfortably with slippers on, but when a break is heard, or a bad hum, or some other extraneous noise that mars reception, one is inclined to think someone between the loud speaker and New York is not attending to business. Immediately the listener calls up the radio station and says that something is wrong and that it is time to wake up. As a matter of fact, long before this, dozens of expert engineers are after the trouble, have probably located it, and are more than half way through rectifying it.

Between Los Angeles and New York, there are approximately twenty-five relay, or "booster" stations. These stations boost the volume of the program as it comes along so that it will be loud enough to be audible by the time it reaches Los Angeles. Every one of these "booster" stations is equipped with a good loud speaker where the program may be heard, and a "monitor man" whose duty is to listen to the loud speaker and note any unnecessary noises. Upon hearing an extraneous noise other than the regular program, this monitor immediately checks with the "booster" station before him by a private telegraph wire. This second "monitor man" does the same thing, and so on, until the trouble is found and eliminated.

Every time a program "goes bad," it does not mean someone has fallen asleep. There are a thousand and one things that could happen to the wires between here and New York. A careless driver could run into a telephone pole and knock down the wires carrying the program. A tree could fall on the wires and short circuit them. A storm could blow the wires down. A vaccum tube in one of the twenty-five "booster" stations, or the transmitting station, could burn

out. Each "booster" station has approximately five vacuum tubes operating in boosting a program, and a transmitting station has approximately fifty tubes. Add to this twenty-five tubes at the originating studio, and the result is two hundred vacuum tubes necessary to bring a program from New York. If just one of these tubes gives trouble, it ruins the program. Sometimes a tube does not burn out, but becomes noisy and causes bad pops in the program. The engineers must know just which one of these two hundred tubes is giving the trouble and replace it or the entire program may be ruined. Then, besides all of these probable troubles, there may be a leaky transformer, a poor choke coil, or dozens of other little things which spoil a perfectly good program.

Therefore, when a few annoying cuts or pops are heard in a program, let us realize that we are not the first to notice it. There are many competent engineers between here and New York who are already on the job and "after it."

Forty of the most promising girl singers in the United States will be developed for the concert and operatic stage under the personal direction of Ernestine Schumann-Heink, she announced yesterday.

Applicants, mostly those who have

been unable to obtain proper training, owing to lack of money, will be given auditions before Mme. Schumann-Heink starting October 1, in the National Broadcasting Company studios. The famous star is operatic counsel for the N. B. C.

An advertising agency, interested in broadcasting, has advanced a plan to establish a certified audition bureau, where applicants can be heard. The artist, however, will be required to pay an audition fee which is expected to be \$5 for each audition lasting from 10 to 15 minutes. Following the audition, the artist will be catalogued as to ability, under ratings headed, "excellent," "suitable" and "N. G." The bureau is expected to open within two weeks. Offices and studios have been leased and equipment is now being installed on the top floor of a Times Square office building.

At Grand Island, Neb., is a radio traffic officer whose beat covers all the United States.

The "traffic cop" is for the detection of stations which operate off their assigned frequency.

This is done by a veritable forest of telephone poles in which are strung hundreds of miles of wire which serve as an elaborate ear for the "air policemen."

MONEY-SAVING COMBINATIONS

The Radex Press 1367 East Sixth Street, Cleveland, Ohio. Enclosed find \$_____ for which send me postpaid my choice of your offers as checked below: One Radio Map of North America 25c One copy of the next RADEX ☐ Trial subscription, next five issues of RADEX \$1.00 One year's subscription to RADEX, 10 issues, and Radio Map free Two subscriptions to RADEX with one leatherette cover and Radio Map, both free. 3.50 .40 □ Leatherette Cover ☐ One copy "Radio Trouble Shooting," by E. R. Haan 3.00 Write Name Plainly Street and Number City and State 43

CROSSWORD LURE and Station Lore

How Well-Posted Are You in Radio?

T was just too bad that so many readers missed getting one of those new radio maps free by making one or more mistakes in their solution of the September puzzle. The most popular error (if it could be called that) seemed to be giving a Quebec station as the "City named for a great battle." It is true that a battle was fought in Quebec, but the battle was named for the city and not the city for the battle. The city that was referred to in the puzzle was Waterloo, Ontario.

A number of solutions of the September puzzle were received after the correct solution, which was published in the October issue, was in the hands of our subscribers. These, of course, could not be counted. We have had some letters from readers asking why they did not hear from their solutions. It is impossible for us to undertake to notify each puzzler personally. We suggest that the fans keep copies of their solutions and compare them with the correct

solution in the next issue of our magazine. If they have not received their reward they will undoubtedly find that they made one or more errors. If not, we should be glad to have it called to our attention.

Readers still continue to write us of the entertainment they get from these puzzles and so long as this interest continues we will give space to this feature. Several readers have submitted original puzzles of their own design and the best of these will be used as rapidly as possible. The puzzle this month is contributed by J. Csgood Andrews, Gypsy Trail Club, Carmel, N. Y., and one of those attractive leatherette covers for RADEX has been mailed Mr. Andrews in appreciation. An extra copy of the December RADEX will be mailed to each one successfully solving Mr. Andrews' puzzle.

We have received a number of lists of world stations made up from the 26 letters of the alphabet without duplication. There have been so many changes in foreign calls that these lists do not remain correct at the time of publica-

tion, and we are therefore printing no more of these solutions.

Here is the correct solution for the puzzle which appeared in October. Rewards will be mailed on October 20th, On which date the contest closes.

CPRY WKAQ K WOAX KDYL W GC WDAFDFW WF IOW WCALW WIL W CC W R CD A WOKO WFAN WCAE KREG K FC A W CW W WOC WQAMW KGB SP WHFCACW WA C WRAK LAGW L WORD URFK

Why not fill out the blank on the other side, too?

/	2	3		4	5	6		7	8	9
10			11	 	1		12			/3
14		15	16		17	18		19	20	2/
	22		23		24	1	25	26	27	
28	1	29	1	30	3/	32		33		34
35	1	36	37	38		34		40	41	42
43		44		45	46	47		48		49
	50	51	52	+	+		53	54	55	
56			57	58	59	60	61	+		62
6 3			64		15		66			67
48	69	70		7/	72	73	-	74/	75	76

Horizontal

1- 3. A Canadian telephone company. 4- 6. Loyola University.

7- 9. A northwest broadcasting system. 10-11. 50 watts on 1310.

12-13. Also on 1310.
14-16. Reverse. Owned by L. E. Cosculjuala.
16-18. Reverse. At 100 on most dials.
18-20. Johnson-Kennedy Corp.

18-20. Johnson-Kennedy Corp.
19-21. An N. B. C. outlet in Mo.
22-23. Columbus Commercial & Radio Co.
25-27. "The Nation's Station."
28-29. First and Last Woodmen of the World.
30-32. Last three of state agricultural college. 33-34. First and third of Columbia outlet.

33-34. First and unitd of Columbia outlet.
35-37. A gulf port.
36-38. A Cuban telephone company.
39-41. On the center channel.
40-42. Zero on most dials.
43-44. Second and third Canadian newspaper.
45-47. Last three most southern station in Texas.

48-49. Last two letters station on 1225. 50-52. Daytime in Missouri.

53-55. An N. B. C. outlet.

56-57. Airfan. 58-60. In N-15 on new map.

61-62. Reverse. In Oregon. 63-64. A police station. 66-67. In Havana.

68-70. A newspaper N. B. C. outlet. 71-73. Who is this?

74-76. First and third in Manitowoc.

Vertical

1-14. In central Canada. 2-22. In one of the cities of the same name separated by a state line.

3-15. In Tampico.

5-24. Shares time with two Chicago stations. 7-26. Operated by Ragsdale Auto.

8-27. Reverse. On the most crowded wave.
9-21. Last three of Dallas station.
11-23. Reverse. First three of N. Y. C. station.

12-25. In Mansfield.
15-29. Reverse. First three of Holt-Rowe station

17-31. 1000 watts in central California. 28-43. A Michigan newspaper. 29-51. Maine's best.

30-45. Last three of college for women. 32-47. First three of cherrio station.

33-54. Camith Corp. 34-49. Sister station of 71-73.

46-65. City famous for crew races. 50-69. Shares time with Johnstown auto company.

50-50. Shares time with Johnstown auto con 51-70. Reverse. In western Michigan. 52-64. Reverse. Dwight Faulding's station. 53-66. R. C. of A. station. 54-74. Reverse. In Auburn. 55-75. In western Maryland.

56-68. Shares wave with four N. Y. C. stations. 59-72. One of two stations in this state.

Beams of light, used for centuries by man only as weapon against darkness, are destined to lift great burdens from the shoulders of mankind in the industrial realm, Keith Kennedy told the Institute of Radio Engineers.

Already light rays controlling photoelectric cells are doing important jobs in industry and science, Mr. Kenney said, and vacuum tubes which measure thickness, noise, pressure and vibration are being widely used in the field of transportation.

Trying Out Triplets

Hooking Big Stations Together

After midnight synchronization tests. with three of the most important and highest powered broadcasting stations in the United States operating simultaneously on the same wave length have been extended to the daylight and early evening hours to determine whether such synchronized operation is practicable under normal broadcasting conditions.

Stations KDKA at Pittsburgh, WGY at Schenectady, and WEAF at New York have been linked together by telephone lines to operate for the next 30 days on WEAF's normal frequency of 660 kilocycles, carrying an identical network program under authority of the Federal Radio Commission, whose engineers are watching the tests carefully. The land-line hookup is necessary to hold the stations precisely on frequency in order to avoid interference

Station WEAF should be heard by its usual audience as before, but KDKA will use an auxiliary transmitter known as W8XT and WGY will use one known as W2XAG for the simultaneous broadcasts on 660 kilocycles. Their usual programs will be heard also on their regularly assigned wave lengths. Under the Commission's requirement, however, the experimental transmitters must identify themselves at frequent intervals during the synchronized broadcasts.

The tests, if successful, may point the way to future chain broadcasting on one wave length, although the heavy cost of the land-line connection for stations situated far apart geographically is a deterrent which must be overcome. National Broadcasting Company engineers, headed by C. W. Horn, are in charge of the tests which are being undertaken between these three stations first because they are in fairly close proximity.

Will Osborne, the band leader, has established a fund for encouraging young musicians who are seeking recognition in any field of music.

It is planned to create a \$10,000 endowment fund and to distribute 500 medals to child musicians the first year.

SCISSORS and PASTE POT

By the "PRETZELITE"

There is another McNamee in the NBC building; Tom, a page, who is sixteen years old.

Phil Cook claims an average of 18,000 letters a week, many being requests for songs.

The new CBS building has 60,000 miles of wire between its microphone, control panels, etc.

NBC figures that its yearly total of fan letters runs around 2,000,000.

A recent announcement shows that 15 types of receiving tubes, popular not so long ago, have been taken out of production as being obsolete.

Visitors are now being barred from viewing the artists in action in some of the large stations because of "mike-fright."

Loudspeaker operation of signals from W2XAF companion short wave transmitter of WGY, is reported from Yokohama, Japan, by Seiichi Nozaki. His letter said that he got up at 5:30 a.m. to get jazz music from America.

Listeners in New Zealand were included among those who heard the shot by shot report of the National Open golf tournament broadcast by KSTP. A letter just received from Alfred Greening, of Inglewoos, New Zealand, said: "certain portions of the account of the tournament came in very clearly over your station."

Mme. Ada Paggi, singer with the ravinia and civic opera companies, was fined \$15 for the "pot" shot she took at a neighbor.

The shot—with a flower pot—was an unmistakable protest on the diva's part against band music played on the radio at 6 o'clock in the morning. It was also unmistakable evidence of a deadly aim.

Supreme Court Justice Edward J. McGoldrick today dismissed the suit of Will Osborne, band leader, for \$500,000 damages for libel and an injunction against Rudy Vallee, E. P. Dutton & Company, publishers, and the New York Sun, to restrain further publication of Vallee's book, "Vagabond Dreams Come True." The suit was based upon charges that Vallee insinuated Osborne was an imitator.

After telling friends of his daily inspirational radio talks over radio station KY was "driving me crazy," Dudley Ayres, a former actor, shot and killed himself in his garage.

Ayres was production manager of the radio station. He was well known throughout the Pacific coast region and once was leading man at the Old Castle Square Theatre in Boston.

Several hundred army officers unable to converse in Spanish are to take a daily course by radio.

Quarters of all officers now serving as two-year students in the command and general staff school here have been fitted with radio loud speakers. The speakers are connected with a central receiving set.

Each day an instructor will give a half-hour Spanish lesson over the hookup. Student officers have been ordered to listen in.

She was only foolin'. No, Margaret Ekdahl, the Miss America of 1930, is not going to marry Will Osborne, powderpuff rival of Rudy Vallee. It was all good publicity until Will's regular sweetie got sore, and threatened to spill the beans.

Station KFJF was off the air recently for two hours because a snake crawled across two 66,000-volt wires, leaving charred remains which caused a short circuit.

					C—Columbia
CFRB	KOL	WBRC	WFAN	II WJDX	II WOW
960 C	1270 C	930 C	610 C	1270 N	590 N
CKAC	КОМО	WBT	WFBL	WJJD	wowo
730 C	920 N	1080 C	1360 C	1090 C	1160 C
CKGW	KPO	WBZ	WFBM	WJR	WPG
690 N	680 N	990 N	1230 C	750 N	1100C
KDKA	KPRC	WBZA	WFI	WJZ	WPTF
980 N	920 N	990 N	560 N	760 N	680 N
KDYL	KRLD	WCAE	WFIW	WKBN	WQAM
1290 C	1040 C	1220 N	940 C	570 C	560 C
KECA 1430 N	KSCJ	WCAH	WFJC	WKBW	WRC
KFAB	1330 C	1430 C	1450 N	1480 C	950 N
770 N	KSD	WCAO	WFLA	WKRC_	WREC
KFH	550 N	600 C	620 N	550 C	_600 C
1300 C	1130 N	WCAU	WGL	WKY	WREN
KFI	KSTP	1170 C	1370 C	900 N	1220 N
640 N	1460 N	810 C	WGN	WLAC	WRR
KFJF	KTAR	WCFL	720 N	1470 C	1280 C
1480 C	620 N	970 N	550 N	1260 C	WRVA
KFKX	KTHS	WCKY	WGST	WLBZ	USAI
1020 N	1040 N	1490 N	890 C	620 C	1330 N
KFPY	KTRH	WCSH	WGY	WLIB	WSB
1340 C	1120 C	940 N	790 N	720 N	740 N
KFRC	KTSA	WDAE	WHAM	WLIT	wsm \
610C	1290 C	1220 C	1150 N	560 N	650 N
KFSD	KVI	WDAF	WHAS	WLS	WSMB
600 N	760 C	610 N	820 N	870 N	1320 N
KGO	KVOO	WDAY	WHEC	WLW	WSPD
790 N	1140 N	940 C	1440 C	700 N	1340 C
KGW	KWK	l WDBJ	WHK	WMAK	WSUN
620 N	1350 N	930 C	1390 C	900 C	620 N
KHJ	KYW	WDBO	WHO	WMAL	LWTAG
900 C	1020 N	1120 C	1000 N	630 C	580 N
KHQ	WABC	WDOD	WHP	WMAQ	WTAM
590 N	860 C	1280 C	1430 C	670 C	1070 N
KLRA	WADC	WDSU	WIBO	WMC	WTAR
1390 C	1320 C	1250 C	560 N	780.N	780 C
560 C	WAIU	WEAF	WIBW	WMT	WTIC
KMBC	640 C	660 N	580 C	600 C	1060 N
950 C	1140 N	WEAN 780 C	WIOD 1300 N	WNAC	WTMJ
KMOX	WBAL	WEBC	WISN	1230 C	620 N
1090 C	1060 N	1290 N	1120 C ———	WNAX 570 C	WTOC
KOA	WBAP	WEEL	WJAR	WOAL	WWJ
830 N	800 N	590 N	890 N	1190 N	920 N
KOIL	WBBM	WENR	WJAS	WOC	WWNC
1260 C	770 C	870 N	1290 C	1000 N	570 C
KOIN	WBCM	WFAA	WJAX	WORC	WXYZ
940 C	1410 C	800 N	900 N ———	1200 C	1240 C
					1 24111

ENTER YOUR DIAL NUMBERS IN THESE SPACES

510	610	710	810	910	1010	1110	1210	1310	1410
520	620	720	820	920	1020	1120	1220	1320	1420
530	630	730	830	930	1030	1130	1230	1330	1430
540	640	740	840	940	1040	1140	1240	1340	1440
550	650	750	850	950	1050	1150	1250	1350	1450
560	660	760	860	960	1060	1160	1260	.1360	1460
570	670	770	870	970	1070	1170	1270	1370	1470
580	680	780	880	980	1080	1180	1280	1380	1480
590	690	790	890	990	1090	1190	1290	1390	1490
600	700	800	900	1000	1100	1200	1300	1400	1500

WHAT'S ON THE AIR TONIGHT?

A WEEKLY CALENDAR

Leading Features of the Network Programs

Time is given by Eastern Standard: For Central Time, subtract one hour; For Mountain Time, two hours; and for Pacific time, three hours.

Programs of the National Broadcasting Company begin with WEAF and WJZ; those of the Columbia Broadcasting System with WABC. Other stations are in alphabetical order.

These programs are correct to date but	are subject to change daily thereafter
Daily (Except Saturday and Sunday)	WBCM WBRC WCAO WCAU WCCO WDAY
	WDBJ WDOD WEAN WFBM WHK WHP WIBW WISN WJAS WKBN WKRC WLAC
6:45-8:00 Tower Health Exercises WEAF CKGW WCAE WEEI WFI WGR	WLBZ WMAL WMT WNAC WOWO WPG
WGY WRC	WREC WSPD WTAR WWNC WXYZ
8:15-8:30 Morning Devotions WEAF WAPI WCAE WCKY WCSH WFI	3:00-3:30 Columbia Salon Orchestra
WEAF WATT WORE WORT WORD WITH	WABC KFJF KFPY KLZ KMBC KOL KRLD KSCJ KVI WADC WAIU WBCM
WJAX WJDX WLS WOW WPTF WRC	WBRC WCAO WCAU WDAY WDBJ WDOD
WRVA WSUN WTAG WWJ	WEAN WFBM WGL WHEC WHP WIBW
8:30-9:00 Cheerio WEAF CKGW KPRC KSTP WAPI WCAE	WISN WKBN WKRC WLAC WLBZ WMAL WMT WNAC WORC WPG WREC WSPD
WCKY WCSH WDAF WEEL WFL WFLA	WTAR WWNC WXYZ
WGR WGY WHAS WIBO WIOD WJAR WJAX WJDX WMC WOAI WOW WPTF	5:00-5:30 The Lady Next Door
WRC WRVA WSB WSM WSUN WTAG	WEAF KSD WFAA WGR WHAS WRC
WTAM WWJ	WSM WTAG
9:00-9:15 The Quaker Man KPRC KSD KSTP KTHS KVOO WAPI	6:05-6:45 Black and Gold Room Orchestra WEAF WCAE WCSH WFAA WGY WHO
WDAF WEBC WFAA WHAS WHO WJDX	WJAR WOC WRC WTAG WWJ
WKY WLS WMC WOAI WOC WOW	6:45-7:00 Uncle Abe and David WEAF KSD WAPI WCAE WCSH WDAF
WSB WSM WSMB WTMJ 9:00-9:30 Something For Everyone	WEAF KSD WAPI WCAE WCSH WDAF WEBC WEEI WENR WFI WFJC WGY
WABC KDYL KFH KFJF KMBC KMOX	WHAS WHO WJAR WJDX WMC WOC
KSCJ WADC WBCM WBRC WDBJ WDOD WHP WJAS WLAC WMAQ WMT WPG	WOW WRC WSAI WSB WSM WSMB WTAG WTAM WTMJ WWJ
WREC WSPD WWNC WXYZ	6:45-7:00 Literary Digest Topics
9:00-10:00 Morning Melodies	6:45-7:00 Literary Digest Topics WJZ KDKA WBAL WBZ WBZA WFLA WHAM WIOD WJAX WLW WPTF WRVA
WEAF WAPI WGR WGY WHAS WOW WRC WRVA WSM WTAM WWJ	WHAM WIOD WJAX WLW WPTF WRVA WSUN
11:15-11-30 Radio Household Institute	7:00-7:15 Amos 'n' Andy
WEAF KFKX KPRC KSD KSTP KTHS	WJZ CKGW KDKA WBZ WBZA WCKY WFLA WHAM WIOD WJAX WJR WLW
KVOO WAPI WCAE WCSH WEBC WEEI WGR WGY WHAS WJAR WKY WLIT	WFLA WHAM WIOD WJAX WJR WLW WPTF WRC WRVA WSUN
WMC WOAI WRC WSAI WSB WSM	7:30-7:45 Phil Cook, Quaker Man
WSMB WTAG WTAM WTMJ WWJ	WJZ KDKA KECA KFSD KGO KGW KHQ KOA KOMO KSL KTAR KWK
12:00-12:30 Columbia Revue WABC KFJF KFPY KFRC KMBC KOL	WBZ WBZA WEBC WHAM WRC WREN
KSCJ KVI WADC WBRC WCAO WCAU	WTMJ
WDAY WDBJ WDOD WHEC WHP WIBW WISN WJAS WKBN WLBW WLBZ WMAL	11:15-11:30 Columbia's Radio Column WABC KFH KFJF KFPY KLZ KMBC
WMT WORC WOWO WPG WREC WSPD	KOL KSCI WRCM WRRC WCAO WCAII
WTAR WWNC WXYZ	WCCO WDAY WDBJ WDOD WEAN WFBM WIBW WISN WLBW WLBZ WMAL WMT
12:30-1:30 National Farm and Home Hour WJZ KDKA KFAB KFKX KOA KPRC	WIBW WISN WLBW WLBZ WMAL WMT WNAC WNAX WORC WPG WREC WTAR
KSTP KTHS KVOO WAPI WBAL WBZ	WWNC WXYZ
WBZA WDAF WEBC WFAA WFLA WHAM WHAS WHO WIOD WJAX WJDX WJR	11:30-11:45 Amos 'n' Andy KECA KFAB KFSD KGO KGW KHQ
WHAS WHO WIOD WJAX WJDX WJR WKY WLW WMC WOAI WOC WOW	KOA KOMO KPRC KSL KSTP KTHS
WPTF WRC WREN WRVA WSB WSM	KWK KYW WBAP WDAF WEBC WHAS
WSMB WSUN 12:30-1:30 Manhattan Tower Orchestra	WJDX WKY WMAQ WMC WOAI WREN WSB WSM WSMB WTMJ
WABC KDYL KFH KFJF KFPY KMBC	WOD WORLD WARE
KSCJ WADC WAIU WBCM WBRC WCAO	Sunday
WDAY WDOD WEAN WHP WIBW WISN WJAS WKRC WLAC WLBW WLBZ WMAL	1:30-145 Echoes of the Orient
WMT WORC WOWO WPG WREC WSPD	WJZ CKGW KFAB WBAL WLW WRC
WTAR WXYZ	WREN 1:30-2:00 Neapolitan Nights
1:30-2:00 Harold Stern and Ambassador Orchestra WABC KFKJ KFPY WADC WAIU WBCM	WEAF KGO KSD KSL WCAE WDAF
WBRC WCAO WDBJ WDOD WEAN WFAN	WHAS WHO WIBO WOC WOW WTAM
WHEC WJAS WKRC WLAC WLBZ WMAL WORC WOWO WSPD WTAR WWNC WXYZ	WWJ 1:30-2:00 Conclave of Nations
2:30-3:00 Columbia Educational Features	WABC KFPY KLZ KMBC KMOX KSCJ
WABC KDYL KFH KFJF KFPY KFRC	KVI WAIU WBCM WBRC WCAO WCAU WDAY WDBJ WDOD WHEC WHP WIBW
KLZ KMBC KSCJ KVI WADC WAIU	

WISN WKBN WLBZ WMAL WMT WORC WPG WREC WSPD WTAR WWNC WXYZ	WJDX WKY WLS WMC WOAI WRC WSAI WSB WSMB WSUN WTAG WTAM
2:00-3:00 Koxy Symphony Concert	
MIN WOLL WOLL WOLA WEBU WEAR	8:00-8:15 The World's Business WABC KDYL KFPY KFRC KHJ KLZ
WEIF WRU WREN WRVA WSB WSIIN	KMBC KOL KRLD KSCJ WADC WAIU WCAO WDAY WDBJ WDOD WEAN WFBM
2:00-3:15 Cathedral Hour	WHEC WHP WISH WISH WIAS WERN
KMOX KRLD KSCJ KVI WADC WBCM	WNAX WORC WREC WTAR WWNC WYVZ
WEAN WERM WHEC WHE WIDW WICK	5:00-5:15 Enna Jettick Maladias
WKBN WKRC WLAC WLBZ WMT WNAC WORC WPG WSPD WTAR WWNC WXYZ	KHQ KOA KOMO KPO KPRC KSL
2:30-3:00 NBC Artists Service Program WEAF KSD KSL WDAF WGY WLS	WAPI WBZ WBZA WCKY WEBC WFAA
WUW WIALT WW.	WFLA WHAM WHAS WIOD WJAX WJDX WJR WKY WMC WOAI WPTF WREN
3-00-4:00 National Youth Conference WJZ KDKA KFAB KFSD KGO KGW	WRVA WSB WSM WSMB WSUN WTMJ
KOA KSL KTHS KVOO KWK WRAL	WIZ KUKA KEL KOW KHO KOA
WJDX WJR WLS WLW WOAI WPTF	WBZA WHAM WJR WLW WREN
3:15-5:00 New York Philharmonic Orchestra	WEAF KPRC KSD KSTP KTHS KVOO
WABC KDYL KFH KFJF KFPY KFRC KHJ KLZ KMBC KMOX KRLD KSCJ	WCAE WCSH WDAF WEBC WELC WELA
WCAU WCCO WDAY WDBI WDOD WEAN	WJDX WKY WLIT WMC WOAI WOC
WCAU WCCO WDAY WDBJ WDOD WEAN WFBM WHEC WHP WIBW WISN WJAS WKBN WKRC WLAC WLBW WLBZ WMAQ	WSUN WRC WSAI WSB WSB WSMB
WMT WNAC WORC WOWO WREC WSPD	9:00-9:15 Our Government, David Lawrence
WTAR WWNC WXYZ 4:00-4:15 South Sea Islanders	WEAA WEIC WELA WCV WHAS WHO
WJZ KDKA KFAB KWK WBAL WBZ	WOAL WOC WOW WPTF WRC WSAL
4:00-5:00 Dr. S. Parkes Cadman	WSB WSM WSMB WSUN WTAG WTIC
WEAF KGO KGW KHO KOA KOMO	9:00-9:30 Majestic Theatre of the Air
WEBC WEEL WEAA WELC WELA WGR	KFPY KFRC KHJ KLRA KLZ KMBC
WJDX WKY WMC WOAI WOC WOW	WADC WBBM WBRC WRT WCAO WCAU
WTAG WWI	WCCO WDBJ WDEL WDOD WDSU WEAN
5:00-5:30 Rev. Donald Grey Barnhouse WABC KMOX KOIL KRLD WADC WCAU	WKBW WKRC WLAC WLRW WIRZ WMAT
WFBL WJAS WKBW WKRC WMAL WMAQ	WNAC WOWO WPG WTAR WWNC WXYZ
5:00-6:00 Davey Hour	9:15-10:15 Atwater Kent Hour WEAF CKGW KFI KGW KHQ KOA
WEAF CKCW KSD WCSH WGR WGY WHO WJAR WOC WOW WRC WSAI	KOMO KPO KSD KSL KSTP WAPI
WTAG 5:00-6:00 National Vespers	WGR WGY WHAS WHO WKY WMC
WJZ KFAB KGO KGW KHO KOA	WOAI WOC WOW WRC WSAI WSB WSM WSMB WTAM WWJ
WBAL WBZ WBZA WEBC WFLA WHAM	9:30-10:00 Markon Lab 1 11: D 1
WIOD WIAX WIDX WLW WMC WOAI	KMOX KOL KRLD KSCJ WCAO WCCO
5:30-6:00 The French Trio KDYL KFJF KFPY KLZ KMBC KSCJ	
KVI WADC WBRC WCCO WDAY WDBJ	WMAL WMT WNAC WNAX WORC WREC
WKBN WLRW WIRZ WMAI WMT WALG	10:00-10:30 Arabesone
WWNC WXYZ	KMOX WADC WBRC WCAO WDAY WDBJ
6:00-7:00 Catholic Hour	WISN WJAS WKBN WKRC WLAC WLRW
KOMO KPO KPRC KSD KSTP KTAR	WOWO WREC WSPD WTAP WYYZ
	10:15-10:45 Studebaker Champions
WHAS WHO WIOD WJAR WJAX WJDX	NOMO RELEVITAR WEST WITHE WEDG
WRVA WSAI WSB WSM WSMB WSUN WTAG WTMJ WWJ	WOW WRC WTAG WTAM WTIC WTMI
7:00-7:35 Iodent Big Brother Club	WWI
WEAF KSD WCAE WCSH WEBC WEEI WFJC WGR WHO WJAR WLIT WLS	10:30-10:45 Harbor Lights WJZ CKGW KDKA WHAM WHAS WJAX WJDX WJR WREN
WOC WOW WRC WSAI WTAG WTMJ	10:30-11:00 Around the Samovar
7:30-8:00 Williams Oilomatics	WABC WADC WCAO WCAU WDBJ WEAN WHEC WHK WIAS WKRN WIRW WIRZ
WD74 WCW WILLIAM WD2	WMAL WNAC WORC WPG WSPD WTAR
7:35-8:30 Major Bowes' Family WEAF KSD KSTP WCAE WCSH WDAF	10:45-11:15 Sunday at Seth Parker's
WFJC WFLA WGY WHAS WIOD WJAR	WEAF CKGW KFSD KGO KGW KHQ KOA KOMO KPRC KSTP KTAR KYW

WCAE WCSH WDAF WEBC WEEL WFI	WIBW WISN WJAS WLAC WLBW WLBZ WMAL WMAQ WMT WNAX WORC WPG WREC WSPD WTAR WWNC WXYZ
WFJC WGR WGY WHAS WHO WIOD WIAY WJDX WKY WMC WOC WOW	WREC WSPD WTAR WWNC WAIL
WDC WSB WSM WIAM WIMJ WWJ	8:30-9:00 Ingram Shavers WJZ CKGW KDKA KFAB KOA KPRC WJZ CKGW KDKA KYW WBZ WBZA
11:00-11:30 Coffee Hag Slumber Music WJZ KDKA KWK WBZ WBZA WENR WHAM WJR WLW WREN	WEBC WFAA WFLA WHAS WIOD WJAX
11:00-12:00 Back Home Hour	WJR WKY WLW WMC WOAI WREN WRVA WSB WSM WSMB WSUN WTMJ
WILD WCCO WDAY WDBJ WDOD	8:30-9:00 Mardi Gras
WFBM WHEC WIBW WISN WKBN WKRC WMAL WMT WNAX WPG WREC WTAR	KSCJ WADC WBCM WCCO WDAY WDBJ
WXYZ	WEDC WIAC WIRW WIRZ WMAL WMAQ
WEAF CKGW KOA KSTP WBAP WEBC WFJC WGR WGY WHAS WIOD WOW	9.20 0.30 A & P Gynsies
WRC WSB WTAM WWJ	WGN WGR WGY WHO WJAR WLIT
Monday	WOC WOW WRC WSAI WIAG WIAM WTIC WWJ
2 on 2.20 Phil Napleon and His Band	9:00-7:30 Maytag Orchestra
WBZA WHAM WREN WSB WSM	KOA KOMO KPRU KSL KSIP KIMS
3:30-4:00 Salon Singers WEAF KSD KSTP WFJC WGR WHO	WEBC WHAM WJDX WJR WKY WMC
WOC WRC	9:00-9:30 Minneapolis-Honeywell Symphony Hour WABC KMOC KMOX KOIL WADC WBBM WBT WCAO WCAU WCCO WEAN WFBL
WJZ CKGW KGO KOA KOMO KSTP KYW WAPI WBAL WFAA WHAM WJAX	WABC KMBC KNOL WADCOWEAN WFBL WHT WCAO WCAU WCCO WEAN WFBL WHK WISN WJAS WKBW WKRC WLBW
WJR WLW WREN WSB WSM WTMJ	WMAI WMAC WOWD WPG -WSPD WALL
WABC KDYL KEJF KEPY KERC KHJ KLZ KMBC KMOX KOL KRLD KSCJ	9:30-10:00 Chesebrough Real Folks WJZ CKGW KDKA KWK KYW WBZ
KVI WADE WATE WHEN WHE	BID 24 WHAM WIR WLW WREN
WOAL WIFE WIRW WISN WERE WLAC	9:30-10:00 Bourjois—Evening in Paris WABC KDYL KFIF KFFY KFRC KHJ KLZ KMBC KMOX KOIL KOIN KOL KPLD WADC WBBM WBT WCAO WCAU
WLBZ WMAL WMT WNAC WORC WPG	KLZ KMBC KMOX KOIL KOIN KOL KRLD WADC WBBM WBT WCAO WCAU WCCO WDSU WEAN WFBL WGST WHK
4 20 C.00 Wardman Park Hotel Urchesitä	WIAS WKBW WKRC WLBW WMAL WNAC
WABC KDYL KFJF KFPY KFRC KLZ KMBC KMOX KOL KRLD KSCJ KVI WADC WAIU WBCM WBRC WCAO WCCO	WOWO WPG WSPD WXYZ 9:30-10:00 General Motors Family Party WEAF KECA KFI KGO KGW KHQ
WDAY WDBJ WDOD WEAN WFAN WGL	KOA KOMO KPRU KSD KSL KSLI
WMT WNAC WORC WPG WREC WSPD	WORL WOV WHAS WHO WIAR WIAX
WTAR WWNC WXYZ 6:00-6:30 Mormon Tabernacle Choir WIZ CKGW KDKA KFAB KFSD KGO	WRC WSAI WSB WSM WTAG WTAM
KCW KOA KOMO KPO KSL KSTP	WTIC WTMJ WWJ
WRC WSM	10:00-10:30 Robert Burns Panatela Program WABC KDYL KFJF KFPY KFRC KHJ KLZ KMBC KMOX KOIL KOIN KOL
6:00-6:30 MacDougall Restaurant Orchestra WARC KDYL KFH KFJF KFPY KFRC	KRLD KTRH KTSA KVI WADC WBT
WABC KDYL KFH KFJF KFPY KFRC KLZ KMOX KOL KSCJ WBCM WBRC WCAO WCCO WDAY WDBJ WDOD WGL	WCAO WCAU WCCO WEAN WIBL WIDN WHK WJAS WKBW WKRC WLBW WMAI. WMAO WNAC WOWO WPG WSPD WXYZ
WCAO WCCO WDAY WDBJ WDDD WGL WHEC WHP WKBN WLBW WMAL WMT WREC WTAR WWNC WXYZ	10.00-10:30 Stromberg-Carlson Program
	WJZ KDKA KFI KFSD KGO KGW KHQ KOA KOMO KPRC KTAR KWK KYW WAPI WBZ WBZA WCKY WEBC
WACH WALL WROM WOAT WDAY	WELA WHAM WHAS WIOD WJAX WJDX
WISN WJAS WLBW WLBZ WMAL WMT	WFLA WHAN WHAS WIDD WALL WREN WRVA WSB WSM WSMB WSUN
7:30-8:00 Colonial Beaconlights	10:00-10:30 Moonshine and Honeysuckle WEAF KSD WCAF WCSH WDAF WGR
WEAF WCSH WEEI WGR WGY WJAR WTAG	WGY WJAR WOW WRC WTAG WWJ 10:30-11:00 Empire Builders WGA WGO KGW
7:45-8:00 Sinclair Program	WJZ KDKA KECA KIDO WOLL WOTD
WEDW WEDC WMAO WSPD WXYZ	KTAR KWK KYW WBAP WBZ WBZA
7:45-8:30 Roxy's Gang Program 7:45-8:30 Roxy's Gang Program WIZ OVGW KFAB KGO KGW KWK	WEBC WHAM WILL WILL
WBZ WBZA WHAM WIBO WSB WSM	WREN WTMJ 10:30-11:00 American Maize Program KDYL KFPY KFRC KHJ KLZ KNX KOIL KOL KSCJ WADC WBBM WCAH KOLL WOLL WHY WHP WISN WJAS
WEAF KECA KFSD KGO KGW KOA	KOIL KOL KSCJ WADC WBBM WCAH WCAU WDAY WHK WHP WISN WJAS
WDAF WFJC WFLA WHAS WHO WIOD	THE DAY WILLIAM WINT WHAT HOLD
WJAR WJAX WJDX WKY WOAI WOC WOW WPTF WRC WSAI WSMB WSUN	10:30-11:00 Symphonic Rhythm Makers WEAF WCAE WCSH WDAF WEEI WJAR WJDX WMC WOW WRC WSB WTAG
WTAG WTIC WWJ	WTAM WWJ
8:15-8:30 Burbig's Syncopated History WABC KDYL KFJF KFPY KMBC KRLD KSCJ KVI WADC WBCM WBRC WCAO	11:00-11:15 Will Osborne and His Orchestra WABC KDYL KFH KFJF KFPY KLZ KMBC KOL KSCJ WBCM WBRC WCAO
WCCO WDAY WDBJ WDOD WFBM WGL	KMBC KOL KSCJ WBCM WBRC WCAO

WCCO WDAY WDB. WISN WLBW WLBZ WORC WPG WREG 11:00-11:30 Hal Kemp's Orc	J WDOD WFBM WIBW Z WMAL WMT WNAX C WTAR WWNC WXYZ	WDAE WDBO WDSU WEAN WFBL WGST WHK WJAS WKBW WKRC WLAC WLBW WMAL WMAQ WNAC WOWO WPG WQAM WSPD WTOC WXYZ
WEAF KSD KSTP WEAF KSD KSTP WENR WGY WJDV WSAI WSB WSM 11:30-12:00 Bernie Cummins WEAF KSD KSTP	SANU DIS Urchestra	9:00-9:30 Tek Music WJZ CKGW KDKA KWK KYW WBAL
WOW WRC WWJ 11:30-12:00 Sammy Watkins WABC KDYL KFH KMBC KOL KSCI	and His Orchestra KFJF KFPY KLZ	WBDA WCAI WHAM WREN 9:00-9:30 Henry George WABC KFH KMBC KMOX KOIL WADC WBBM WCAO WCAU WCCO WEAN WFBL WFBM WHK WHP WISN WAS WKBW WWC WLBW WMAL WNAC WOWO WSPD
WCCO WDAY WDB, WIBW WISN WKR WNAX WORC WPG WXYZ 12:00-1:00 Phil Spitalny and WEAF KSD KSTP	WDOD WFBM WHK C WLBZ WMAL WMT WREC WTAR WWNC	9:00-9:30 Eveready Program WEAF KGO KGW KHQ KOA KOMO KSD KSL WCAE WCSH WEBC WEEI WFI WEIC WGN WGR WGY WILLS
WHO WKY WOC	WRC WSM WTAM	WRC WSAI WSB WSM WSMB WTAM
1 ue	sday	9:30-10:00 Happy Wonder Bakers WEAF KECA KGO KGW KHQ KOA
10:15-10:30 Through the Loo WJZ CKGW KDKA KVOO KWK WBZ WKY WLW WOAI 3:30-4:00 Golden Gems WEAF KSD KSTP	WEEL WEIC WELA	ROMO RPRC RSD RSL RSTP KVOO WBAP WCAE WCSH WDAF WEBC WEEI WFI WFJC WGR WGY WHAS WHO WIBO WJAR WJDX WKY WMC WOC WOW WRC WRVA WSAI WSB WSMB
WGR WJAX WOW	WSUN WTAG WTAM	WTAG WTAM WTMJ WWJ
WTIC 4:00-4:30 Italian Idyll WABC KDYL KFJF KMBC KMOX KRLD WAIU WBCM WBRC WDBJ WDOD WEAN WKRC WLAC WLBZ WORC WOWO WPG WXYZ	KFPY KFRC KLZ KSCJ KYI WADC	9:30-10:00 Philco Symphony Concert WABC CFRB KFH KFJF KMBC KMOX KOIL KRLD KTRH KTSA WADC WBRC WBT WCAO WCAU WCCO WDOD WDSU WEAN WFBL WFBM WGST WHEC WHK WISN WJAS WKBW WKRC WLAC WLBW WMAL WMAQ WMT WNAC WOWO WPG WREC WSPD WTAR WXYZ
4:00-5:00 Pacific Vagabonds WJZ KFAB KFSD		10:00-10:15 Enna Jettick Songbird WEAF KSD WCAE WCSH WDAF WEEL
WAPI WHAM WJAX 5:00-5:15 Rhythm Kings WARC KDVI VEU	KGO KGA KSTP WJR WLW WSM KFJF KLZ KMBC	WFI WFJC WGR WGY WHO WIBO WJAR WOC WOW WRC WSAI WTAG WTAM WWJ
KMOX KRLD KSCJ WCAO WCCO WDOD WKBN WLBZ WMAL WWNC WXYZ 7:15-7:45 Huston Ray and Hi	WAIU WBCM WBRC WFBM WHP WISN WMT WREC WTAR	10:00-10:15 Graybar's, Mr. and Mrs. WABC KDYL KPH KFJF KFPY KFRC KHJJ KLRA KLZ KMBC KMOX KOIL KOIN KOL KRLD KTRH KTSA KVI WADC WAIU WBBM WBRC WBT WCAO
KFH KFJF KFPY KMBC KRLD KSCJ WCAU WCCO WDAY WHP WIBW WISN WLAC WLBW WMAQ WREC WSPD WTAR	KFRC KHJ KLZ KVI WAII WBRC	WCAU WCCO WDBJ WDSU WEAN WFBL WFBM WGST WHEC WHK WISN WJAS WKBN WKBW WKRC WLAC WLBW WMAL WNAC WOWO WPG WREC WSPD WTAR WWNO WXYZ
WEAF WCSH WEEI WTAG		10:00-10:30 Westinghouse Salute WJZ KDKA KECA KFSD KGO KGW KHQ KOMO KPRC KSL KSTP KTAR KWK KYW WAPI WBAL WBZ WBZA WCKY WEBC WFLA WHAM WHAS WIOD
8:00-8:15 Troika Bells WEAF WDAF WEEI WWJ 8:00-8:30 Pure Oil Orchestra		WRVA WSB WSM WSMB WSUN WTMJ
WJZ KDKA KFAB WBAL WEBC WHAM	WREN WRVA WSB	10:15-11:00 Paramount Publix Radio Playhouse WABC CFRB KDYL KFH KFJF KFPY KFRC KHJ KLRA KLZ KMX KMOX KOIL KOIN KOL KSCJ KTRH KTSA WADC WBBM WBCM WNRC WBT WCAO WCAU WCCO WDAE WDAY WDBJ WDBO
WABC KMBC KMOX WBT WCAH WCAO WFBL WHEC WHK WLBW WLBZ WMAL WORC WPG WSPD 8:30-9:00 Florsheim Frolic	KOIL WADC WAIU WCAU WCCO WEAN WHP WJAS WKBW WMAQ WMT WNAC	WDOD WDSU WEAN WFBL WFBM WGST WHEC WHK WHP WIBW WISN WJAS WKBN WKBW WKRC WLAC WLBW WLBZ WMAL WMT WNAC WNAX WOWO WPG WQAM WREC WRR WSPD WTAR WTOC
WEAF KOA KPRC KTHS KVOO WBAP WEBC WFI WFLA WHAS WHO WIOD WKY WMC WOAI WRVA WSAI WSB WSB	KSD KSL KSTP WCAE WCSH WDAF WGN WGR WGY WJAR WJAX WJDX WOC WOW WRC WSM WSMB WSUN	10:15-11:00 Lucky Strike Orchestra WEAF KECA KFSD KGO KGW KHQ KOA KOMO KSD KTAR WCAE WCSH WDAF WEBC WEEI WFI WFJC WFLA WGR WHAS WHO WIBO WIOD WJAR WJAX WJDX WKY WMC WOAI WOC WRC WPV4 WSAI WSB WSB WSM WSB
WABC KDYL KFPY I	KFRC KHJ KLZ KOIN KOL KTRH WCAO WCAU WCCO	WSUN WTAG WTMJ WWJ 10:30-11:00 Cuckoo WJZ KDKA WBZ WBZA WCKY WJR WREN

| 11:00-11:15 | Anheuser-Busch | Program | KFIF | KLRA | KMBC | KMOX | KOIL | KTRII | WBBM | WCCO | WDOD | WDSU | WFBM | WHK | WHT | WREC | WRR | WSPD | WXYZ |

11:00-11:30 Duke Ellington and His Orchestra
WEAF KOA KSD KSTP WCAE WDAF
WFI WFJC WGY WHAS WJDX WMC
WOW WSAI WSB WSM WTMJ WWJ

11:30-12:00 Vincent Lopez and His Orchestra
WEAF CKGW KOA KSTP WFI
WJDX WOC WOW WRC

Wednesday

11:30-12:00 The Recitalists
WJZ KFAB KOA KWK WBAL WHAM
WSM

3:00-3:30 Matinee Gems
WJZ KDKA KWK WBAL WBZ WBZA
WHAM WJAX WJDX WREN WRVA

3:30-4:00 Syncopated Silhouettes
WABC KUYL KFJF KFPY
KSCJ KYI WADC WAIU WBCM WBCM
WCAO WCAU WCCO WDAY WDBJ WDOD
WKBN WKRC WHK WHP
WKBN WKRC WHAC WHAC WHAV WHSN
WORC WPG WREC WTAR WWNC WXYZ

WORC WPG WALL

4:00-5:00 Radio Guild

WJZ CKGW KFAB KGO KOA KSTP

KTHS WBAL WHAM WJAX WLW WMC

WPTF WRC WREN WSM

5:00-5:30 Footnotes
WABC KDYL KFH KFJF KLZ KMBC
KMOX KRLD KSCJ WAIU WBCM WBRC
WCAO WCCO WDAY WDOD WFAN WGL
WHP WISN WKBN WLBW WMAL WMT
WREC WTAR WWNC WXYZ

7:00-7:15 Crockett Mountaineers
WABC KFJF KFPY KFRC KHJ KLZ
KOL KSCJ KVI WAIU WBCM WBRC
WCAU WDAY WDBJ WDOD WFBM WHEC
WIBW WISN WJAS WKRC WLBW WLBZ
WMAL WMT WNAC WORC WREC WSPD

7:30-7:45 Evangeline Adams, Astrologer
WABC CFRB
KOIL KTRH WADC WAID
WCAO WCAU WCCO WDBJ WDOD WDSU
WEAN QFBL WFBM WGL WGST WHEC
WHK WISN WKBW WKRC WLAC WLBW
WMAL WMAQ WNAC WREC WRR WSPD

7:45-8:00 Back of the News in Washington

WEAF KECA KFSD KGO KGW KOA

KOMO KSD KSL WAPI WCAE WDAF

WFIC WGY WHO WIBO WKY

WOW WRC WRVA WSAI WSM WTAG

7:45-8:00 Eskimo Pie Program
WABC CKAC KMBC KMOX KRLD WBRC
WBT WCAO WCAU WCCO WGST WHEC
WHK WJAS WKBW WKRC WLAP WMAL

7:45-8:00 Dic-a-Doo Entertainers
WJZ CKGW KDKA KFAB KWK KYW
WBZ WBZA WEBC WHAM WREN WTMJ

8:00-8:30 East of Cairo
WEAF KGO KGW WCAE WDAF WEEI
WGR WIOD WJAR WJDX WOW WRC
WTAG WWJ

8:00-8:30 Yeast Foamers
WJZ KDKA KFAB KSTP KWK KYW
WBZ WBZA WEBC WHAM WJR WREN

8:15-8:30 Voice of Columbia
WABC KDYL KFH
KLZ KMBC KRLD KSCJ KVI WBCM
WCCO WDAY WDBJ WDOD WFBM WIBW
WISN WJAS WKRC WLAC WLBW WLBZ
WMAL WMT WNAC WNAX WORC WREC

8:30-9:00 Mobiloil Concert

WEAF KOA KPRC KSD KSL KVOO
WCAE WCSH WDAF WEBC WEEI WFAA
WFJC WGN WGR WGY WHO
WKY WLIT WOAI WOC WOW
WSAI WTAG WTAM WTIC WWJ

8:30-9:00 Forty Fathom Trawlers
WABC KMOX WADC WBT
WEAN WFBL WFBM WHEC
WJAS WKBW WKRC WLBW WMAL WMAQ
WNAC WOWO WPG WSPD WXYZ

8:30-9:00 Fifth Avenue Knights
WJZ CKGW KDKA KFAB KWK KYW
WBZ WBZA WHAM WLW WREN

9:00-9:30 Halsey, Stuart Program
WEAF CKGW KFI KGO
KOA KOMO KPRC KSD
KVOO KYW WCAE WCS KHQ KSL KSTP WCAE WCSH WHO WJAR WEEI WGR KV00 WGY WEEL WGR WJAX WLIT WHAS WHO WMC WOAI WOC WOW WRC WRVA WSMB WTAG WTMJ WSAI WSB WSM WWJ

WWJ
9:00-9:30 Gold Medal Fast Freight
WABC KDYL KFBK KFH KFJF KFPY
KFRC KHJ KLZ KMBC KMOX KOIL
KOIN KOL KRLD KSCJ WADC WBBM
WBT WCAO WCAU WCCO WDBJ WEAN
WFBL WFBM WHK WISN WJAS WKBW
WKRC WJAC WLAP WLBW WMAL WNAC
WOWO WPG WREC WSPD WTAR WXYZ

9:15-9:30 O'Cedar Time WJZ KDKA KWK WBZ WBZA WHAM WLS WREN

9:30-10:00 La Palina Smoker
WABC KMBC KMOX KOIL WADC WBBM
WBT WCAO WCAU WCCO WEAN WFBL
WHK WISN WJAS WKBW WKRC WLBW
WMAL WNAC WOWO WPG WREC WSPD
WXYZ

9:30-10:30 Camel Pleasure Hour
WJZ KDKA KWK KYW WBZ WBZA
WHAM WJR WLW WREN WRVA WSJS

9:30-10:30 Palmolive Hour KGW WEAF KECA KGO KOMO KPRC KSD KHQ KSTP KOA KSL KVOO WFAA WJAR WCAE WCSH WGR WGY WDAF WEEI WAPI WHAS WHO WGN WJAX WLIT WMC WOAI WOC WOW WSAI WSB WSMB WTAG WRC WSM WTIC WTMJ WWJ

10:00-10:30 Toscha Seidel and Concert Orchestra
WABC KDYL KFJF KFFY KLZ KMBC
KMOX KSCJ WADC WBCM WCAO WCCO
WDAY WDBJ WDOD WFBM WHEC WIBW
WISN WJAS WKBN WKRC WLAC WLBW
WLBZ WMAL WMAQ WMT WNAC WNAX
WORC WOWO WPG WREC WTAR WWNC
WXYZ

10:30-11:00 Coca Cola Program
WEAF CKGW KECA KFSD
KHQ KOA KOMO KPRC
KSTP KTHS KVOO KYW
WCSH WDAF WEBC WEEI
WHAS WHO WIOD WJARI KGW KGO KSD KSL WCAE WAPI WGR WGY WJAX WJDX WHO WLIT WJAR WOAI WOW WKY WMC WRC WRVA WSAI WTAM WTIC WWJ WSMB WTAG WSAI WSB

11:00-11:15 Will Osborne and His Orchestra
WABC KFH KFPY KMBC KMOX KSCJ
WBCM WCAO WCCO WDAY WDBJ WDOD
WFBM WHEC WIBW WISN WLBW WLBZ
WMT WNAX WORC WOWO WREC WTAR

11:00-11:30	Vincent 1	Lopez and	His Orc	heatra	
WEAF	KOA	ŔSD	KSTP	WCAE	WDAF
WFJC	WFLA	WGY	WHAS	WHO	WIOD
WJDX	WLIT	WMC	WOC	H,OM	WRC
WSAI	WSB	WSM	WSMB	WSUN	WTAM
337 337 T					

11:30-12:00 California Melodies
WABC KFH KFPY KHJ KMBC KSCJ
WBCM WBRC WCAO WCCO WDBJ WDOD
WEAN WFBM WHEC WHK WIBW WISN
WKBN WKRC WLBW WMAL WHT WNAC
WNAX WORC WREC WTAR WWNC WXYZ

Thursday

10:45-11:15 Gothan String Trio WEAF KFKX KOA KSD WCAE WEEI WGR WGY WHAS WJDX WRC WSM WTAG WWJ

4:30-5:00 Melody Magic
WABC KDYL KFJF KFPY KFRC KLZ
WABC KMOX KOL KRLD KSCJ KVI
WADC WAIU WBCM WBRC WCAO WCPO
WDAY WDBJ WDOD WEAN WFAN WHP
WISN WLAC WMAL WMT WNAC
WORC WOWO WPG WREC WTAR WWNC

5:00-5:30 In the Spotlight
WEAF KFSD KGO
KTAR WCAE WGR WHAS WHO WJAR
WKY WOC WRC WSAI WSM WSMB
WTAG WTAM WTIC

5:30-5:45 The Toddy Party
WEAF CKGW KSD KYW WCAE WCSH
WEEI WFJC WGR WGY WJAR WLIT
WRC WSAI WTAG WTIC WWJ

7:00-7:30 Mid-Week Federation Hymn Sing WEAF KOA WHAS WHO WIBO WJAR WMC WOC WWJ

7:30-8:00 Ward's Tip Top Club WABC KMOX WCAO WCAU WEAN WFBL WHK WJAS WKBN WNAC WXYZ

8:00-9:00 Fleischmann Hour-Rudy Vallee KGW KHO WEAF CKGW KECA KOA KOMO KPRC KGO KSTP KSL KSD KOA WCSH WBAP WCAE KTHS WAPI KTAR WEBC WFI WFJC WGN WEEI WDAF WIOD WHAS WHO WJAR WGY WGRWMC WRVA WOC WJAX WJDX WKY WOAI WSAI WSB WPTF WRC WOW WSMB WTAG WTAM WTMJ WWJ WSM

8:00-9:00 Lucky Strike Orchestra WJZ KDKA KFAB KWK KYW WBAL WHAM WJR WREN

8:15-8:30 Romany Patteran
WABC KDYL KFH
KSCJ WADC WAIU WBCM WCAO WCCO
WDAY WDBJ WDOD WFBM WIBW WISN
WJAS WKBN WKRC WLAC
WMAL WMAQ WMT
WREC WTAR WWNC WXYZ

8:30-8:45 Kaltenborn Edits the News
WABC KMBC KMOX KOIL WADC WBT
WCAO WCAU WCCO WEAN WFBL WJAS
WKBW WKRC WLBW WMAL WMAQ WNAC
WOWO WPG WSPD WXYZ

8:45-9:00 The Hamilton Watchman
WABC KMBC KMOX KOIL WADC WCAO
WCAU WEAN WFBL WHK WJAS WJJD
WKBW WKRC WBW WMAL WNAC WOWO
WSPD WXYZ

9:00-9:30 Van Heusen Program

WABC KMBC KMÖX KOIL

WBBM WBT WCAO WCAU WCCO WDSU

WEAN WFBL WGST WHEC WHK WHP

WJAS WRBW WKRC WLBW WMAL WNAC

WOWO WPG WSPD WXYZ

9:00-9:30 Arco Birthday Party WEAF CKGW KECA KGO KGW KHO KOMO KSD KSL KSTP KOA WDAF WGY WCAE WEBC WCSH WAPI WBAP WHO WGR WEEL WFI WFJC WMC WJAR WJAX WJDX WKY WIOD WOC WOW WPTF WRC WRVA WOAI WSMB WTAG WTMJ WSB WSM WSAL WW.I

9:00-9:30 Knox-Dunlap Orchestra
WJZ KDKA KWK WBAL WBZ WBZA
WCKY WHAM WIBO WREN

9:30-10:00 Jack Frost's Melody Moments
WEAF WCAE WCSH WFI WGR WGY
WIBO WJAR WRC WSAI WTAG WTAM
WWJ

9:30-10:00 Maxwell House Ensemble KDKA KECA KOMO KPRC WAPI WBAL KGW KHO KGO WJZ KSL KSTP KWK KOA WBZ WBZA WBAP KYW WEBC WHAM WHAS WIOD WJAX WOAI WPTF WKY WSMB WTMJ WRVA WSB WSM

9:30-10:00 Detective Story Magazine
WABC KMBC KMOX KOIL
WCAO WCAU WEAN WFBL WHK WJAS
WKBW WKRC WLBW WMAL WNAC WOWO
WSPD WXYZ

10:00-11:00 Victor Herbert Opera Series WJZ CKGW KDKA KWK WBAL WBZ WBZA WHAM WREN

10:00-11:00 RCA Hour KGW KGO KHQ WEAF CKGW KFI KOMO KPRC KSTP KSD KSLKOA WDAF KTHS WCAE WCSH KYW WAPI WEBC WEEL WGR WGY WJDX WKY WEBC WFAA WFJC WFI WFLA WHAS WMC WJAR WJAX WIOD WOAI WSM WOW WSMB WSUN WSB WRVA WSAI WTAG WTAM WTMJ WWJ

11:00-11:15 Will Osborne and His Orchestra
WABC KFH KFPY KMBC WBCM WBRC
WCAO WCAU WDAY WDBJ WDOD WFBM
WHEC WHP WIBW WISN WLBW WLBZ
WMT WNAX WORC WPG WREC WTAR
WWNC WXYZ

| 11:00-11:30 Palias d'Or Orchestra | WEAF KSD KSTP WCAE WDAF WFI WFIC WGR WHAS WHO WJDX WMC WOC WOW WRC WSAI WSB WSM WSM WSM WSM WSM

11:30-12:00 Duke Ellington and His Orchestra WEAF CKGW KSD KSTP WDAF WFI WFJC WJDX WOW WRC WWJ

11:30-12:00 Lloyd Huntley and His Orchestra
WABC KFH KFPY KLZ KMBC KMOX
WBCM WBRC WCAO WCAU WCCO WDAY
WDBJ WDOD WEAN WFBM WHEC WHP
WIBW WISN WKRC WLBW WMAL WMT
WNAC WNAX WORC WPG WREC WTAR

		Fri	dav				
11 00 10 00	Non					WAPI	WB
11:00-12:00	NBC M	usic Appr	eciation .	Hour		WHAS	WIC
WEAF	WJZ	CKGW	KDKA	KFAB	KOA	WLW	WM
KPRC	KSD	KSL	KSTP	KVOO	KWK	WSB	WSI
KYW	WAPI	WBAL		WBZA	WCAE		
WCSH				WENE	WFAA	10:00-10:30	
WFLA		WGR	WGY	WHAN	1 WHAS	WEAF	
WHO	WIBO	WIOD	WJAR	WJAX	WJDX	WTAG	
WJR	WKY	WLIT	WLW	WMC	WOAI	10 00 10	
WOC	WOW	WPTF	WRC	WREN		10:00-10:30	
WSAI	WSB	WSM	WSMB			WJZ	KDI
WTAM	WTMJ	WWJ				KOA	KON
1.00 2.00 D	.1.: 370	A 1			6	KYW	WB.
1:00-2:00 P: WEAF	alais C U					WHAM	WHY
WEAF		KYW	WGY	WHO	WOC	WREN	WSE
WILC	WIAM	WTMJ				10:00-10:30	D . J:
7:15-7:30 H	uston Ra	v and Hi	Orabase			WABC	KDY
KFH	KFJF	KFPY	KFRC	KHJ	KLZ	KLZ	KMO
KOL	KSCJ	ŔŸĨ	WAIU	WBCM		KVI	WAI
WCCO	WDAY		WDOD	WFBM	WGL	WDSU	WEA
WHEC		WIBW	WISN	WJAS		WHP	WJA
WLBW		WORC	WREC	WTAR	WKRC	WNAC	WOF
WXYZ	11 244 4	" Onc	WALC	WIAR	WWNC	WTAR	WXX
8:00-8:30 No	estle's Pr	ogram				10:30-10:45	Wrigh
WJZ	KDKA	KFAB	KWK	WBZ	WBZA	WABC	KME
WHAM	WIBO	WJR	WLW	WREN		WBT	WCA
9.00 0 00 00		_				WJAS	WKB
8:00-9:00 Cit WEAF	CIT OF	ce Conce				WOWO	WPG
KOA	CKGW	KECA	KGO	KGW	KHQ		-
KYW	KOMO	KPRC	KSD	KSL	KSTP	0:30-11:00 R	
	WCAE	WCSH	WDAF	WEBC	WEEI	WEAF	KFI
WFAA	WGR	WHO	WJAR	WKY	WLIT	KOA	KOM
WOAI	WOC	MOM	WRC	WSAI	WTAG	WCAE	WCS
WTAM	WTIC	WTMJ	WWJ			WGR	WGY
8:15-8:30 Gr	and Occ-	. Mini-				WJAX	WJD:
WABC	KDYL	KFH	ure KFJF	I Tara		WOAI	WOC
		KMDC		KFPY	KFRC	WSB	WSM

8:15-8:30 G	rand Ope	ra Minial	ure		
WABC	KDYL	KFH	KFJF	KFPY	KFRC
KHJ WADC	KLZ	KMBC		KSCJ	KVI
WHEC	WHP	WBCM	WDAY WISN	WDBJ WJAS	WDOD WKRC
WLAC	WLBW	WLBZ	WMAL	WMAQ	WARC
WNAX	WORC			WTAR	WWNC
WXYZ					

8:30-9:00 Columbia Male Chorus
WABC KDYL KFH KFJF KFPY KFRC
KLZ KMBC KRLD KSCJ WADC WBCM
WCCO WDAY WDBJ WDOD WEAN WGL
WHP WIBW WISN WJAS WKRC WLAC
WNAX WORC WTAR WWNC

8:45-9:00 Natural Bridge Program
WJZ KDKA KFAB KWK WBZ WBZA
WFLA WHAM WIBO WIOD WJAX WLW
WREN WRVA WSUN

9:00-9:30 Interwoven Pair CKGW KDAA KOMO KTAR KWK KYW WCKY WEBC WFAA WKY CKGW KDKA KECA KFSD KGO KGW KPRC KSL KSTP WAPI WBZ WBZA WHAM WHAS WJAX WJR WKY WREN WRVA WSB WIOD WLW WMC WOAI WSM WSMB

9:00-9:30 Cliquot Club Eskimos

WEAF KSD WCAE WCSH WDAF WEEI
WGR WGY WHO WIBO WJAR WLIT
WOC WOW WRC WSAI WTAG WTIC

9:00-10:00 True Story Hour
WABC KMBC KMOX KOIL WADC WCAO
WCAU WEAN WFBL WHK WJAS WKBW
WKRC WLBW WMAL WMAQ WNAC WOWO

9:30-10:00 Del Lampe's Eversharp Orchestra
WEAF KSD WCAE WCSH WDAF WEEI
WFJC WGN WGR WGY WHO WJAR
WLIT WOC WOW WRC WSAI WTAG

9:30-10:00 Armour Program

WJZ KDKA KPI KGO KGW KHQ

KOA KOMO KSL KSTP KWK KYW

WAPI WBZ WBZA WEBC WFAA WHAM WHOM WIOW WJAX WJDX WJR WKY WSB WSM WSMB WTMJ

10:00-10:30 Crime Prevention Program
WEAF KSD WCAE WCSH WJAR WRC

0:30-10:45 Wrigley Football Program
WABC KMBC KMOX KOIL WADC WBBM
WBT WCAO WCAU WEAN WFBL WHK
WJAS WKBW WKRC WLBW WMAL WNAC
WOWO WPG WSPD WXYZ

Theatre of the Air KFSD KG KGO KGW KHO 10 KSD KTAR WFJC KSL KTHS H WDAF WEEL WFLA WHO WIBO WIOD WJAR WKY WLIT WLW WMC WÔW WRC WRVA WSAI WSUN WTAG úВ WTAM WWJ

11:00-11:15 Will Osborne and His Orchestra
WABC KDYL KFH KFJF KFPY KLZ
KMBC KOL WBCM WBRC WCAO WDAY
WDBJ WDOD WIBW WISN WLBW WLBY
WMAL WMT WNAX WORC WREC WSPD
WTAR WWNC WXYZ
11:00-11-15 Ellis p

11:00-11:15 Elgin Program WJZ KDKA KECA KFAB KFSD KGO KGW KHQ KTHS КОМО KOA KPRC KSL KSTP KVOO KWK WBAP WBZ WHAM WIBO WBZA WEBC WIOD WJDX WKY WLW WMC WREN WRVA WSB WSM WSMB

11:00-12:00 Vincent Loper and His Orchestra
WEAF CKGW KOA KSD KSTP WCAE
WDAF WFJC WGY WHAS WHO WJDX
WJIT WMC WOC WOW WRC WSB
WSMB WTIC WWJ

Saturday

10:30-11:00 New World Salon Orchestra
WABC KDYL KFJF KMBC KRLD KSCJ
WADC WAIT WBCM WCAO WCAU WDAY
WDBJ WDOD WEAN WFBM WHEC WHK
WISN WJAS WKBN WLAC WLBZ WMAL
WMT WNAC WREC WWNC WXYZ

1:30-4:30 Football Rally
WABC KFJF KFPY WADC WAIU WBCM
WBRC WCAO WCAU WDBJ WDOD WEAN

WHEC WHP WJAS WKRC WLAC WLBW WLBZ WMAL WOWO WSPD WTAR WWNC

4:30-5:00 Spanish Serenade
WABC KDYL KFIF
KMOX KRLD KSCJ KVI WADC WAIU
WBCM WBRC WCAO WCCO WDAY WDBJ
WDOD WEAN WFAN WHP
WLAC WLBZ WMAL WHT
WPG WREC WSPD WTAR WWNC WXYZ

4:30-5:00 The Fusiliers
WEAF WCAE WCSH WEEI WGR WGY
WLIT WOW WTAG WTAM WTIC

4:45-5:00 Merry Makers WJZ KDKA KFAB KOA KWK KYW WBZ WBZA WHAM

5:45-6:00 Blue Aces WJZ KWK WHAM WHAS WMC WSB WSMB

6:00-6:15 The Jameses
WEAF CKGW KGO KGW KOA KSD
KTAR WCAE WFI WGY WHAS WJAR
WMC WOW WRC WWJ

6:00-6:15 Tom, Dick and Harry
WABC KDL KFH KFJF KFPY KLZ
WABC KCO KSCJ WADC WAIU WBCM
WBRC WCCO WDAY WDBJ WDDJ WFAN
WHEC WHK WHP WIBW WISN WKBN
WLBW WMT WREC WTAR WWNC

6:15-6:40 Smith Ballew and His Orchestra WJZ KFAB KWK WBZ WBZA

7:05-7:30 Whyte's Orchestra
WEAF KGO KGW KOA KSD WFI
WGR WGY WJAR WTIC WWJ

7:30-8:00 Pickard Family
W.IZ CKGW KDKA KFAB KWK KYW
WBZ WBZA WHAM WLW WREN

8:00-8:15 Dixies Circus
WJ% KDKA KPRC KSTP KVOO KYW
WBAL WBZ WBZA WHAM WKY WLW
WOAJ

8:00-8:30 Salon Singers
WEAF KSD WCAE WCSH WDAF WEE1
WFI WGR WGY WHO WIOD WJAR
WJAX WOC WOW WRC WSAI WSMB
WTAG WWJ

8:15-8:30 Rin-Tin-Tin Thriller WJZ KDKA KFAB KWK KYW WBAL WBZ WBZA WHAM WLW WREN

8:15-8:30 Dixie Echoes
WABC KDYL KFH KFJF KFPY KHJ
KMBC KSCJ WADC WBCM WCAO WDAY
WDBJ WDOD WFAN WHK
WJAS WKBN WKRC WLAC WLBW WLBX
WMAL WMT WNAX WORC
WSPD WTAR WWNC WXYX

8:30-8:45 Johns-Manville Fire Fighters

WABC CFRB KDYL KFH KLZ KMCB

KMOX KOIL KRLD KTRH WBRC WBT

WCAO WCAU WCCO WDSU WEAN WFBL

WNAC WOWO WPG WSPD WXYZ

8:30-9:00 Fuller Man

WJZ CKGW KDKA KECA KFAB KGO

KGW KDA KOA KOMO KPRC KWK

WBAL WBZ WBZA WHAM WIBO WJR

WKY WLW WREN

8:30-9:00 Sign of the Shell WCAE WCSH KSTP KSD WEAF KOA WDAF WEBC WENR WGR WJAR WJAX WGY WEEI WJDX WHO WIOD WHAS WPTF WRC WOW WMC WOC WLIT WSMB WTAG WSB WSM WSAI WRVA WITC WTMJ WWJ

8:45-9:00 Wallace Silversmiths
WABC KMBC KMOX WBT WCAU WCCO
WDSU WJAS WMAL WMAQ WNAC WRR

9:00-10:00 General Electric Symphony KFI KFSD KGO KOMO KPRC KSD KGW WEAF KFI KSTP KSL KOA WDAF WAPI WBAP WEEI WFI WCAE WCSH KTAR WGR WHAS WHO WERC WIBO WJAR WJAX WKY WMC WSAI WRVA WOW WRC WOC WSMB WTAG WTAM WTMJ WWJ

9:00-10:00 Hank Simons' Show Boat WABC KDYL KFH KFPY KFRC KMBC KMOX KOL KLZ KHI WDAY WADC WBCM WCAO WCAN WDBJ WDOD WEAN WHK WCAU WHP WIBW WISN WJAS WKBN WKRC WLAC WLBZ WMAL WMAQ WMT WNAC WORC WOWO WPG WREC WSPD WIBW WNAC WNAX WTAR

9:30-10:00 Dutch Masters Minstrels
WJZ KDKA KWK KYW WBAL WBZ
WBZA WHAM WJR WLW WREN

| 10:00-10:30 Chicago Variety Program | WABC KDYL KFH KFJF KFP KFRC KBL KBL KBC KMOX KOL KSCJ WADC WBCM WBRC WCAO WCAU WCCO WDAY WBW WBW WISN WJAS WLAC WXYZ | WALST WAL

10:00-11:00 Lucky Strike Orchestra WEAF KFI KFSD KGC KFI KFSD KGO
KOMO KPRC KSD
KVOO WAPI WCAE
WEEI WFAA WFI
WGR WGY WHAS KHQ KGW KSTF KSL KOA WCSH WDAF KŤĀR WFLA WFJC WEBC WIOD WHAS WHO WGN WJAX WJDX WOW WRC WKY WRVA WMC WOAL WJAR WSAI WSB WOC WSMB WSUN WTAG WTMJ

10:15-10:30 Broadway Lights WJZ KWK WCKY WREN

10:30-11:00 Jesse Crawford, Organ
WABC KDYL KFH KFJF KFPY KFRC
KHJ KLZ KMBC KOL KSCJ WADC
WBCM WBRC WCAO WCAU WDAY WDBJ
WDOD WEAN WFBM WHEC WHP WIBW
WISN WJAS WLAC WLBW WLBZ WMAL
WMT WNAC WNAX WORC WOWO WPG
WREC WSPD WTAR WWNC WXYZ

11:00-11:15 Troubadour of the Moon
WEAF KSTP WDAF WFI WHO WIOD
WJDX WOC WOW WRC WSAI WTAM
WWJ

11:00-11:30 Jack Denny and His Orchestra
WABC KDYL KFJF KFPY KFRC KLZ
KMBC KOL KRLD KSCJ WBCM WBRC
WCAO WDAY WDBJ WDOD WEAN WFAN
WFBM WHEC WHK WHP WISW WISN
WORC WPG WALL WMT WNAC WNAX
WORC WPG WREC WSPD WTAR WWNC

11:15-12:00 Bernie Cummins and His Orchestra
WEAF CKGW KOA KSD KSTP
WDAF WFI WFJC WGY WHO WJDX
WMC WOC WOW WRC WSB WSME

11:30-12:00 Guy Lombardo and His Orchestra
WABC KFJF KFPY KFRC KLZ
KMOX KOL KRLD KSCJ WBCM WBRC
WCAO WCAU WCCO WDAY WDBJ WDDJ
WFBM WHEC WHK WHP WIBW WISN
WKRC WLBW WLBZ WMAL WTW WNAC
WNAX WORC WPG WREC WSPD WTAR

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KEY

Frequency in kilocycles. Wave lengths in meters. Second column symbols: * Verifies receptions 2c; sends station stamp 10c; † Verifies 2c; no stamp; † Does not verify; § Did not reply. Third column shows night power in watts. Fourth column symbols: D, daytime only; §, Sunday only; Stations dividing time have same small figures; X means station has been granted permit to increase power; † means station has greater power during day; CP indicates station has construction permit only; Some Cuban and Mexican stations chain: CP in the column of the chain; Z has been granted permit to change frequency; Y given permit to move to another city.

540	kilo	eyele	es:	555.6 mete	rs
CKX XFA	. †	500		Brandon, Man	

550 kilocycles 545.1 meters

KFDY	+	500	1+	Brookings, S. D.
KFUO	*	500	2+	St. Louis, Mo.
KFYR	5	1000	1+	Bismarck, N. D.
KOAC		1000	- 1	Similarck, N. D.
KSD		500	2N	Syracuse, Ore.
WGR	*	1000	N	St. Louis, Mo. Buffalo, N. Y.
WKRC		1000	ĉ	Cincinnati, Ohio
XEY		105	547	Marid Vino
		100	J4/ .	Merida, Yucatan

34

560 kilocycles 535.4 meters

KFDM KLZ	÷-	500 1000	X+	Beaumont, Texas Denver, Colo.
KTAB WFI		1000	200	San Francisco, Cal
WIBO	C-	500 1000	1N+ 3+N	Philadelphia, Pa.
WLIT		500	1N	Chicago, Ill. Philadelphia, Pa.
WNOX WPCC	*	1000	\mathbf{x} +	Knoxville, Tenn
WQAM	*	500 1000	3S C	Chicago, Ill.
		1000	-	Miami, Fla.

570 kilocycles 526.0 meters

		- 5		OF OIL THE CELS
KGKO	*	250	+	Wieleise E II m
KMTR	*	500		Wichita Falls, Texas
KXA	*	500		Los Angeles, Cal. Seattle, Wash.
WEAO	+	750	1	Columbia Oli
WKBN		500	îc	Columbus, Ohio
WMAC		250	2	Youngstown, Ohio Syracuse, N. Y.
WMCA		500	3	New York City
WNAX		1000	č	Yankton, S. D.
WNYC		500	3	New York City
WSYR		250	2	Syracuse, N. Y.
WWNC	*	1000	C	Asheville, N. C.
			_	marieville, IV. C.

580 kilocycles 516.9 meters

CFCL		500	38	Toronto, Ont.
CHMA		250	4	Edmonton, Alta.
CKCL		500	3	Toronto, Ont.
CKNC		500	3	Toronto, Ont.
CKUA		500	4	Edmonton, Alta.
KGFX		200	Ď	Piome C D
KSAC		500	2+	Pierre, S. D.
WIBW	*	500	$\tilde{2} + C$	Manhattan, Kans.
WOBU		250	i	Topeka, Kansas
WSAZ		250		Charleston, W. Va.
			1	Huntington, W. Va.
WTAG	*	250	N	Worcester, Mass.

Manitoba Telephone System Sria. de Agricultura y Fomento

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Dominion Battery Co. Christian and Missionary Alliance The Dominion Battery Co. Canadian National Carbon Co., Ltd. University of Alberta Dana McNeil Dana Micreil State Agricultural College Topeka Broadcasting Assn., Inc. WOBU, Inc. WSAZ, Inc. Telegram Publishing Co.

590 kilocycles 508.2 meters Spokane, Wash. Lincoln, Nebr. Boston, Mass. Berrien Springs, Mich. Omaha, Nebr. Mexico City KHQ WCAJ WEEI WKZO WOW +N1000 500 1000 t 1000 Ď * 1000 1N 591 XFI 1000 Lynchburg, Va. 500 CP

Louis Wasmer, Inc. Nebraska Wesleyan University Edison Elec. Illuminating Co. WKZO, Inc. Woodmen of the World Sria. de Industria, Commercio y Trabajo Abe Cohen

600 kilocycles 499.7 meters Iroquois Falls, Ont. **CFCH** 250 500 500

Iroquois Falls, Ont.
Moose Jaw, Sask.
Fleming, Sask.
Havana, Cuba
Ottawa, Ont.
San Diego, Cal.
Storrs, Conn.
Baltimore, Md.
New York City
Waterloo, Iowa
Lawrenceburg, Tenn.
Memphis, Tenn. CJRM CJRW CMW CNRO 1000 595 3 500 * +N KFSD 500 WCAC WCAO WGBS 2+ C 250 250 2+ C 250 WMT 500 WOAN 500 1 Memphis, Tenn. WREC 500

Abitibi Power & Paper Co. Jas. Richardson & Sons, Ltd. Jas. Richardson & Sons, Ltd. Columbus Commercial & Radio Co. Canadian National Railways Airfan Radio Corp Conn. Agricultural College Monumental Radio, Inc. General Broadcasting System, Inc. Waterloo Broadcasting Co. WREC, Inc. WREC, Inc.

491.5 meters 610 kilocycles

San Francisco, Cal. Kansas City, Mo. Philadelphia, Pa. Philadelphia, Pa. Cleveland, Ohio KFRC WDAF WFAN 1000 C N 2C 1000 500 WIP 500 WJAY 500

Don Lee, Inc. Kansas City Star Co. Keystone Broadcasting Co., Inc. Gimbel Bros. Co. Cleveland Radio Broadcasting Corp.

620 kilocycles 483.6 meters

KGW 1000 +NPortland, Ore. Phoenix, Arizona +N 1+N KTAR WFLA WLBZ 500 Phoenix, Arizona Clearwater, Fla. Bangor, Maine St. Petersburg, Fla. Milwaukee, Wis. Monterrey, N. L. * 1000 C 1+N 500 WSUN 1000 WTMJ 1000 +NXET 500

Oregonian Publishing Co. KTAR Broadcasting Co. Chamber of Commerce Maine Broadcasting Co., Inc. Chamber of Commerce Milwaukee Journal Mexico Music Co.

630 kilocycles 475.9 meters

CFCT CJGX CNRA KFRU WGBF Victoria, B. C 500 500 Yorkton, Sask ---Moncton, N. B. 500 ī Columbia, Mo. 500 500 Evansville, Ind. 1 Washington, D. C. Jefferson City, Mo. Jalapa, Ver. +C WMAL 250 1+ 631 WOS 500 XFC 350

Victoria Broadcasting Association Winnipeg Grain Exchange Canadian National Railways Stephens College Evansville on the Air, Inc. M. A. Leese State Marketing Bureau Gobierno del Estado de Veracruz

468.5 meters 640 kilocycles

Los Angeles, Cal. Columbus, Ohio KFI WAIU WOI 5000 NX 500 Ames, Iowa 5000 638 Mexico City 2000

Earle C. Anthony, Inc. American Insurance Union State College of Agriculture Secretaria de Guerra y Marina

650 kilocycles 461.3 meters

Seattle, Wash. Nashville, Tenn. 100 5000 KPCB WSM N

Wescoast Broadcasting Co. National Life & Accident Ins. Co.

660 kilocycles 454.3 meters

Omaha, Neb. WAAW WEAF 500 York City 50000

Omaha Grain Exchange National Broadcasting Co., Inc.

670 kilocycles

447.5 meters Chicago, Ill. Mexico City WMAQ XEB 5000 1000 666

WMAQ, Inc. E. Buen Tono, S. A.

680 kilocycles 440.9 meters	
KFEQ * 2500 D St. Joseph, Mo. KPO † 5000 N San Francisco, Cal. WPTF * 1000 N Raleigh, N. C.	Scroggin & Co., Bank Hale Bros. & The Chronicle Durham Life Insurance Co.
690 kilocycles 434.5 meters	
CFAC 500 1 Calgary, Alta. CFCN 500 1 Calgary, Alta. CHCA 500 1 Calgary, Alta. CJCJ 500 1 Calgary, Alta. CJSC 5000 4 Toronto, Ont. CKGW 5000 2N Toronto, Ont. CNRC 500 1 Calgary, Alta. CPRY 5000 2N Toronto, Ont. NAA 1000 Arlington, Va. VAS 500 Louisburg, N. S.	The Calgary Herald Western Broadcasting Co. The Western Farmer Albertan Publishing Co., Ltd. The Evening Telegram Gooderham & Worts, Ltd. Canadian National Railways Canadian Pacific Railways U.S. Navy Canadian Marconi Co.
700 kilocycles 428.3 meters	
WLW * 50000 N Cincinnati, Ohio XEZ 500 697 Mexico City, Mex.	Crosley Radio Corp. Joaquin Zamacona
710 kilocycles 422.3 meters	
KMPC - 500 - Los Angeles, Cal. WOR - 5000 - Newark, N. J.	R. S. MacMillan Bamberger Broadcasting Service, Inc.
720 kilocycles 416.4 meters	52
WGN - 25000 N Chicago, Ill. 8WMC - 500 722 St. Johns, N. F.	Chicago Tribune Wesley United Church
730 kilocycles 410.7 meters	
CHLS - 50 1 Vancouver, B. C. CHYC - 5000 2 Montreal, Que. CKAC - 5000 2C Montreal, Que. CKCD - 50 1 Vancouver, B. C. CKFC - 50 1 Vancouver, B. C. CKMO - 50 1 Vancouver, B. C. CKWX † 100 1 Vancouver, B. C. CMK - 3000 - Havana, Cuba CNRM - 5000 2 Montreal, Que. XEN † 1000 731 Mexico City	W. G. Hassell Northern Electric Co., Ltd. La Presse Publishing Co., Ltd. Vancouver Daily Province United Church of Canada Sprott-Shaw Radio Co. A. Holstead & Wm. Hanlon Cuban Broadcasting Co., Hotel Plaza Canadian National Railways Compania Civil de Inversiones Urbanas
740 kilocycles 405.2 meters	56
WSB 1000 Clay Center, Neb. Atlanta, Ga.	The M. M. Johnson Co. Atlanta Journal Co.
750 kilocycles 399.8 meters	
TIX 50 San Jose, Costa Rica WJR † 5000 N Detroit, Mich.	WJR, The Goodwill Station, Inc.
760 kilocycles 394.5 meters	
KVI - 1000 C Tacoma, Wash. WEW - 1000 D St. Louis, Mo. WJZ † 30000 N New York City	Puget Sound Broadcasting Co., Inc. St. Louis University Radio Corp. of America, Inc.
770 kilocycles 389.4 meters	
CMI 500 775 Havana, Cuba KFAB 5000 1N Lincoln, Nebr. WBBM 25000 1C Chicago, III. WJBT 25000 1S Chicago, III. XED 2000 769 Reynosa, Tams.	Instituto Provincial KFAB Broadcasting Co. The Atlas Co., Inc. The Atlas Co., Inc. Alfonso Dominquez
780 kilocycles 384.4 meters	
CKY - 5000 3 Winnipeg, Manitoba CNRW - 5000 3 Winnipeg, Manitoba KELW - 500 2 Burbank, Cal.	Manitoba Telephone System Canadian National Railways Union Bank & Trust Co.
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INDEX BY FREQUENCIES A	ND DIAL NUMBERS	
KTM	Pickwick Broadcasting Corp. Shepard Broadcasting Service, Inc. Wisconsin State Journal Bdcsg. Co. Memphis Commercial-Appeal WTAR Radio Corp. WTAR Radio Corp. Mexico Music Co.	
790 kilocycles 379.5 meters		
CMHC 500 791 Tuinucu, Cuba KGO 7500 N San Francisco, Cal. WGY 50000 N Schenectady, N. Y.	Frank H. Jones National Broadcasting Co., Inc. General Electric Co.	KCYS.
800 kilocycles 374.8 meters		880
WBAP * 10000 1XN Fort Worth, Texas WFAA - 50000 1N Dallas, Texas XEU - 101 - Veracruz, Mex.	Carter Publications, Inc. News & Journal Natalio Ulibarri	MTRS. 340.7 DIAL
810 kilocycles 370.2 meters		
WCCO - 7500 C Minneapolis, Minne WPCH - 500 D New York City	Northwestern Broadcasting, Inc. Eastern Broadcasters, Inc.	
820 kilocycles 365.6 meters	47	
WHAS † 10000 N Louisville, Ky.	Courier-Journal & Times	
	al.5	7.
830 kilocycles 361.2 meters CMGA	Leopoldo V. Figueros National Broadcasting Co., Inc. Matheson Radio Co., Inc. University of Florida	
840 kilocycles 356.9 meters		
CFCA † 500 1 Toronto, Ont. CHCT - 1000 - Red Deer, Alta. CKLC - 1000 2 Red Deer, Alta. CMC - 500 - Havana, Cuba CNRD - 1000 2 Red Deer, Alta. CNRT - 500 1 Toronto, Ont. WGM - 100 3 Adamsburg, Pa. WOOP - 100 3 Jeannette, Pa. XEM - 500 - Tampico, Tams. XFX - 500 - Mexico City, Mex.	Star Publishing & Ptg. Co. G. F. Tull & Ardern, Ltd. Alberta Pacific Grain Co., Ltd. Cuban Telephone Co. Canadian National Railways Canadian National Railways Pioneer Broadcasting Co., Inc. Oakford-Olympia Park Corp. Herbert A. Denny y Cia. Secretaria de Educacion Publica	CUT OUT ON DOTTED LINES
850 kilocycles 352.7 meters		2
KWKH * 10000 1 Shreveport, La. NBA 750 846 Balboa, Canal Zone WWL * 5000 1 New Orleans, La.	Hello World Broadcasting Corp. United States Navy Loyola University	DOTT
860 kilocycles 348.6 meters		EB
KMO - 500 + Tacoma, Wash. WABC - 5000 XC New York City WHB * 500 D Kansas City, Mo. XEI - 101 857 C. Juarez, Chih.	KMO, Inc. Atlantic Broadcasting Corp. WHB Broadcasting Co. Juan G. Buttner	LINES
870 kilocycles 344.6 meters	40	
WENR - 50000 1N Chicago, III. WLS - 5000 1XN Chicago, III.	Great Lakes Broadcasting Co. Agricultural Broadcasting Co.	
880 kilocycles 340.7 meters		
CHCS - 10 4 Hamilton, Ont. CHML - 50 4 Hamilton, Ont. CHRC - 100 3 Quebec, Que. CJCB - 50 Sydney, N. S. CKCI † 22.5 3 Quebec, Que. CKCV † 50 3 Quebec, Que. CKOC - 50 4 Hamilton, Ont. CNRQ † 50 3 Quebec, Que. KFKA † 500 2+ Greeley, Colo. KLX - 500 Oakland, Cal.	The Hamilton Spectator Maple Leaf Radio Co., Ltd. E. Fontaine N. Nathanson Le "Soleil," Ltd. G. A. Vandry Wentworth Radio & Auto Sply. Co., l Canadian National Railways Midwestern Radio Corp. Tribune Publishing Co.	Ltd

Pillar of Fire. Inc.

Denver, Colo.

KPOF

•940 kilocycles

1000 300 1000

1000 1000 750 COCCOC

KGU KOIN WAAT WCSH WDAY WFIW WHA 500

WCOC - 500 WGBI * 250	Scranton Pa	Mississippi Broadcasting Co., Inc. Scranton Broadcasters, Inc.
WQAN * 250 WSUI * 500) 1 Scranton, Pa.	Scranton Times University of Iowa
890 kilocyc	eles 336.9 meters	
CFBO * 50	St. John, N. B.	C. A. Munro, Ltd.
CKCO 100 KFNF 500	Ottawa, Ont.	Dr. G. M. Geldert
KFNF - 500 KGJF * 250	Visal D. 1 A 1	Henry Field Co.
KUSD * 500		Church of the Nazarene University of South Dakota
WGST 250	1+C Atlanta, Ga.	Georgia School of Technology
WILL * 250 WIAR * 250	2+ Urbana, III.	University of Illinois
WJAR * 250	+N Providence, R. I.	The Outlet Co.
WJAR * 250 WKAQ 500 WMAZ † 250		Radio Corp. of Porto Rico
WMAŽ † 250 WMMN * 250	+ Fairmount, W. Va.	Junior Chamber of Commerce Holt-Rowe Novelty Co.
XES † 500	Tampico, Mexico	Difusora Portena XES
900 kilocyc	les 333.1 meters	2 7 1
CMX * 250	II	E
KGBU † 500		Francisco Lavin Alaska Radio & Service Co.
KHJ * 1000	C Los Angeles, Cal.	Don Lee, Inc.
	Pocatello, Idaho	KSEI Broadcasting Association, Inc.
WBEN 1000 WJAX * 1000	Buffalo, N. Y.	Dullaio Evening News
WKY * 1000	N Jacksonville, Fla N Oklahoma City	City of Jacksonville WKY Radiophone Co.
WLBL * 2000	D Stevens Point, Wis.	Wisconsin Dept. of Markets
910 kilocycl	les 329.6 meters	
CHOC KOO		The Electric Shop, Ltd.
CJGC * 500 CNRL * 500	London, Ont.	Free Press Printing Co., Ltd.
		Canadian National Railways
		Canadian National Railways
920 kilocycl		3 4
CMHD 250 HHK 1000	Caibarien, Cuba	Manuel A. Alverez
KFEL † 500	Port au Prince, Hait Denver, Colo.	A Republic of Haiti
KFXF * 500	1 Denver, Colo.	Eugene P. O'Fallon, Inc.
KOMO † 1000	1 Denver, Colo. N Seattle, Wash. +N Houston, Texas D Chicago, Ill.	Colorado Radio Corp. Fisher's Blend Station, I.i.c.
KPRC - 1000 WAAF - 500	+N Houston, Texas	Houston Printing Co.
WBSO 500	D Chicago, Ill. D Wellesley Hills, Mass	Houston Printing Co. Drovers Journal Publishing Co. Babson Statistical Organization, Inc. The Detroit Name
WWJ † 1000 XEX - 500	D Wellesley Hills, Mass N Detroit, Mich.	The Detroit, News
XEX 500	923 Mexico City, Mex.	Excelsior Cia Editorial S. A.
XFE 250	923 Villa Hermosa, Tab.	Gobierno Del Estado d Tobasco
930 kilocycl		52
CJCA * 500 CFRC 500	4 Edmonton, Alta.	The Edmonton Journal, Ltd.
CFRC 500 CHNS * 500	Kingston, Ont. Halifax, N. S.	Oueen's University
CKIC 50		Halifax Herald, Ltd.
CKPR 50	o Midland, Ont.	Acadia Academy Midland Broadcasting Corp.
CNRE 500	4 Edmonton, Alta.	Canadian National Railways
CNRH 500 KFWI 500	Halifax, N. S.	Canadian Nation! Railways
KGBZ 500	San Francisco, Cal. 2+ York, Nebr.	Radio Entertainments, Inc.
KMA * 500	2+ Shenandoah, Iowa	Dr. George R. Miller
KROW 500	1+X ()akland Cal	May Seed & Nursery Co. Educational Broadcasting Corp.
WBRC 500 WDBJ * 250	+C Birmingham, Ala.	Birmingham Broadcasting Co. Inc.
WDBJ * 250 WIBG 50	+C Birmingham, Ala. +C Roanoke, Va. D Elkins Park, Pa.	Birmingham Broadcasting Co., Inc. Richardson-Wayland Elec. Corp. St. Pauls P. E. Church
040 1 11 1	D Elkins Park, Pa.	St. Pauls P. E. Church

Marion A. Mulrony KOIN, Inc. Bremer Broadcasting Corp. Congress Square Hotel Co. WDAY, Inc. WFIW, Inc. University of Wisconsin

319.0 meters

Honolulu, Hawaii Portland, Ore. Jersey City, N. J. Portland, Maine Fargo, N. D. Hopkinsville, Ky. Madison, Wis.

INDEX BY FREQUENCIES A	ND DIAL NUMBERS	
950 kilocycles 315.6 meters	33	
CMCQ - 500 955 Havana Cuba KFWB * 1000 - Hollywood, Cal. KGHL - 1000 - Billings, Mont. KMBC * 1000 C Kansas City, Mo. WRC † 500 N Washington, D. C.	Andres Martinez Warner Bros. Broadcasting Corp. Northwestern Auto Supply Co., Inc. Midland Broadcasting Co., Inc. Radio Corp. of America	
960 kilocycles 312.3 meters		
CFCY * 250 1 Charlottetown, P. E. I. CFRB 4000 2C Toronto, Ont. CHCK 30 1 Charlottetown, P. E. I. CHWC 500 3 Pilot Butte, Sask. CJBR 500 3 Regina, Sask. CKCK † 500 3 Regina, Sask. CNRR 500 3 Regina, Sask. CNRX 4000 2 Toronto, Ont.	The Island Radio Co. Rogers-Majestic Corp., Ltd. W. E. Burke R. H. Williams & Sons. Ltd. Cooperative Wheat Producers, Ltd. Leader Publishing Co., Ltd. Canadian National Railways Canadian National Railways	
970 kilocycles 309.1 meters		
KJR * 5000 Seattle, Wash. XEH 101	Northwest Broadcasting System, Inc. Ing. Constantino de Tarnava Chicago Federation of Labor	ксүs, 1040
980 kilocycles 305.9 meters		MTRS.
KDKA - 50000 N Pittsburgh, Pa. XEO - 101 983 Mexico City	Westinghouse Elec. & Mfg. Co. F. Armida y Cia.	288.3 DIAL
990 kilocycles 302.8 meters		
WBZ * 15000 1NY Springfield, Mass. WBZA * 500 1NY Boston, Mass.	Westinghouse Elec. & Mfg. Co. Westinghouse Elec. & Mfg. Co.	
1000 kilocycles 299.8 meters	32	İ
KFVD - 250	Los Árgeles Broadcasting Co. Central Broadcasting Co. Central Broadcasting Co. Carlos Gutierrez M.	1 1 0 1c 1
1010 kilocycles 296.8 meters		
CFLC 50 3 Prescott, Ont. CKCR 50 3 Waterloo, Ont. CMBZ 100 Havana, Cuba CMCF 250 Havana, Cuba KGGF 500 2Y Picher, Okla. KGW * 500 San Jose, Cal. WHN 250 1 New York City WIS 500 2 Norman, Okla. WPAP 250 1 New York City WOAO 250 1 New York City WOAO 250 1 New York City WOAO 250 1 New York City WRNY 250 1 New York City	Radio Association John Patterson Manuel y G. Salas Raul Karmen Powell & Platz Pacific Agricultural Foundation, Ltd. Marcus Loew Booking Agency George T. Barnes, Inc. University of Oklahoma Calvary Baptist Church Calvary Baptist Church Aviation Radio Station, Inc.	CUT OUT ON DOTTED LINES
1020 kilocycles 293.9 meters	27	TTEL
KFKX 10000 1N Chicago, III. KYW 10000 1N Chicago, III. WRAX 250 D Philadelphia, Pa.	Westinghouse Elec. & Mfg. Co. Westinghouse Elec. & Mfg. Co. Berachah Church, Inc.	LINE
1030 kilocycles 291.1 meters CFCF 500 Montreal, Oue.	Canadian Marconi Co.	S
CNRV 500 Vancouver, B. C.	Canadian National Railways	
1040 kilocycles 288.3 meters		
KRLD * 10000 1 C Dallas, Texas KTHS \$ 10000 1N Hot Springs, Ark. WKAR _ 1000 D East Lansing, Mich. WMAK _ 1000 C Buffalo, N. Y.	KRLD Radio Corp. Chamber of Commerce Michigan Agricultural College Buffalo Broadcasting Corp.	1 1 1 6 8 8 8

	of PREQUENCIES A	AD DIRE NOMBERO
1050 kilocycles	285.5 meters	26
KFKB * 5000 X	Milford, Kansas Hollywood, Cal.	KFKB Broadcasting Assn., Inc. Western Broadcast Co.
1060 kilocycles	282.8 meters	
KWJJ - 500 WBAL * 10000 1N WJAG * 1000 WTIC † 50000 1N	Portland, Ore. Baltimore, Md. Norfolk, Nebr. Hartford, Conn.	KWJJ Broadcast Co., Inc. Consolidated Gas Elec. & Pwr. Co. Norfolk Daily News Travelers Broadcasting Service Corp.
1070 kilocycles	280.2 meters	
KJBS * 100 D WCAZ - 50 D WDZ - 100 D WTAM * 50000 N XER - 101 1071	San Francisco, Cal. Carthage, Ill. Tuscola, Ill. Cleveland, Ohio Mexico City	Julius Brunton & Sons Co. Superior Broadcasting Service James L. Bush WTAM, Inc. F. Armida y Cia
1080 kilocycles	277.6 meters	
WBT * 5000 C WCBD * 5000 1 WMBI - 5000 1	Charlotte, N. C. Zion, Ill. Chicago, Ill.	Station WBT, Inc. Wilbur Glenn Voliva Moody Bible Institute
1090 kilocycles	275.1 meters	
KMOX * 50000 1CX XEL 10	St. Louis, Mo. Saltillo, Coah.	Voice of St. Louis, Inc. Antonio Garza Castro
1100 kilocycles	272.6 meters	
KGDM * 250 DX WLWL * 5000 1 WPG 5000 1C	Stockton, Cal. New York City Atlantic City, N. J.	E. F. Peffer Missionary Society of St. Paul WPG Broadcasting Corp.
1110 kilocycles	270.1 meters	
KSOO * 2000 WRVA * 5000 N	Sioux Falls, S. D. Richmond, Va.	Sioux Falls Broadcasting Assn., Inc. Larus & Bros. Co., Inc.
1120 kilocycles	267.7 meters	
CFJC - 15 15 CHGS * 100 CJOC - 50 KFIO † 100 D KFIO * 500 3 KMIC * 500 3 KMIC * 500 2C WDBO * 500 + C WDBO * 500 + C WDBU * 250 + X WHAD * 250 1 WTAW - 500 2 C CHDS * 250 CP - 150 CP - 10 CPD	Kamloops, B. C. Summerside, P. E. I. Lethbridge, Alta. Spokane, Wash. Los Angeles, Cal. Inglewood, Cal. Seattle, Wash. Houston, Texas Orlando, Fla. Wilmington, Del. Milwaukee, Wis. Milwaukee, Wis. College Station, Texas Rayne, La. Haynesville, La.	N. S. Dalgleish & Sons R. T. Holman, Ltd. Harold R. Carson Spokane Broadcasting Corp. Echo Park Evang. Assn. Dalton's, Inc. Radio Sales Corp. Rice Hotel Orlando Broadcasting Co., Inc. WDEL, Inc. Marquette University Evening Wisconsin Co. Agricultural & Mech. College Ber, Killmer & Bailey C. C. Crawford
1130 kilocycles	265.3 meters	2-3
KSL - 5000 N WJJD - 20000 C WOV - 1000 D XEF - 105 1131	Salt Lake City Mooseheart, III. New York City Oaxaca, Oax.	Radio Service Corp. of Utah Loyal Order of Moose International Broadcasting Corp. Frederico Zorrila
1140 kilocycles	263.0 meters	
KVOO * 5000 1N WAPI 5000 1N	Tulsa, Okla. Birmingham, Ala.	Southwestern Sales Corp. Alabama Polytechnic Institute
1150 kilocycles	260.7 meters	20
CMHA 200 1154 WHAM * 5000 N	Cienfuegos, Cuba Rochester, N. Y.	Jose Ganduxe Stromberg-Carlson Tel. Mfg. Co.
	[142]	Chomotig-Carison 1ch mg, Co.

1160 kilocycles

258.5 meters

10000 5000 Ft. Wayne, Ind. Wheeling, W. Va.

Main Auto Supply Co. West Virginia Broadcasting Corp.

1170 kilocycles

5000 10000

256.3 meters Muscatine, Iowa

Norman Baker

KEX 5000 KOB WDGY 20000 1000 WHDI 500 Philadelphia, Pa.

Universal Broadcasting Co

1180 kilocycles 254.1 meters

Portland, Ore. State College, N. M. Minneapolis, Minn. Minneapolis, Minn.

Western Broadcasting Co. College of Agriculture & Mech. Arts Dr. George W. Young Wm. Hood Dunwoody Industrial Inst.

1190 kilocycles

WRBL

WWAE

XEA

10-BP

50

100

101

25

8--

252.0 meters Bridgeport, Conn. San Antonio, Texas

Bridgeport Broadcasting Station, Inc. Southern Equipment Co.

1200 kilocycles 249.9 meters

Paragould, Ark. Gunnison, Colo. Marshalltown, Iowa KFHA KFJB KFWF KGCU 50 100 - -+ St. Louis, Mo. Mandan, N. D. Fergus Falls, Minn. 100 100 100 KGDE + rergus Fails, Minn. Huron, S. D. Yuma, Colo. Fort Morgan, Colo. Los Angeles, Cal. Little Rock, Ark. Lacey, Wash. KGDY 100 KGEK 50 9 Ť KGEW KGFJ KGHI 100 á 100 100 KGY KMLB 10 DCP Monroe, La. Santa Maria, Cal. Bellingham, Wash. 50 KSMR 100 KVOS 100 --beingnam, Wasis Stockton, Cal.
Bangor, Maine
New Orleans, La.
Ponca City, Okla
Rapid City, S. D.
Burlington, Vt.
Janesville, Wis.
Harrichung, Pa KWG WABI 100 t 100 WABZ ī 100 WBBZ 100 --ž ---WCAT WCAX WCLO 100 100 100 WCOD 100 3 Harrisburg, Pa. Emory, Va. Worcester, Mass. Knoxville, Tenn. Cincinnati, Ohio +XWEHC 100 WEPS 100 WFBC 50 WFBE 100 Canton, Ohio Green Bay, Wis. Utica, N. Y. 48 WHBC 10 WHBY 100 WIBX 100 WIBX WIL WJBC WJBL WJBW WKJC St. Louis, Mo. La Salle, III. Decatur, III. 5+100 ĕ 100 6 100 13 New Orleans, La. Lancaster, Pa. 100 Lancaster, Louisville, Ky. 100 ++ 100 Petersburg, Va. St. Louis, Mo. Washington, Pa. Carbondale, Pa. Springfield, Vt. Worcester, Mass. WLBG 100 WMAY WNBO WNBW 5+100 100 4 ŧ 10 10 2--WNBX СX WORC 100 WPDF 100 Flint, Mich. WRAF * 100 8 La Porte, Ind.

W. J. Beard's Temple of Music The Hawkins-Craig Syndicate Marshall Electric Co., Inc. St. Louis Truth Center, Inc. Mandan Radio Association KCYS. Jaren Drug Co. 1200 J. Albert Loesch and George W. Wright Beehler Elec. Equipment Co. City of Fort Morgan 249.9 Ben S. McGlashan Berean Bible Class St. Martin's College G. C. Liner DIAL Santa Maria Valley R. R. Co.

KVOS, Inc. Portable Wireless Tel. Co., Inc. Pine Tree Broadcasting Corp. Coliseum Place Baptist Church C. L. Carrell State School of Mines University of Vermont WCLO Radio Corp.

Norman R. Hoffman Emory & Henry College Alfred Frank Kleindienst First Baptist Church WFBE, Inc.

St. John's Catholic Church St. Norbert's College WIBX, Inc. Missouri Broadcasting Corp. Kaskaskia Broadcasting Co. Commodore Broadcasting Co. Charles C. Carlson, Jr. Kirk, Johnson & Co. American Broadcasting Corp. of Ky.

Robert Allen Gamble Kingshighway Presbyterian Church John Brownlee Spriggs Home Cut Glass & China Co.

First Congregational Church Alfred Frank Kleindienst City of Flint Chas. Middleton David Parmer

Hammond-Calumet Broad. Corp. Alberto Palos Sauza Radio & Electric Shop

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Columbus, Ga. Hammond, Ind.

Wingham, Ont.

Guadalajara, Jal.

1210	kiloc	ycles	247.8 meters	16		
CFCO CFNB		.00	Chatham, Ont.	Western O	ntario "Bette	er Radio" Clu
CHWK	+	50	Fredericton, N. B. Chilliwack, B. C. Sea Island, B. C.	James S. N	Neill & Sons, I	Ltd.
CJOR CKMC		50	Sea Island, B. C.	G. C. Chan	Broadcasting	co., Ltd.
CKMC		15	Cobalt, Ont.	G. C. Chan R. L. Mac	Adam	
CKPC	Ť.	25	Preston, Ont. Casper, Wyo. Devils Lake, N. D.	Metal Shin	igle & Siding	Co.
KDFN KDLR		00	Casper, Wyo.	Donald Lev	wis Hathaway	<i>1</i> ·
KFOR		100 + 100 6	Lincoln, Nebr.	KDLR, Inc Howard A.	Shuman	
KFVS	1	00 6	Cape Girardeau, Mo.	Hirsch Bat	tery & Radio	Co.
KFXM		עט פ	San Bernardino, Cal.	J. C. & E.	tery & Radio W. Lee adio Brdcstg.	
KGCR KGMP		.00	Watertown, S. D.	Cutler's Ra	adio Brdcstg.	Service, Inc.
KGNO	1	00	Elk City, Okla. Dodge City, Kans.	Bryant Rac	dio & Electric Broadcasting	. Co.
KMJ KPPC	* 1	00	Fresno, Cal.	James Mc(Clatchy Co.	ζ CO.
KPPC	§	50 9	Pasadena, Cal.	Pasadena F	Preshuterian (Church
KWEA		.00	Shreveport, La.	Hello Worl	d Broadcastir	ng Corp.
WALR WBAX		00 00 1	Zanesville, Ohio	Roy. W. W	aller	
WBBL	i i	00 7S	Wilkes-Barre, Pa. Richmond, Va.	Grace Cove	enger, Jr. Pant Preshvt	ng Corp.
WCBS		00 7S 00 2 00 3	Springfield III	H. L. Dewi	ng & Chas. N	lesster
WCOH	-	00 3	Yonkers, N. Y.	Westcheste	ng & Chas. M er Broadcastir	ng Corp.
WCRW		00 4 00 5	Cnicago, III.	Clinton R.	White	
WEBO		00 5 00 6	Providence, R. I. Harrisburg, III.	Dutee W. F		amle
WEDC	1		Chicago, Ill.	Emil Dene	: & Savings Bi	alik
WGBB	* 1	00 3	Freeport, N. Y.	Harry H. C	arman	
WGCM		00	Freeport, N. Y. Gulfport, Miss	Great Sout	arman hern Land Co	o., Inc.
WHBF WHBU		00	Rock Island, Ill.	Beardsley S	specialty Co.	
WIBI	i	00 3	Anderson, Ind. Red Bank, N. J.	Citizens Ba	ank 1 Broadcastin	« Co
WJBI WJBU WJBY WJW		00 1	Lewisburg, Pa.	Bucknell U		g CO.
WJBY		50	Lewisburg, Pa. Gadsden, Ala.		roadcasting C	Co., Inc.
WLCI		00 :	Mansfield, Ohio Ithaca, N. Y.	Mansfield I	Broadcasting	Assn.
WLSI	A 1	50 00 5	Providence P I	Lutheran A	Assn. of Ithac	a
WMBG	1	00 7	Providence, R. I. Richmond, Va. Jamaica, N. Y.		n Studios, In Martin, Inc.	c.
WMRJ	* 1	00 3	Jamaica, N. Y.	Peter J. Pr	inz	
WOCL		25	lamestown, N. Y.	Peter J. Pr. A. E. Newto	on	
WOMT WPAW		00 00 5	Manitowoc, Wis. Pawtucket, R. I.	Francis M.		
WODX		50	Thomasville, Ga.	Stevens Lu	rg & Robinson	n Co.
WQDX WRBQ		00 X+	Greenville, Miss.	I. Pat. Scu	îlv	
WRBU	1	00	Greenville, Miss. Gastonia, N. C. Chicago, Ill.	J. Pat. Scu A. J. Kirby	Music Co.	
WSBC	* 1	00 4 00	Chicago, Ill.	World Batt	ery Co., Inc.	
WSEN WSIX		00	Columbus, Ohio Springfield, Tenn.	Columbus	Broadcasting Vulcanizing (Co.
WTAX		50 2X	Springfield, Ill.	WTAX, Inc	vuicanizing (
			, , , , , , , , , , , , , , , , , , , ,	,		
1220	Irilaa	volos	245.8 meters			
	kiloc					
CMBC		00 1225 00 1	Havana, Cuba		ernandez Cru	ız
KFKU KWSC WCAD WCAE	. 5	00 X+	Lawrence, Kans. Pullman, Wash. Canton, N. Y.	University	ge of Washin	gton
WCAD		00 D	Canton, N. Y.		ce University	gton
WCAE	* 10		Pittsburgh, Pa.	Gimbel Bro	os.	
WDAE WREN	* 10 * 10		Tampa, Fla.	Tampa Pul	blishing Co.	
WICEIN	7 10	00 114	Lawrence, Kans.	Jenny Wrei	n Co.	
1230	kiloc	vcles	243.8 meters	,		
				4 1	D 11 01 1	-
KFQD KGGM	2	00 50 +	Anchorage, Alaska Albuquerque, N. Mex.		Radio Club	~ Co
KYA	100		San Francisco, Cal.	Pacific Bros	o Broadcastin adcasting Cor	ig Co.
WBIS	100	00 2	Boston, Mass.	Shepard Br	oadcasting S	ervice, Inc.
WFBM	* 100	00 1C	Indianapolis, Ind.	Indianapol	oadcasting So is Power & Li	ght Co.
WNAC WPSC	* 100	00 2C 00 D	Boston, Mass. State College, Pa.	Shepard Br	oadcasting Se	ervic e, In c.
WSBT		00 1	South Bend, Ind.	South Beng	nia State Coll d Tribune	ege
				Joach Delle	- IIIDAIIC	
1240	kiloc	vcles	241.8 meters			
KTAT	100	-	Et Worth Towns	S A T D		

S. A. T. Broadcast Co. Central Texas Broadcasting Co., Inc. Kunsky-Trendle Broadcasting Corp.

Ft. Worth, Texas Waco, Texas Detroit, Mich.

1000 1000 1000

1250 kilocycles 239.9 meters Northfield, Minn. KFMX 1000 Carleton College KFOX KIDO 1000 Long Beach, Cal. Nichols & Warinner, Inc. Boise Broadcasting Station 1000 Boise, Idaho WAAM Newark, N. J. Northfield, Minn. WAAM, Inc. St. Olaf College Jos. H. Uhalt 1000 1+ WCAL WDSU 1000 č New Orleans, La. 1000 WGCP WGMS 250 1 2 2 Newark, N. J. St. Paul, Minn. St. Paul, Minn. May Radio Broadcast Corp. 1000 Northwestern Broadcasting Inc. University of Minnesota Richard E. O'Dea Minnesota Broadcasting Corp. WLB 1000 WODA 1000 Paterson, N. J. WRHM 1000 Minneapolis, Minn. 500 CP Little Rock, Ark. Joseph E. Phelps 1260 kilocycles 238.0 meters Council Bluffs, Iowa Mona Motor Oil Co. KRGV KVOA KWWG WLBW KRGV, Inc. Robert M. Riculfi Herald Pub. Co. Radio-Wire Program Corp. 500 Harlingen, Texas Ď 500 Tucson, Ariz Brownsville, Texas 500 500 C+ Oil City, Pa. Savannah, Ga. WTOC 500 Savannah Broadcasting Co. 1270 kilocycles 236.1 meters **KFUM** 1000 Colorado Springs, Colo. W. D. Corley Charles W. Greenley Colorado Springs, Co Decorah, Iowa Seattle, Wash. Seattle, Wash. Decorah, Iowa Grand Rapids, Mich. Ithaca, N. Y. KGCA KOL KTW 50 2DSeattle Rroadcasting Co., Inc. First Presbyterian Church 1000 3Ĉ 1000 3 KWLC 2D Luther College WASH Broadcasting Corp. 100 WASH WEAI 500 Cornell University Baltimore Radio Show, Inc. Lamar Life Insurance Co. Walter B. Stiles, Inc. 1000 D WFBR 250 Baltimore, Md. WJDX WOOD Jackson, Miss. Grand Rapids, Mich. 500 +N500 1280 kilocycles 234.2 meters Havana, Cuba Great Falls, Mont. Camden, N. J. Asbury Park, N. J. Chattanooga, Tenn. Madison, Wis. Trenton, N. J. Dellos Tayas CMCE 1285 100 Julio E. Power KFBB 1000 Buttrey Broadcast, Inc. City of Camden WCAM WCAP 500 500 Radio Industries Broadcast Co. WDOD WIBA +C *. 1000 WDOD Broadcasting Corp. 500 Capital Times Co. WOAX, Inc. City of Dallas WOAX 500 WRR Ĉ 500 Dallas, Texas 1290 kilocycles 232.4 meters KDYL 1000 Salt Lake City Intermountain Broadcasting Corp. KFUL 500 Galveston, Texas Will H. Ford KLCN KTSA WEBC 50 D Blytheville, Ark. C. L. Lintzenich 1+C +N C † 1000 Lone Star Broadcast Co. San Antonio, Texas Superior, Wis. Pittsburgh, Pa. Saranac Lake, N. Y. 1000 Head of Lake Broadcasting Co. WJAS WNBZ 1000 Pittsburgh Radio Supply House 50 Ď Smith & Mace 1300 kilocycles 230.6 meters **KFH** 1000 2C Wichita, Kansas Radio Station KFH Co. KFJR KGEF KTBI 500 Portland, Ore. Los Angeles, Cal. Los Angeles, Cal. Ashley C. Dixon & Son Trinity Methodist Church 1000 1000 4 Bible Institute of Los Angeles M. E. Brown KTBR WBBR Portland, Ore. Brooklyn, N. Y. New York City New York City 500 ĭ People's Pulpit Association Debs Memorial Radio Fund, Inc. Defenders of Truth Society, Inc. 1000 WEVD WHAP WHAZ WIOD 500

ON DOTTED LINES

Rensselaer Polytechnic Institute
Isle of Dreams Broadcasting Corp.

Alaska Electric Light & Power Co. C. S. Tunwall

Unity School of Christianity

Chas. C. Robinson Jas. McClatchy Co.

Boone Biblical College

KCYS.

1310

MTRS.

228.9

DIAL

Troy, N. Y.

Miami Beach, Fla.

Kansas City, Mo.

228.9 meters

Sacramento, Cal.

Juneau, Alaska Ft. Dodge, Iowa

Jerome, Ariz.

Boone, Iowa

1000

500

1000

1000

100

100

100

100

10

1310 kilocycles

WOQ

KCRI

KFBK KFGQ KFIU

KFJY

N 2

7--

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INDEX BY FREQUENCIES AND DIAL NUMBERS						
KFPL	Dublin, Texas Greenville, Texas Denver, Colo. Edgewater, Colo. Oklahoma City St. Joseph, Mo. Wolf Point, Mont. Kalispell, Mont. Ravenna, Neb. Yakima, Wash. Medford, Ore. Shreveport, La. Houston, Tex. Shreveport, La. El Paso, Texas Cedar Rapids, Iowa Aberdeen, Wash. Terre Haute, Ind. Wilkes-Barre, Pa. Joliet, Ill. El Paso, Texas Buffalo, N. Y. Royal Oak, Mich. Altoona, Pa. Flint, Mich. Philadelphia, Pa. Lancaster, Pa. Newport News, Va. Philadelphia, Pa. Poynette, Wis. Johnstown, Pa. Marion, Ind. Laconia, N. H. Joliet, Ill. Birmingham, Ala. Galesburg, Ill. Muncie, Ind. Auburn, N. Y. New Bedford, Mass. Union City, Tenn. Washington, D. C. Reading, Pa.	C. C. Baxter The New Furniture Co. Fitzsimmons General Hospital R. G. Howell Exchange Ave. Baptist Church KGBX Inc. First State Bank of Vida Chamber of Commerce O. F. Sothman and R. H. McConnell Carl E. Haymond Mrs. W. J. Virgin Robert M. Dean Houston Broadcasting Co. G. A. Houseman W. S. Bledsoe & W. T. Blackwell Harry F. Paar KXRO, Inc. Banks of Wabash, Inc. Louis G. Baltimore WCLS, Inc. Eagle Broadcasting Co., Inc. Royal Oak Broadcasting Co. Wm. F. Gable Co. Frank D. Fallain Foulkrod Radio Engineering Co. WGAL, Inc. Hampton Roads Broadcasting Co. William C. Forrest Johnstown Automobile Co. Marion Broadcasting Co. Laconia Radio Club Sanders Bros. Radio Station R. B. Broyles Furniture Co. Permil N. Nelson Donald A. Burton Radio Service Laboratories New Bedford Broadcasting Co. Tittsworth's Radio & Music Shop American Broadcasting Co. Reading Broadcasting Co. Stewart Broadcasting Co. Stewart Broadcasting Co.				
WROL - 100 .	Knoxville, Tenn. Grove City, Pa. Winston-Salem, N. C. 227.1 meters Pueblo, Colo Twin Falls, Idaho Honolulu, Hawaii Idaho Falls, Idaho	Stewart Broadcasting Co. Grove City College Winston-Salem Journal Co. C. P. Ritchie & J. E. Finch Radio Broadcasting Corp. Honolulu Broadcasting Co., Ltd. KID Broadcasting Co.				
WADC † 1000 C WSMB * 500 N	Akron, Ohio New Orleans, La.	Allen T. Simmons Saenger Theatre & Maison Blanche Co.				
1330 kilocycles	225.4 meters					
KGB * 250 X KSCJ - 1000 1+C WDRC 500 WSAI * 500 N WTAQ * 1000 1 XEC 50 1333	San Diego, Cal. Sioux City, Iowa New Haven, Conn. Cincinnati, Ohio Eau Claire, Wis. Toluca, Mex.	Pickwick Broadcasting Corp. Perkins Bros. Co. Doolittle Radio Corp. Crosley Radio Corp., Lessee Gillette Rubber Co. Jesus R. Benavides				
1340 kilocycles	223.7 meters					
KFPW 50 D KFPY 1000 C	Fort Smith, Ark. Spokane, Wash. Pensacola, Fla.	John Brown Schools Symons Broadcasting Co.				
WCOA 500 C+	Pensacola, Fla. Toledo, Ohio	City of Pensacola Toledo Broadcasting Co.				
1350 kilocycles	222.1 meters	10				
WBNY * 250 1 WCDA - 250 1 WKBQ - 250 1 WMSG - 250 1	St. Louis, Mo. New York City New York City New York City New York City	Greater St. Louis Broadcasting Corp. Baruchrome Corp. Italian Educ. Broadcasting Co., Inc. Standard Cahill Co., Inc. Madison Sq. Garden Brdestg. Corp.				

1360 kilocycles 220.4 meters

CMKC	*	150	1364	Santiago de Cuba
KGER	*	1000	4	Long Beach, Cal.
KGIR		500		Butte, Mont.
KPSN		1000	4	Pasadena, Cal.
WCSC		500		Charleston, S. C.
WFBL	*	1000	C+	Syracuse, N. Y.
WGES		500	1+	Chicago, Ill.
WJKS	*	1000	1+	Gary, Ind.
WQBC		300	CP	Vick sburg, Miss.

M. P. Martinez
C. Merwin Dobyns
KGIR, Inc.
Pasadena Star-News
Jordan & Burk
Onondaga Radio Broadcasting Corp.
Oak Leaves Broadcasting Station, Inc.
Johnson-Kennedy Radio Corp.
Delta Broadcasting Co., Inc.

1370 kilocycles 218.7 meters

KCRC	t	100	2+	Enid, Okla.
KFBL		50	$\frac{2}{3}$	Everett, Wash.
KFJI KFJM KFJZ KFLX		100		Astoria, Ore.
KFJM	t	100		Grand Forks, N. D.
KFJZ		100	X	Ft. Worth, Texas
KFLX		100		Galveston, Texas
KGAR	*	100	+	Tucson, Ariz.
KGDA	†	100		Mitchell, S. D.
KGFG		100	2	Oklahoma City
KGFL		50		Ratan, N. M.
KGKL	+	100		San Angelo, Texas
KONO	Ť	100		San Antonio, Texas
KOOS		100		Marshfield, Ore.
KRE		100	6	Berkeley, Cal.
KVL		100	3	Seattle, Wash.
KWKC		100	-	Kansas City, Mo.
KZM		100	6	Hayward, Cal.
WBGF	+	50		Glens Falls, N. Y.
WBTM	+	100	7	Danville, Va.
WebM		100	+z	Baltimore, Md.
WELK		100	+	Philadelphia, Pa.
WFDV		100		Rome, Ga.
WGL	*	100	C	Fort Wayne, Ind.
WHBD	*	100		Mount Orab, Ohio
WHBQ		100		Memphis, Tenn.
WHDF		100	+	Calumet, Mich.
WIBM		100	1	Jackson, Mich.
WJBK		50	1	Detroit, Mich.
WLEY		100	+	Lexington, Mass.
*.WLVA	Ť	100	7	Lynchburg, Va.
WMBR	†	100		Tampa, Fla.
WPOE	† *	100		Patchogue, N. Y.
WQDM	*	5	D	St. Albans, Vt.
WRAK		50		Williamsport, Pa.
WRBJ		10		Hattiesburg, Miss.
WRBT	*	100		Wilmington, N. C.
WRJN		100		Racine, Wis.
WSVS		50		Buffalo, N. Y.
WRDO	§ -	100	CP	Augusta, Me.

Champlin Refining Co. Leese Bros. Leese Bros.
KFJI Broadcasters, Inc.
University of North Dakota
Estate of H. C. Meachem
George Roy Clough
Tucson Motor Service Co.
Mitchell Broadcasting Corp. Oklahoma Broadcasting Co., Inc. W. E. Whitmore KGKL, Inc., Opr. by Ragsdale Auto Mission Broadcasting Co. H. H. Hanseth, Inc. First Congregational Church
KVL, Inc.
Wilson Duncan Broadcasting Co.
Leon P. Tenney
W. N. Parker and H. H. Metcalfe
Clarke Electric Co.
Baltimore Broadcasting Corp. WELK Broadcasting Station, Inc. Dolies Goings Fred C. Zieg F. P. Moler Broadcasting Station WHBQ, Inc. Upper Michigan Broadcasting Co. C. L. Carrell James F. Hopkins, Inc. Lexington Air Stations Lynchburg Broadcasting Corp. F. J. Reynolds Nassau Broadcasting Corp. A. J. St. Antoine C. R. Cummins Woodruff Furniture Co., Inc. Wilmington Radio Association Racine Broadcasting Corp. Seneca Vocational School Albert S. Woodson

1380 kilocycles 217.3 meters

KOH KQV KSO WKBH WSMK	† * *	500 500 500 1000	2 1 1	Reno, Nevada Pittsburgh, Pa. Clarinda, Iowa La Crosse, Wis.
WSMK		200	2	Dayton, Ohio

Jay Peters Doubleday-Hill Electric Co. Berry Seed Co. WKBH, Inc.

Stanley M. Krohn, Jr.

1390 kilocycles 215.7 meters

KLRA		1000	1C	Little Rock, Ark.
KOY KUOA	*	500 1000	i	Phoenix, Ariz. Fayetteville, Ark.
WHK	*	1000	C	Cleveland, Ohio

Arkansas Broadcasting Co. Nielson Radio & Sporting Goods Co. University of Arkansas Radio Air Service Corp. 1390 MTRS.

215.7 DIAL

CUT OUT ON DOTTED LINES

1400 kilocycles 214.2 meters

CMBY		200	1405	Havana, Cuba
KLO	*	500	X	Ogden, Utah
KOCW	*	250	+	Chickasha, Okla.
WBAA	-,4	500	I	Lafayette, Ind.
WBBC		500	2	Brooklyn, N. Y.
WCGU		500	2	Brooklyn, N. Y.
WCM		500	1	Culver, Ind.
WKBF	*	500	1:	Indianapolis, Ind.
WLTH	*	500	2	Brooklyn, N. Y.
WSDA	-/	500	2	Brooklyn, N. Y.
WSGH		500	2	Brooklyn, N. Y.

Lino E. Cosculluala
Peery Building Co.
College for Women
Purdue University
Brooklyn Broadcasting Corp.
U. S. Broadcasting Corp.
General Broadcasting Corp.
Indianapolis Broadcasting, Inc.
The Voice of Brooklyn, Inc.
Paramount Broadcasting Co.
Paramount Broadcasting Co.

1410 kilocycles 212.6 meters

KFLV	†	500	4	Rockford, Ill.
KGRS		1000	1	Amarillo, Texas
WBCM	*	500	C	Bay City, Mich.
WDAG	~ *	250	1X	Amarillo, Texas
WHBL	aje	500	4	Sheboygan, Wis.
WLEX		500	2	Lexington, Mass.
WMAF		500	2	S. Dartmouth, Mass.
WODX	*	500	3	Mobile, Ala.
WRBX	*	250		Roanoke, Va.
WSFA	t	500	3	Montgomery, Ala.
WSSH	Ť	500	2	Boston, Mass.

Rockford Broadcasters, Inc.
Gish Radio Service
James E. Davidson
National Radio & Broadcasting Corp.
Press Pub. Co.
Lexington Air Stations
Round Hills Radio Corp.
Mobile Broadcasting Corp.
Richmond Development Corp.
Montgomery Broadcasting Co., Inc.
Tremont Temple Baptist Church

1420 kilocycles 211.1 meters

TILU	VII.	ocyc.	LCS	LII.I IIICCCIS
KBPS		100	4	Portland, Ore.
KFIZ		100		Fond du Lac, Wis.
KFOU	*	100	5X.	Holy City, Cal.
KFQW		100.		Seattle, Wash.
KFXD		100	XY	Nampa, Idaho
KFXY		100		Flagstaff, Ariz.
KFYO		100	+	Abilene, Texas
KGFF		100		Alva, Okla.
KGGC		100	5	San Francisco, Cal.
KGIW		100		Trinidad, Colo.
KGIX		100		Las Vegas, Nevada
KGKX		100		Sand Point, Idaho
KICK	*.	100		Red Oak, Iowa
KLPM	†	100		Minot, North Dakota
KORE		100		Eugene, Ore.
KTAP	§	100		San Antonio, Texas
KXL		100	4	Portland, Ore.
KXYZ	20	100	X	Houston, Texas
WEDH	*	30	\mathbf{x}	Erie, Pa.
WEHS		100	2	Evanston, Ill.
WELL		50	X	Battle Creek, Mich.
WFDW	*	100		Talladega, Ala.
WHDL	§	10	D	Tupper Lake, N. Y.
WHFC		100	2	Cicero, Ill.
WHIS	†	100		Bluefield, W. Va.
WIAS		100		Ottumwa, Iowa
WIBR		50		Steubenville, Ohio
WILM	= -	100		Wilmington, Del.
WJBO	§ *	100	=	New Orleans, La.
WKBI	*	100	2	Chicago, Ill.
WLBF		100	===	Kansas City, Kas.
WMBC	4 -	100	\mathbf{x} +	Detroit, Mich.
WMBH	7.7	100	+	Joplin, Mo.
WPAD	†	100	CP	Paducah, Ky.
WSPA	*	100	+	Spartanburg, S. C.
WTBO	*	100		Cumberland, Md.

Benson Polytechnic Institute
Reporter Printing Co.
W. E. Riker
KFQW, Inc.
Service Radio Co.
Mary M. Costigan
T. E. Kirksey
KGFF Broadcasting Co.
Golden Gate Broadcasting Co.
Leonard E. Wilson
Las Vegas, Nevada, Radio Corp.
C. E. Twiss and F. H. McCann
Red Oak Radio Corp.
John B. Cooley
Eugene Broadcasting Station
Alamo Broadcasting Station
Alamo Broadcasting Co.
KXL Broadcasters, Inc.
Harris County Broadcast Co.
Erie Dispatch-Herald
WEHS, Inc.
Enquirer-News Co.
Raymond G. Hammett
Tupper Lake Broadcasting Co., Inc.
Triangle Broadcasters
Daily Telegraph
Poling Electric Co.
George W. Robinson
Delaware Broadcasting Co., Inc.
Valdemar Jensen
Fred L. Schoenwolf
WLBF Broadcasting Co.
Michigan Broadcasting Co.
Michigan Broadcasting Co.
Michigan Broadcasting Co.
Paducah Broadcasting Co.
Voice of South Carolina
Associated Broadcasting Corp.

1430 kilocycles 209.7 meters

KECA	İ	1000	N	Los Angeles, Cal.
KGNF	Ť	500	D	North Platte, Neb.
WBAK		500	1X +	Harrisburg, Pa.
WCAH	*	500	1C	Columbus, Ohio
WGBC	*	500	2	Memphis, Tenn.
WHP	*	500	1CX	Harrisburg, Pa.
WNBR	*	500	2	Memphis, Tenn.

Pacific Development Radio Co. Great Plains Broadcasting Co. Penna. State Police Commercial Radio Service Co. Memphis Broadcasting Co. Pennsylvania Broadcasting Co. Memphis Broadcasting Co.

					o i frequencies an	א חעות מ	CIVIDLICG	
1	1440	kil	locycl	es	208.2 meters	may		
V V V V	CLS WBAM WCBA WHEC WMBD WOKO WSAN WTAD	*	250 500 250 500 500 500 250 500	D 1 2C 3+ 2 1	Oakland, Cal. Greensboro, N. C. Allentown, Pa. Rochester, N. Y. Peoria Heights, III. Poughkeepsie, N. Y. Allentown, Pa. Quincy, III.	Hickson El Peoria Hei Hudson Va Allentown	olina Broadca selman lectric & Rad ghts Radio La Illey Broadca Call Publish	io Corp. aboratory
1	1450	kil	locycl	es	206.8 meters			
V V V V V V	CTBS WBMS WCSO WFJC WGAR WHOM WKBO WNJ WSAR WTFI	* * * * * * * * * * * * * * * * * * * *	1000 250 500 500 500 250 250 250 250 250	1 2 Y 2 N Y CP 1 1	Shreveport, La. Hackensack, N. J. Springfield, Ohio Akron, Ohio Cleveland, Ohio Jersey City, N. J. Jersey City, N. J. Newark, N. J. Fall River, Mass. Toccoa, Ga.	WBMS Bro WGAR Bro WGAR Bro WGAR Bro New Jersey Camith Co Radio Inve Doughty &	Broadcasting Conditions of the Condition	orp. g Corp.
1	1460	kil	locycl	es	205.4 meters	6		
V K	KSTP WJSV	*	10000 10000	NX	St. Paul, Minn. Alexandria, Va.		Battery Broad nt Publishin	
1	1470	kil	locycl	les	204.0 meters			
F V	KGA WLAC WTNT	† 	5000 5000 5000	ÎĈ 1	Spokane, Wash. Nashville, Tenn. Nashville, Tenn.	Life & Cas	Broadcasting ualty Insura Publishing C	g System, Inc. nce Co. co.
1	1480	kil	locycl	es	202.6 meters	42		
	KFJF WKBW		5000 5000	C	Oklahoma City Buffalo, N. Y.		Radio Mfg. Co oadcasting Co	
1	1490	kil	locycl	es	201.2 meters [
ν	VCKY VJAZ VORD	*	5000 5000 5000	1N 1 1	Covington, Ky. Chicago, III. Chicago, III.	L. B. Wilso Zenith Rac People's Pr	on, Inc. dio Corp. ulpit Associat	tion
1	1500	kil	locycl	les	199.9 meters	12		T
	CDB CGGFK CGGFK CGGKY CGKY CGKY CREG CUT CXCO WCLS WKBY WKBY WKBY WMBA WMBA WMBP WMBF WOPI WPEN WRD	* * * * * * * * * * * * * * * * * * * *	100 100 50 50 100 100 100 100 100 100 10	3 1 2+	Santa Barbara, Cal. Corpus Christi, Texas Moorhead, Minn. Grant City, Mo. Brownwood, Texas Scottshuff, Nebr. Prescott, Ariz. Wenatchee, Wash. Santa Ana, Cal. Longview, Wash. Austin, Texas El Centro, Cal. Long Beach, N. Y. Tupelo, Miss. Connersville, Ind. Ludington, Mich. Long Island City, N. Y. Boston, Mass. Newport, R. I. Pittsburgh, Pa. Brooklyn, N. Y. Lapeer, Mich. Binghamton, N. Y. Bristol, Tenn. Phildelphia, Pa. Augusta, Ga. Woodside N. Y.	Red River Grant City Grant City Eagle Publ Hilliard Cc Miller & K Wescoast F Pacific Wer Columbia Rice Hotel E. R. Irey Arthur Fas Blair & An Knox Batt K. L. Ashb John N. Br Boston Brc LeRoy Jose Rev. J. W. Paul J. Go First M. P. Hewitt-Wo Radiophon Wm. Penn Warren C.	deasting Co., Broadcasting Park Corp. ishing Co. o., Inc. Ishing Broadcasting Broadcasting Broadcasting and F. M. Bo sker Broadcasting and F. M. Bo sker Broadcasting and F. M. Bo sker Broadcasting and F. M. Bo sker Broadcasting Co packer Church Broadcasting Co packer Church Broadcasting Co Brdcstg. St Broadcastin Davenoort's	Co., Inc. Co. asting Co., Inc. wles c Co. , Inc. ation, Inc. g Co. Musicove, In
7	WMBQ WMPC WNBF WOPI WPEN	*	100 100 100 100	+ .	Binghamton, N. Y. Bristol, Tenn. Phildelphia, Pa.	Radiophon Wm. Penn Warren C.	e Brdestg. St Broadcastin	g Co. Musicove

1500 MTRS. 199.9

DIAL

ALABAMA	Watts		K ave	San Jose J-1	500	KOW	1010
	5000	WADI	Kcys.	Santa Ana M-3	100	KQW KREG	1500
Birmingham O-21	500	WAPI WBRC	1140 930	Santa Barbara M-2	100	KDB	1500
	100	WKBC	1310	Santa Maria L-2 Stockton J-2	100 250	KSMR KGDM	1200
Gadsden O-21	_50	WIBY	1210	Stockton J-2	100	KWG	1100 1200
Mobile O-20	500 500	WODX WSFA	1410	CANAL ZONE	200		1200
Montgomery P-21 Talladega O-21	100	WFDW	1410 1420		750	NIDA	050
	200		1.20	Balboa FF-26	75 0	NBA	850
ALASKA				COLORADO			
Anchorage	100	KFQD	1230	Colorado Springs K-1	1 1000	KFUM	1270
Juneau	10	KFIU	1310	Denver K-11	500	KFEL	920
Ketchikan	500	KGBU	900		100	KFUP	1310
ARIZONA					500	KFXF	920
	100	VEVV	1420		1000 12500	KLZ KOA	560 830
Flagstaff M-7 Jerome M-6	100 100	KFXY	1310		500	KPOF	880
Phoenix N-6	500	KCRJ KOY	1390	Edgewater K-10	50	KFXJ	1310
	500	KTAR	620	Fort Morgan J-11	100	KGEW	1200
Prescott M-6	100	KPJM	1500	Greeley J-11 Gunnison K-9	500 50	KFKA KFHA	880 1200
Tucson O-7	100 500	KĞAR KVOA	1370 1260	Pueblo L-11	250	KGHF	1320
rucson o	500	IC CON	1200	Trinidad L-11	100	KGIW	1420
ARKANSAS				Yuma J-12	50	KGEK	1200
Blytheville M-19	50	KLCN	1290	CONNECTICUT			
Fayetteville M-16	1000	KUOA	1390			WYCO	
Fort Smith N-16	50	KFPW	1340	Bridgeport H-27 Hartford H-27	500 50000	WICC WTIC	1190 1060
Hot Springs N-17	10000	KTHS	1040	New Haven H-27	500	WDRC	1330
Little Rock N-17	100 250	KGHI	1200 890	Storrs H-28	250	WCAC	600
	1000	KGHI KGJF KLRA	1390				
	500	TUDICIT	1250	DELAWARE			
Paragould M-18	100	KBTM	1200	Wilmington J-26	250	WDEL	1120
CALIFORNIA					100	WILM	1420
	100	MDE.	4.350	DISTRICT OF	COLU	MBIA	
Berkeley J-2 Burbank M-3	100 500	KRE KELW	1370 780	Washington J-26	250	WMAL	630
Culver City M-3	250	KEVD	1000		500	WRC	950
Culver City M-3 El Centro N-4	100	KXO	1500		100	WOL	1310
Fresno K-2	100	KMJ KZM	1210	FLORIDA			
Hayward J-1 Hollywood M-3	100 1000	KZM KFWB	1370 950	Clearwater R-24	1000	WFLA	620
Honywood W-5	5000	KNX	1050	Gainesville Q-24	5000	WRUF	830
Holy City M-3	100	KFOU	1420	Jacksonville Q-24	1000 1000	WJAX	900
Inglewood M-3	500	KMIC	1120	Miami T-25 Miami Beach T-25	1000	WQAM WIOD	560 1300
Long Beach M-3	1000 1000	KFOX KGER	1250 1360	Orlando R-24	500	WDBO	1120
Los Angeles M-3	1000	KECA	1430	Pensacola Q-21	500	WCOA	1340
	5000	KFI	640	St. Petersburg S-24 Tampa R-24	1000 1000	WSUN WDAE	620 1220
	500	KFSG	1120	Tampa N-24	100	WMBR	1370
	1000 100	KGEF KGFJ	1300 1200	GEORGIA	-00		10,0
	1000	KHJ	900	-	350	WOOT	000
	500	KMPC	710	Atlanta O-22	250 5000	WGST WSB	890 740
	500	KMTR	570	Augusta O-23	100	WRDW	1500
	1000	KTM KTBI	780 1300	Columbus O-22 Macon O-23	50	WRBL	1200
Oakland J-1	250	KLS	1440	Macon O-23	250	WMAZ	890
J	500	KLS KLX	880	Rome N-22 Savannah O-24	100 500	WFDV WTOC	1370
D 1 1/2	500	KROW	930	Thomasville Q-22	50	WODX	1260 1210
Pasadena M-3	1000	KPPC	1210	Toccoa N-23	500	WQDX WTFI	1450
Sacramento J-2	1000 100	KPSN KFBK	1360 1310				
San Bernardino M-3		KFXM	1210	HAWAII			
San Diego N-3	500	KFSD	600	Honolulu	500	KGMB	1320
San Francisco J-1	250 1000	KGB KRFC	1330 610		1000	KGU	940
I tame 1900 J-1	500	KFWI	930	IDAHO			
	100	KGGC	1420	Boise G-5	1000	KIDO	1250
	7500	KGO	790	Idaho Falls G-7	500	KID	1320
	5000	KIBS	1070			KFXD	1420
	1000	KTAR	560	Sand Point D-6	100	KCKA	900 1420
	1000	KYA	1230	Twin Falls H-6	250	KGIO	1320
	7500 100 5000 1000	KGO KJBS KPO KTAB	790 1070 680 560	Idaho Falls G-7 Nampa G-5 Pocatello H-7 Sand Point D-6	500 50 250 100		137 147 90 147

ILLINOIS	Watts	Kcys.	Ottumwa J-17	100 WI	AS 1420
Carthage J-18	50 WCAZ	1070	Red Oak J-16	100 KI	CK 1420
Chicago I-20	10000 KFKX	1020	Shenandoah J-16	500 KF 500 KN	NF 890 4A 930
	10000 KYW 500 WAAF	1020 920	Sioux City I-15 Waterloo I-17	1000 KS 500 WN	CJ 1330
	25000 WBBM 1000 WCFL	770	Waterioo 1-17	300 W N	MT 600
	100 WCRW	970 1210	WANIGA C		
	100 WEDC 50000 WENR	1210 870	KANSAS	100 100	
	500 WGES	1360	Dodge City L-13 Kansas City K-16	100 KG 100 WL	NO 1210 BF 1420
	25000 WGN 1000 WIBO	720 560	Lawrence K-16		KU 1220
	5000 WJAZ	1490	Manhattan K-15	500 KS	REN 1220 AC 580
	25000 WJBT 50 WKBI	770	Milford K-14	5000 KF	KB 1050
	5000 WLS	1420 870	Topeka K-16 Wichita L-15	500 WI 1000 KF	BW 580 H 1300
	5000 WMAQ 5000 WMBI	670 1080			
	5000 WORD	1490	KENTUCKY		
	500 WPCC 100 WSBC	560 1210	Covington K-22	5000 WC	KY 1490
Cicero I-20	100 WHFC	1420	Hopkinsville M-20 Louisville L-21	1000 WF 10000 WH	TIW 940 IAS 820
Decatur K-19 Evanston I-20	100 WJBL 100 WEHS	1200 1420	ll .	100 WL	AP 1200
Galesburg J-18	100 WKBS	1310	Paducah M-19	100 WP	AD 1420
Harrisburg L-19 Joliet I-19	100 WEBQ 100 WCLS	1210	LOUISIANIA		
	100 WKBB	1310 1310	LOUISIANA	10	
La Salle J-19 Mooseheart I-19	100 WKBB 100 WJBC 20000 WJJD 500 WMBD	1200 1130	Haynesville P-17 Monroe P-18	10 50 KM	ILB 1120
Peoria Heights J-19	500 WMBD	1440	New Orleans R-19	100 WA 1000 WD	BZ 1200
Quincy K-18 Rockford I-19	500 WTAD 500 KFLV	1440 1410		100 W I	BO 1420
Rock Island I-18	100 WHBF	1210	 	100 WJ 500 WS	BW 1200
Springfield K-19	100 WCBS 50 WTAX	1210 1210		5000 WW	MB 1320 /L 850
Tuscola K-20	100 WDZ	1070	Rayne Q-18 Shreveport P-17	150 50 KR	MD 1120 1310
Urbana J-20 Zion I-20	250 WILL 5000 WCBD	890 1080	Ginevepore 1-17	1000 KT	BS 1450
	, coo	1000		100 KT 100 KW	SL 1310 'EA 1210
T) TD T 4 5 7 4			.		KH 850
INDIANA			MAINE		
Anderson J-21 Connersville K-21	100 WHBU 100 WKBV	1210 1500	Augusta F-28 Bangor F-29	100 WR 100 WA	
Culver I-20	500 WCMA	1400	_	500 WL	BZ 620
Evansville L-20 Fort Wayne J-21	500 WGBF 100 WGL	630 1370	Portland F-28	1000 WC	SH 940
_	10000 WOWO	1160			
Gary I-20 Hammond I-20	1000 WJKS 100 WWAE	1360 1200	MARYLAND		
Indianapolis J-21	1000 WFBM	1230	Baltimore J-26	10000 WB 250 WC	AL 1060 AO 600
Lafavette I-20	500 WKBF 500 WBAA	1400 1400		100 WC	BM 1370
Lafayette J-20 La Porte I-20	100 WRAE	1200	Cumberland J-25	250 WF 100 WT	
Marion J-21 Muncie I-21	50 WJAK 50 WLBC	1310 1310	Cumber land J-23	100 W I	1420
Muncie J-21 South Bend I-20	900 W 2B I	1230	MASSACHUSET	TTC	
Terre Haute K-20	100 WBOW	1310	Boston G-28	1000 WB	IS 1230
			Boston G-28	500 WB	ZA 990
IOWA				1000 WEI 1000 WH	EI 590
Ames I-17	5000 WOI	640		100 WL	OE 1500
Boone I-17 Cedar Rapids I-18	100 KFGQ 100 KWCR	1310 1310		1000 WN 500 WS	AC 1230
Clarinda I-16	500 KSO	1380	Fall River H-28	250 · WS.	AR 1450
Council Bluffs J-16 Davenport I-18	1000 KOIL 5000 WOC	1260 1000	Lexington G-28	500 WL	EX 1410
Decorah H-18	50 KGCA	1270	New Bedford H-28	100 WN	BH 1310
Des Moines I-17	100 KWLC 5000 WHO	1270 1000	S. Dartmouth H-28	500 WM 15000 WB	IAF 1410
Fort Dodge I-16	100 KFJY	1310	Springfield H-27 Wellesley Hills G-28	500 WB	SO 920
Iowa City I-18 Marshalltown I-17	500 WSUI 100 KFJB	880 1200	Worcester G-28	100 WE 100 WO	PS 1200
Muscatine J-18	5000 KTNT	1170		250 WT	

MICHIGAN	Watts		Kcys.	NEBRASKA	Watts		Kcys
Battle Creek I-21	50	WELL	1420	Clay Center	1000	KMMJ	740
Bay City H-22 Berrien Springs I-20	500 1000	WBCM WKZO	1410 590	Lincoln J-15	5000 100	KFAB KFOR	770 1210
Calumet E-19 Detroit H-22	100 50	WKZO WHDF WJBK	1370 1370	Norfalls I 15	500 1000	KFOR WCAJ WJAG	590 1060
Detroit H-22	5000	WIR	750	Norfolk I-15 North Platte J-13	500	KĞNF	1430
	100 1000	WMBC WWI	1420 920	Omaha J-15	500 1000	WAAW WOW	660 59 0
T	1000	WWJ WX YZ WKAR	1240	Ravenna J-14	100	KGFW	1310
East Lansing H-21 Flint H-22	100	WFDF	1040 1310	Scottsbluff I-11 York J-15	100 500	KGKY KGBZ	1500 930
Grand Rapids H-21	100 500	WPDF WASH	1200 1270				
-	500	WOOD	1270	NEVADA			
Jackson I-21 Lapeer H-22	100 100	WIBM WMPC	1370 1500	Las Vegas L-5	100	KGIX	1420
Ludington H-20 Royal Oak H-22	50 50	WKBZ WEXL	1500 1310	Reno I-3	500	KOH	1380
Royal Oak H-22	30	WEAL	1310				
MAININGOTA				NEW HAMPSH	IRE		
MINNESOTA			- 1	Laconia G-28	100	WKAV	1310
Fergus Falls F-15 Minneapolis G-17	100 7500	KGDE WCCO	1200 810				
Militeapons G-17	1000	WCCO WDGY	1180	NEW JERSEY			
	500 1000	WHDI WRHM	1180 1250	Asbury Park I-27	500	WCAP	1280
Moorhead F-15 Northfield G-17	50 1000	KGFK KFMX	1500 1250	Atlantic City J-27	5000	WPG	1100
	1000	WCAL	1250	Camden I-26 Hackensack I-27	500 250	WCAM WBMS	1280 1450
St. Paul G-17	1000 1000	WGMS WLB	1250 1250	Jersey City I-27	300	WAAT WHOM	940 1450
	10000	KSTP	1460	•	250 250	WKBO	1450
MISSISSIPPI				Newark I-27	1000 250	WAAM WGCP	1250 1250
Greenville O-19	100	WRBQ	1210		250	WNJ	1450
Gulfport Q-19	100	WGCM	1210	Paterson I-27	5000 1000	WOR WODA	710 1250
Hattiesburg Q-19 Jackson P-19	10 500	WRBJ WJDX	1370 1270	Red Bank I-27	100	WJBI WOAX	1210
Meridian P-20	500	WCOC	880	Trenton I-26	500	WOAX	1280
Tupelo N-20 Vicksburg P-18	100 300	WDIX WQBC	1500 1360	NEW MEXICO			
		-			250		
MISSOURI			1	Albuquerque N-7 Raton M-11	250 50	KGGM KGFL	1230 1370
	100	KFVS	1210	State College P-9	20000	KOB	1180
Cp. Girardeau L-19 Columbia K-17	500	KFRU	630				
Grant City J-16 Jefferson City L-17 Joplin M-16	50 500	KGIZ WOS	1500 630	NEW YORK			
Joplin M-16	100	WMBH	1420	Auburn H-25	100	WMBO	1310
Kansas City K-16	1000 100	KMBC KWKC	950 1370	Binghamton H-26	100	WNBF	1500
	1000 500	WDAF WHB	610 860	Brooklyn I-27	500 1000	WBBC WBBR	1400 1300
	1000	woo	1300		500 500	WCGU	1400 1400
St. Joseph K-16	2500 100	KFEO KGBX	680 1310		100	WLTH WMBQ	1500
St. Louis L-18	500	KFUO	550		500 500	WSDA WSGH	1400 1400
	100 50000	KFWF KMOX	1200 1090	Buffalo H-24	1000	WBEN	900
	500 1000	KSD KWK	550 1350		100 1000	WEBR WGR	1310 550
	1000	WEW	760		5000 1000	WKBW WMAK	1480 1040
	100 100	WIL WMAY	1200 1200		50	WSVS	1 37 0
*			-200	Canton F-26 Freeport I-27	500 100	WCAD WGBB	1220 1210
MONTANA				Glens Falls G-27	50	WBGF	1370
Billings F-9	1000	KĢHL	950	Ithaca H-25	1000 50	WEAI WLCI	1270 1210
Butte F-7 Great Falls E-8	500 1000	KGIR KFBB	1360 1280	Jamaica H-27 Jamestown H-24	100 25	WMRJ WOCL	1210 1210
Kalispell D-7 Wolf Point E-11	100	KGEZ	1310	Long Island City I-27	100	WI.BX	1500
Wolf Point E-11	- 100	KGCX	1310	Long Beach I-27	100	WCLB	1500

				1			
New York City I-27	5000	WABC	860	OKLAHOMA	Watts		Kcys.
	250	WBNY	1350	Alva M-14	100	KGFF	1420
	250	WCDA	1350	Chickasha N-14	250	KOCW	1400
	50000	WEAF WEVD	660 1300	Elk City N-13	100	KGMP	1210
	500 250	WGBS	600	Elk City N-13 Enid M-15	100	KCRC	1370
	1000	WHAP	1300	Norman N-15	500	WNAD	1010
	250	WHN	1010	Oklahoma N-15	5000	KFJF	1480
	30000	WJZ	760		100	KFXR	1310
	250	WKBQ	1350	1	100 1000	KGFG	1370
	5000	WLWL	1100	Dish as M 16	500	WKY KGGF	1010
	500	WMCA	570	Picher M-16	100	WBBZ	1200
	250	WMSG	1350	Ponca City M-15 Tulsa M-16	5000	KVOO	1140
	500	WNYC	570	Tuisa Wi-10	5000	14400	1110
	1000	WOV	1130	OREGON			
	250	WPAP	1010	Astoria D-2	100	KFJI	1370
	500	WPCH	810	Corvallis E-2	1000	KOAC	550
	250 250	WQAO WRNY	1010 1010	Eugene F-2	100	KORE	1420
Patabagua I 27	100	WPOE	1370	Marshfield F-1	100	KOOS	1370
Patchogue I-27	500	WOKO	1440	Medford G-2	50	KMED	1310
Poughkeensie H-27 Rochester G-25	5000	WHAM	1150	Portland E-3	5000	KEX	1180
Rochester G-20	500	WHEC	1440	1	100	KBPS	1420
Saranac Lake F-26	50	WNBZ	1290		500	KFJR KGW	1300
Schenectady G-27	50000	WGY	790		1000		620
Syracuse G-25	1000	WFBL	1360		1000	KOIN	940
	250	WMAC	570		500	KTBR	1300
	250	WSYR	570		500	KWJJ	1060
Troy G-27	500	WHAZ	1300	1	100	KXL	1420
Tupper Lake F-26	10	WHDL	1420	PENNSYLVANI	A		
Utica G-26	100	WIBX	1200	Adamahung	100	WGM	940
Woodside I-27	100	WWRL	1500	Adamsburg Allentown I-26	250	WCBA	1440
Yonkers I-27	100	WCOH	1210	intentown 1 20	250	WSAN	1440
				Altoona I-25	100	WFBG	1310
NORTH CAROL	LINA			Carbondale H-26	10	WNBW	1200
Asheville M-23	1000	WWNC	570	Elkins Park I-26	50	WIBG	930
Charlotte M-24	5000	WBT	1080	Erie H-24	30	WEDH	1420
Gastonia M-24	100	WRBU	1210	Grove City I-26	100	WSAJ	1310
Greensboro M-24	500	WBAM	1440	Harrisburg I-25	500	WBAK	1430
Raleigh M-25	1000	WPT F	680		100	WCOD WHP	1200
Wilmington N-26	100	WRBT	1370	7 7.24	500 100	WOOP	1430 840
Winston-Salem M-24	100	WSJS	1310	Jeannette J-24 Johnstown J-24	100	WJAC	1310
				Lancaster I-25	100	WGAL	1310
NORTH DAKO	TA			Lancaster 1-25	100	WKIC	1200
Bismarck F-13	1000	KFYR	550	Lewisburg I-26	100	WKJC WJBU WLBW	1210
Devils Lake E-14	100	KDLR	1210	Lewisburg I-26 Oil City I-24	500	WLBW	1260
Fargo F-15	1000	WDAY	940	Philadelphia I-26	10000	WCAU	1170
Grand Forks E-15	100	KEIM	1370		100	WELK	1370
Mandan F-13	100	KFJM KGCU	1200		500	WEAN	610
Minot E-13	100	KLPM	1420		500	WFI	560
					.50	WFKD	1310
OHIO					100	WHAT	1310
Akron I-23	1000	WADC	1320		500 500	WIP WLIT	610 560
Akron 1-23	500	WEIC	1450		100	WPEN	1500
Canton I-23	10	WFJC WHBC	1200		250	WRAX	1020
Cincinnati K-22	100	WFBE	1200	Pittsburgh J-24	50000	KDKA	980
Ciricimiaci IX-22	1000	WKRC	550	Fittsburgh J-24	500	KOV	1380
	50000	WLW	700	U.	1000	KQV WCAE	1220
	500	WSAI	1330	U.	1000	WJAS	1290
Cleveland I-23	500	WGAR	1450	U.	100	WMBJ	1500
	1000	WHK	1390	Reading I-26	50	WRAŴ	1310
	500	WJAY	610	Scranton H-26	250	WGBI	880
	50000	WJAY WTAM	1070		250	WQAN	880
Columbus J-22	500	WAIU	640	State College I-25	500	WPSC	1230
	500	WCAH	1430	Washington J-24	100	WNBO	1200
	750	WF4O	570	Wilkes-Barre I-26	100	WBAX	1210
D-114-11 I 22	100	WSEN	1210	1 W. W	100	WBRE	1310
Dayton J-22	200	WSMK WJW	1380	Williamsport I-25	50	WRAK	1370
Mansfield J-22 Mount Orab K-22	100 100	WHBD	1210 1370	PORTO RICO			
Springfield J-22	500	WCSO	1450	San Juan W-34	500	WKAQ	890
JULIUSHICIU 1966	50	WIBR	1420	Jan Juan W-34	200		0,70
		17 LUIX		RHODE ISLAN	D		
Steubenville J-23	500	WSPD	1340 1	I KITODE ISLAM			
Steubenville J-23 Toledo I-22	500	WSPD WKBN	1340 570		100	WMBA	1500
	500 500 100	WSPD WKBN WALR	1340 570 1210	Newport H-28 Pawtucket H-28		WMBA WPAW	1500 1210

Providence H-28	100	WDWF	1210	VERMONT	Watts		17
	250	WEAN	780			WOAV	Keys
	250	WJAR	890	Burlington F-27 St. Albans F-27	100	WCAX WQDM	1200 1370
	100	WLSI	1210	Springfield G-27	10	WNBX	1200
SOUTH CAROL					_		
Charleston O-25	500	WCSC	1360	VIRGINIA			
Columbia N-24 Spartanburg N-23	500 100	WIS WSPA	1010 1420	Alexandria J-26	10000	WJSV NAA	1460
		WOLK	1420	Arlington J-25 Danville L-25	1000	NAA	69
SOUTH DAKO				Emory L-23	100 100	WBTM WEHC	1370 1200
Brookings H-15	500	KFDY	550	Lynchburg L-25	100	WLVA	1370
Huron H-14 Mitchell H-14	100 50	KGDY KGDA	1200 1370		500		590
Pierre G-13	200	KGFX	580	Newport News L-26	100	WGH	1310
Pierre G-13 Rapid City H-12 Sioux Falls I-15	100	WCAT	1200	Norfolk L-26	500 500	WPOR WTAR	780 780
Sioux Falls I-15	2000	KSOO	1110	Petersburg L-26	100	WLBG	1200
Vermillion I-15 Watertown G-15	500 100	KUSD KGCR	890 1210	Richmond K-26	100	WBBL	121
Yankton I-15	1000	WNAX	570		100	WMBG	1210
	2000	*******	0,0	Roanoke L-24	5000	WRVA	1110
TENNESSEE		****		Roanoke L-24	250 250	WDBJ WRBX	930 1410
Bristol L-23	100 1000	WOPI WDOD	1500 1280	WASHINGTON		***************************************	1410
Chattanooga N-21 Knoxville M-22	50	WFBC	1200	Aberdeen D-2	75	KXRO	1310
KHOXVIIIE IVI-22	1000	WNOX	560	Bellingham C-3	100	KVOS	1200
	100	WROL	1310	Everett C-3	50	KFBL	1370
Lawrenceburg N-20	500	WOAN	600	II Lacev D-3	10	KGY	1200
Memphis M-19	500 100	WGBC WHBQ	1430 1370	Longview D-3 Pullman E-5	100 500	KUJ KWSC	1500
	500	WMC	780	Seattle C-3	100	KFQW	1220 1420
	500	WNBR	1430	Scattle G=5	5000	KIR	970
	500	WREC	600	l	1000	KÖL	1270
Nashville M-20	5000	WLAC	1470 650		1000	KOMO	920
	5000 5000	WSM WTNT	1470		100 50	KPCB KRSC	650
Springfield M-20	100	wsix	1210		1000	KTW	1120 1270
Union City M-19	100	WOBT	1310		100	KVL	1370
					500	KXA	570
TEXAS Abilene P-13	100	KFYO	1420	Spokane D-5	100	KFIO	1120
Amarillo N-12	1000	KGRS	1410		1000 5000	KFPY KGA	1340 1470
	250	WDAG	1410		1000	KHO	596
Austin Q-14	100	KUT	1500	Tacoma D-3	500	KMO	860
Beaumont R-17	500	KFDM	560	l	1000	KVI	700
Brownsville U-15 Brownwood P-14	500 100	KWWG	1260 1500	Wenatchee D-4 Yakima D-4	50	KPQ	1500
College Sta. Q-15	500	KGKB WTAW	1120	Takima D-4	50	KIT	1310
Corpus Christi S-14	100	KGFI	1500	WEST VIRGIN	I A		
Dallas P-15	10000	KRLD	1040	Bluefield L-24	100	WHIS	1.420
	50000 500	WFAA WRR	800 1280	Charleston K-23	250	WOBU	1420 580
Dublin P-14	100	KFPL	1310	Fairmont J-24	250	WMMN	890
El Paso P-9	100	KTSM	1310	Huntington K-23	250	WSAZ	580
	100	WDAH	1310	Wheeling J-24	5000	WWVA	1160
Fort Worth P-15	100 1000	KFJZ	1370	WISCONSIN			
	10000	KTAT WBAP	1240 800				
Galveston R-16	100	KFLX	1370	Eau Claire G-18	1000	WTAQ KFIZ	1330
	500	KFUL	1290	Fond du Lac H-19 Green Bay G-19	100 100	WHBY	1420 1200
Greenville O-15	15	KFPM	1310	Janesville I-19	100	WCLO	1200
Harlingen T-14	500	KRGV	1260	La Crosse H-18	1000	WKBH	1380
Houston R-16	1000 500	KPRC KTRH	920 1120	Madison H-19	750	WHA	940
	100	KXYZ	1420		500	WIBA	1280
	100	KXYZ KTLC	1310	Manitowoc H-20	250 100	WISJ WOMT	780 1210
an Angelo Q-13	100	KGKL	1370	Milwaukee H-20	250	WHAD	1120
San Antonio R-14	100	KONO	1370	11-20	250	WISN	1120
	$\frac{100}{1000}$	KTAP KTSA	1420 1290		1000	WTMJ	620
	50000	WOAI	1190	Poynette H-19	100	WIBU	1310
Waco Q-15	1000	WACO	1240	Racine I-20	100	WRJN	1370
Wichita Falls O-14	250	KGKO	570	Sheboygan H-20 Stevens Pt. G-19	500 2000	WHBL WLBL	1410 900
UTAH				Superior F-17	1000	WEBC	1290
	500	KLO	1400	_	-000		
	200		1400	WYOMING			
Ogden I-7 Salt Lake City I-7	1000	KDYI.	1290	WIOWING			
Salt Lake City I-7	1000 5000	KDYL KSL	1290 1130	Casper H-10	100	KDFN	1210

CA	NADA			PRINCE EDWAR			16
ALBERTA	Watts		Kcys.	Charlottetown C-31	Watts 250	CFCY CHCK	Kcys. 960
Calgary B-7	500 500	CFAC CFCN	690 690	Summerside C-31	30 100	CHCK	960 1120
	500	CHCA	690	OUEBEC	100	OITOO	1120
	500	CJCJ CNRC	690 690	Montreal E-26	500	CFCF	1030
Edmonton A-8	500 250	CHMA	580		5000	CHYC	730
	500	CJCA	930		5000 5000	CKAC CNRM	730 730
	500 500	CKUA CNR F	580 930	Quebec D-27	100	CHRC	880
Lethbridge C-8	50	CNRE CJOC CHCT	1120		22	CKCI	880 880
Red Deer A-8	1000 1000	CHCT	840 840	1	50 50	CKCV CNRQ	880
	1000	CNRD	840	SASKATCHEWA	N	•	
DDITICIL COL	I IN AID I A			Fleming C-13	500	CJRW	600
BRITISH COL Chilliwack B-3		CHWK	1210	Moose Jaw C-11 Pilot Butte	500 500	CJRM CHWC	600 960
Kamloops B-5	5 15	CFJC	1120	Regina C-12	500	CJBR	960
Sea Island	50	CFJC CJOR	1210		500 500	CKCK CNRR	960 960
Vancouver B-3	50 50	CHLS CKCD	730 730	Saskatoon B-11	500	CFQC CNRS	910
	50	CKFC	730 730	Vombann C 12	500	CNRS	910
	50 100	CKMO CKWX	730 730	Yorkton C-13	500	CJGX	630
	500	CNRV	1030	HAITI	1000	ннк	920
Victoria C-3	500	CFCT	630	Port au Prince X-30	1000	IIIIK	920
MANITOBA				MEXICO	250	XFF	920
Brandon D-14	500	CKX	540	Chihuahua, Chih. R-9 Guadalajara, Jal. X-10 Jalapa, Ver. Y-14	101	XEA	1200
Winnipeg D-15	5000 5000	ČKY CNRW	780 780	Jalapa, Ver. Y-14	350 101	XFC	630 860
		CINKW	780	Jalapa, Ver. Y-14 Juarez, Chih. Merida, Yuc. X-19 Mexico City Y-13	105	XEJ XEY XEB	550
NEW BRUNSW		071 ID		Mexico City Y-13	1000 1000	XEB XEN	670 730
Fredericton D-29 Moncton D-30	50 500	CFNB CNRA	1210 630	l	101	XEO	980
St. John D-30	50	CFBO	890		101	XER	1070
NEWFOUNDLA	ND			l	5000 500	XEW XEX	780 920
St. Johns A-35	500	8WMC	720		500	XEZ	700
NOVA SCOTIA					50 2000	XFA XFG	540 640
NOVA SCOTIA Halifax E-31	500	CHNS	930	l	1000	XFI	590
	500	CNRH	930	Monterrey, N. L. U-13	500 101	XFX XEH	840 960
Louisburg C-32 Sydney C-32 Wolfville D-31	500	VAS	690 880		500	XET	620
Wolfville D-31	50 50	CJCB CKIC	930	Morelia, Mich. Y-12 Oaxaca, Oax. AA-14 Reynosa, Tams. Saltillo, Coah.	101 105	XEI XEF	1000 1130
				Reynosa, Tams.	2000	XED	770
ONTARIO	100	OF CO	1210	Tampico, Tams.	10 501	XEL XEM	1090 840
Chatham H-22 Cobalt E-23	100 15	CFCO CKMC	1210 1210		500	XEST	890
Hamilton H-24	10	CHCS	880	Toluca, Mex.	50 101	XECI	1330 800
	50 50	CHML CKOC	880 880	Veracruz, Ver. Villahermosa, Tab.	250	XEU XFE	920
Iroquois Falls F-26	250	CFCH	600	CUBA			
Kingston G-25 London H-23	500 500	CFRC	930 910	Caibarien W-25	250	CMHD	920
	500	CJGC CNRL	910	Cienfuegos W-25 Colon W-24	200 300	CMHA CMGA	1150 830
Midland G-23	50	CKPR	930	Havana W-23	100	CMBC	1220
Ottawa F-25	100 500	CKCO CNRO	890 600		200 100	CMBY CMBZ	610 1010
Prescott F-25 Preston G-23	50	CFLC	1010		500	CMC	840
Toronto G-24	25 500	CKPC CFCA	1210 840		100 250	CMCE CMCF	1280 1010
	500	CFCL	580		500	CMCQ	9 5 0
	4000 5000	CFRB CISC	960 690		500	CMI	<i>77</i> 0
	500	CJSC CKCL	580		3000 100	CMK CMQ	730 1220
	5000 500	CKGW CKNC	690 580		1000	CMW	600
	500	CNRT	840	Santiago X-28	250 150	CMX CMKC	900 1360
	4000 5000	CNRX CPRY	960 690	Tuinucu	500	CMHC	790
Waterloo G-23	50	CKCR	1010	COSTA RICA			
Wingham G-23	25	10-BP	1200	San Jose FF-23	50	TIX	750

FAC 690	CJRW	600	CMAC 1300	- 11	KFDM 560	
algary, Alta.	Fleming, S		Santiago, Cuba		Beaumont, Tex.	
CFBO 890	CJSC	690	CMQ 1220 Havana, Cuba	- 11	KFDY 550 Brookings, S.D.	
t. John, N. B. CFCA 840	Toronto, C	730	CMW 600		KFEL 920	
Coronto, Ont.	Montreal,	One	Havana, Cuba	- 1	Denver, Colo.	
FCF 1030	CKCD	730	CMX 900		KFEQ 680	
Aontreal, Que.	Vancouver		Havana, Cuba		St. Joseph, Mo.	
FCH 600	CKCI	880	II CNRA 630	li i	KFGQ 1310	
roq's Falls, Ont.	Quebec, Qu	ıe	Moncton, N.B.		Boone, Iowa	
FCL 580	СКСК	960	CNRC 690	- 1	KFH 1300	
Coronto, Ont.	Regina, Sa	580	Calgary, Alta.		Wichita, Kansas KFHA 1200	
CFCN 690	CKCL Toronto, C		Red Deer, Alta.	- 1	Gunnison, Colo.	1
Calgary, Alta. CFCO 1210	CKCO	890	CNRE 930		KFI 640	
Chatham, Ont.	Ottawa, O	nt.	Edmonton, Alta.	- 1	Los Angeles, Cal.	ĺ
FCT 630	CKCR	1010	CNRH 930		KFIO 1120	
ictoria, B. C.	Waterloo,		Halifax, N. S.		Spokane, Wash.	
CFCY 960	CKCV	880	CNRL 910		KFIU 1310	
h'lottet'n,P.E.I.	Quebec, Qu	ие.	London, Ont.		Juneau, Alaska	
FJC 1120	CKFC	730	CNRM 730		KFIZ 1420	
Camloops, B. C.	Vancouver	, B.C.	Montreal, Que.		Fond du Lac, Wis	
FLC 1010	CKGW	690	CNRO 600	- 1	KFJB 1200 Marshalltown, Ia.	
rescott, Ont.	Toronto, C	930	Ottawa, Ont. CNRQ 880		KFJF 1480	
FNB 1210	CKIC Wolfville,		Quebec, Que.		Oklahoma City	
redericton, N.B.	CKLC CKLC	840	CNRR 960		KFJI 1370	
askatoon, Sask.	Red Deer,		Regina, Sask.		Astoria, Ore.	
FRB 960	CKMC	1210	CNRS 910		KFJM 1370	
'oronto, Ont.	Cobalt, Or	nt	Saskatoon, Sask.		Grd. Forks, N.D.	
CFRC 930	CKMO	730	CNRT 840	- 1	KFJR 1300	
Kingston, Ont.	Vancouver	, B.C	Toronto, Ont.		Portland, Ore.	
CHCA 690	CKNC	580	CNRV 1030	- 13	KFJY 1310	i
algary, Alta.	Toronto, C		Vancouver, B.C. CNRW 780		Fort Dodge, Ia. KFJZ 1370	
HCK 960	CKOC Hamilton,	880		- 11	Ft. Worth, Tex.	i
Ch'lottet'n,P.E.I.	CKPC	1210	Winnipeg, Man. CNRX 960		KFKA 880	
Hamilton, Ont.	Preston, O		Toronto, Ont.	ll l	Greeley, Colo.	
CHCT 840	CKPR	930	CPRY 690		KFKB 1050	
Red Deer, Alta.	Midland, (Toronto, Ont.	- 11	Milford, Kansas	
CHGS 1120	CKUA	580	HHK 920	i i	KFKU 1220	
Sum'rside, P.E.I.	Edmonton	, Alta.	Port au Prince, H.		Lawrence, Kans.	
CHLS 730	CKWX	730	KBPS 1420	- 11	KFKX 1020	
Jancouver, B.C.	Vancouver	, B.C.	Portland, Ore.		Chicago, Ill.	
CHMA 580	CKX,	540	KBTM 1200	- 1	KFLV 1410	
Edmonton, Alta.	Brandon,		Paragould, Ark.		Rockford, Ill. KFLX 1370	
HML 880	CKY	780	KCRC 1370 Enid, Okla.	- 11	KFLX 1370 Galveston, Tex.	
Hamilton, Ont.	Winnipeg,	1220	KCRJ 1310		KFM X 1250	
CHNS 930 Halifax, N.S.	Havana, C		Jerome, Ariz.		N'thfield, Minn.	
CHRC 880	CMBY	1400	KDB 1500		KFNF 890	_
uebec, Que.	Havana, C		S. Barbara, Cal.		Shenandoah, Ia.	
HWC 960	CMBZ	1010	KDFN 1210		KFOR 1210	
Pilot Butte, Sask.	Havana, C	uba	Casper, Wyo.		Lincoln, Nebr.	
HWK 1210	CMC	840	KDKA 980	- 11	KFOX 1250	
hilliwack, B.C.	Havana, C		Pittsburgh, Pa.		Long Beach, Cal. KFPL 1310	
HYC 730	CMCE	1280	KDLR 1210		KFPL 1310	
Intreal, Que.	Havana, C		Devils Lake, N.D. KDYL 1290		Dublin, Texas KFPM 1310	
JBR 960	CMCF Havana, C	1010	Salt Lake City		Greenville, Tex.	
egina, Sask. JCA 930	CMCQ	950	KECA 1430		KFPW 1340	-
dmonton, Alta.	Havana, C		Los Angeles, Cal.	- 1	Ft. Smith, Ark.	
JCB 880	CMGA	830	Los Angeles, Cal. KELW 780		KFPY 1340	
yndey, N.S.	Colon, Cul	ba	Burbank, Cal.		Spokane, Wash.	
JCJ 690	CMHA	1150	KEX 1180		KFQD 1230	1
algary, Alta.	Cienfuegos	s, Cuba	Portland, Ore.		Anchorage, Alas.	
JGC 910	CMHC	790	KFAB 770	- 11	KFQU 1420	
ondon, Ont.	Toinucu, C	920	Lincoln, Nebr. KFBB 1280		Holy City, Cal. KFQW 1420	
JGX 630 orkton, Sask.	Caibarien,		Great Fls., Mont.	- 11	Seattle, Wash.	
JOC 1120	CMI	770	KFBK 1310		KFRC 610	-
ethbridge, Alta.	Havana, C		Sacramento, Cal.	ll l	San F'ncisco, Cal.	
CJOR I210	CMK	730	KFBL 1370		KFRU 630	
ea Island, B.C.	Havana, C		Everett, Wash.		Columbia, Mo.	_
JRM 600	114, 141, 14		1			
Ioose Jaw, Sask.						
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	10 4 1 12 1 4 1 A	KIDO 1250	KPJM 1500
FSD 600	Alva, Okla.	Boise, Idaho	Prescutt, Ariz.
an Diego, Cal. (FSG 1120	KGFG 1370	KIT 1310	KPO 680 San Fincisco, Cal.
os Angeles, Cal.	Oklahoma City	Yakima, Wash.	San Fincisco, Cal.
(FUL 1290	H KGF1 1500	KJBS 1070	1 KPOK 880
falveston, Tex.	Corpus Ch'sti, Tex	San Fincisco, Cal.	Denver, Colo. KPPC 1210
(FUM 1270	KGFJ 1200	KJR 970 Seattle, Wash.	Pasadena, Cal.
Col. Spgs., Colo	Los Angeles, Cal.	KLCN 1290	KPQ 1500
St. Louis, Mo.	KGFK 1500 Moorhead, Minn.	Blytheville, Ark.	Wenatchee, Wasi
KFUP 1310	KGFL 1370	KTO 1400	
Denver, Colo.	KGFL 1370 Raton, N. M. KGFW 1310	Ogden, Utah KLPM 1420 Minot, N. Dak.	Houston, Texas KPSN 1360
	KGFW 1310	Minut N. Dult	Pasadena, Cal.
Culver City, Cal.	Ravenna, Nebr.	KLRA 1390	KQV 1380
KFVS 1210	KGFX 580 Pierre, S. D. KGGC 1420 San F'ncisco, Cal.	Little Rock, Ark.	Pittsburgh Pa
Cape Gir'rd'u, Mo KFWB 950	KGGC 1420	KLS 1440	KQW 1010
Hollywood, Cal.	San F'ncisco, Cal.	Oakland, Cal.	San Jose, Cal.
KFWF 1200	KGGF 1010 Picher, Okla.	KLX 880	KRE 1370
St. Louis, Mo.	Picher, Okla.	Oakland, Cal.	Berkeley, Cal. KREG 1500
KFW1 930	KGGM 1230	KLZ 560 Denver, Colo.	Santa Ana, Cal.
San F'ncisco, Cal.	Alb'q'rque, N.M. KGHF 1320	KMA 930	KRGV 1260
KFXD 1420 Nampa, Idaho	Pueblo, Colo.	Shenandoah, Ia.	Harlingen, Texas
R R X R 920 1	KGHI 1200	KMBC 950 Kan. City, Mo. KMED 1310	KRLD 1040 Dallas, Texas
Denver, Colo.	Little Rock, Ark.	Kan. City, Mo.	Dallas, Texas
KFXJ 1310	" KGHL 950	KMED 1310	KRMD 1310
Edgewater, Colo. KFXM 1210	Billings, Mont.	Medford, Ore. KMIC 1120	KROW 930
KFXM 1210	KGIQ 1320 Twin Falls, Ida.	Inglewood, Cal.	Shreveport, La. KROW 930 Oakland, Cal.
San Ber'd'no,Cal. KFXR 1310	H KCIR 1360	H KM13 1210 1	H KRSC - 1120 1
Oklahoma City	Butte, Mont.	Fresno, Cal.	Seattle, Wash.
KFXY 1420 Flagstaff, Ariz. KFYO 1420	Butte, Mont. KGIW 1420] KMLB 1200	KSAC 580 Manh'tt'n, Kans.
Flagstaff, Ariz.	Trinidad, Colo.	Monroe, La. KMMJ 740	H K C C T 1330
	KGIX 1420	Clay Ctr Nebr	Sioux City, Ia.
Abilene, Texas KFYR 550	Las Vegas, Nev.	KMO 860	KSD 550
Bismarck, N.D.	KGIZ 1500 Grant City, Mo. KGJF 890	KMO 860 Tacoma, Wash.	St. Louis, Mo.
	KGJF 890	II KNIOA 1000	KSEI 900
Spokane, Wash.	Little Rock, Ark.	St. Louis, Mo.	Pocatello, Idaho KSL 1130
KGAR 1370 Tucson, Ariz.	KGKB 1500 Brownwood, Tex.	Los Angeles, Cal.	Salt Lake City
KGB 1330	KGKL 1370	KMTR 570	KSMR 1200
San Diego, Cal.	San Angelo, Tex.	Los Angeles, Cal.	Santa Maria, Cal.
KGBU 900	KGKO 570 Wichita Flls., Tex	KNX 1050	KSO 1380
Ketchikan, Al'ka.	Wichita Fils., Tex	Los Angeles, Cal	Clarinda, Iowa
KGBX 1310	KGKX 1420 Sand Point, Ida.	KOA 830	KSOO 1110 Sioux Falls, S.D.
St. Joseph, Mo. KGBZ 930	KGKY 1500	Denver, Colo. KOAC 550	KSTP 1460
KGBZ 930 York, Nebr.	Scottsbluff, Nebr.	Corvallis, Ore.	St. Paul, Minn.
KGCA 1270	KGMB 1320	II KOR 1180	KTAB 560
Decorah, Iowa	Honolulu, T. H.	State Coll., N.M. KOCW 1400	San F'ncisco, Cal KTAP 1420
KGCR 1210	KGMP 1210	Chickasha, Okla.	San Antonio, Tex.
Watertown, S.D.	Elk City, Okla. KGNF 1430	KOH 1380	KTAR 620
KGCU 1200 Mandan, N.D.	No. Platte, Neb.	Reno, Nevada	Phoonix Ariz
KGCX 1310	II KGNO 1210	KOIL 1260	KTAT 1240
KGCX 1310 Wolf P't, Mont.	Dodge City, Kans.	Council Bluffs, Ia.	KTAT 1240 Ft. Worth, Tex. KTBI 1300
	H KGO 790 1	KOIN 940	KTBI 1300 Los Angeles, Cal.
Mitchell, S. D.	San F'ncisco, Cal. KGRS 1410	Portland, Ore. KOL 1270	KTBR 1300
KGDE 1200 Ferg's F'lls, Minn KGDM 1100	Amarillo, Texas	Seattle, Wash.	Portland, Ore.
KCDM 1100	KGU 940	KOMO 920	KTBS 1450
Stockton, Cal.	Honolulu, Hawaii	Seattle, Wash.	Shreveport, La.
KGDY 1200 Huron, S. D.	KGW 620	KONO 1370	KTHS 1040
Huron, S. D.	Portland, Ore.	San Antonio, Tex	KTIC 1310
KGEF 1300	KGY 1200 Lacey, Wash. KHI 900	KOOS 1370 Marshfield, Ore.	Hot Spgs., Ark. KTLC 1310 Houston, Texas
Los Angeles, Cal.	KHJ 900	H KORE 1420	II KTM 780
KGEK 1200 Yuma, Colo. KGER 1360	Los Angeles, Cal.	Eugene, Ore.	Los Angeles, Cal. KTNT 1170
KGER 1360	KHQ 590	KOY 1390	KTNT 1170
Long Beach, Cal	Spokane, Wash.	Phoenix, Ariz,	Muscatine, Iowa
Long Beach, Cal. KGEW 1200	KICK 1420	KPCB 650 Seattle, Wash.	KTRH 1120 Houston, Texas
Ft. Morgan, Colo.	Red Oak, Iowa. KID 1320	Seattle, wasn.	KTSA 1290
KGEZ 1310 Kalispell, Mont.	Idaho Falls, Ida.		San Antonio, Tex.
Kanspen, Mont.	I Idano I ans, Ida.		
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			WIDV
KTSL 1310	WABC 860	WCAH 1430	WDEL 1120
Shreveport, La.	New York City	Columbus, Ohio	Wilmington, Del.
KTSM 1310 El Paso, Texas	WABI 1200	WCAJ 590	WDGY 1180
KTW 1270	Bangor, Maine WABZ 1200	Lincoln, Nebr.	Minneap., Minn.
Seattle, Wash.	New Orleans, La.	WCAL 1250	WDIX 1500
KUJ 1500	WACO 1240	Northfield, Minn. WCAM 1280	Tupelo, Miss.
Longview, Wash.	Waco, Texas	WCAM 1280 Camden, N. J.	WDOD 1280
KUOA 1390	Waco, Texas WADC 1320	WCAO 600	Chattan'ga, Tenn WDRC 1330
Fayetteville, Ark.	Akron, Ohio	Baltimore, Md.	N. Haven, Conn.
KUSD 890	WAIU 640	WCAP 1280	H WDSU 1250
Vermillion, S. D. KUT 1500	Columbus, Ohio WALR 1210	Asbury Pk., N. J.	New Orleans, La.
Austin, Texas	WALR 1210 Zanesville, Ohio	WCAT 1200	WDWF 1210
KVI 760	WAPI 1140	Rapid City, S. D. WCAU 1170	Providence, R. I.
Tacoma, Wash.	Birmingham, Ala.	Philadelphia, Pa.	WDZ 1070
KVL 1370	WASH 1270	WCAX 1200	Tuscola, Ill. WEAF 660
Seattle, Wash.	Gr. Rapids, Mich.	Burlington, Vt.	New York City
KVOA 1260	WBAA 1400	WCAZ 1070	WEAI 1270
Tucson, Arizona KVOO 1140	Lafayette, Ind. WBAK 1430	Carthage, Ill.	Ithaca, N. Y.
Tulsa, Okla	Harrisburg, Pa.	WCBA 1440	WEAN 780
Tulsa, Okla KVOS 1200	WBAL 1060	Allentown, Pa. WCBD 1080	Providence, R. I.
Bellingh'm, Wash.	Baltimore, Md.	Zion, Ill.	WEAO 570 Columbus, Ohio
KWCR 1310	WBAM 1440	WCBM 1370	WEBC 1290
Cedar Rapids, Ia.	Greensboro, N. C.	Baltimore, Md.	Superior, Wis.
KWEA 1210 Shreveport, La.	WBAP 800	WCBS 1210	WEBQ 1210
KWG 1200	Fort Worth, Tex. WBAX 1210	Springfield, Ill.	Harrisburg, Ill.
Stockton, Cal.	Wilkes-Barre, Pa.	WCCO 810	WEBR 1310
KWJJ 1060	WBBC 1400	Minneap., Minn. WCDA 1350	Buffalo, N. Y.
Portland, Ore.	Brooklyn, N. Y.	New York City	WEDC 1210 Chicago, Ill.
KWK 1350	WBBL 1210	WCFL 970	WEDH 1420
St. Louis, Mo.	Richmond, Va.	Chicago, Ill.	Erie, Pa.
KWKC 1370	WBBM 770	WCGU 1400	WEEL 590
Kansas City, Mo. KWKH 850	Chicago, Ill. WBBR 1300	Brooklyn, N. Y.	Boston, Mass.
Shreveport, La.	Brooklyn, N. Y.	WCKY 1490	WEHC 1200
KWLC 1270	WRRZ 1200	Covington, Ky. WCLB 1500	Emory, Va. WEHS 1420
Decorah, Iowa	Ponca City, Okla.	Long Beach, N.Y.	WEHS 1420
KWSC 1220	WBCM 1410	WCLO 1200	Evanston, Ill. WELK 1370
Pullman, Wash.	Bay City, Mich.	Janesville, Wis.	Philadelphia, Pa.
KWWG 1260 Brownsville, Tex.	WBEN 900	WCLS 1310	WELL 1420
KXA 570	Buffalo, N. Y. WBGF 1370	Joliet, Ill.	BattleCreek, Mich
Seattle, Wash.	Glens Falls, N. Y.	WCMA 1400	WENR 870
KXL 1420	WBIS 1230	Culver, Ind. WCOA 1340	Chicago, Ill. WEPS 1200
Portland, Ore.	Boston, Mass.	Pensacola, Fla.	
KXO 1500	WBMS 1450	WCOC 880	Worcester, Mass. WEVD 1300
El Centro, Cal.	Hackensack, N.J.	Meridian, Miss.	New York City
KXRO 1310 Aberdeen, Wash	WBNY 1350	WCOD 1200	WEW 760
KXYZ 1420	New York City WBOW 1310	Harrisburg, Pa. WCOH 1210	St. Louis, Mo.
Houston, Texas	Terre Haute, Ind.	WCOH 1210 Yonkers, N. Y.	WEXL 1310
KYA 1230	WBRC 930	WCRW 1210	Royal Oak, Mich. WFAA 800
San F'neisco, Cal.	Birmingham, Ala.	Chicago, Ill.	Dallas, Texas
KYW 1020	WBRE 1310	WCSC 1360	WFAN 610
Chicago, Ill. KZM 1370	Wilkes-Barre, Pa.	Charleston, S. C.	Philadelphia, Pa.
Hayward, Cal.	WBSO 920 Weli'l'yH'ls,Mass	WCSH 940	WFBC 1200
NAA 690	WET 1080 I	Portland, Maine WCSO 1450	Knoxville, Tenn.
Arlington, Va.	Charlotte, N. C.	Springfield, Ohio	WFBE 1200
NBA 850	WBTM 1370	WDAE 1220	Cincinnati, Ohio WFBG 1310
Balboa, C. Z.	Danville, Va.	Tampa, Fla.	Altoona, Pa.
TIX 750	WBZ 990	WDAR CIA	WFBL 1360
San Jose, C. R. VAS 690	Springfield, Mass. WBZA 990	Kansas City, Mo.	Syracuse, N. Y.
Louisburg, N. S.	WBZA 990 Boston, Mass.	WDAG 1410	WFBM 1230
WAAF 920	WCAC 600	Amerillo, Texas WDAH 1310	Indianapolis, Ind.
Chicago III	Storrs, Conn.	El Paso, Texas	WFBR 1270 Baltimore Md
WAAM 1250 Newark, N. J.	WCAD 1220	WDAY 940 II	Baltimore, Md. WFDF 1310
Newark, N. J.	Canton, N. Y.	Fargo, N. D.	Flint, Mich.
WAAT 940 Jersey City, N. J.	WCAE 1220	WDBJ 930	Flint, Mich. WFDV 1370
WAAW 660	Pittsburgh, Pa.	Roanoke, Va.	Rome, Ga.
Omaha, Nebr.		WDBO 1120	
,		Orlando, Fla.	

WFDW 1420	WHBY 1200	WJAZ 1490	WLB 1250	
Talladega, Ala. WFI 560	Green Bay, Wis. WHDF 1370	Chicago, Ill. WJBC 1200	St. Paul, Minn. WLBC 1310	
Philadelphia, Pa.	Calumet, Mich.	La Salle, Ill.	Muncie, Ind.	
WFIW 940	WHDH 830	WJBI 1210	WLBF 1420	
Hopkinsville, Ky.	Boston, Mass.	Red Bank, N. J.	Kansas City, Ks.	
WFJC 1450 Akron,Ohio	WHDI 1180 Minneap., Minn.	WJBK 1370 Detroit, Mich.	WLBG 1200 Ettrick, Va.	
WFKD 1310	WHDL 1420	WJBL 1200	WLBL 900	
Philadelphia, Pa.	TupperLake, N.Y.	Decatur, Ill.	Stevens Pt., Wis.	
WFLA 620	WHEC 1440	WJBO 1420	WLBW 1260	
Clearwater, Fla. WGAL 1310	Rochester, N. Y. WHFC 1420	New Orleans, La. WJBT 770	Oil City, Pa. WLBX 1500	
Lancaster, Pa.	Cicero, Ill.	Chicago, Ill.	L.I.City, N.Y.	
WGAR 1450	WHIS 1420	WJBU 1210	II WLBZ 620	
Cleveland, Ohio WGBB 1210	Bluefield, W. Va	Lewisburg, Pa. WJBW 1200	Bangor, Me. WLCI 1210	
Freeport, N. Y.	Cleveland, Ohio	New Orleans, La.	WLCI 1210 Ithaca, N. Y.	
WGBC 1430	WHN 1010	WJBY 1210	I WELL THIS	
Memphis, Tenn.	New York City	Gadsden, Ala.	Lexington, Mass.	
WGBF 630 Evansville, Ind.	WHO 1000 Des Moines, Ia.	Jackson, Miss.	WLEY 1370 Lexington, Mass.	
WGBI 880	WHOM 1450	WJJD 1130	WLIT 560	
Scranton, Pa.	Jersey City, N. J. WHP 1430	Mooseheart, Ill.	Philadelphia, Pa.	
WGBS 600 New York City	WHP 1430 Harrisburg, Pa.	WJKS 1360	WLOE 1500	
WGCM 1210	WIAS 1420	Gary, Ind. WJR 750	Boston, Mass. WLS 870	
Gulfport, Miss.	Ottumwa, Iowa	Detroit, Mich.	Chicago, Ill.	
WGCP 1250	WIBA 1280	II W JSV 1460	WLSI 1210	
Newark, N. J. WGES 1360	Madison, Wis. WIBG 930	Alexandria, Va. WJW 1210	Providence, R. I. WLTH 1400	
Chicago, Ill.	Elkins Park, Pa.	Mansfield, Ohio	Brooklyn, N. Y.	
WGH 1310	WIBM 1370	WJZ 760	WLVA 1370	
Newp't News, Va. WGL 1370	Jackson, Mich. WIBO 560	WJZ 760 New York City WKAQ 890	Lynchburg, Va. WLW 700	
Ft. Wayne, Ind.	Chicago, Ill.	San Juan, P. R.	Cincinnati, Ohio	
WGM 840	WIBR 1420	WKAR 1040	WLWL 1100	
Adamsburg, Pa. WGMS 1250	Steubenville, O. WIBU 1310	E. Lansing, Mich. WKAV 1310	New York City WMAC 570	
St. Paul. Minn.	Poynette, Wis.	Laconia, N. H.	Syracuse, N. Y.	
WGN 720	II WIRW 580	WKBB 1310	WMAF 1410	
Chicago, Ill. WGR 550	Topeka, Kansas WIBX 1200	Joliet, Ill. WKBC 1310	S.D'rtm'th, Mass.	
Buffalo, N. Y.	Utica, N. Y. WICC 1190	Birmingham, Ala.	Buffalo, N. Y:	
WGST 890	WICC 1190	WKBF 1400	MINIAL GOO !	
Atlanta, Ga. WGY 790	Bridgeport, Conn. WIL 1200	Indianapolis, Ind. WKBH 1380	Washington, D.C. WMAQ 670	
Schenec'd'y, N.Y. WHA 940	St. Louis, Mo.	La Crosse, Wis.	I Chicago, Ill.	
WHA 940	WILL 890	WKBI 1420	WMAY 1200	
Madison, Wis. WHAD 1120	Urbana, Ill. WILM 1420	Chicago, Ill. WKBN 570	St. Louis, Mo. WMAZ 890	
Milwaukee, Wis.	Wilmington, Del.	Youngstown, O.	WMAZ 890 Macon, Ga.	
WHAM 1150	WIOD 1300	WKBO 1450	WMBA 1500	
Rochester, N.Y. WHAP 1300	Miami Bch., Fla.	Jersey City, N. J. WKBQ 1350	Newport, R. I. WMBC 1420	
New York City	Philadelphia, Pa.	New York City	Detroit, Mich.	
WHAS 820	WIS 1010	WKBS 1310	WMBD 1440	
Louisville, Ky. WHAT 1310	Columbia, S. C. WISJ 780	Galesburg, Ill. WKBV 1500	Peoria Hghts.,Ill.	
Philadelphia, Pa.	WISJ 780 Madison, Wis.	Connersville, Ind.	WMBG 1210 Richmond, Va.	
WHAZ 1300	II WISN 1120	WKBW 1480	WMBH 1420	
Troy, N. Y. WHB 860	Milwaukee, Wis. WJAC 1310	Buffalo, N. Y. WKBZ 1500	Joplin, Mo. WMBI 1080	
Kansas City, Mo	Johnstown, Pa.	WKBZ 1500 Ludington, Mich.	Chicago, Ill.	
Kansas City, Mo. WHBC 1200	WJAG 1060	WKJC 1200	WMBJ 1500	
Canton, Ohio	Norfolk, Nebr.	Lancaster, Pa.	Pittsburgh, Pa.	
WHBD 1370 Mt. Orab, O.	WJAK 1310 Marion, Ind.	WKRC 550 Cincinnati, O.	WMBO 1310 Auburn, N. Y.	
WHBF 1210	WJAR 890	WKY 900	WMBQ 1500	
Rock Island, Ill.	Providence, R. I.	Oklahoma City	Brooklyn, N. Y.	
WHBL 1410 Sheboygan Wis	WJAS 1290 Pittsburgh, Pa.	WKZO 590 Be'n Spas Migh	WMBR 1370	
Sheboygan, Wis. WHBQ 1370	WJAX 900	Be'n Spgs., Mich. WLAC 1470	Tampa, Fla. WMC 780	
Memphis, Tenn.	Jacksonville, Fla.	Nashville, Tenn.	Memphis, Tenn.	
WHBU 1210 Anderson, Ind.	WJAY 610 Cleveland, Ohio	WLAP 1200 Louisville, Ky.	WMCA 570 New York City	
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Volumer Volu	hville, Tenn. MB 1320 v Orleans, La. MK 1380 Vton, Ohio PA 1420	XEM 840 Tampico, Tams. XEN 730 Mexico City XEO 980 Mexico City XER 1070	
Volument Volument	MB 1320 v Orleans, La. MK 1380 vton, Ohio PA 1420	XEN 730 Mexico City XEO 980 Mexico City XER 1070	
aw'nceb'g, Tenn. / VOAX 1280	v Orleans, La. MK 1380 /ton, Ohio PA 1420	Mexico City XEO 980 Mexico City XER 1070	
WQDX 1210 WS	MK 1380 /ton, Ohio PA 1420	Mexico City XER 1070	
Trenton, N. J. Thomasville, Ga. Da	ton, Ohio PA 1420	Mexico City XER 1070	
WRAF 1200 WS 1200 WS 1200 WS 1200 WRAF 1200 WRAF 1200 WRAF 1200 WRAF 1200 WRAF 1200 WRAF 1310 WS PA 1420	XER 1070		
WRAK 1370 WS	rtanhurg S.C.	Mexico City	
harlest'n, W. Va. VOC 1000 WRAW 1310 WS WSAW 1310 WS Reading, Pa. WRAX 1020 WSAW 1250 WRAX 1020 WSAW 1250 WRBJ 1370 WSAW 1250 WRBJ 1370 WSAW 1250 WRBL 1200 WSAW 1250 WRBL 1200 WSAW 1250 WRBL 1200 WSAW 1250 WRBL 1210 WSAW 1250 WRBJ 1370 WSAW 1250	Tranburg, S.C.		
VRAW 1310 WS		XES 890	
Avenport, Jowa Color Col	SH 1410	Tampico, Tamp.	
Variable Variable	ton, Mass.	Monterrey, N. L.	
Action A	111 880	XEU 800	
Action A	a City, Ia.	Veracruz, Ver.	
Variable Variable	UN 620	XEW 780	
Columbus, Ga. Bul	Petersb'g, Fla. VS 1370	Mexico City XEX 920	
MRBQ 1210 WS falo, N. Y.	Mexico City		
OKO 1440 gludeepsie, N.Y. WRBT 1370 gui WT gui OL 1310 ashington, D.C. WRBU 1210 WT WT OMT 1210 anitowoc, Wis. Roanoke, Va. Cle	YR 570 II	XEY 550	
Markepsie, N.Y.	acuse, N. Y.	Merida, Yuc.	
OL 1310 ashington, D. C. WRBU 1210 WT OMT 1210 Gastonia, N. C. Wo OMT 1210 anitowoc, Wis. Roanoke, Va. Cle	AD 1440	XEZ 700	
ashington, D.C. Gastonia, N. C. WO OMT 1210 WRBX 1410 WT anitowoc, Wis. Roanoke, Va. Cle	ney, Ill.	Mexico City XFA 540	
OMT 1210 anitowoc, Wis. WRBX 1410 WT Roanoke, Va. Cle	rcester, Mass.	Mexico City	
anitowoc, Wis. Roanoke, Va. Cle	AM 1070	XFC 630	
OOD 1270 WEG 270	veland, Ohio	Jalapa, Ver.	
r. Rapids, Mich. WRC 950 WT Eau	AQ 1330 Claire Wig	XFE 920	
OOP 840 WRDO 1370 WT		Villahermosa, Tab	
annette, Pa. Augusta, Me. Not	folk Va.	Chihuahua, Chih.	
OPI 1500 WRDW 1500 WT	AW 1120	XFG 640	
ristol, Tenn. Augusta, Ga. Col QQ 1300 WREC 600 WT	ege Sta., Tex.	Mexico City	
OQ 1300 ansas City, Mo. WREC 600 Memphis, Tenn. Spr	AX 1210 ingfield, Ill.	XFI 590	
ansas City, Mo. Memphis, Tenn. Spr OR 710 WREN 1220 WT	DO 1400	Mexico City XFX 840	
ewark, N. J. Lawronce, Kans. Cur	nberland, Md.	Mexico City	
ORC 1200 WRHM 1250 WT	FI 1450	Mexico City 8WMC 720	
orcester, Mass. Minneap., Minn. Too		St. Johns, N. F.	
ORD 1490 WRJN 1370 WT Had Racine, Wis.	coa, Ga.	10BP 1200	
	IC 1060	Wingham, Ont.	
ff's'n City, Mo New York City Mil	IC 1060 tford, Conn.		
	IC 1060		

Principal Broadcasting Stations of the World

Fill in your dial numbers and you will then know where these foreign stations should be received on your set

Ccys.	Call	Watts	City	Country	Kcys.	Call	Watts	City	Country
13.2	FL	15000		France				550	
19			Berlin	Germany			-		
55	RYK	7000		Lithuania					
50	PH9	6200		Netherlands	553	SBD	600	Sundsvall	Sweden
62	TNU	11111		Tunisia	553	200	4000	Munich	Germany
66		40000		Finland	563	D 1 20	1000	Dneipropetrovsk	
67		1000	Norddeisch	Germany	571	RA30	10000	Riga	Latvia
74		13500	Paris	France	571	YLZ			Russia
76	RA43	4000	Kharkov	Russia	580	RA38	1000	Krasnodar Hobart	Australia
87		5000	Angora	Turkey	581	7ZL	1500	Vienna	Austria
93	5 X X	25000	Daventry	Un. Kingdom	581	ONLAND	15000		Belgium
02.5		12000	Warsaw	Poland	589	ON4RB	3600	Brussels	Italy
07	RA1	40000	Moscow	Russia	599	IMI	7000	Milan	Italy
14.4		15000	Paris	France					
22	SBG	30000	Motala	Sweden				600	
31	AFT	10000	Berlin	Germany					
40	TUA	500	Tunis	Tunisia	1				
50		100	Tallinn	Estonia					17
50		6000	Osmanie	Turkey	600	CWOW		Montevideo	Uruguay
50	SBE	600	Boden	Sweden	606	XGZ	500	Nanking	China
60		7500	Kalundborg	Denmark	608	LKO	60000	Oslo	Norway
69	RA33	4000	Novorossisk	Russia	616	OKP	5000	Prague	Czecho-
72	R A 57	500	lrl utsk	Russia			8500	Malhan	slovakia Australia
78	RA67	1200	Matchik	Russia	620	3AR	2500	Melbourne	Australia China
79	PCF	1500	Scheveningen	Netherlands	625	COTN	500	Tientsin	China
80	PFB1	7000	Hilversum	Netherlands	625	CMAB	1000	Santiago	
85	RA15	500	Sverdlova k	Russia	625	RA17	1500	Vladivostok	Russia
85	RA49	1200	Erivan	Russia	626	5GB	25000	Daventry	Un. Kingdor
97		250	Basel	Switzerland	631	RA43	4000	Kharkov	Russia
00	RA42	10000	Leningrad	Russia	634		8000	Langenburg	Germany
07	RA40	1200	Odessa	Russia	639	225577777	750	Elberfield	Germany
16	RA12	1200	Voronezh	Russia	644	YN	3000	Lyon	France
25	RA39	1200	Gomel	Russia	648	4YA	500	Dunedin	New Zealan
333	RA22	1200	Samara	Russia	653	-11	630	Zurich	Switzerland
43	RA41	1200	Vologda	Russia	662	IBZ	200	Bolzano	Italy
345	RA11	4000	Tiffis	Russia	662		500	Klagenfurt	Austria
149	RA18	1200	Minsk	Russia	662	SCT	150	Uppsala	Sweden
157	RA13	1800	Nizhni-Novgorod	Russia	662	LKP	700	Porsbrund	Norway
166	RA14	4000	Rostov-on-Don	Russia	662		700	Aix la Chapelle	Germany Australia
175	RA7	180	vanovo Vos-		665	2FC	2500	Sydney	Russia
			nesensk	Russia	667	RA4	300	Moscow	Russia
375	RA9	250	Sevastopol	Russia	667	RA2	500	Moscow	France
375		1750	Colombo	Ceylon	671	FPTT	1000	Paris	
180	RA56	1200	Artemovsk	Russia	671	LKR		Rjukan	Norway
93	RA46	2000	Petrozovodsk	Russia	671	LKA	350	Aalesund	Norway China
95		250	Geneva	Switzerland	674	COHB	1000	Harbin	
97	RA5	1200	Kiev	Russia	676	ZTJ	15000	Johannesburg	South Africa
100	SBF	600	Ostersund	Sweden	680	IRO	3000	Rome	ltaly
100	RA8	700	Bogorodsk	Russia	685	LT2	1000	LaPlata	Argentina
100	RA45	4000	Baku	Russia	688	SBA	1000	Stoc kholm	Sweden
111	RA77	1200	Stalino	Russia	689	PTB	500	Danzig	Danzig
117	RA47	200	Armavir	Russia	689	CAB	1000	Canton	China
20	RA27	2000	Tashkent	Russia	689	6WF	2500	Perth	Australia
129	RA26	1000	Astrakhan	Russia	695		2500	Belgrade	Yugoslavia
135	RA44	1200	Tver	Russia	698	JODK	1000	K eijo	Japan
441	ICA	600	Lausanne	Switzerland					
162	RA16	1200		Russia				700	
69	RA25	1000	Orenburg	Russia	_				
103	INALO	1000	0,0		1				
					700	CWOA	1000	Montevideo	Uruguay
			500		700		5000	Buenos Aires	Argentina
					706	LS1	2000	Sorocaba	Brazil
					706	11 15	550		Colombia
					706	HJN	550		Spain
Ĺ		-				EAJ7	1500		Japan
521	RA34	1000	Kourak	Russia	708	JOJK	3000	Kanazawa	
524		1500	Freiburg	Germany	.714	RA32	200	Saratov	Russia China
526	LKH	700		Norway	714	COMK	2000		
527.		3000		Yugoslavia	714	JODK	1000	Heijo (Seoul)	Chosen
535		700		Germany				D 1:	(Korea)
535		750		Germany	717	120000	4000		Germany
545	RA20	1200		Russia	718	2₹A	5000	Wellington	New Zeala
	44,100	20000		Hungary	724		2500	Rabat	Morocco

Kcy	8. Call	Watt.	8 City	Country	Key	s. Call	Watt	s City	Country
733	5CL	2500	Adelaide	Australia	931	SCC	500		
734		10000		Poland	931	SBB	10000		Sweden
735		2200		Estonia	937				Sweden
743		1000				PRAB	500		Brazil
750	LR7	1250		Switzerland	937	COPK	1000		China
750	PRAA	1000		Argentina	940	2500	750		Germany
750	IKAA			Brazil	940	2RN	1500		Irish Free St.
	71.0	250		France	949	LR3	1000		Argentina
750	7LO	2000		Kenya	949	2GB	1500	Sydney	Australia
750	JOBK	10000		Japan	950		500	Marseilles	France
750	EAJ2	750		Spain	956	K4	250	Tucuman	Argentina
752	5SC	1000		Un. Kingdom	958	5DN	250	Adelaide	Australia
758.9	9	12000		Rumania	959		1500	Krakow	Poland
759	JQAK	5000	Dairen	Kwangtung	963.1	F2BD	480	Agen	France
760	LT4	500	Mendoza	Argentina	967	8DB	100	Algiers	Algeria
769	JOHK	10000		Japan	967.8		2000	Paris	France
769		1500	Franfort on Main	Germany	967	PRAP	300	Pernambuco	Brazil
770.2	2	8000	Toulouse	France	968	5WA	1000	Cardiff	
777.2		500		France	977	JWA			Un. Kingdom
779	IGE	1200	Genoa	Italy		2 1 4	700	Zagreb	Yugoslavia
779	102	500	Wilna	Poland	980	3YA	500	Christchurch	New Zealand
779	4 Q G	2500	Brisbane		983.6	PIAA	500	Lisbon	Portugal
779	ĹŘF	700	Fredrikstad	Australia	986		1500	Bordeaux	France
789	ZTD	1000		Norway	990	LR4	2000	Buenos Aires	Argentina
789	710		Durban	South Africa	995	2BD	1000	Aberdeen	Un. Kingdom
	JOCK	10000	Kumamoto	Japan					_
789	LR1	500	Buenos Aires	Argentina				1000	
789	PRAJ	200	Juiz de Fora	Brazil	_				
789	OAX	1500	Lima	Peru					
789	cwos	500	Montevideo	Uruguay					
797	2ZY	1000	Manchester	Un. Kingdom	1000	RA21	150	Tomsk	Russia
					1000	OPX	1000	LaPaz	Bolivia
			800		1006	PH9	6200	Huizen	Netherlands
_			-		1009		200	Jyvaskyla	Finland
					1013		10000	Tallinn	Estonia
					1016	CMAO	250	Santiago	Chile
800	ZTC	1000	Cape Town	South Africa	1022	0	500	Limoges	France
804	CMAC	1000	Santiago	Chile	1023	2UE	125	Sydney	Australia
806	CMAC	4000	Hamburg		1023	OKK	2500	Kosice	Czecho-
808	3LO	2500	riamourg	Germany	1023	UKK	2300	Mosice	
809.2	3LU	2 300	Melbourne	Australia	1029.	o VD	500		slovakia
		1000	Seville	Spain		3 1 K		Lyon	France
809.2	EAJ5	1000	San Sebastian	Spain	1030	I Do	750	Vipuri	Finland
810	JOCK	10000	Nagoya	Japan	1030	LR9	2000	Buenos Aires	Argentina
810	VUC	3000	Calcutta	India	1034	CMAJ	100	Valparaiso	Chile
823	2	12000	Algiers	Algeria	1040	6BM	1000	Bournemouth	Un. Kingdom
824	LKB	1000	Bergen	Norway	1040	6LV	130	Liverpool	Un. Kingdom
825	F8GC	1500	Paris	France	1040	2DE	130	Dundee	Un. Kingdom
828	LR5	2000	Buenos Aires	Argentina	1040	2EH	350	Edinburgh	Un. Kingdom Un. Kingdom
831	JOIK	10000	Sapporo	Japan	1040	6KH	130	Hull	Un. Kingdom
833		4000	Stuttgart	Germany	1040	5PY	130	Plymouth	Un. Kingdom
833	PRAE	1000	Sao Paulo	Brazil	1040	2LS	130	Leeds & Bradford	Un Kingdom
840	G5	250	Venado Tuerto	Argentina	1040	6FL	130	Sheffield	Un Kingdom
840	VUB	3000		India	1040	6ST	130	Stoke on Trent	Un. Kingdom Un. Kingdom
842	2LO	30000	London	THOIR	1040	5SX	130	Swansea	Un. Kingdom
849	JOFK	10000	Hiroshima	Un. Kingdom	1049	2ZF	150	Palmerston	Nam 7-1-1
849	2BL	2500		Japan	1049	-2.1			New Zealand
851	LDL	7000		Australia	1050	D5	200	Montpellier	France
855	EAJI			Austria	1058		500	Bahia Blanca	Argentina
		7500	Barcelona	Spain				Innsbruck	Austria
857 857	EAR5	200	Las Palmas	Canary Islds.	1059 1059		2000	Berlin	Germany
	ZBW	1500	Victoria Peak	Hong Kong Brazil			1500	Dortmund	Germany
857	PRAD	500∙	Rio de Janerio	Brazil	1059			Magdeburg	Germany
857	CWOR	500		Uruguay	1059		750	Stettin	Germany
869	11111111		Cairo	Egypt	1059	SCU	300	Varberg	Sweden
869	JOAK	10000	lokyo	Japan	1067		1000	Copenhagen	Denmark
870	LR2	3000	Buenos Aires	Argentina	1071	PRAR	500	Sao Paulo	Brazil
877	OKB	2500		Czecho-	1071	2KY	750	Sydney	Australia
				slovakia	1071	2KY CRC	500	Tientsin	China
882	E4	350	Azul	Argentina	1075	OKR	12500	Bratislava	Czecho-
884		700		Germany					slovakia
887	KRC	250		China	1076	LS5	1000	Buenos Aires	Argentina
895	XGY	250		China	1080		200	Caen	France
896		1500		Poland	1086		4000	Konigsberg	Germany
				. oranio	1090	LT3		Rosario	Argentina
			900		1091		250	Angers	France
			900				230	gera	. rance
							4	100	
							1	100	
900	1YA	500	Auckland	New Zealand					
900	JFAK	1000							
	INA			Japan	1100				
905.2				Italy France	1103			Rennes	France
905.2	IIVA	500			1110		4000	Kaiserslautern	Germany
905.2 905.2						0.00			Germany
905.2 905.2 909	LR6		Buenos Aires	Argentina	1110	SCF	150	Hudiksvall	Sweden
905.2 905.2 909 909		1000	Buenos Aires Cairo	Argentina Egypt	1110 1110	SCO	150	Hudiksvall	Sweden
905.2 905.2 909 909 914.1	LR6	1000 1500	Buenos Aires Cairo Grenoble	Argentin a Egypt France	1110 1110 1112	SCO LS4	150 250	Hudiksvall Norrkoping	Sweden Sweden
905.2 905.2 909 909 914.1		1000 1500	Buenos Aires Cairo Grenoble	Argentina Egypt	1110 1110 1112	SCO	150 250 1000	Hudiksvall	Sweden

Kcys. Call	Watts City	Country	Kcys. Call	Watts	City	Country
1123 2UW	250 Sydney	Australia	1471	1500	Ludwigshaven	Germany
1129 SCQ	250 Trollhati	tan Sweden	1481 SCM	250	Kristinehamn	Sweden
1132.1	500 Lille	France	1484 SCH	250	Jonkoping	Sweden
1147 2ZM	160 Gisborn	e New Zealand				
1148 5NO	1000 Newcast				1500	
1149 LR8 1150 2LO	1500 Buenos a 30000 London				1300	
1153 PRAC	500 Rio de J	Un. Kingdom anerio Brazil				
1153 2MK	125 Bathurst					
1158	4000 Leipzig	Germany	1500 2LS	130	Leeds & Bradfo	rd Un. Kingdo
1167 SBH	10000 Horby	Sweden	1515	250	Biarritz	France
1169 CWON	200 Montevi	deo Uruguay	1530 SCJ	250	Karlskrona	Sweden
1175 MRD	1500 Toulous		1560 G2SH	10000	Akureyri	Iceland
1176 3DB	250 Melbour		1635 AFT 2000 RA51	10000 350	Berlin	Germany
1185 1188 1ZQ	4000 Breslau Aucklan	Germany	2000 RA72	800	Leningrad Smolensk	Russia Russia
1190 LS2	1000 Buenos		2142	500	Surabaya	Netherland
1195.2 EAJ18	200 Almeria	Spain				East Indi
1199 5KA	500 Adelaide	Australia	2998	1500	Manaos	Brazil
1199 3ZC	250 Christch	urch New Zealand	3088		Soro	Denmark
1199.5	5000 Bordeau	x France	3446	2500	Haiphong	French Inde
1199 PRAG	500 Porto Al	egre Brazil	2500 4110 27			China
	4000		3529.4 H9XD 3750 F8AV		Zurich	Switzerland
	1200		3998 PK1A	A 500	Nogent-sur-Sei Batabia	ne rrance Netherland
			JJJO I KIA	. 500	Detable	East India
			4262.3 F8GC	1500	Paris	France
1200	500 Toulon	France	4434		Doberitz	Germany
1219	250 Juan les		5169 OKIM	PI 5000	Prague	Czecho-
1219 ON4RW	200 Liege	Belgium	£150 155			slovakia
1219 ON4RG	400 Ghent	Belgium	5170 IBR	1000	Bandoeng	Netherland
1219	750 Kassel	Germany	5290 AGJ		N1	East Indie
1219	700 Kiel	Germany	5552 AFT	10000	Nauen Berlin	Germany
1219 1219	Abo 1500 Biorenbo	Finland	5879 AIN	10000	Casablanca	Germany Morocco
1219	750 Jakobsta	rg (Pori)Finland d Finland	5996 PK2A1	500	Djokjakarta	Netherland
1219 SCB	200 Eskilstur	a Sweden			-,,	East Indie
1219 SCI	200 Kalmar	Sweden	5996 3ZC	250	Christchurch	New Zealan
1219 SCL	200 Kiruna	Sweden	6057	. 500	Lyngby	Denmark
1219 SCP	400 Saffle	Sweden	6662 PH3CI	ł 250	Surabaya	Netherland
1220	500 Linz	Austria	6666.71RAX		D	East Indie
1224 CMAQ 1229	100 Santiago	Chile	6877	2500	Rome Rabat	ltaly Morocco
1238 2BE	1000 Trondhje 1000 Belfast	m Norway Un. Kingdom	6877 SCN	250	Malmberget	Sweden
1250	500 Nimes	France	7005 8KR		Constantine	Tunisia
1254	1000 Nurembu		7055 VS3AB		Johore	Brit. Malay
1265 SCV	200 Orebro	Sweden	7260 VS1AB		Singapore	Brit. Malay
1270 LS3	1000 Buenos A	ires Argentina	7313 PK6K2	500	Makassar	Netherland
1281	1500 Muenste		7317.1	2000	D:.	East Indie
1287 G4 1298 SCG	560 Rafaela 200 Helsingb	Argentina	7462.7 YR	500	Paris Lyon	France France
1298 SCG 1298 SBC	200 Helsingb 600 Malmo		7590 JFAB	300	Taipeh	France Japan
1298 SCS	200 Umea	Sweden Sweden	7963		Doberitz	Germany
500	200 011164	O wedell	7995 JHBB		Hirasio	Japan
	1300		8818		Para	Brazil
			8950 7LO	2000	Nairobi	Kenya
			8995	500	Reykjavik	Iceland
204	C	1 0	9225 2BL	2500	Sydney	Australia
304 309 SCA	Schaerbe		9369 ZTJ	15000	Johannesburg	South Africa
321	4000 Cologne	Sweden Germany	9369 3LO	2500	Melbourne	Australia
330 PRAO	1000 Sao Paul		9375	. 1000	Rerne	Switzerland
330 J2	400 Concordia		9375 H9XD	. 1000	Zurich	Switzerland
337 6CK	1000 Cork	Irish Free St.	9375 FL	15000	Paris	France
344 LOAA	10000 Luxembu	rg Luxemburg	9488	. 500		
351 LS7	1000 Buenos A	ires Argentina	9761 F2BD	480	Lyngby	Denmark
357	10000 Helsingfo		9772 EAM		Agen	France
363.6	250 St. Etieni 1500 Beziers		9994 LGN		Madrid	Spain
375 ON4GT	100 Brussels	France Belgium		2500	Bergen	Norway
375 SCK	250 Karlstad	Sweden	10520 2FC	2500	Sydney	Australia
375 SCW	200 Ormskoel		10520 2ME		Sydney	Australia
379	1500 Flensburg	g Germany	11760 SAS		Karlsborg	Sweden
388 ON4CE	200 Chateline	au Belgium	12490 SQBE		Bahia	Brazil
390 SCE	200 Halmstad		15300	. 500	Lyngby	Denmark
	1400		17430 AGC		Nauen	Germany
	1400		17640 PLF		Malabar	Netherland
						East Indie
			17778 PHI	40000	Huizen	Netherlands
410 D4	100 Mar del I	lata Argentina	19355		Nancy	France
428 LS6	1000 Buenos A	ires Argentina	59964 PK4PA	240	Palembang	Netherland
1470 SCD	200 Gavle	Sweden				East Indie

FAVORITE PROGRAMS

DAILY	WEDNESDAY		
DAILI	TI DOI I DODI I		
SUNDAY	THURSDAY		
MONDAY	FRIDAY		
TUTEDAY	CATIDDAY		
TUESDAY	SATURDAY		

HOW TO TUNE A SET CORRECTLY

Read This Page Carefully and You Can Set Your Dials Accurately for Any Station in America

Spokane, Wash, Llouin, Nobr, Buston, Mass, Omaha, Nobr, Berrien Springs, Mich

Iroquola Falla, Out. Laramie, Wyo. San Diego, Calif. Baltimore, Md. Byloit, Wia. Lawrenceburg, Tenn. Hemphis, Tenn. Harsford, Conn.

San Prancisco, Calif. Kansas Ciry, Sto. Fililadelphia, Pa. Philadelphia, Pa. kansas City, Mo.

Victoria, B. G. Yorkiun, Sask, Aluncton, N. B. Matalian, Mes. Columbia, Mo. Evansville, Ind. Washington, D. G. Jefferson City, Mo.

5000 Los Angeles Calif.

2000 Nashrille, Tenn.

WAAW 500 Omaha, Nebr. WEAF 50000 New York City

5000 Chicago, Ill.

EPO 8000 San Francisco, Cal.

A LL stations in America are listed in RADEX in three tables:

1st by Frequencies. 2nd by Call Letters 3rd by States and Cities.

The Index by Frequencies is the one to be used, the other two are merely

READ NGW WDAE WDBO WLICZ WFMJ

WMAG

supplementary.

Let us assume you have bought your first EX. Proceed as iust. RADEX. follows:

Tune in some stationany station that comes in. Tune it sharply, turning down your rheostats (Volume control) until we find the marks on your dials at which it comes in most clearly and with

greatest volume.

Let us assume that the station we are hearing is WEAF in New York. First we must ascertain the frequency for this station. Look it up under WEAF in the Index by Call Letters or under New York in the Index by States and Cities. In either of these indexes we find that the frequency of WEAF is 660. Now we turn to 660 kilocycles in the Index by Frequencies and Dial Numbers. Here we find that WEAF is one of the two stations which have been assigned the 660 kcys. frequency by the Federal Radio Commission. We also find that it has a power of 50,000 watts, that it is located in New York City and is owned by the National Broadcasting Co., Inc.

In the blanks for dial numbers opposite 660 kilocycles (which is the wave length of 454.3 meters) enter the dial readings of your set. It is immaterial whether your set has one, two or three dials. Use as many of three spaces provided as you need. The set used in the illustration had two dials. In this case we entered the dial readings for 660 kilocycles as 69-67.

Let us now tune in some other station. We repeat the same procedure in tuning and find that we are hearing, let us say, WOS at Jefferson City. Proceed as before in ascertaining the frequency of WOS. This we find to be 630 keys. We turn to 630 in the Index by Frequencies and enter our dial readings for this band which on the set we are using was 72-70.

We now have found that the dial numbers for 630 keys. are 72-70 and the dial numbers for 660 keys. are 69-67. If we now will set our dials for 70-68 it is obvious we will have our set tuned for 650 keys. We listen carefully and if they are on the air and within range of our set we will tune in WSM of Nashville at this point. We then enter the dial readings for WSM opposite 650 keys. Now it is

clear that if we reset our dials at 71-69 our set will be tuned to 640 kcys. and at that point KFI of Los Angeles will be heard, always assuming, of course, that it is on the air and within range of our particular set.

Now we tune in some other station, proceeding as before until after an

evening or two, we have INDEX BY FREQUENCIES AND DIAL NUMBERS blanks filled on every page. We are now able to set our dials for any frequency we desire and consequently any station we may want whether we have ever received it before or not. Our index now becomes

67 65 | Itale Bros. & The Chronicle Durham Life Insurance Co

of great value to us in identifying programs. Let us say that we hear music at 67-65 on our dials. We refer to our Index by Frequencies and Dial Numbers and we find that we are in tune to 680 kilocycles. On this wave there are two stations: KPO at San Francisco and WPTF at Raleigh, N. C. Both of these stations have 5000 watts in power. But knowing which is the closer to our set, we can tell almost invariably which station we are hearing. The we are hearing. The Radio Commission has had to give the same frequency in most cases to several stations but they have distributed them geographically so they should not interfere. When two stations in the same locality have the

same locality have the same frequency, they are required to divide the time. In this case, of course, it is not possible to tell which one of the two stations is broadcasting at the particular moment we hear it, but we do know it is constant. we do know it is one or the other of them.

The second column in the Index by Frequencies, as we have seen, gives the power of the station as measured in watts. This power also aids us in identifying stations as we will not ordinarily hear those stations with 500 watts or less unless sey are close to our home city.

The Index by Call Letters also has spaces providing for logging dial numbers but these are provided merely for the convenience of those who want to be able to turn instantly to some favorite station. They may or may not be used as you desire. Remember that it is the Index by Frequencies that we must use to get the most value and pleasure out of our radios.

The Index by Frequencies is now printed with marginal tabs. If you will fill in under the word "dial" your reading for this particular frequency. you can then turn instantly to any frequency desired. Take a pair of shears and cut along the dotted line, as shown.

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