THE APRIL 1929 EDITION

RADIO INDEX

"THE TUNING BOOK"

"I JUST *Love* MR. McNAMEE"

RADEX shows the frequency to which set is tuned as dials are turned, gives exact location of dials for any station in America and identifies programs received without announcement. For any dial and any set.

No. 28 The Non-Technical Radio Magazine NSE

Use Your RADEX Properly

AND it will add tremendously to your pleasure and success in tuning your radio set. RADEX is so simple a child can use it and yet we find that many people are not using it properly. If you will follow these simple directions, RADEX will do for you the following things:

Show you the wave length and frequency to which your set is tuned whenever you place your dials.

Tell you where to set your dials for any station in America, even those you have never received.

Identify programs received the instant you hear them without waiting for announcements.

All 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 supplementary.

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

Tune in some station — any 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.

INDEX BY FREQUENCIES AND DIAL NUMBERS

590 kilocycles 508.2 meters			76 | 74	
KHQ	1000	Spokane, Wash.		Louis Wasmer, Inc.
WCAJ	500	Lincoln, Nebr.		Nebraska Wesleyan University
WEEI	500	Boston, Mass.		Edison Elec. Illuminating Co.
WOW	1000	Omaha, Nebr.		Woodmen of the World
WEMC	1000	Berrien Springs, Mich.		Emmanuel Missionary College
600 kilocycles 499.7 meters			75 | 73	
CFCH	250	Iroquois Falls, Ont.		Abitibi Power & Paper Co.
KFBU	500	Laramie, Wyo.		Bishop N. S. Thomas
KFSD	500	San Diego, Calif.		Airfan Radio Corp.
WCAD	250	Baltimore, Md.		Monumental Radio Co., Inc.
WEHW	250	Beloit, Wis.		Beloit College
WOAN	500	Lawrenceburg, Tenn.		Vaughan School of Music
WREC	500	Memphis, Tenn.		WREC, Inc.
WTIC	250	Hartford, Conn.		Travelers Insurance Co.
610 kilocycles 491.5 meters			74 | 72	
KFRC	1000	San Francisco, Calif.		Don Lee, Inc.
WDAF	1000	Kansas City, Mo.		Kansas City Star Co.
WFAN	500	Philadelphia, Pa.		Keystone Broadcasting Co., Inc.
WIP	500	Philadelphia, Pa.		Gimbel Bros., Inc.
WOQ	1000	Kansas City, Mo.		Unity School of Christianity
620 kilocycles 483.6 meters			73 | 71	
KFAD	500	Phoenix, Ariz.		Electrical Equipment Co.
KGW	1000	Portland, Ore.		Oregonian Publishing Co.
WIBE	1000	Tampa, Fla.		Tampa Publishing Co.
WDBO	1000	Orlando, Fla.		Rollins College, Inc.
WLBZ	500	Dover-Foxcroft, Me.		Thompson L. Guernsey
WTMJ	1000	Milwaukee, Wis.		Milwaukee Journal
630 kilocycles 475.9 meters			72 | 70	
CFCT	500	Victoria, B. C.		Victoria Broadcasting Ass'n.
CJGX	500	Yorkton, Sask.		Winnipeg Grain Exchange
CNRA	500	Moncton, N. B.		Canadian National Railways
CFCL	250	Muxatitan, Mex.		Carrillo Llamas
KFRU	500	Columbia, Mo.		Stephens College
WGHP	500	Evansville, Ind.		Evansville on the Air, Inc.
WMAL	500	Washington, D. C.		M. A. Leese Co.
WOS	500	Jefferson City, Mo.		State Marketing Bureau
640 kilocycles 468.5 meters				
KFI	5000	Los Angeles, Calif.		Earle C. Anthony, Inc.
WAIU	5000	Columbus, Ohio		American Insurance Union
650 kilocycles 461.3 meters			70 | 68	
WSM	5000	Nashville, Tenn.		National Life & Accident Ins. Co.
660 kilocycles 454.3 meters			69 | 67	
WAAW	500	Omaha, Nebr.		Omaha Grain Exchange
WEAF	50000	New York City		National Broadcasting Co., Inc.
670 kilocycles 447.5 meters			68 | 66	
WMAQ	5000	Chicago, Ill.		Chicago Daily News, Inc.
680 kilocycles 440.9 meters			67 | 65	
KPO	5000	San Francisco, Cal.		Hale Bros. & The Chronicle
WPTF	5000	Raleigh, N. C.		Durham Life Insurance Co.

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 the 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 kcys. 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 have now found that the dial numbers for 630 kcys. are 72-70 and the dial numbers for 660 kcys. are 69-67. If we now will set our dials for 70-68 it is obvious we will have our set tuned for 650 kcys. 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 kcys. Now it is clear that if we reset our dials at

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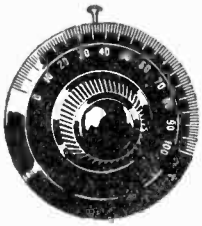

RADIO INDEX

FRED C. BUTLER, Editor

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Contents

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All-Electric Receivers

Locating and Curing Troubles

By E. R. Haan

BESIDES the possibility of troubles arising from a number of sources common to both battery-operated and all-electric receivers, there are a few additional sources of trouble in the latter. The most common trouble encountered in all-electric receivers is a 60-cycle hum, and although it cannot be entirely eliminated, it can be greatly minimized so that it is barely perceptible. In case of excessive hum, however, reception is seriously interfered with, and the tone quality of the receiver is impaired considerably. Very often the cause of excessive hum is found in a poor wiring job, an overloaded B-supply, proximity of the B-supply to the receiver, and unshielded a. f. transformers, or those of poor design. Only in a few cases is a hum caused by heating of the tube filaments with alternating current.

Induction from wires carrying a. c. in the receiver often cause an annoying hum. This is especially true when a switch controlling the 110 volt input to the B-eliminator and the filament transformer is mounted on the panel of the receiver, and the leads carrying such a high-potential current are laid in close proximity to the wiring of the receiver. The grid leads of the receiver are the ones that pick up the disturbance caused by the electromagnetic field about the switch leads, and when this is amplified by the tubes a very unpleasant hum results. It is preferable, therefore, to install this switch at least one foot away from the receiver, unless the leads to the switch are thoroughly shielded. This can be accomplished by running it through a metal tube, either rigid or flexible, and connecting the tube to the ground line of the receiver. In wiring a receiver with leads for carrying 1.5, 2.5 and 5-volt currents, care should be taken to avoid getting them close or parallel to grid leads. It has always been standard practice to make the grid leads as short as possible, and not to run them parallel to plate leads. In all-electric receivers this practice is of still greater importance, and care should also be taken to prevent parallel wiring of grid and filament leads.

An overloaded B-supply is one of the most frequent causes of excessive hum, and this is particularly true in case of homemade receivers, where use is made of a B-eliminator previously used on a battery-operated set. The addition of a power tube in an all-electric receiver increases the load of plate current that the B-eliminator must supply, and the result is that the unit is sadly overloaded, which causes a hum in reception. Although a B-eliminator can furnish a current slightly above its rated capacity, it has been found that as the maximum drain is approached, the filtering unit ceases to operate as efficiently as it does on a minimum drain, due to the magnetic saturation of the choke coils. The result is an overloading of the rectifier unit and of the filter condensers, which greatly decreases the smoothness of the current delivered by the unit, which is evident from the hum. It is therefore highly advisable to equip the receiver with a B-supply that will provide more current than is actually needed. If the total load required from the B-eliminator is equal to about two-thirds of its maximum capacity, little trouble will be had in respect to a hum caused by an overloaded unit. The unit should be well-shielded, the shield being connected to the ground line of the receiver to prevent inductive effects. Unshielded a. f. transformers, and those of inferior type, which are often inadequately shielded, pick up a 60-cycle hum, and cause trouble. Better results can be obtained by using well made and properly shielded a. f. transformers. If, after the above-mentioned precautions have been taken there is still a perceptible hum, try the following method. Connect two 2-mfd. fixed condensers in series across the filament lines of the receiver, supplying the detector tube, and connect the center point between the condensers to the ground line.

Another source of trouble in all-electric receivers is the fluctuation of 110-volt house-lighting current. Although theoretically the voltage delivered by the power company is 110 volts, with a permissible variation of 5 per cent above and below this figure, actual tests have disclosed the fact that the voltage in many cases often varies between 90 and

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Movies in the Air

Jenkins Radio Television

THE Jenkins Radio Movies are broadcast three evenings each week, on Monday, Wednesday and Friday from 8 to 9 p. m., from station W3XK, operating on 46.72 meters, located in Washington, D. C. As soon as the number of those equipped with television receivers warrants it, however, the pictures will be sent out six times weekly. They are broadcast simultaneously on two wavelengths, a short-wave channel serving the distant "lookers-in," and a regular broadcast channel being employed for the benefit of the television enthusiasts of Washington and its immediate vicinity. At the present time, only simple picture subjects and picture stories in silhouette are being transmitted.

These are much easier for the amateur to pick up at first and, in addition, may be transmitted in a rather narrow wave band, thus allowing greater latitude in the choice of subjects. However, just as soon as the Federal Radio Commission grants Mr. Jenkins a satisfactory radio channel, he will install a new transmitter which he has developed and which is capable of handling half-tone pictures.

Let us now briefly examine the Jenkins Radio Movies from the standpoint of both transmission and reception.

Early in his experiments, Mr. Jenkins realized the difficulties inherent in picking up his television subjects directly. After struggling with the limitations imposed by the crude scanning disk, the supersensitive photo-electric cell, the small dimensions of the television stage itself, the critical lighting conditions and last but not least the apparent dearth of subjects suitable for televising, Mr. Jenkins fell back upon the motion picture for a satisfactory solution. In brief, he decided to record his subjects on a motion picture film. From the negative of this film, any number of positive prints may be made up and distributed to those broadcasters who are equipped with the Jenkins transmitting device. It is thus obvious that Mr. Jenkins has already disposed of one of television's most serious problems.

The positive print of the film is placed in the Jenkins transmitting device, a machine that resembles the ordinary motion picture projector. As the film moves through the gate of the projector, it is sharply bent to form an absolutely straight plane, and it is this plane that is ingeniously scanned by a narrow pencil of light which sweeps across it line by line. Passing through the more or less transparent film, this beam of light falls upon the photo-electric or light sensitive cell which converts the varying transparency of the film at any given point into varying electrical impulses. These impulses are amplified and impressed on the outgoing waves of a broadcast transmitter.

At the receiving end, Mr. Jenkins has likewise scored comparable and, indeed, noteworthy progress. As a matter of fact, there is little in common between the Jenkins receiving system and other television reception systems beyond the broad basic principles of the art. These principles are generally known and need not be repeated here in detail. Suffice it to say that a variable light spot is converted into a series of parallel and overlapping lines within a fraction of a second so that, because of the slowness of the human eye to respond to changes of scene, the illusion of an animated image is created. At any given instant, however, the television image is nothing more than a single point of light.

Some of the present-day television experimenters are still working with the giant, whirling scanning disk which, in conjunction with the powerful but electrically inefficient single-plate neon lamp, produces a tiny image about 1¼ inches square. Inasmuch as this image can be viewed by but one person at a time, it is obviously little more than a laboratory toy in the hands of most of those who are seeking to perfect it. Jenkins, however, long since discarded these crude devices, and his latest home television receiver incorporates a novel scanning drum, a four-plate or multiple target neon lamp of modest current re-

(*Continued on page 11*)

Catching Bandits by Radio

State-wide Burglar Alarm Systems

RADIO is now a foe to banditry in several States — notably, Iowa, Illinois, Indiana, Minnesota, Michigan, Kansas, Wisconsin, Oklahoma, and California. The Radio section of the New York *Sun* tells us that vigilance committees have been organized in these States, and that when information of a bank robbery is spread by radio or other avenues of communication, these give a practical demonstration of their plan of attack—"organized surprise and regulated violence." This means, says *The Sun*, that corn-belt citizens, armed with sawed-off shotguns, awe the bandits into surrender without firing a shot. It goes on:

"The role of radio in flashing information relative to a bank robbery is similar to that performed by wireless communication in furnishing data concerning the iceberg menace in the North Atlantic Ocean. Bandits operating in these States where vigilance organizations are maintained, upon being detected, are the suojects of descriptions by radio—outlining their location, the course of their retreat, and other details.

"For example, WHO, broadcasting station of the Bankers Life Company of Des Moines, Iowa, upon receipt of information that a bank robbery has been perpetrated, immediately gives the alarm by radio. During the last year or so, a number of bank hold-ups have occurred in the State, and station WHO has gone 'on the air' immediately, upon receipt of information concerning the hold-ups, with a warning."

A State-wide radio burglar-alarm system was tried by station WHO by the sounding of a gong into the microphone of this station and a bell or light attached to radio receiving sets. The project was not found feasible, and was abandoned. We read further:

"The default of this radio burglar-alarm system does not necessarily rob this form of communication of its virtue as an aid in apprehending bandits when simply disseminating information concerning the presence of bank robbers. This is attested when we are told that the vigilance committees of Iowa and other States have enlisted radio-broadcasting stations together with secret telegraph-wire systems and telephone lines for spreading burglar alarms. Fortunately the invisible radio waves are not subject to the slashing efforts of bandits—and attempts to sever radio communication facilities are futile compared with the usual success of robbers in cutting telephone and telegraph wires.

"The broadcasting station as a veritable alarm in the wake of the criminal—from the petty offense of stealing an automobile to a hold-up resulting in the loss of life—is finding increasing usefulness. The mother who recently heard through her radio loud-speaker of a broadcast description of her sons in the role of bank robbers may have been an example of cruel vindication of justice, at least to that mother, but it was likewise testimony to the effect that criminal news by radio does not travel with leaden feet. There are numerous broadcasting stations engaged in daily dissemination of information concerning stolen automobiles, and where this service is not maintained by the station, persons who are victims of car thefts employ radio as a sort of newspaper 'stolen' column. The Federal Government is using radio in its efforts to detect and suppress rum smuggling, and several large municipalities are resorting to city-owned radio stations as a means of quickly flashing news of a crime in efforts to apprehend the perpetrators."

When a Signal Fades

One may have noticed, when a distant station is tuned in on a receiver, that the signal varies in volume, sometimes becoming almost or entirely inaudible, but finally coming back again to its original volume. This is called "fading," and it is caused by varying atmospheric conditions between the receiver and the broadcasting stations. Sometimes the signal strength of the station varies, and this is mistaken for fading. When fading is noticed, do not attempt to increase the filament current of the tubes beyond their proper operating point, nor attempt to retune the dials, for the signal may then be lost entirely. E. R. H.

WE HAVE so many interesting letters from readers this month that it will be impossible to find space for them all. First is one from Francis E. Cobb, State Forester and President of the North Dakota School of Forestry at Bottineau, N. Dak., who writes: "I have now recorded 241 stations since the reallocation on November 11th and very seldom do any DXing before ten o'clock in the evening and many evenings I am away and do none. RADEX is surely of wonderful assistance in locating stations especially the smaller ones. When one does not have a list of call letters for a particular waveband, a station call is very easily misunderstood. I think RADEX is gotten up in most convenient size and form. I would not be without one and am only sorry they are not issued at least bi-monthly during the summer."

Every Month Now

Now here is some good news for Mr. Cobb and many others who have regretted that RADEX is published only during the winter. From this time on RADEX will be published monthly throughout the year with the exception of the months of July and August. The new subscription price will be $1.75 for the ten issues.

We are under real obligations to Mr. Norris McElya, a prominent attorney of Miami, Florida, for his suggestion that we tab the Index by Frequencies like a dictionary so that the desired frequency may be turned to instantly. We will try to incorporate this idea in either this or the next issue. Users may then cut the margins along the dotted lines and in two minutes tab their index—a feature we are sure that will be greatly appreciated. Mr. McElya makes the further suggestion that a space or two be left at the bottom of each column in the Index by Call letters in which new stations may be added. This idea we are also planning to put into practice.

"I am thankful to my dealer from whom I bought my Atwater Kent radio set, for introducing me to RADEX," writes James C. Hannan of 1225 Summer St., Philadelphia. "I want to tell the thousands of other radio owners that their enjoyment is not and will not be complete until they secure a copy of RADEX or subscribe to this little gold-mine of radio information. I am backing up this assertion with the enclosed subscription for RADEX and one of the leatherette covers."

Which to Buy

We are often asked to recommend a particular make of radio set or accessory. Obviously we cannot do this. We might as well try to recommend some particular motor car. Edwin E. Humphries, 2014 Columbia Ave., Swissvale, Pa., writes to ask which of several makes of tubes we would recommend. In the first place, one will do well to use the tubes recommended by the manufacturer of the set for he knows best what the set requires. Where there are several different makers of that type of tube, one can usually be best guided by the price. In these days of sharp competition, we usually get just what we pay for. If we use dollar tubes we get a dollar's value as compared with tubes costing three or four times that much. There are a number of large and responsible manufacturers whose tubes are well-known and ordinarily it is best to buy the product of such firms rather than those made by firms unknown. The firm that spends large amounts advertising its product must be very jealous of its good name for it has cost many thousands of dollars to establish it. The unknown firm merely needs to adopt a new name if it gets a bad reputation under the old one. This same rule of course applies to sets and speakers and all other accessories as well as to tubes.

"I now have 410 stations listed on my RCA 60," writes Burton D. White, of 108 Meigs Ave., Clarksburg, W. Va. "You have the best book that is on the market in which to log stations and keep a correct record."

PWX Again

David A. Murray of 37 Cornwall Street, Halifax, Nova Scotia, is another who was puzzled by finding a station on 840 keys, whose announcer spoke in both Spanish and English. "I know it is on 840," writes Mr. Murray, "because my RADEX shows me that it comes exactly between Denver, 830, and Shreveport, 850. Your plan of logging stations by frequencies is excellent and I find I can locate any station without any trouble. RADEX is the clearest and most complete book I have ever seen."

Here is a record that will be hard to beat. A friend from Elizabeth City, N. C., who asks us not to use his name, writes us about it: "On the evening before Thanksgiving Day and just a couple of weeks after all wave lengths had been reallocated by the Commission, I sat down with the intention of logging some stations that night. I did not care what time I finished the job as the next day was a holiday and I could then sleep. So at 8:15 I got to work. Before 5:45 A. M. I logged 101 stations, covering the Atlantic to the Pacific coasts and from Canada to Cuba. I could not have gotten all of these stations without my RADEX. Since the reallocation I have logged 237 stations with the help of RADEX. I have an old five-tube Crosley "5-50" which has always given me excellent results BUT I never was able to get as good results from my set in the past without RADEX as I am now getting with it."

Now Showing Power

"I like the suggestion that you give the power of the station in the Index by Locations," writes W. M. Johnson of Grayville, Ill. "I am always glad to get the new RADEX for my old one gets worn out about the time a new one comes. By the way, I helped a friend locate some trouble in his set the other day. The service man could not locate it—I did, but I first looked up the trouble in my RADEX." Thousands of other users have found Mr. Haan's articles on Radio Troubles to be immensely helpful. In this issue we have another article for the multitude of new users of All-Electric sets.

As will be noticed, we are incorporating in the Index by Locations this month, the power in watts as well as the frequency. If you want to get into touch with some particular city now you can see at a glance which station in that city has the greatest power. If you receive a station from that city and do not catch the call letters, the power rating will help you to identify it.

Puzzling Stations

Our Mail Box is helping to locate many stations heard by users and this month we have a number of requests for aid which we feel sure some of our good friends will be able to answer. George C. Shoemaker, Jr., of 1415 Longfellow St., N. W., Washington, D. C., writes to ask what station he could have heard on Friday morning, February 8th about 1:00 a. m. "It sure has me guessing," he says. "It does not seem to be listed in RADEX. The station was broadcasting on about 320 to 330 meters. It wasn't KPRC but the call letters sounded exactly like KTTT or KTTC. The announcer mentioned something about 10 o'clock and from this I have a hunch I had a very distant station. Perhaps it is a new station; I would sure appreciate it if you could give me any information concerning it."

Several readers report that CJRM and CJRW are received at 600 kcys instead of at 1010 as listed. The very last list issued by the Canadian government shows 1010 as the proper listing. We are trying to ascertain the correct frequencies for these two stations in time to include them in this issue. WEMC is also reported as being received on 680 instead of 590 as listed.

"Is KMBC in Kansas City or Independence? My RADEX says Independence but the announcer says Kansas City," writes Roland Miller of 311 Courtland, Topeka, Kans. The official list from the Radio Commission gives Independence as the correct location but it must be remembered that in many instances the station is located at one point and the studio at another. We always endeavor to give the studio location but lacking correct information on this point, we play safe and use the Radio Commission data

Who Knows DAN?

"Early Sunday morning, January 20th," writes C. S. Lenderman, of 305 Lore Ave., Wilmington, Del., we had a station whose call letters were DAN or BAN or CAN. The program was almost entirely personal messages from members of the Byrd's Expedi-

tion to their relatives and friends back in the States and in two cases to Germany. The announcer made frequent references to "The City of New York" and another ship which is either "Evelyn" or "Eleanor." At one stage of the broadcast they gave a short instrumental number. In signing off the announcer stated that it was then 1:30 p. m. but according to eastern standard time, it was exactly 4:00 a. m. Can you give me any information regarding this station?" If any of our readers can throw any light on this inquiry, we will be glad to receive it and pass it on to Mr. Lenderman. The same correspondent also heard a station at 4:30 a.m. Sunday, January 27th but could not get the call letters other than the last two which were either IO or YO. The announcer continually used the expression, "The Top of the World on Mount————" He also referred to telegrams and requests from points in the northwestern states.

Miss C. A. Brinkerhoff of 317 Clinton Ave., Oak Park, Ill., calls our attention to the fact that CZE is now XFX. She wants to know why we give WFBL and WTIC two frequencies. The answer is that these stations have in addition to the regular license a construction permit for larger power on another frequency. As they may make the shift at any time, we have been showing both frequencies.

A number of stations seem to be changing their call letters either without notifying the Radio Commission or the latter is failing to make the change public. For instance, E. O. Johnson of Atlanta, Ga., writes that he receives WJET at 760 or 770, WHSB at Cicero, Ill., at 1320 or 1330, WIIOS at Forest Park, Ill., at 1470 and WJT at the same place at 1480. Joseph Nuszkowski, 2817 W. Cullerton St., Chicago, writes us that WHT is now WSOA at 1480 and at Forest Park, Ill., and that WJJD is now on 1140 instead of 1180. He also asks as do others, if WIL at St. Louis has shifted from 1420 to 1210. The Radio Commission list of Feb. 1st shows WIL still at 1420. Who can advise us about these stations? Mr. Nuszkowski writes: "I sure am glad there is such a book as RADEX. It is the best there is and I ought to know as I have tried them all. It is 99½% accurate and that is 60% more than any other. I cannot say enough to praise it. It has helped me to get 220 DX stations with verification of more than 150 of the farthest ones and that is going some in this burg as you know that Chicago stations are very powerful."

Time to go to press. Au revoir until next month.

An Artist Announcer

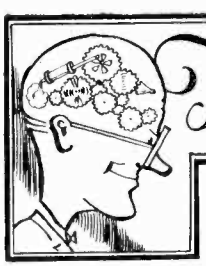
I DON'T know how the genius of a radio announcer should be described. Should he be called literary or eloquent?

Graham McNamee is a wonder. I have listened to this man at baseball and football games, prize fights, political conventions, and great doings everywhere. His skill in bringing dramatic moments into clear focus, so that one may enjoy them to the utmost, is uncanny. I would rather hear McNamee report a prize fight than witness an encounter from a $20 seat. I have tried both and that is my decision.

McNamee realizes that what the listener wants is drama. We are less interested in technical accuracy than in thrills. Instead of waiting until a play is completed, or until a blow is struck, or until a poll is announced, he broadcasts the moment of suspense. His personality and the quality of his voice are perfect for this purpose. He communicates the feeling that he is having a good time, is alive, and, as everyone knows, delight is the soul of art.

If McNamee has any weakness it is his vocabulary. He often reaches for words that he cannot find. But that is splitting hairs. He completes his sentences, and does not offend by resorting to vulgarisms.

I rank McNamee among the great artists, equal to any contemporary in any field of creative activity. The spontaneity of his wit and the flashing speed of his observation and expression have made present life richer and more joyous.—*William Feather.*



The EDITOR THINKS~

that radio manufacturers who are still using meters on their dials ought to wake up for the use of wave lengths fortunately became passe several years ago. It is some convenience to have dials marked with kilocycles but unfortunately in the great majority of cases, the markings are inaccurate. A dial can be marked correctly for frequencies only after it has been attached to a particular set and that set calibrated. This is of course not practical. The best markings for dials is the decimal system, 0 to 100. Such notation, however, should read from right to left or counterclockwise in order that the progression of dial numbers will be the same as that of kilocycles. In other words, 0 should indicate that the plates of the condenser are entirely in mesh and 100 that they are out. Then both dial numbers and kilocycles will progress in the same direction.

that set manufacturers ought to discontinue the annoying practice of quoting prices on their receivers less this and less that. When anyone is considering the purchase of a radio set he wants to know what that set is going to cost him with the music coming in. He is not interested in knowing the price of the set before the tubes and batteries and speakers and dials and other necessary do-funnies are in place.

that any commission that is controlled by our beloved Congress can never be more than ten per cent. efficient. The Radio Commission never had a chance. In the first place some men were appointed to it who didn't know a wave length from a dynamic speaker. Then instead of choosing one of their number to be a real chairman and deciding matters by majority vote, they divided the country into districts and made each member a sort of crown-prince over that territory. Thereafter each member naturally thought in terms of his district instead of the country as a whole. Congress then saddled upon the Commission the impossible requirement that frequencies must be divided among the districts and among the states in proportion to population. If therefore only two firms wanted stations in any one state, no other state must have more than two for the same population. New York with its great number of stations could of course have only three or four clear waves and now this restriction threatens the whole radio situation.

that WGY started a fire when they went to court over their allocation that it will be difficult to put out. Most people's sympathies were with WGY when they found that station required to divide time even with another station belonging to the same company. WGY certainly was one of the three outstanding stations in New York and should have been given a clear wave rather than WHAM, a comparative newcomer. But even so, WGY made a big mistake when they went to court and now that a decision has been rendered in their favor, their mistake looms just as large. If the courts hold that the Schenectady station has a property right to its wave because of priority of use, then down goes the whole radio structure. It seems unbelievable that a company so greatly and directly interested in radio should threaten to break down the building because it wasn't assigned the room it wanted.

that there is altogether too much orchestra music in the air. Turn your dials almost any evening and you will find some orchestra or other on about seven out of eight channels. Only one band has had a regular place on the weekly evening programs and its announcer unfortunately is suffering from an inferiority complex (?) and insists upon talking four-fifths of the time when listeners-in are anxious to hear the band. We would think more kindly of the sponsor when we buy shoes if they would give us more band and less announcer.

that we, for one, are fond of Hawaiian music and don't care who knows it. We think that string instruments of any sort come in exceptionally well over the radio. We like

instrumental solos of almost any sort, trombone, trumpet, violin—even the jew's-harp. Some day we would like to hear an old-fashioned parlor organ. Say what you will there is nothing that quite touches the sentimental spot like the "songs my mother used to sing." We'd tune out the ordinary orchestra any night to listen to an old parlor organ and some of the good old ballads.

Radio on the Farm

FEW city-dwellers can realize what a God-send radio was to the people on the farms. Not many years ago, I. W. Dickerson, writing in The Oklahoma Farmer-Stockman, points out, the farm family practically hibernated during the winter months. It was a time which especially to the farm women, was a long nightmare of loneliness and discontent. But now:

"The telephone with its chance for neighborly conversation and gossip, its possibilities for spreading quickly really important news and summoning help in cases of sickness or emergency; the rural free delivery of mail in all times except when roads and weather are the very worst, with its daily papers and better contact with markets and news; and the rapid development of the automobile and better roads, with a chance to come and go quickly and easily—all these have done a great deal in breaking up farm isolation and making farm life more enjoyable.

"However, it has been radio which has really pulled back the curtains of isolation and put the farm family at once closely in touch with the best of everything in the way of entertainment, education, travel, and religion. During the long winter days when farm work is slack and the weather and roads are the worst, radio is at its best; and the farm family can sit comfortably before a cheerful fire and listen to sermons on religion and the better life, talks on citizenship and the affairs of state, or on science and education. Maybe the family tires of one speaker or program. If so, a turn of the dial will bring music by a great violinist a thousand miles away. The radio is even greater than the telephone in annihilating distance.

"The radio is already one of the great factors in keeping the young folks satisfied with farm life. Some sort of radio entertainment is usually available, nearly always good, and varied enough to meet almost any demand. The radio furnishes good dance music, and the only preparation necessary for dancing is to push back the table and roll up the rugs. For those interested in sports there are the broadcasts of baseball, football, and basketball games, play by play, and of the scores of all important games."

Radio also has several practical phases of interest to the farmer, Mr. Dickerson reports. One is the daily broadcasting of market reports. Before the farmers had radio, the local shipper received telegraphic reports each morning, and it was quite common on receiving news of a rise in the market to buy up a car-load of live stock before the farmer received news of the advance. Now any farmer with live stock ready to market keeps close tab on the market reports, which he receives as promptly as the buyer does. Farmers have in this way saved enough in a few shipments to more than pay the entire cost of the radio. To quote further:

"Another important radio service is the broadcasting of weather predictions. If rain is called for, the farmer knows better how much alfalfa to cut down, whether to start threshing, or whether it is advisable to start on a long automobile trip over dirt roads. Frost predictions are also valuable to truck growers and fruit raisers. Now that the combine is becoming common and the moisture content of the combined grain must be closely watched, these weather predictions will be even more valuable. Even the women use them, and listening to the weather predictions can tell whether to wash Monday morning or not."

How to Start the Evening Wrong . . . . . By BRIGGS

Electric Receivers

(*Continued from page 2*)

130 volts, this being due to variations in load, improper regulation, poorly-designed feeders, etc. This condition which is so prevalent in many vicinities, is not only annoying to the radio owner, but it also shortens the life of the tubes. When the 110-volt current drops or rises 20 volts from normal, the voltage applied to the tube filaments drops or rises a proportional amount, which in this case is over 20 per cent. As the filaments of UX 226 tubes operate at 1.5 volts filament current, a 20 to 30 per cent overload makes them burn more brightly and consequently shortens their life. The UY 227 detector tube is especially sensitive to overloads, and for this reason it is a good idea to connect a 6-ohm rheostat in one of the filament lines and adjust it so that 2¼ volts are delivered to the tube instead of 2.5 volts. There are, however, automatic voltage regulators obtainable, which are designed to provide a constant 110-volt current to the receiver regardless of whether the input is 90 or 130 volts. If the line voltage is constantly 10 to 20 volts above the normal rating, a power rheostat can be cut in one of the lines supplying the receiver current, and this is adjusted so that the voltage is reduced to normal. An A. C. voltmeter is, of course, necessary for taking the readings. Still another method, which is claimed to be satisfactory for controlling the voltage and current variations to which the tubes are subjected, is the provision of Amperites, one of these being wired in series with each tube. These units resemble ballasts in appearance. They are claimed to be self-adjusting rheostats, which automatically and instantaneously compensate for the variations in line voltage, providing a steady current at a definite voltage for the tube. The method of connecting them is fully illustrated in the manufacturer's circular which can be obtained. The Amperites used for UX 226 and UY 227 tubes are No. 226 and 227 respectively.

The large amount of heat produced by power tubes and by rectifying tubes of power devices, makes it necessary to provide adequate ventilation in the receiver to prevent trouble. It is true that fire seldom results from heat produced by these tubes, but the insulation of the transformer windings may be weakened, and the filter condensers, if they have waxed-paper insulation, may also be damaged. Besides, the tubes themselves will last longer if they are kept as cool as possible by means of proper ventilation.

When looking for trouble in all-electric receivers, or when adjusting any of the units, turn off the power because a high voltage is involved and accidental short-circuit might blow out the tubes. Taking a tube out of a socket while the power is on and the tubes are lighted is bad practice, as the other tubes in the set receive a temporary overload by doing this. The best method of locating trouble in all-electric sets is by elimination. First find out whether all the tubes light. If this is not the case, substitute another tube of the same kind for the one not lighting. If this tube does not light, test for a break or a loose connection in its filament leads. Perhaps the secondary of the transformer is open. Use an A. C. voltmeter for making tests across a. c. lines. The plate voltage supplied by the B-eliminator can be carefully checked by means of a high-resistance D. C. voltmeter. Examine the wiring of the grid circuits, and determine whether the tubes are making good contact in their sockets. Also look over the aerial and ground connections.

THE WONDERS OF SCIENCE

[Punch (Copyright).]

Miss Lavinia (hearing radio for the first time): "Jane, I've got a band in mine. What have you got in yours?"

Movies in the Air

(*Continued from page 3*)

quirements and exceptionally high electrical efficiency, and an ingenious magnifying optical system which enables a group of persons to view the image at the same time.

Each of the four plates of the special neon lamp illuminates only one quarter of the total screen, and each plate is flashed in rotation, much after the manner of the spark plugs of a gasoline engine. This ingenious device has enabled Mr. Jenkins to attain enormous illumination with an ordinary amplifier. Special light-conducting rods, made of quartz, are employed between the targets and the slits in the scanning drum, thus effecting a maximum conservation of light. The slits in the scanning drum sweep laterally line by line across an opening, translating the varying intensity of the glowing target of the neon lamp into successive dots of varying intensity. Due to the persistence of human vision, these dots appear as a line whose light gradations are a faithful replica of the object televised at the transmitting end.

The sum total of these lines, swiftly and deftly woven by the scanning drum, produces the illusion of a complete and animated picture. This picture is passed through an ingenious optical system so that it appears to be about one foot square.

Yet Jenkins is still not satisfied. With the idea of making the television presentation available to still larger groups of people, he has developed a scanning disk with matched lenses by means of which it is possible to project the image on a fair-sized screen. And with this same end in view, he is even now working on a powerful checkerboard light which will make the television image visible to entire theater audiences. In addition, he is experimenting with a television camera for outside work. Capable of amazing detail and scope, this camera bids fair to hasten the day when we shall be able to televise direct from the scene of action.

From Radio Retailing.

Keep Oil Out of Radio

My radio set had been functioning perfectly for over a year. Then I noticed that there was a gradual decrease in volume and finally the set was entirely dead. I disconnected the batteries, speaker, aerial and ground wires and proceeded to examine every wire and every soldered joint carefully as I suspected corrosion at a joint. But the wiring was OK so the next step was to have the tubes tested for I had heard that a decrease in volume resulting in total inaudibility was often caused by poor tubes. Every tube registered well at the test. As a last resort I took a strip of emery cloth, stretched it over the end of a flat stick about 6 in. long and carefully cleaned all the socket prongs and also the tube tips. Confident of having eliminated the trouble I hooked the set up only to find it dead as before. While inserting the tubes my finger accidentally rubbed over the shaft of a condenser and I noticed some grease. All of a sudden I realized what the trouble was. Some time before I had applied some lubricating oil on the condenser shafts, and this formed a film of perfect insulation between the plates and the rotor connection on the frame, electrical contact being made between the two through the shaft. It was a laborious task to remove the condensers, take them apart, that is, separate the rotor plates from the assembly, but it had to be done. All traces of oil were removed, the condensers put back in place and the trouble was over. Moral: Never oil your condenser shafts. E. R. H.

Directional Qualities

It has been found that aerials manifest a slight directional tendency, which is more pronounced the longer and the lower the aerial is erected. The pick-up value is greatest for broadcasting stations directly in line with the aerial, and toward which the lead-in end of the aerial points. If one desires to use this tendency of aerials to advantage in reception, two or more aerials, pointing in different directions, should be erected. If only two aerials are used in this way, the lead-in wires are connected to a single-pole, double-throw knife switch. If more than two aerials are used, the lead-in wires can be connected to switchpoints. E. R. H.

In Front of the "Mike"

Interesting Stories of the Studio

Chief Roaring Thunder and the U. S. Indian Reservation Band, making a vaudeville tour on their way home from the inauguration, were broadcast in the Radio-Keith-Orpheum Hour over the NBC System, Tuesday night, March 12.

The Chancellor Dance Orchestra made its bow to radio listeners of the midwest when Vincent Lopez struck up the band for a new series of rhythmic broadcasts over the National Broadcasting Company's System, Wednesday night, March 13.

The new dance band directed by one of New York's most famous orchestra leaders will go on the air each Wednesday night hereafter at the same hour.

From the hills and fastnesses of North Carolina has arisen an earnest band of pioneers, who, under their leader, Frederick Koch, have been privileged to spread a wider influence than perhaps any group of amateurs in the country. The secret of their success lies largely in the fact that they are writers and producers of folk drama, drama of their own country—a country that they know and love. The Carolina Playmakers write their own plays, act them, design, build and paint their own scenery. As a result, their representations ring true, and their audiences are swept along on a wave of sincerity.

Few people outside the industry realize the great wire mileage which is required to connect even a comparatively small number of stations for the broadcasting of a program. A study of the wire facilities necessary was recently undertaken by engineers of the National Broadcasting Company for the gathering of statistics on the Atwater Kent programs, which are broadcast by 30 stations. It was found that a total of 35,410 miles of wire were required, 17,916 miles being specially prepared telephone wire used in the actual broadcasting while 17,494 miles of telegraph wire were used to connect the stations directly with each other for such communication as may be necessary during the program.

Old Man Donaldson is back.

Old Man Donaldson, in case you don't know, is the Trader Horn of radio. Only some people say he's better than Trader Horn and his experiences haven't been confined to Africa. Several years ago—long before Trader Horn became an international figure—Old Man Donaldson's yarns were heard every week from WJZ. Then the Old Man left the radio studios and went, presumably, in search of more adventures. This time he returns not to WJZ alone but to a group of stations of the NBC System.

The new series of the adventures of Old Man Donaldson were inaugurated Friday night, March 1. His yarns will be heard locally through WJZ and a network of NBC stations.

Theatergoers throughout the United States will select their own favorite artists for the Radio-Keith-Orpheum Hour over the National Broadcasting Company System April 2. The program on that night will be chosen by the listeners themselves from among the star attractions at Radio-Keith-Orpheum Theaters all over the country.

Balloting has already begun in vaudeville houses from Boston to San Francisco and Ottawa to New Orleans, and early returns indicate that one or more of the headliners on that night will have to enter the program from the far west.

It is a unique experiment in building radio programs, and was decided upon by officials of Radio-Keith-Orpheum and the National Broadcasting Company after a deluge of requests to hear certain favorite singers and entertainers.

When the voice of Herbert Hoover was carried to the farthermost corners of the earth through the NBC System as he delivered his Inaugural address on March 4 his own prediction was fulfilled.

Four years ago as radio broadcasters prepared for the experiment of a coast-to-coast broadcast of the Coolidge Inaugural ceremonies Secretary of Commerce Hoover saw the coming of the world-wide radio program.

"The day is almost at hand when a voice in Washington will be heard all over the world," he predicted.

It is a coincidence that Mr. Hoover was the central figure in the most pretentious world-wide broadcast yet attempted.

Frederic William Wile, veteran Washington political writer and broadcaster, who has just joined the Columbia System as its chief broadcaster on national and international politics, faced the microphone on March 4, 1929 for the second successive inaugural occasion. His first appearance was on March 4, 1925, when Calvin Coolidge became the thirtieth president of the United States. Wile's talk on that day was an event that will take its place in history because of its utterly unique and unprecedented character.

For the preceding year and a half Mr. Wile had been talking politics for the Radio Corporation of America's WRC station at Washington, originating the weekly feature, "The Political Situation in Washington Tonight," which he will henceforth, beginning Tuesday, March 5th at 8 p. m. E. S. T., deliver regularly from Station WMAL Washington.

A weekly radio forum for the discussion of outstanding political questions of the hour by speakers of national prominence has been arranged by the Washington Star with the co-operation and sponsorship of the Columbia Broadcasting System and will be heard by millions of the American public through a large nation-wide network of broadcasting stations every Saturday night. Senator William E. Borah, of Idaho, Chairman of the Foreign Relations Committee of the Senate, inaugurated the radio discussions March second. At that time, two days before the inauguration of Herbert Hoover, Mr. Borah spoke on inaugurations and their significance in the life of America.

A short musical program by the United States Army Band will open and conclude each broadcast in this series. The hour, which is to be devoted to the National Forum every Saturday evening, will be about evenly divided between the band and the speakers.

Other speakers of national prominence will follow Senator Borah.

Three thousand feet above New York City Leslie Joy, production supervisor of the NBC and a veteran announcer, Friday (Feb. 22) afternoon spoke nto a microphone. From the plane his words were transmitted on short waves to a receiver at 711 Fifth Avenue, New York headquarters of the NBC, where they were amplified and sent to the homes of thousands of radio listeners in New York and on the Atlantic coast via the NBC System.

The broadcast was a part of a radio program arranged by the NBC and called "Over and Under New York in an Hour." The broadcast was actually that. Within sixty miutes radio listeners heard the announcer describe New York from the air and heard another announcer describe conditions 65 feet under the East river where "sand hogs" are driving a tunnel under an air pressure of 25 pounds to the square inch. The broadcast went on the air at 2:15 o'clock Friday afternoon and lasted an hour. It was heard locally through WEAF.

As the plane headed back to the Newark landing field the broadcast was switched to the new tunnel being driven under the East River at the foot of Fulton Street. Here, 400 feet from shore and 65 feet below the surface of the river Edmund B. Ruffner, an NBC announcer, took up the story. He described conditions under the river and told of the difficulties of working under the excessive air pressure of 25 pounds per square inch. Then Ruffner introduced various members of the New York Board of Transportation and others connected with the construction of the tunnel. Their remarks, though brief, were dramatic and gave a perfect picture of the tunnel's end.

Radio broadcasting has added its bit to the traditions surrounding the President of the United States. Tradition ordains that the retiring President shall take with him the chair he occupied at cabinet meetings. Now comes a new custom which provides that the President also take with him the microphone manuscript stand used in official broadcasts.

President Calvin Coolidge was formally presented with the "President's microphone stand" by officials of the National Broadcasting Company in Washington. The microphone stand, built three years ago by the NBC especially for the use of the Presi-

dent, went with him when he retired from the White House.

A similar stand now is being constructed for the exclusive use of President-elect Herbert Hoover.

President Coolidge, now considered one of the veteran radio speakers of the world, always has been particular about the arrangement of his manuscript before the microphone. In order to have the "mike" at the proper distance from his lips and in order to have the manuscript at the preferred distance from his eyes the special stand was built to order. When the President spoke in the Washington studios of the NBC the stand was available. On broadcasts from his study in the White House or from public buildings in Washington and elsewhere, the stand went along as part of the essential equipment for the broadcast. When not in use it was kept carefully shrouded in a green cloth in the studios of WRC in Washington. Once when the President had a short address to make though not into a microphone, he sent a White House attache to the radio studios to borrow the stand.

The stand has an iron base and has a wooden top. It resembles a music stand though it is built to accommodate a microphone as well as a manuscript.

A new page of history was written across the skies March 4th when invisible radio waves flashed the voices of three American Presidents to the entire world.

An inaugural crowd of 35,000 in the city of Washington crushed clothing and dispositions to see President Hoover raise his right hand as he faced former President Taft on the steps of the Capitol. Not half of them heard his words "I do!"

Yet his clear, resolute tones signalled his inception as the most powerful ruler in the world to the farthest ends of the earth, in an epoch-making broadcast that was heard by an estimated audience of 63,000,000 in North and South America, Great Britain, Europe, Asia, northern Africa, Australia and New Zealand.

While thousands of eye-witnesses in Washington strained to keep up with the progress of events, the world-wide audience was admitted by the National Broadcasting Company to all the privileged places; skipping with NBC announcers along the corridors of the Treasury Building, into the solemn chambers of the Senate, through the Blue and Red rooms of the White House, to the Capitol and vantage points on Pennsylvania Avenue including the President's own reviewing stand.

They went by radio where they could not have gone by actually attending the ceremonies. They witnessed the final departure of President Coolidge from the White House, watched him at his desk in the Capitol for the last time, and heard his simple farewell at Union Station as he left for Northampton, Mass., once more a private citizen.

Scattered NBC announcers gave them the effect of following all the movements of the Presidential party with colorful glimpses of the celebration taking place in Washington along the festooned streets.

At intervals they soared above the streets, to obtain an eagle's eye view of the proceedings. There the hum of an airplane motor accompanied their description of the scene below.

They saw through the eyes of NBC observers the simple garb of Presidents' wives, and frequently encountered great statesmen. The doings of Charles G. Dawes, retiring Vice President, and his successor, Charles Curtis, all passed before the eyes of alert radio reporters. Justices of the Supreme Court, Senators and Representatives were met with on the way.

Listeners in Japan and Algiers heard the hearty laugh of Chief Justice Taft within the sacrosanct portals of the Senate Chamber, and loudspeakers in Germany and Great Britain crashed with the crack of the gavel that George Washington used to convoke the first Continental Congress more than two hundred years ago.

"While-You-Wait" Reactivation

Reactivation of tubes by the "while-you-wait" method is not recommended, for in such cases the work is usually done very quickly, sometimes within 10 minutes, and higher voltages than those given in the table above are used. This procedure materially shortens the life of the tubes, and tubes reactivated in this way soon fall back to their minimum emission value. Besides, the use of higher voltages greatly increases the percentage of tubes burned out. E. R. H.

Schedule of the Best Short-Wave Programs

Station Call Letters	Wave-Length (Meters)	Schedule in Eastern Standard Time						
		Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
W2XAD Schenectady, N. Y., U. S. A.	19.56	5:30 P.M. to 10:30 P.M.	2:00 P.M. to* 4:00 P.M. 5:00 P.M. to 11:00 P.M.		5:00 P.M. to 11:00 P.M.	2:00 P.M. to* 4:00 P.M.	5:00 P.M. to 11:00 P.M.	
5SW Chelmsford, England	25.53		7:30 A.M. to 8:30 A.M. 2:00 P.M. to 7:00 P.M.	7:30 A.M. to 8:30 A.M. 2:00 P.M. to 7:00 P.M.	7:30 A.M. to 8:30 A.M. 2:00 P.M. to 7:00 P.M.	7:30 A.M. to 8:30 A.M. 2:00 P.M. to 7:00 P.M.	7:30 A.M. to 8:30 A.M. 2:00 P.M. to 7:00 P.M.	
W8XK Pittsburgh, Pa., U. S. A.	25.4	11:00 A.M. to 12:00 A.M. 2:00 P.M. to 10:30 P.M.	2:00 P.M. to* 4:00 P.M. 5:00 P.M. to 10:30 P.M.	5:00 P.M. to 10:30 P.M.	5:00 P.M. to 10:30 P.M.	2:00 P.M. to* 4:00 P.M. 5:00 P.M. to 10:30 P.M.	5:00 P.M. to 10:30 P.M.	5:00 P.M. to 11:00 P.M.
PCJJ Eindhoven, Holland	31.2		6:00 P.M. to 9:00 P.M.	6:00 P.M. to 9:00 P.M.		6:00 P.M. to 9:00 P.M.		
W2XAF Schenectady, N. Y., U. S. A.	31.48		5:00 P.M. to 11:00 P.M.	5:00 P.M. to 11:00 P.M.		5:00 P.M. to 12:00 P.M.		6:00 P.M. to 12:00 P.M.
W2XE Richmond Hill, N. Y., U. S. A.	58.5	7:00 P.M. to 11:00 P.M.	7:00 P.M. to 11:00 P.M.	7:00 P.M. to 11:00 P.M.	7:00 P.M. to 11:00 P.M.	7:00 P.M. to 11:00 P.M.	7:00 P.M. to 11:00 P.M.	7:00 P.M. to 11:00 P.M.
W8XK Pittsburgh, Pa., U. S. A.	63.5	8:00 P.M. to 10:30 P.M.	2:00 P.M. to* 4:00 P.M. 8:00 P.M. to 10:30 P.M.	8:00 P.M. to 10:30 P.M.	8:00 P.M. to 10:30 P.M.	2:00 P.M. to* 4:00 P.M. 8:00 P.M. to 10:30 P.M.	8:00 P.M. to 10:30 P.M.	8:00 P.M. to 11:00 P.M.
CJRX Winnipeg, Canada	25.6	5:30 P.M. to 10:30 P.M.	5:30 P.M. to 10:30 P.M.	5:30 P.M. to 10:30 P.M.	5:30 P.M. to 10:30 P.M.	5:30 P.M. to 10:30 P.M.	5:30 P.M. to 10:30 P.M.	5:30 P.M. to 10:30 P.M.

*N.B.C. Red Network programs relayed to British Broadcasting Company, England.

P—During 9:00 P.M. 10:30 P.M. period the N.B.C. Red Network program comes through all 4 waves. Other periods have separate programs. At 7:00 P.M. you can set your watch by "Big Ben" from London, England.

From Radio Broadcast.

Those very interesting and helpful articles by E. R. Haan in the last few numbers of RADEX, have now been published in book form. In addition to these articles there is a vast amount of other information profusely illustrated. The book is written in non-technical vein so that any radio user can easily comprehend it. If radio is to you something more than a pleasant pastime and if you are one of those anxious to really know this intriguing subject, be sure to send for a copy of Radio Trouble Shooting. You will find the book fully described on the inside cover page of this issue of RADEX.

Whiteman Takes to the Air

Paul Now a Radio Enthusiast

"What interests me most about my extended broadcast venture is what the public is going to teach me about music. Let's have a nation-wide jury of music critics when I start my series of concerts over the Columbia Broadcasting System in the Old Gold-Paul Whiteman Hour on Tuesday nights," said Whiteman in discussing his new venture. "I want the verdict of a jury of at least 10,000,000 persons. It will have far more value than the opinion of a few highbrow critics.

"When it is all over I want to know more about what the American public likes than anyone has ever known before. To that end I will appreciate having listeners who tune in on any one of the 43 Columbia stations send me their musical criticisms. One result will be to make possible a comparative study of the musical tastes of various sections of the country that ought to be illuminating. In broadcasting it takes much longer, of course, to discover what reaction you have inspired, and it is true that I will miss feeling the immediate result, but I am sure the answer is going to be worth waiting for.

"Feeling this way about radio, people will doubtless ask why I have waited so long to do regular and sustained broadcasting. The answer is a simple one. I have been terribly interested in radio from its start, mine was the first band to broadcast over WJZ, but I have never before been able to afford sustained broadcasting. My orchestra, living up, I hope, to my aim to have it the best of its kind, both individually and collectively, is a very expensive one to maintain, and, to do this, we have spent the past years filling engagements all over the country. Now, however, discovering that I was planning to stay in New York, the Old Gold cigarette people, through their interest, have made it possible for me to broadcast weekly under their auspices, and I am glad at last to be able to devote not only my talents but also a good deal of my time to radio.

"Now, for a moment, I would like to consider this question from the point of view of the listener, or, in other words, the radio public. Hundreds of musical programs are presented nightly on the air, and the choice of orchestra and type of music to be heard is a large one. I do believe that the radio public is willing to receive jazz with an unprejudiced mind, but, in most cases, classical programs on the radio have been more successful, due to the fact that the individual musicians are better able to play old and well-known pieces that they have played for many years. I do not for a moment wish to under-rate the value of classical music, but I do think that jazz and rhythmic harmonies if well presented, would find as receptive a radio audience, and I propose, by means of an orchestra on which I have spent years of training, and which I do not think it an exaggeration to call the best of its kind in the world, to present jazz and rhythms in such a way as to make universal appeal to my unseen audience.

"In concluding, I merely wish to say that I am very much excited about my new role as a regular broadcaster, and I only hope that all who listen in will give me their cooperation and will be as glad to hear me as I am to play for them."

Prehistoric Radio of 1909

Reminiscences of Dr. Lee DeForest

It is the general opinion that radio broadcasting really started when the first broadcasting station began regular service. Practically all of the current histories of radio broadcasting began at that time. However, there was much work to be done by the pioneers prior to the establishment of the first regular broadcasting studio. Dr. Lee De Forest, known as the "Father of Radio," reminiscing on early broadcasting, revealed the following facts regarding early, or "prehistoric" broadcasting:

"I cannot help thinking of that Irishman who was looking for a job and entered a store to ask for work. The man to whom he applied said, 'You'll have to see Mr. Jones; he's on the second floor just now.'

" 'All right,' said Paddy; 'where are the stairs?'

" 'You don't need to go up the stairs,' said the clerk; 'you can use the speaking tube.' And he told Paddy how to use the tube. The Irishman whistled, and Mr. Jones answered.

" 'Is that you, Mr. Jones?' asked Paddy.

" 'Yes.'

" 'Well, will you plaze stick yer head out of the second story winder? I want to ask ye for a job.

"In other words, I feel guilty for having created this speaking tube for reaching out to you in your homes. Yet, like Paddy, I would much prefer to speak to you face to face, but realize that it is quite impossible when talking to millions of friends. Hence I must be content with speaking to myself, so it seems, before the mute microphone.

"I must ask you to turn back the hands of time to 1907, when I was designing and manufacturing radio telephone sets for the U. S. Navy ships that were to sail around the world under the command of the late Admiral "Fighting Bob" Evans. My shop was in the old Parker Building at 19th Street and Fourth Avenue, in New York City. Incidentally, the Audion or present-day three-element vacuum tube was born in that same building. At that early date, however, I was compelled to utilize the Poulson arc for generating the radio carrier wave. This arc consisted of a pair of carbon electrodes between which played the flickering electric arc in an atmosphere of hydrogen.

"Now in order to test these radio telephones, I made use of a phonograph which played directly into the mouthpiece of my transmitter. Then, in another room, I listened not so much to what the radio waves were saying, as to how they were saying it.

"At the time George Davis was Chief Electrician at the Brooklyn Navy Yard, just a few miles away as radio waves travel. Davis heard me testing, and he became greatly excited over the idea of transmitting music through the air. Until then, of course, there was nothing on the air but the incessant dots and dashes of radio telegraphy. Other wireless operators around New York City heard these radio telephone concerts, if they can be dignified with that name, and likewise became greatly excited. It was their opinion, rather than my own at the time, which forced me to the conclusion that here was a means of providing entertainment to many scattered listeners. At the time the marine radio field was the most highly developed in the commercial sense, so I immediately thought of radio telephony

as a means of supplying programs and news directly to the passengers on shipboard. I even entertained visions of transmitting operatic performances directly from New York to ships in mid ocean.

"In short, I changed my views on radio telephony from a means of point-to-point or private communication to a means of mass communication.

"March of 1908 found me in Paris ready to demonstrate my wireless telephone system to the French Government with a view to equipping ships of the French Navy. At first I was permitted to use an antenna reaching up to just the first balcony of the lofty Eiffel Tower. Later, however, I was permitted to utilize an antenna reaching to the top of that tallest structure in the world, to see just what I might do in the way of long-distance communication. With everything in readiness for the tests, word was sent to French radio stations and vessels to listen in on our radio telephone transmission. The results were more than satisfactory. We succeeded in reaching Mery-sur-Mer, near Marseilles on the Mediterranean, or a distance of some 550 miles. I was still using the arc generator. My microphone took the form of a battery of four microphones arranged in a sound chamber of funnel shape so as to have a small mouthpiece into which the speaker could shout. The microphones were connected in parallel.

"Early in 1909 I was back once more in the States, still following my radio telephone hobby. I received permission to install a radio telephone transmittter in the attic of the Metropolitan Opera House in New York, as well as microphones on the stage. In order to secure sufficiently sensitive microphones to pick up music and voices at a distance I had to use the acousticon microphones, such as are employed for the deaf. These microphones were operated by a battery, and their output led to a receiver in the attic, pressed against the microphone of the radio telephone transmitter. We did not have the audion amplifier in those days. Our transmitter microphone was placed in the ground lead of the sending apparatus, carrying the full force of our transmitted energy. Obviously, we spent much time and money replacing microphones.

"My long-sought opportunity to attain the heights of air showmanship came when the late Enrico Caruso sang "Siciliana" in the opera Cavalleria Rusticana. This song, as you know, is sung behind the scenes, before the rise of the curtains, making it peculiarly effective for the audience out front and even more so at the time for our audience out back. We were permitted to move our microphones close up to Caruso, as he sang behind the scenes, and to remove our apparatus just as the curtain went up. Technically, we could say we broadcast from the stage; actually, we picked up the song under almost studio conditions. I have always felt that a confession was in order, and now I feel relieved that I have made it. Our attempts at picking up the stage performance with the distant microphones were far more satisfactory. The microphones were crude, and we had no amplifying means at our disposal.

"Many heard our Caruso broadcasting. It was the first and, so far, the last time that the Metropolitan Opera company has participated in such broadcasting. Whether this is complimentary or otherwise, I do not profess to know.

"Later the same year, or in 1909, I began with the broadcast studio idea, firmly convinced that talent should be brought to our microphones, with ideal operating conditions, rather than to take our microphones to the talent. Our studio was at 103 Park Avenue, while our transmitting tower was on the roof of that building. At the time,

Oscar Hammerstein was competing with the Metropolitan Opera Company; and profiting by this little argument, I secured Madame Mazarin, a noted French contralto, for our microphones. She came to our studio, where she rendered the well known Habanera from the opera Carmen, for the entertainment of those who might be tuned in.

"Yet my artistic ambitions, so it seemed, were far in advance of the technical means at my disposal. The arc generator was very crude, inefficient, and unreliable. The microphones were not capable of picking up sounds unless virtually on top of the sound source. There was no suitable means of magnifying or amplifying the weak electric currents of the microphones so that these might be properly impressed on the outgoing carrier wave. And so I was forced to abandon my broadcasting efforts until the day when better technical means could be placed at my disposal.

"By 1916 we had the oscillion or oscillating audion, capable of generating high-frequency current suitable for the carrier wave of radio telephony. We also had the audion amplifier, or satisfactory means of coupling one circuit with the next in building up sound values. We were then building ¼ kilowatt audions for use as oscillators or transmitting tubes.

"I succeeded in interesting the Columbia Phonograph Company in broadcasting the latest Columbia records, with the result that a radio telephone transmitter was installed in their New York recording studio. Three afternoons each week the latest Columbia records were put on the air. Desiring more space for larger transmitting equipment, we moved to our High Bridge plant. There we inaugurated a nightly broadcasting service, consisting mostly of new phonograph records. Between records, we announced the products of the De Forest Radio Company, mostly the radio parts, with all the zeal of our catalogue and price list. Our operating staff consisted of engineers and others of the organization selected or, might we say, drafted, for the necessary overtime. Broadcasting was not considered any special honor for those who had to stay and do the work.

"My recollection of the first radio dance goes back to those days, when we put on a program of dance records in order that a dance might be held at Elizabeth, N. J. The weak-voiced loudspeakers of that time, intended to relieve the radio operator of wearing headphones when not handling traffic but standing-by for a call, were used in furnishing music for the dancers.

"The first election returns to be broadcast were those of the Hughes-Wilson contest in 1916, sent out from our High Bridge station in 1916. We had wire lines into our office so as to have the up-to-the-minute reports. I served as one of the announcers. At 11:00 o'clock that night, we signed off, after assuring our invisible audience that Hughes had been elected. The next morning we learned of our slight error—Wilson, rather than Hughes, had won the election. However, ours was a pardonable error. Many newspapers had kept us company in our premature decision.

"And then came the ban on wireless with America's entry into the World War. We waited until 1919, when radio activities were sanctioned once more. I hastened to resume my broadcasting efforts, beginning my transmission from High Bridge but moving shortly after to the World Tower Building in New York, sharing the lofty antenna with Emil J. Simon who was attempting an inter-city radio telegraph service. We were on the air as per schedule. Among our microphone stars was none other than Vaughn de Leath,

who is more popular than ever today as the Radio Girl, and who may be termed the oldest—in point of service, not age, of course!—radio star.

"And then we encountered a stroke of hard luck. The radio inspector of our district became greatly incensed over our radio telephone concerts. He stated in no uncertain terms that there was no room on the air for entertainment. Furthermore, we had committed the unpardonable crime of moving our transmitter without proper legal formalities. We should have applied for a new license or something or other. At any rate, our station was ordered off the air. I gave up broadcasting in the East.

"Shortly after, I went to San Francisco, where I hoped the atmosphere might be more kind to my struggling hobby. There I erected an antenna from the top of the Humbolt Bank Building to the roof of the California Theatre. My microphones were suspended over the orchestra, in the flies. Thus I secured the theatre music every afternoon, and a symphony orchestra concert on Sunday mornings. The service proved most popular and was received as far east as St. Paul, and by ships on the Pacific as far as a day out from Honolulu. This station continued in service until 1922, when broadcasting was firmly established.

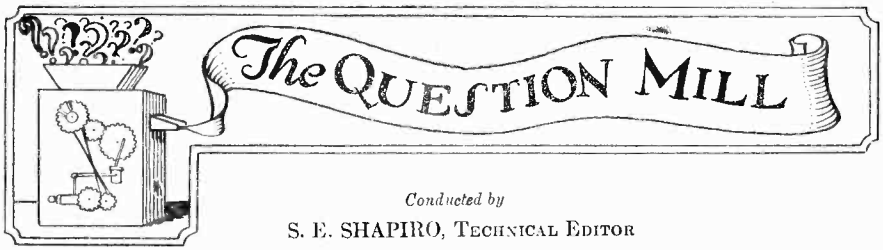
"Aside from my own broadcasting efforts, I was called upon to furnish various pioneer broadcasters with equipment, among them the Detroit News, which was the first newspaper to go on the air, the famous WOR station at Newark, a station in Baltimore, and others.

"With the proper interest at last aroused in broadcasting, this institution grew by leaps and bounds, as mass production produced the necessary equipment for the listeners-in, and the increasing number of listeners-in created a greater demand for broadcasting stations. In 1921 I went to Germany for the purpose of developing my talking picture system or Phonofilm. Returning a year or so later, I was astounded at the progress which broadcasting had made, using my oscillating audions, amplifiers and audio detectors.

"Once more I am returning to broadcasting, my old hobby. After a critical examination of what has been accomplished, I am convinced the audion or vacuum tube remains the heart of the entire broadcasting art from microphone to loud-speaker. Broadcasting is simply a bridge of audions or vacuum tubes. With this fact confronting me, I have returned to research and development work on my original invention, with the feeling that I should contribute once more to the progress of the broadcasting art. I have been fortunate in gathering together a staff of vacuum tube specialists, as well as a most efficient production staff. The first results of our efforts are now available in the form of improvements and refinements in the standard types of tubes. However, we hope to develop new and original types of vacuum tubes as well, based on our studies of the very fundamentals of the radio art."

Shielding Steel Structures

Sometimes it is impossible, in a certain location, to get reception on a receiver which has been found to work elsewhere, and in such cases it is possible that the particular location of the receiver is shielded from external electrical impulses, and hence the receiver cannot pick up radio signals. This is usually the case when a loop-operated set is installed in a steel constructed building. The steel absorbs most of the energy and grounds it. Similar blanketing effects are often evidenced when receiving apparatus is located in the vicinity of large deposits of metal in the earth. E. R. H.



Conducted by

S. E. SHAPIRO, TECHNICAL EDITOR

Can tubes now used in sets operating from eliminators be used in the new AC sets? If not, why not?

They cannot be used. The reason for this is obvious. The old type tubes were at relatively low voltage and correspondingly lower current values. The new AC tubes are made with a filament operating at still lower voltages of from 1½ to 2½ volts but drawing a heavier current. For this reason alone they are not interchangeable.

Of what value are the new super-power Amplifier tubes, such as the UX-250 Type, to the average set owner?

Used in a properly designed and built amplifier of which there are a great number on the market, they give very much improved tone and room volume on all but the most distant reception.

What is the ordinary life which may be expected from an AC Detector tube, Type 227?

This depends entirely upon too many variable factors to admit of a definite answer, however, if this tube is operated at the specified voltages in properly designed and constructed equipment, it will give a thousand hours service which is approximately one year of normal use.

We have noticed when it rains that a peculiar buzzing sound interferes with radio reception. What can be done about this?

This trouble is no doubt due to defective insulation somewhere in the vicinity that breaks down in wet weather. If after a careful checking of your own installation you have not located this leak, it is suggested that you communicate with the company furnishing electric light and power and whose overhead wire lines are in the vicinity of your house. A case is on record where this trouble was caused by a bad insulating bushing on a corner arclight.

I am having considerable trouble locating stations to which I formerly was accustomed to listen? What remedy is there?

In the event that your set covers the whole band from the lowest to the highest wave length station, it is simply a matter of locating and indentifying stations. For such purpose RADEX is invaluable.

I have a portable set which is used with dry batteries contained in the cabinet. Can I operate this set on eliminators? I believe it would be more economical.

It will only be necessary to procure A & B eliminators of the proper voltage and connect in place of the batteries. These will not fit into the set but may be used outside next to the set.

Can an inside aerial be used on a two tube set? We have moved to an apartment where outside aerials are not allowed.

Yes, an inside aerial will give satisfactory results on local reception. However, with a two tube set, very little but local will be received on an inside aerial. It might be well to try a light socket antenna plug, as in some cases this works very satisfactorily.

I have a reflex set which is now three years old. I have always used it with batteries. Can I use A & B eliminators?

There is no question but what an A eliminator will work satisfactorily. The B presents a more difficult problem. I would suggest you borrow a B elimina-

tor and try it on your set. If a standard make will not work satisfactorily, one can be constructed especially for the set which will do so.

How can I improve my ground connection? I have it now on a steam radiator.

A connection to the water main on the street side of the water meter is generally the best ground possible. If such a connection is not available, a metal pipe to which the ground wire has been soldered securely should be driven in the ground from six to ten feet and the earth around it kept moist. Under a rain spout or drain makes a good location.

I have exactly the same make and type of set that our neighbor has next door. Outside of locals, I get only Cincinnati and Pittsburgh. I have personally tuned in 36 stations on my neighbor's set. What can be the reason?

The two sets being of the same make and type and operated in the same locality should give practically the same results. It is possible, however, that the slight difference in location, aerial and ground connections might account for some of this, however, it is also reasonable to believe that there is something wrong with the set itself. A thorough checking of both the sets and tubes is advisable.

Is it due to a faulty radio that I can get most distant stations excepting the one that I most desire to listen to which happens to be in the same locality as the other stations which I receive?

No, this is no doubt due to the lower power of the station which can not be received at the same distance. The power of the station governs the range over which it can transmit irrespective of the efficiency of the receiver. Then again it may be that some station located on the same or a nearby frequency is interfering with the desired station.

Having bought a perfectly good and expensive radio and being promised all distant stations by the dealer, I find myself incapable of getting any outside stations excepting when our service man calls. He seems to have no trouble tuning in distant stations that are broadcasting at that time. How do you account for this?

It would seem that this is merely a matter of learning to tune this set properly. This is particularly true if the set has a number of variable controls, however, if it is a single dial set, the setting of this single dial is very important. The best receiving sets have certain limitations and this is particularly true when used in some locations within a city. The fact that the service man is able to operate the set satisfactorily, would indicate that it is merely a matter of tuning.

What suggestions can you make to eliminate the clicks in my radio as we live in an apartment and if we walk by the set, it seems to have that effect.

The action of walking by the set causing the clicks indicates a faulty connection within the set itself or its connecting wires or possibly faulty housewiring which may be located under the flooring. It would almost be necessary to hear and experience this condition to give a definite answer. A thorough check-up should be made of all connections both inside and outside of the set.

Why is it that my set has good volume but the tone quality is poor? I have had it for almost a year.

You do not state whether or not the tubes in the set are a year old or not however, we believe that they are and that the condition you mention is due to the tubes being old. It is possible however, that some defect has developed in the set or its power equipment. If a test of tubes reveals that they are all right, it would indicate that the trouble is in the set.

Why is it that I get very satisfactory local reception on my radio and out of town reception is positively intolerable?

Since the local reception is good, it is reasonable to believe that the set is all

right. You do not state why reception is intolerable, whether it is noisy, faint or unsteady. It is possible that the conditions locally are bad and when you turn up the volume control for out of town reception, the local disturbances are greater in strength than the broadcasting programs which you may receive. A service man familiar with the type of set and its equipment can quickly determine your trouble after hearing your set.

Is there any reason to believe that radio reception should be better in the winter than in the summer?

Yes, because atmospheric disturbances of all kinds are less, particularly the absence of electrical storms during the winter season. For this reason static which is a subject of general conversation is less bothersome in cold weather. The absence of these elements which interfere with good reception account for the well-founded belief that conditions being favorable, the summer time is as good or better. There is no reason why your radio should not be entirely satisfactory during the entire year.

Why is it that I can receive well from stations in Nashville, Tenn., Toronto, Canada, New York, etc. and can not hear the station at Youngstown, Ohio, which is so much nearer?

The answer to this question is very simple if one inquires the power of the stations mentioned. Briefly, the stations you receive from a distance have sufficient power to broadcast over the greater distance while the nearby station does not have sufficient power. For example, the station a thousand miles away may have power to broadcast within a range of two thousand miles. You will receive it when you are unable to receive a station only one hundred miles away which has only sufficient power to broadcast fifty miles.

What tubes are the best to buy for my set? It is a new set but I don't believe the tubes in it are the best.

This question does not admit of a definite answer. Generally speaking however, all reliable dealers will stand by the products which they sell. Tubes as a rule are covered by manufacturer's guarantee against defects in workmanship and material providing they are operated in accordance with the specifications given in the data sheet accompanying the tube. The best rule to follow is to purchase and use the tubes with which the general public is familiar and which the dealer and manufacturer of the set that you have recommend.

Why can't the average service man give you a definite reason for faulty operation of a set instead of a lot of applesauce?

The question itself is not quite clear. A competent service man with the proper equipment is able to localize trouble, determine its cause and remedy it. The average radio listener is unwilling to believe, however, that trouble may be experienced from many of the sources from which it really originates. I have on record a case where a party placed a flasher button used for flashing electric lights in a socket to which his electric radio is attached. It seems that three different service men were unable to locate this trouble. I do not hesitate to state that this was due to incompetence on the part of these men, as no equipment would be necessary to locate such a condition and remedy it. It is well to remember, however, that the average man calling a doctor does not question his decisions and this is a good guide of conduct towards a radio service man coming from an established and reliable dealer.

What is your opinion of the ball antenna?

The ball antenna in my opinion is no better than the old standby, that is the common ordinary 14 gauge copper wire, stranded or solid. The only prac-

tical use of the ball antenna would be in a very crowded district of the city.

What is the difference between the 171-A power tube and the 250 power tube?

To start with, let us compare filament voltages, the 171-A using 5.0 volts while the 250 uses 7.5 volts. Now we will continue with the 171-A alone. The recommended plate voltage for this tube is 135 volts. The maximum plate voltage to be used is 180 volts. The negative grid bias consumed when used with a maximum plate voltage is 40½ volts. Now for the 250 tube. This tube has a plate maximum voltage of 450 bolts, on this voltage the negative grid bias consumption is 84 volts. The maximum undistorted output of this tube is 4650 milliwatts.

What is the difference between radio and audio frequency amplification?

Radio frequency amplification is amplification applied to radio waves before they reach the detector. Audio frequency amplification is amplification applied after the waves have passed through the detector. They might well be compared to a telescope and a microscope, the microscope applying to the audio frequency amplification.

Approximately how much air is there left in a vacuum tube after manufacture?

The amount of air left in the vacuum tube, is better known as an impurity. This impurity is measured in microns, the micron representing one millionth part of the atmospheric pressure, which is about 17¾ pounds per square inch. Therefore, perfect vacuum would be zero microns. The closest any tube manufacturers have reached zero microns, is approximately three microns. The old reliable mercury pump is probably the best for coming closest to zero microns.

How many different types of battery chargers are there, and which do you prefer?

There are four general types of chargers on the market today. They are the mechanical, chemical, metallic oxide rectifier and the tube type. Of these, the tube type seems to be the most popular with radio fans. Probably the safest arrangement is the trickle charger. This saves battery ruination and constant worry.

When using the new all-electric receiver, may tubes be inter-changed in order to obtain the best results? I have found with my present six-tube battery set that some types worked better in certain sockets than in others.

Yes. Providing the set is disconnected from the wall socket. Turning off the switch will do but it is far better to disconnect it entirely and eliminate the possibility of damaging a tube. Care must be taken to interchange only tubes of the same type. These are distinguished by numbers stamped in the base of each tube.

Why is it that lightning and other electrical disturbances cannot be tuned out?

Lightning is an electrical Phenomenon of a very high voltage. It is quite similar to the radio waves that you hear broadcast every day. The only difference between these two, is that lightning has no characteristic frequency or wave length. It operates on all channels. That is what makes it so difficult to eliminate.

Should my radio set, which is a new A.C. Job, fail to operate? What would be the best method of procedure?

First of all find out if your set is receiving power from your base receptacle. Then carefully observe your tubes, and see that they all light, paying special attention to your 280 Rectifier tube. If these tests prove O. K., make sure your tube contacts on receiving plate and grid-voltages (it is customary to sandpaper your tube contacts to insure a good connection). If your set does not operate after these tests, call a radio service man who you are sure is a good reliable mechanic.

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.

Station lists beginning with WEAF and WJZ are the National Broadcasting Co. Inc., while those beginning with WABC and WOR are the Columbia Broadcasting System.

Daily (Except Saturday and Sunday)

6:45-8:00 Tower Health Exercises

WEAF WEEI WFI WRC WGY
WGR WCAE

8:00-8:15 Rastus' Musical Menagerie

WEAF WEEI WGY

8:15-8:30 Morning Devotions

WEAF WRC WGY WGR

8:30-8:50 Cheerio

WEAF WEEI WRC WGY

10:00-10:30 Dr. Royal S. Copeland

WJZ WBZ WBZA WHAM KDKA
WLW WJR KFKX WREN WRC

10:00-10:30 Ida Bailey Allen

WABC WCAU WNAC WEAN WFBL
WKBW WCAO WJAS WADC WGHP
WBBM WOWO KMOX KMBC KOIL
WSPD WHK WMAL

10:30-11:30 The Blue Birds

WJZ KFKX WREN WJR KWK

11:15-11:30 Radio Household Institute

WEAF WEEI WTIC WJAR WTAG
WCSH SLIT WRC WGY WGR
WCAE WTAM WWJ WSAI KSD
KSTP WTMJ KVOO

12:45-1:45 Luncheon Music

WEAF WWJ WRC KSD

1:00-1:45 Montgomery Ward Hour

KFKX KSTP WHO WOW KOA
KWK WDAS WHAS WSM WMC
WSB KVOO WFAA WOAI KDKA

1:15-1:30 Department of Agriculture

KDKA KFKX KWK WDAF KSTP
WHAS WSM WMC WSB KVOO
WFAA WOAI KOA WHO WOW
WRC

6:00-7:00 Dinner Music

WEAF WTAG WOW WRC WCAE

Sunday

1:30-2:00 Peerless Reproducers

WEAF WLIT WWJ WOW WTMJ
WEEI WRC WSAI WDAF WTIC
WGY KSD KVOO WSM WJAR
WGR WOAI WFAA WTAG WCAE
KYW KPRC WCSH WTAM WSB
KSTP WMC WOC WHAS WHO

2:00-3:00 Roxy Symphonic Concert

WJZ WBZ WBZA WBAL KYW
KDKA WJR WTMJ WREN WLW
WEBC WKY

2:00-2:30 Biblical Drama

WEAF WTIC WCAE KSD WOW
WDAF KVOO WFAA WHAS WHO
WGY KPRC

3:00-4:00 Symphonic Hour

WABC WOWO WSPD WNAC WCAO
WKRC KMOX WHK WEAN WJAS
WGHP KMBC WCAU WFBL WADC
WMAQ KOIL WLBW WMAL WKBW
WCCO WISN

3:00-4:00 Young People's Conference

WJZ WLW KWK WBT WBAL
WSB KVOO KSTP WREN WTMJ

3:00-4:00 Dr. Stephen S. Wise

WEAF WTIC WJAR WRC WSAI
WGR WHO

4:00-5:00 Cathedral Hour

WABC KMOX WHK WNAC WCAO
WKRC KMBC WMAQ WEAN WJAS
WGHP KOIL WCAU WFBL WADC
WOWO WSPD WLBW WMAL WKBW
WCCO

4:00-5:00 Dr. S. Parkes Cadman

WEAF WEEI WTIC WJAR WTAG
WHAS WCSH WLIT WGY WBT
WGR WCAE WSAI WSB WFAA
WOW KVOO WSM KOA WKY
WHO

4:30-5:00 McKinney Musicians

WJZ WBZ WBZA WBAL WHAM
KDKA WJR WLW KYW KWK
WREN KSTP

5:30-6:00 Dr. Harry Emerson Fosdick

WJZ WBZ WBZA WBAL WLW
KWK WREN WHAM

5:30-6:00 Rev. Donald Grey Barnhouse

WABC WCAU WNAC WEAN WFBL
WJAS WADC WKRC WGHP WMAQ
WOWO KMOX KOIL WMAL WLBW
WKBW KMBC

5:30-6:00 Twilight Voices

WEAF WRC WGY WCAE WTAM
KSD WKY KOA WOC

6:00-6:30 The Stetson Parade

WEAF	WTIC	WJAR	WTAG	WCSH
WFI	WRC	WGY	WGR	WCAE
WTAM	WWJ	KSD	WEEI	WGN
WOW	WDAF	KVOO	WOC	KPRC
WOAI	WHAS	WSM	WMC	WTMJ
KSTP	KOA	WHO	WBT	

6:30-7:00 Acousticon Hour

WEAF	WEEI	WRC	WGY	WDAF
WCAE	WTAM	WWJ	WOW	WCSH
WFI	WGR	KSD	WTIC	WJAR
WTAG	WHO	WOC		

6:30-7:00 Whittall Anglo-Persians

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WLW	WJR	KYW	KWK
WREN	KOA	WTMJ	KSTP	WEBC
KSL	KPO	KGO	KFI	KGW
KOMO	KHQ			

7:00-7:30 Old Company's Program

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WFI	WRC	WGY	WGR

7:30-8:00 At the Baldwin

WJZ	WBZ	WBZA	WBAL	WHAM
WJR	WLW	KWK	WREN	KOA
WHAS	WSM	WSB	WFAA	KPRC
WOAI	KYW	WKY		

7:30-9:00 Major Bowes' Family

WEAF	WTIC	WRC	WJAR	WGY
WCAE	WTAM	WHAS	WMC	WSB
WKY	WWJ	WHO	KSD	

8:00-8:15 The Enna Jettick Melodies

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WTMJ	WJR	KYW	KWK
WREN	WSB	WHAS	WSM	WKY
WFAA	WOAI	KSTP	KPRC	WMC
KOA				

8:00-8:30 Sonatron Program

WABC	WCAU	WEAN	WFBL	WCAO
WJAS	WADC	WKRC	WOWO	KMOX
KMBC	KOIL	WHK	WLBW	WMAL
WCCO	KLZ	KDYL	KMTR	KYA
KEX	KJR	KGA		

8:15-9:15 Colliers Radio Hour

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WJR	WLW	KYW	KWK
WREN	KOA	KSTP		

8:30-9:00 La Palina Hour

WABC	WFBL	WADC	WOWO	WSPD
WNAC	WKRC	WGHP	KMBC	KMOX
WEAN	WJAS	KOIL	WFBM	WCAU
WCAO	WBBM	WLBW	WMAL	WCCO
WISN				

9:00-9:15 David Lawrence

WEAF	WTIC	WJAR	WFAA	WSB
WTAG	WCSH	WRC	WOW	WGR
WCAE	KSD	KVOO	WHAS	WGY
WHO	WOAI	WBT	WTMJ	WKY
WMC				

9:00-10:00 Majestic Theatre of the Air

WABC	WMAK	WKRC	KMOX	WNAC
WCAO	WGHP	KMBC	WEAN	WJAS
WOWO	KOIL	WHK	WFBL	WADC
WSPD	KGA	WMAL	WBBM	WLBW
WCAU	KYA	KMTR	KEX	KJR
WCCO	WTAR	WWNC	WDOD	WBRC
WREC	KLZ	KDYL	KFJF	KTSA
WISN	WDSU	KLRA	WDBJ	KRLD
KFH				

9:15-9:30 Utica Jubilee Singers

WJR	WJZ	KDKA	KWK	WHAM

9:15-10:15 Atwater Kent Radio Hour

WEAF	WEEI	WRC	WGR	KSD
WCAE	WWJ	WGN	WGY	WHO
WOAI	WFI	WTAM	WOW	KVOO
WFAA	KPRC	WSM	WSB	WBT
KOA	KPO	KGO	KFI	KGW
KOMO	KHQ	WKY	KSL	WMC
WOC	KSTP			

9:45-10:00 El Tango Romantico

WJZ	KDKA	KWK	WBZ	WBZA
WHAM				

10:00-10:30 De Forest Audions

WABC	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	KMOX
WKRC	WGHP	WBBM	WOWO	WHK
KMBC	KOIL	WSPD	WLBW	WMAL
KLZ	KEX	KDYL	KJR	KMTR
KGA	KYA			

10:15-10:45 Studebaker Champions

WEAF	WTIC	WJAR	WTAG	WCSH
WFI	WRC	WGY	WGR	WCAE
WTAM	WWJ	WHO	WOW	KSTP
WTMJ	WEBC	WHAS	WSM	WMC
WSB	WBT	WRVA	WFAA	KPRC
WOAI	WKY	KOA	KPO	KFI
KOMO	KHQ	KGW	KGO	WGN
WOC	WJAX			

10:30-11:00 Around the Samovar

WABC	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	KMOX
WKRC	WGHP	WSPD	WOWO	WHK
KMBC	KOIL	WLBW	WMAL	WMAQ
WISN				

Monday

4:00-5:00 U. S. Marine Band

WJZ	KWK	WRC	WJR	WBZ
WBZA				

7:30-8:30 Roxy and his Gang

WJZ	WBZ	WBZA	WHAM	KDKA
KWK	WJR	WSM	WSB	WBAL
WREN	WBT	WRC	WLS	WEBC
WIOD				

7:45-8:00 The Piano Twins

WEAF	WOW	WKY

8:00-8:30 School Daze

WOR	WNAC	WEAN	WFBL	WMAK
WJAS	WADC	WKRC	WMAQ	KMOX
KMBC	KOIL	WMAL	WHK	WLBW
WCAU	WISN	WCAO	WGHP	WDBJ
WTAR	WWNC			

8:00-8:30 Voice of Firestone

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WLIT	WRC	WGY	WGR
WCAE	WWJ	KSD	WOW	WDAF
KVOO	WFAA	KPRC	WOAI	WEBC
WTMJ	KYW	WHAS	WSM	WSB
WBT	WRVA	WJAX	WTAM	KSTP
WOC	WKY	WIOD	WMC	

8:30-9:00 Ceco Couriers

WOR	WNAC	WEAN	WFBL	WMAK
WCAO	WJAS	WADC	WKRC	WGHP
WMAQ	KMOX	KMBC	KOIL	WCAU
WHK	WSPD	WMAL	WGL	WLBW
WCCO				

8:30-9:30 A. & P. Gypsies

WEAF	WTIC	WJAR	WCSH	WLIT
WGY	WCAE	WTAM	WWJ	WGN
KSD	WDAF	WRC	WTAG	WGR
WEEI	WOC			

8:30-9:00 Automatic Duo Disc Duo

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WLW	KYW	KWK	WREN
KOA	WJR			

9:00-9:30 Physical Culture Magazine

WOR	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	WKRC
WGHP	WMAQ	KMOX	KMBC	WSPD
WHK	WLBW	KOIL	WMAL	WGL

9:30-10:30 General Motors Party

WEAF	WEEI	WJAR	WCSH	WLIT
WTAG	WRC	WGY	WGR	WCAE
WTAM	WWJ	WGN	WTMJ	KSD
WOW	WDAF	WFAA	KPRC	WOAI
WHAS	WSM	WSB	WBT	WJAX
KHQ	KGO	KFI	KGW	KSTP
KOA	KSL	KPO	KOMO	WKY
WTIC	WOC	WIOD	WMC	

9:30-10:00 Vitaphone Jubilee

WOR	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	WKRC
WGHP	WMAQ	KMOX	KMBC	WSPD
WHK	WLBW	KOIL	WMAL	WGL
KLZ	KDYL	KYA	KEX	KJR
KGA	KMTR	KFWB		

9:30-10:00 Real Folks

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WJR	WLW	KYW	KWK
WREN				

10:00-10:30 Robert Burns Panatellas

WOR	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	WKRC
WGHP	WMAQ	KMOX	KOIL	WSPD
WHK	WLBW	WMAL	WOWO	KMBC

10:30-11:00 Empire Builders

WEAF	WEEI	WJAR	WTAG	WCSH
WLIT	WRC	WGY	WGR	WCAE
WTAM	WWJ	KYW	KSD	WOC
WOW	KSTP	WTMJ	WEBC	WHAS
WSB	WBT	WFAA	KPRC	WOAI
WKY	KOA	KSL	KPO	KFI
KGO	KGW	KOMO	KHQ	WTIC
WDAF	WEBC	WHAS	WSB	WBT
WFAA	WMC			

10:30-11:00 United Choral Singers

WOR	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	WKRC
WGHP	WMAQ	WOWO	KMOX	KMBC
KOIL	WSPD	WHK	WLBW	WMAL

11:00-11:30 National Grand Opera

WEAF	WGR	WWJ	KSD	WRC
WFAA	WRVA	WJAX	WKY	WIOD
WHAS	WGY			

Tuesday

10:30-11:00 Jewel Radio Hour

WABC	WFBL	WCAO	WJAS	WADC
WGHP	WBBM	KOIL	WHK	WMAL
WKBW	WOWO	KMOX	WSPD	WLBW

10:45-11:00 Harriet Wilson Food Club

WEAF	WTIC	WJAR	WTAG	WCSH
WFI	WRC	WGY	WGR	WTAM
WWJ	WSAI	KYW	KSD	WOC
WOW	WDAF	WTMJ	WHAS	WMC
WSB	WBT	KVOO	KPRC	WOAI

11:00-11:30 Radio School of Cookery

WJZ	WBZ	WBZA	WHAM	KDKA
WLW	WJR	KWK		

4:30-5:00 Auction Bridge Game

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WLIT	WRC	WGY	WGR
WCAE	WTAM	WWJ	WSAI	WGN
WTMJ	KSD	KOA	WOW	WDAF
KVOO	WFAA	KPRC	WOAI	WHAS
WSM	WSB	WBT	WOC	WMC

7:00-7:30 Voters Service

WEAF	WTIC	WJAR	WTAG	WCSH
WFI	WRC	WGY	WCAE	KSD
WOW	WDAF	KOA	WHAS	WBT
WFAA	WTMJ	WMC		

7:30-8:00 Soconyland Sketches

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WGY	WGR		

7:30-8:00 Fundamentals of the Law

WJZ	WHAM	WRVA	WKY	KWK
KOA	WHAS	WOAI	WMC	

8:00-8:30 Genia Fonariova, Soprano

WEAF	WFI	WRC	KSD	WOW

7:30-8:00 MOBO Entertainers

WCAU	WABC	WNAC	WEAN	WFBL
WCAO	WJAS	WLBW	WKBW	WMAL

8:00-8:30 Stromberg-Carlson Sextet

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WJR	KYW	KWK	WREN
WMC	KSTP	KVOO	WFAA	KPRC
WOAI	WHAS	WSB	WBT	KOA
WKY	WSM			

8:00-9:00 Frederic William Wile

WABC	WFAN	WNAC	WEAN	WFBL
WKBW	WCAO	WJAS	WADC	WOWO
KMOX	KOIL	WHK	WLBW	WMAL
WCCO				

8:30-9:00 Prophylactic Program

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WFI	WRC	WGY	WGR
WCAE	WWJ	KSD	WOW	WDAF
WHO				

8:30-9:00 Michelin Hour

WJZ	WBZ	WBZA	WBAL	WHAM
KVOO	WFAA	KPRC	WOAI	WJR
KDKA	KYW	KWK	WREN	

9:00-9:30 Three-In-One-Theatre

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	KYW	KWK	WREN	WLW

9:00-10:00 Eveready Hour

WEAF	WEEI	WJAR	WFI	WRC
WGY	WGR	WCAE	WTAM	WWJ
WGN	KSD	WMC	WSB	WDAF
WHAS	WSM	KOMO	KHQ	KVOO
WOAI	KGO	KFI	KGW	KOA
KPO	WHO	KSTP	WEBC	KSL

9:00-10:00 Old Gold—Paul Whiteman

WABC	WIBW	WNAC	WEAN	WFBL
WCAO	WJAS	WADC	WKRC	WGHP
WOWO	KMOX	KMBC	KOIL	WSPD
WHK	WMAL	WKBW	WLBW	WBBM
WCCO	WDBJ	WTAR	WREC	KFJF
WISN	WDSU	KLRA	KEX	KJR
KGA	WCAU	KTSA	WWNC	WLAC
WDOD	WBRC	WRR	KLZ	KDYL
KYA	KMTR			

9:30-10:00 Dutch Masters Minstrel

WJZ	WTMJ	WBZ	WBZA	WBAL
WHAM	KDKA	WLW	KYW	WREN
WJR	KWK			

10:00-10:30 Clicquot Club Eskimos

WEAF	WEEI	WTIC	WJAR	WCSH
WFI	WRC	WGY	WCAE	WTAM
WWJ	WTMJ	KSD	WMC	WDAF
WFAA	KPRC	WOAI	WHAS	WSM
WSB	WBT	KOA	WTAG	WGR
KYW	WOW	KSTP	WHO	KSL
KPO	KGO	KFI	KGW	KOMO
KHQ	WJAX	WRVA	WKY	

10:00-10:30 Williams Syncomatics

WJZ	WBAL	WHAM	KDKA	WJR
WLW	KWK	WREN	WGN	

10:00-11:00 Voice of Columbia

WABC	WFAN	WNAC	WEAN	WFBL
WCAO	WJAS	WADC	WKRC	WGHP
WOWO	KMOX	KOIL	WSPD	WMAL
WKBW	WLBW	WBBM	KLZ	KYA
KMTR	KJR	KEX	KGA	WISN
WHK	WCCO	KDYL		

10:30-11:00 The Contraltones

WEAF	WFI	WCAE	WHO	WRVA

10:30-11:00 Orchestradians

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WJR	KYW	KWK	WREN
KSTP	KOA	KSL	KGO	KPO
KGW	KFI	KOMO	KHQ	

11:00-12:00 Wrigley—Guy Lombardo

WABC	WNAC	WEAN	WFBL	WCAO
WJAS	WADC	WCAU	WGHP	WBBM
WOWO	KMOX	KMBC	KOIL	WSPD
WHK	WKBW	WLBW	WMAL	KLZ
KDYL	KYA	KMTR	KJR	KEX
KGA	WKRC			

11:00-12:00 Radio Keith-Orpheum

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WFI	WRC	WGY	WGR
WCAE	WTAM	WWJ	KYW	KSD
WHO	WDAF	KSTP	WTMJ	WEBC
WJAX	WHAS	WSM	WSB	WMC
WBT	WRVA	WFAA	KPRC	WOAI
WKY	KOA	KSL		

Wednesday

10:00-11:00 National Home Hour

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WRC	WGR	WGY	WCAE
WEAR	WWJ	WSAI	WTMJ	KFKX
WHO				

11:00-11:15 Parnassus Trio

WEAF	WRC	WGY	KFKX

11:00-11:30 Radio School of Cookery

WJZ	WBZ	WBZA	WHAM	KDKA
KWK	WJR	WREN		

4:00-5:00 Pacific Vagabonds

WEAF	WRC	WHO	WOW	KGO
KGW	KHQ	KMO		

4:00-5:00 U. S. Navy Band

WJZ	WRC	WBZ	WBZA

7:30-8:00 La Touraine Tableaux

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WGY	WGR	WCAE	WWJ
WTAM	WHAS	WSB	WMC	

7:45-8:00 The Political Situation

WRC	WJZ	WBAL	KDKA	WLW
KWK				

8:00-8:30 Sunkist Serenaders

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WLIT	WRC	WGY	WGR
WCAE	WWJ	KSD	WOC	WOW
WDAF				

8:00-83:0 Mobiloil Orchestra

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WJR	WLW	KYW	WREN
KSTP	WTMJ	KOA	KVOO	WFAA
KPRC	WOAI	WEBC	KWK	

8:00-9:00 Show Boat

WCAU	WOR	WNAC	WEAN	WFBL
WKBW	WJAS	WADC	WMAQ	KMOX
WMAL	KOIL	WLBW	WCCO	WISN
WHK				

8:30-9:00 Kremlin Echoes

WEAF	WTIC	WRC	WCAE	KSD
WOC	WKY	WTAG	WCSH	WLIT
WMC				

8:30-9:00 Sylvania Foresters

WJZ	KDKA	WBZ	WBZA	WBAL
WHAM	WLW	WJR	KWK	KYW
WREN	KRVA			

9:00-9:30 Van Heusen Program

WOR	WNAC	WEAN	WFBL	WMAK
WJAS	WADC	WMAQ	KMOX	KOIL
WLBW	WMAL	WCAU	WCAO	WKRC
WGHP	WOWO	KMBC	WHK	WSPD

9:00-9:30 Smith Brothers

WJZ	WBZ	WBZA	WBAL	WHAM
WJR	KYW	KWK	WREN	KDKA

9:00-9:30 Ingram Shavers

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WRC	WGY	WGR	WCAE
WTAM	WWJ	KPRC	WOAI	WHAS
WSM	WSB	WBT	KOA	WMC
KSD	WOW	WDAF	WBAP	WGN
KSTP	WOC	KVOO	WTMJ	

9:30-10:00 La Palina Smoker

WOR	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	KMOX
WKRC	WGHP	WMAQ	WOWO	KOIL
KMBC	WSPD	WHK	WMAL	WLBW
WCCO	WEAN	WISN		

9:30-10:30 Palmolive Hour

WEAF	WJAX	WSM	WBT	WEEI
WRC	WTIC	WGY	WGN	WDAF
WJAR	WGR	KSD	KVOO	WTAG
WCAE	KPRC	WFAA	WTMJ	WTAM
WOAI	KOA	WLIT	WWJ	WOW
WTMJ	WHAS	KSTP	WOC	KPO
KGO	KFI	KGW	KOMO	KHQ
KSL	WCSH	WWJ	WLIT	WOW
WHAS	WMC	WSB		

9:30-10:00 The Cabin Door

WJZ	KDKA	WJR	WBZ	WBZA

10:00-10:30 Kolster Radio Hour

WOR	WFBL	WADC	WOWO	WHK
WCAU	WMAK	WKRC	KMOX	KOIL
WNAC	WCAO	WGHP	KMBC	WMAL
WEAN	WJAS	WMAQ	WSPD	WLBW
WCCO	KLZ	KDYL	KYA	KEX
KJR	KGA	KMTR		

10:30-11:00 Gold Strand Orchestra

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WLIT	WRC	WGY	WGR
WCAE	WTAM	WWJ	WOC	KSD
WOW	WBT	KOA	WHAS	WSM
WMC	WSB	WFAA	WOAI	KPRC
KSL	KSTP	WKY	KYW	KPO
KGO	KFI	KOMO	KHQ	KGW

10:30-11:00 Daguerrotypes

WOR	WMAK	WFBL	WOWO	WSPD
WCAU	WCAO	WKRC	KMOX	WHK
WNAC	WJAS	WGHP	WLBW	WEAN
WADC	WMAQ	WMAL	WCCO	WISN

11:00-12:00 Hal Kemp's Orchestra

WEAF	KSD	WOW	WKY	WCAE

Thursday

10:00-10:15 Harry Merker's Orchestra

WEAF	WGR	WOC

10:30-11:00 Rit Program

WABC	WCAU	WFBL	WKBW	WCAO
WJAS	WADC	WGHP	WBBM	WOWO
WHK	WMAL	WNAC	WEAN	KOIL
WLBW	WISN	WRHM		

11:00-11:30 Radio School of Cookery

WJZ	WBZ	WBZA	WHAM	KDKA
WLW	WJR	KWK	KFKX	

4:00-5:00 U. S. Army Band

WJZ	WRC	WJR	WREN	KWK

7:30-8:00 Coward Comfort Hour

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH				

8:00-8:30 The Song Shop

WEAF	WTIC	WJAR	WTAG	WCSH
WFI	WRC	WGY	WGR	WCAE
WTAM	WWJ	WTMJ	WOW	WDAF
KOA	WEEI	KSD	WHO	KSTP

8:00-8:30 Lehn and Fink Serenade

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WOAI	WLW	WJR	WFAA
KYW	KWK	KPRC	WREN	WKY

8:00-8:30 Sweethearts

WABC	WNAC	WEAN	WFBL	WJAS
KMOX	KOIL	WLBW	WMAL	WKBW
WCAO				

8:30-9:00 Then and Now

WABC	WNAC	WEAN	WFBL	WKBW
WCAO	WJAS	KMOX	KOIL	WLBW
WMAL				

8:30-9:00 Hoover Sentinels

WEAF	WEEI	WTAM	WFI	WRC
WGY	WCAE	WWJ	KSD	WHAS
WSM	WOW	WSB	WFAA	WDAF
WGN	WGR	WHO	WKY	KSTP

8:30-9:00 Champion Sparkers

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WLW	WREN	KWK	KYW
WJR				

9:00-9:30 Seiberling Singers

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WFI	WRC	WGY	WGR
KPO	WWJ	KFI	KSD	KHQ
KOA	WBT	WOW	WDAF	WFAA
KPRC	WHAS	WSM	WMC	WSB
WTMJ	KGO	KGW	WTAM	KYW
WHO	WJAX	KSTP	KOMO	WKY

9:00-9:30 Aunt Jemima

WABC	WCAU	WNAC	WEAN	WFBL
WCAO	WJAS	WADC	WKRC	WGHP
WBBM	WOWO	KMOX	KMBC	KOIL
WSPD	WHK	WLBW	WMAL	WKBW

9:30-10:00 Rapid Transit

WEAF	WTIC	WCSH	WRC	WCAE
WJAR	WFI			

9:30-10:00 Sonora Phonograph Hour

WABC	WCAU	WNAC	WEAN	WFBL
WMAL	WJAS	WADC	WKRC	WBBM
WGHP	WOWO	KMOX	KMBC	WSPD
WKBW	WHK	WLBW	KOIL	WCAO
WCCO	KEX	KJR	KFJF	KRLD
KLZ	KDYL	KMTR	KYA	KGA
WTAR	WWNC	WLAC	WDOD	WREC
KLRA	KTSA	WDSU	WISN	WDBJ
WBRC	WIBW			

9:30-10:00 Maxwell House Hour

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WLW	WJR	KYW	KSD
WHO	WDAF	WBAP	KPRC	WHAS
WSM	WSB	WBT	KOA	WOW
WEBC	WJAX	WTMJ	KSTP	WRVA

10:00-10:30 Columbians

WABC	WFAN	WEAN	WNAC	WFBL
WJAS	WADC	WKRC	WGHP	WMAL
WOWO	KMOX	KMBC	WSPD	WKBW
WHK	WLBW	KOIL	WCAO	WBBM
KLZ	WTAR	WWNC	WLAC	WDOD
WREC	KLRA	KFJF	KRLD	KTSA
WDSU	WISN	WDBJ	WBRC	WIBW

10:00-10:30 Halsey Stuart Hour

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WFI	WRC	WGY	WGR
WCAE	WTMJ	KSD	WOW	KVOO
WFAA	WOAI	WHAS	WBT	KOA
WSB	WWJ	KYW	WHO	KPRC
KSTP	WJAX	WMC	WRVA	KPO
KGO	KOMO	KHQ	KGW	KFI

10:30-11:00 Musical Episode

WABC	WFAN	WNAC	WEAN	WCAO
WKRC	WGHP	KMBC	WSPD	WHK
WLBW	WMAL	WJAS	WADC	WOWO
KMOX	KOIL	WKBW	WFBL	WBBM
WISN				

10:30-11:30 Concert Bureau Hour

WEAF	WEEI	WTIC	WTAG	WLIT
WCAE	WWJ	KSD	WGR	WCSH
WRC	WKY	WRVA	WOW	

Friday

10:00-11:00 National Home Hour

WEAF	WEEI	WTIC	WTMJ	KSD
WJAR	WTAG	WCSH	WFI	WRC
WGY	WGR	WCAE	WWJ	WSAI
WEAR	KFKX	WHO		

11:00-12:00 RCA Educational Hour

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WJR	WLW	WOW	WDAF
KVOO	WFAA	KPRC	WOAI	KOA
WTMJ	WHAS	WSM	WSB	WRVA
WBT	KFKX	WRC	WHO	KSTP
WJAX				

12:00-12:15 Jean Carroll

WOR	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	WKRC
WGHP	WHK	WMAL	WBBM	WOWO
KOIL	KMBC	WLBW		

12:00-12:15 Teeth and Health

WEAF	WEEI	WTIC	WCSH	WLIT
WRC	WOW	WCAE	WWJ	WGY
WEAR	KFKX	KSD	KSTP	WHO
WSAI				

4:00-5:00 U. S. Marine Band

WJZ	WBZ	WBZA	WLW	WJR
KWK	KOA	WRC		

4:00-5:00 Pacific Little Symphony

WJZ	WBZ	WBZA	WBAL	WJR
WLW	KWK	WREN	KOA	KGO
KOMO	WLS			

5:00-5:30 Florida Citrus Growers

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WRC	WGY	WGR	WCAE
WTAM	WWJ	WSAI	KYW	KSD

6:30-7:00 Raybestos Twins

WEAF	WTIC	WJAR	WTAG	WCSH
WFI	WRC	WGY	WGR	WCAE
WTAM	WWJ	KSD	WOW	WDAF
WOC	KOA	KSL	KPO	KGO
KFI	KGW	KOMO	KHQ	

6:45-7:00 Enna Jettick Melodies

WABC	WCAU	WNAC	WEAN	WFBL
WMAK	WJAS	WADC	WBBM	WOWO
KMOX	KOIL	KMBC	WHK	WLBW
WMAL	WRHM			

7:15-7:30 Squibbs Health Talk

WJZ	WBZ	WBZA	WHAM	KDKA
WJR	WLW	KYW	KWK	WREN
KSTP	WTMJ	KOA		

7:30-8:00 Dixies Circus

WJZ	WBZ	WBZA	WBAL	KDKA
WJR	WLW	KYW	WBT	WSB
WSM	WHAS	WMC		

8:00-8:30 Close-Ups

WOR	WNAC	WEAN	WFBL	WJAS
WMAQ	KMOX	KOIL	WLBW	WMAL
WADC	WCAO	WHK	WDBJ	WTAR
WWNC	WLAC	WDOD	WBRC	WREC
KLRA	KFJF	KRLD	KFH	WDSU

8:00-9:00 Cities Service Orchestra

WEAF	WEEI	WLIT	WRC	WDAF
WCAE	WTAM	WWJ	KSD	WOW
WFAA	KOA	KYW	WOC	WKY
KSTP	WGR			

8:30-9:00 The Armstrong Quakers

WJZ	WBAL	WJR	KWK	WSB
WBZ	WHAM	WLW	WREN	WBZA
KDKA	WBT	WHAS	WSM	WLS
WMC				

8:30-9:00 Veedol Vodevil

WOR	WCAU	WNAC	WEAN	WFBL
WMAK	WJAS	WMAQ	KMOX	KOIL
WLBW	WMAL	WCCO	WADC	WHK
WCAO	WGHP	WOWO	KMBC	WHEC
WDBJ	WTAR	WWNC	WLAC	WDOD
WBRC	WREC	KLRA	KFJF	KRLD
KTSA	KFH	WDSU		

9:00-9:30 An Evening in Paris

WEAF	WEEI	WTIC	WRC	WGR
WCAE	WWJ	WCSH	WDAF	KSD
WJAR	WTAG	WGN	WLIT	WGY
WOW	WOC			

9:00-10:00 True Story Hour

WOR	WMAK	WOWO	WSPD	WLBW
WCAU	WCAO	WKRC	KMOX	WMAL
WNAC	WJAS	WGHP	KMBC	WFBL
WEAN	WADC	WMAQ	KOIL	WHK

9:00-10:00 Wrigley Review

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WLW	WJR	KYW	WREN
WHAS	WSM	WSB	WBT	WRVA
WJAX	KGO	WFAA	WOAI	KPO
KFI	KGW	KOMO	KHQ	KPRC
KOA	KSTP	WMC	KWK	WKY

9:30-10:00 Schradertown Brass Band

WEAF	WEEI	WDAF	WTIC	WJR
WTAG	WCSH	WLIT	WGY	WGR
WCAE	WWJ	WOC	KSD	WOW

9:30-10:00 Philco Hour

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WLW	WJR	KYW	KWK
WREN	WFAA	KPRC	WOAI	WHAS
WSM	WSB	WBT	WTMJ	KSTP
WMC	WKY	KOA	KSL	KPO
KGO	KFI	KGW	KOMO	KHQ

10:00-10:30 Kodak Hour

WOR	WFBL	WADC	WMAQ	WSPD
WCAU	WMAK	KOIL	WHK	WNAC
WCAO	WKRC	KMOX	WLBW	WEAN
WJAS	WGHP	KMBC	WMAL	WCCO
WISN	WOWO	KLZ	KDYL	KMTR
KYA	KEX	KJR	KGO	WDBJ
WTAR	WWNC	WLAC	WDOD	WBRC
WREC	KLRA	KFJF	KRLD	WIBW
KTSA	WDSU			

10:00-10:30 Hudson-Essex Challengers

WJZ	WBZ	WBZA	WBAL	WHAM
WRVA	KDKA	WLW	WJR	KYW
KWK	WREN	KVOO	WFAA	KPRC
WOAI	WHAS	WBT	WTMJ	KSTP
WEBC	KOA	KSL	KPO	KFI
KGW	KOMO	KHQ	WKY	WSB
WJAX	WMC	WIOD		

10:00-10:30 Palais d'Or Orchestra

WEAF	WFI	WWJ	WRVA	WTIC
WGY	WHO			

10:30-11:00 Half Hours with the Senate

WHAS	WMC	WJAX	KVOO	WFAA
WOAI	WKY	KSL	KPO	KGO
WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WLIT	WRC	WGY	WGR
WCAE	KYW	KSD	WOC	WOW
WTMJ	WIOD	KGW	KHQ	

10:30-11:00 Phil Spitalny's Music

WJZ	WBZ	WBZA	WREN	WIOD
WMC	WJAX			

10:30-11:00 Night Club Romances

WOR	WCAU	WNAC	WEAN	WFBL
WMAK	WCAO	WJAS	WADC	WKRC
WGHP	WMAQ	KMOX	KMBC	KOIL
WSPD	WHK	WLBW	WMAL	WISN
WDBJ	WTAR	WWNC	WDOD	WREC
KFJF	KRLD	WIBW	KTSA	KLZ
KDYL	KMTR	KYA	KEX	KJR
KGA				

Saturday

8:00-8:30 Lew White Organ Recital

WEAF	WTIC	WCAE	WWJ	KSD
WHO	WRC	WKY	KOA	KSL
KPO	KGO	KGW	KHQ	KOMO
KFI	WFAA	WEEI		

8:30-9:00 Mildred Hunt, Contralto

WEAF	WGY	WGR	KYW	KFI
WCAE	WWJ	KSD	WHO	WTIC
WJAR	WTAG	WRC	KSL	KOA
KPO	KGO	KOMO	KHQ	WEEI

9:15-9:30 Harry Merker's Orchestra

WEAF	WEEI	WRC

9:30-10:30 U. S. Army Band

WEAF	WRC	WEEI	WGR	WOC
KDKA				

3:30-4:30 RCA Demonstration Hour

WBZ	WBZA	WJZ	WHAM	KDKA
WLW	WJR	KYW	KWK	WOAI
WHAS	WSB	KPRC	WFAA	KVOO
WDAF	WRC	WBT	WOC	

6:30-7:00 Gold Spot Orchestra

WJZ	WBZ	WBZA	KDKA	WLW

6:30-7:00 White House Dinner Music

WEAF	WEEI	WTIC	WJAR	WSB
WTAG	WCSH	WFI	WRC	WGY
WGR	WCAE	WTAM	WWJ	WLS
WBT	WTMJ	KSTP		

7:00-7:30 Phil Spitalny's Music

WEAF	WFI	WRC	WGY	WSB

7:30-8:00 Romance Isle

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH				

7:45-8:00 The World's Business

WJZ	WBAL	WSM	KDKA	KWK
KOA	WFAA	WTMJ	WRC	WHAS

8:00-8:30 Pure Oil Band

WJZ	WBAL	WHAM	KDKA	WJR
WLW	KYW	KWK	WREN	WTMJ
WHAS	WMC	WSB	WBT	WRVA
WJAX	WEBC	KSTP		

8:30-9:00 Interwoven Entertainers

WJZ	WBZ	WBZA	WBAL	WHAM
KDKA	WJR	WLW	KYW	KWK
WREN	WHAS	WMC	WSB	WBT
WFAA	KPRC	WOAI	WKY	

9:00-9:30 Pan-Americana

WJZ	WBZ	WBZA	WBAL	KDKA

9:00-10:00 General Electric Hour

WEAF	WEEI	WTIC	WJAR	WTAG
WCSH	WFI	WRC	WGY	WGR
WCAE	WTAM	WWJ	KSD	WHO
WOW	WDAF	WTMJ	KOA	WHAS
WMC	WSB	WBT	WFAA	KPRC
WKY	WJAX	WRVA	WEBC	KSL
KPO	KGO	KHQ	KGW	KOMO
KFI	WLS	KSTP		

10:00-11:00 Lucky Strike Orchestra

WEAF	KOA	WRC	KSD	WEEI
WGR	KPO	WTMJ	KSL	WCAE
WOW	KHQ	WJAR	WTAM	WDAF
KGO	WTAG	WWJ	KVOO	KFI
WCSH	WFAA	WSB	KGW	WFI
WGN	KPRC	WBT	KOMO	WGY
WHO	WOAI	WJAX	KSTP	WKY
WHAS	WIOD	WMC		

11:00-11:15 Wright Sisters

WEAF	WFI	WCAE	WWJ	KSD
WHO	WKY	WIOD		

11:15-12:00 Ben Pollack's Orchestra

WEAF	WCAE	WWJ	KSD	WHO
WDAF	WKY			

FROM/TO	Albuquerque, N. Mex.	Atlanta, Ga.	Baltimore, Md.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Buffalo, N. Y.	Chicago, Ill.	Cincinnati, Ohio	Cleveland, Ohio	Denver, Colo.	Des Moines, Iowa	Detroit, Mich.	El Paso, Tex.	Fargo, N. Dak.	Fort Worth, Tex.	Galveston, Tex.	Hastings, Nebr.	Hot Springs, Ark.	Houghton, Mich.	Jacksonville, Fla.	Kansas City, Mo.	Los Angeles, Calif.
Albuquerque, N. Mex.	----	1273	1670	774	1967	836	1577	1126	1248	1417	332	833	1360	228	968	561	803	588	773	1252	1492	717	663
Atlanta, Ga.	1273	----	575	1830	933	960	695	583	368	550	1208	738	595	1293	1112	750	688	901	498	947	286	675	1935
Baltimore, Md.	1670	575	----	2055	358	1525	273	603	423	305	1505	913	390	1750	1143	1239	1245	1154	964	808	682	962	2313
Boise, Idaho	774	1830	2055	----	2266	1610	1872	1453	1663	1754	637	1155	1671	969	975	1263	1538	934	1384	1367	2098	1158	661
Boston, Mass.	1967	933	358	2266	----	1881	398	849	737	550	1766	1159	613	2067	1304	1574	1598	1415	1303	922	1015	1250	2590
Brownsville, Tex.	838	960	1525	1610	1881	----	1575	1234	1184	1402	1047	1102	1358	698	1445	471	287	1013	650	1543	1025	923	1370
Buffalo, N. Y.	1577	695	273	1872	398	1575	----	454	392	175	1368	762	218	1690	923	1221	1289	1019	956	560	880	862	2135
Chicago, Ill.	1125	583	603	1453	849	1234	454	----	249	307	918	310	236	1249	571	820	954	565	585	367	861	413	1745
Cincinnati, Ohio	1248	368	423	1663	737	1184	392	249	----	218	1090	509	234	1333	818	839	697	762	569	589	628	541	1894
Cleveland, Ohio	1417	550	305	1754	550	1402	175	307	218	----	1223	617	94	1521	838	1046	1116	871	787	518	768	700	2044
Denver, Colo.	338	1208	1505	637	1766	1047	1368	918	1090	1223	----	607	1153	554	642	643	925	353	749	970	1468	555	828
Des Moines, Iowa	833	738	913	1155	1159	1102	762	310	509	617	607	----	545	980	997	650	851	256	488	458	1024	180	1433
Detroit, Mich.	1360	595	398	1671	613	1398	218	236	234	94	1153	545	----	1475	745	1019	1111	800	761	427	832	643	1976
El Paso, Tex.	228	1293	1750	969	2067	692	1690	1249	1333	1521	554	980	1475	----	1161	543	723	757	802	1422	1481	636	702
Fargo, N. Dak.	968	1112	1143	975	1304	1445	923	571	818	838	642	397	745	1161	----	973	1218	440	875	393	1400	548	1426
Fort Worth, Tex.	561	750	1239	1260	1574	471	1221	820	839	1046	643	640	1018	543	973	----	283	544	273	1093	943	460	1212
Galveston, Tex.	803	688	1045	1528	1598	287	1289	954	897	1116	925	851	1111	723	1218	283	----	808	375	1277	799	677	1423
Hastings, Nebr.	588	901	1154	934	1415	1013	1019	566	742	871	353	256	800	757	440	544	808	----	513	666	1178	226	1177
Hot Springs, Ark.	773	498	964	1384	1303	650	956	585	569	787	749	488	761	802	875	273	375	513	----	901	728	326	1437
Houghton, Mich.	1252	947	808	1367	922	1543	560	367	569	518	970	458	427	1422	393	1093	1277	666	901	----	1216	633	1787
Jacksonville, Fla.	1492	286	682	2098	1015	1025	880	861	628	768	1469	1024	832	1481	1400	943	999	1178	728	1216	----	952	2153
Kansas City, Mo.	717	675	962	1158	1250	923	862	413	541	700	555	180	643	836	548	460	677	226	326	633	952	----	1352
Los Angeles, Calif.	663	1935	2313	663	2590	1370	2195	1741	1892	2044	828	1433	1976	702	1426	1212	1423	1177	1437	1787	2153	1352	----
Louisville, Ky.	1174	317	498	1623	823	1093	483	269	92	309	1035	477	315	1253	818	751	807	693	480	636	595	480	1825
Memphis, Tenn.	938	385	762	1806	1133	777	802	481	410	627	878	485	621	978	862	448	492	591	176	830	591	370	1602
Miami, Fla.	1710	610	958	2368	1258	1100	1193	1190	957	1088	1732	1338	1196	1662	1721	1150	941	1468	983	1545	328	1347	2355
Minneapolis, Minn.	980	905	948	1140	1125	1335	733	356	603	632	699	235	542	1156	219	870	1087	399	722	272	1192	413	1522
Missoula, Mont.	895	1790	1947	252	2124	1706	1740	1348	1578	1640	670	1074	1552	1115	819	1312	1595	891	1385	1208	2070	1117	910
Nashville, Tenn.	1117	218	597	1631	941	952	626	394	239	456	1018	523	468	1169	900	643	666	697	370	760	502	472	1777
New Orleans, La.	1080	427	1001	1713	1359	536	1087	831	708	922	1079	825	938	986	1221	470	288	870	358	1187	511	678	1675
New York, N. Y.	1810	747	170	2153	188	1695	291	711	568	404	1628	1023	483	1902	1213	1398	1415	1275	1125	649	838	1097	2440
Norfolk, Va.	1696	507	167	2137	467	1465	435	696	474	429	1562	983	522	1755	1258	1226	1195	1216	955	946	548	1009	2352
Oklahoma, Okla.	518	753	1173	1138	1490	659	1117	689	755	946	503	469	905	578	786	188	456	357	260	926	988	293	1182
Omaha, Nebr.	718	815	1026	1044	1280	1051	863	432	620	738	485	122	686	875	360	590	828	135	490	547	1098	165	1312
Philadelphia, Pa.	1748	663	90	2113	266	1614	278	664	501	343	575	972	444	1834	1186	1324	1335	1222	1051	827	758	1037	2388
Phoenix, Ariz.	330	1592	2002	733	2295	1023	1904	1451	1578	1745	585	1154	1685	347	1225	858	1055	901	1094	1550	1800	1045	357
Pittsburgh, Pa.	1498	520	194	1863	478	1424	178	411	258	115	1320	718	208	1592	952	1097	1140	967	825	630	703	784	2135
Portland, Me.	2015	1022	446	2282	100	1961	438	892	802	605	1803	1197	657	2126	1313	1642	1678	1454	1371	924	1113	1300	2631
Portland, Oreg.	1107	2172	2367	349	2553	1944	2167	1765	1987	2063	985	1479	1975	1286	1240	1612	1885	1271	1733	1638	2442	1397	825
Richmond, Va.	1628	470	128	2060	471	1428	375	618	399	353	1488	905	445	1695	1180	1170	1154	1142	897	870	653	917	2283
St. Louis, Mo.	938	467	731	1309	1036	979	662	259	308	490	793	270	452	1033	658	560	697	455	325	591	755	238	1585
Salt Lake City, Utah	683	1580	1858	292	2099	1317	1701	1260	1450	1567	372	952	1490	609	865	977	1249	708	1116	1242	1840	922	577
San Francisco, Calif.	893	2133	2451	516	2696	1675	2298	1855	2037	2163	946	1547	2087	993	1447	1454	1693	1297	1648	1833	2375	1500	348
Schenectady, N. Y.	1823	840	278	2120	150	1770	249	702	605	403	1618	1012	467	1930	1157	1445	1487	1267	1175	776	950	1107	2445
Seattle, Wash.	1178	2160	2441	405	2508	2015	2130	1743	1974	2035	1020	1470	1945	1372	1206	1658	1938	1288	1759	1588	2450	1505	956
Shreveport, La.	764	548	1004	1433	1410	510	1080	725	688	904	799	604	891	752	1002	209	233	615	142	1043	733	326	1450
Spokane, Wash.	1028	1930	2110	290	2279	1852	1900	1514	1746	1804	827	1243	1715	1238	978	1470	1753	1061	1552	1360	2239	1286	936
Springfield, Mass.	1889	863	282	2196	79	1805	325	774	659	673	1632	1085	540	1990	1240	1495	1524	1340	1224	860	957	1173	2515
Vermillion, S. Dak.	742	917	1083	973	1314	1151	916	479	694	785	468	187	705	920	284	689	938	167	605	510	1203	280	1291
Washington, D. C.	1848	542	33	2045	392	1493	290	594	403	303	1490	895	397	1726	1141	1210	1214	1139	936	813	647	943	2291

Use Your RADEX Properly

(*Continued from Inside Cover*)

71-69 our set will be tuned to 640 keys. and at that point KFI of Los Angeles 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 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 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 hear-

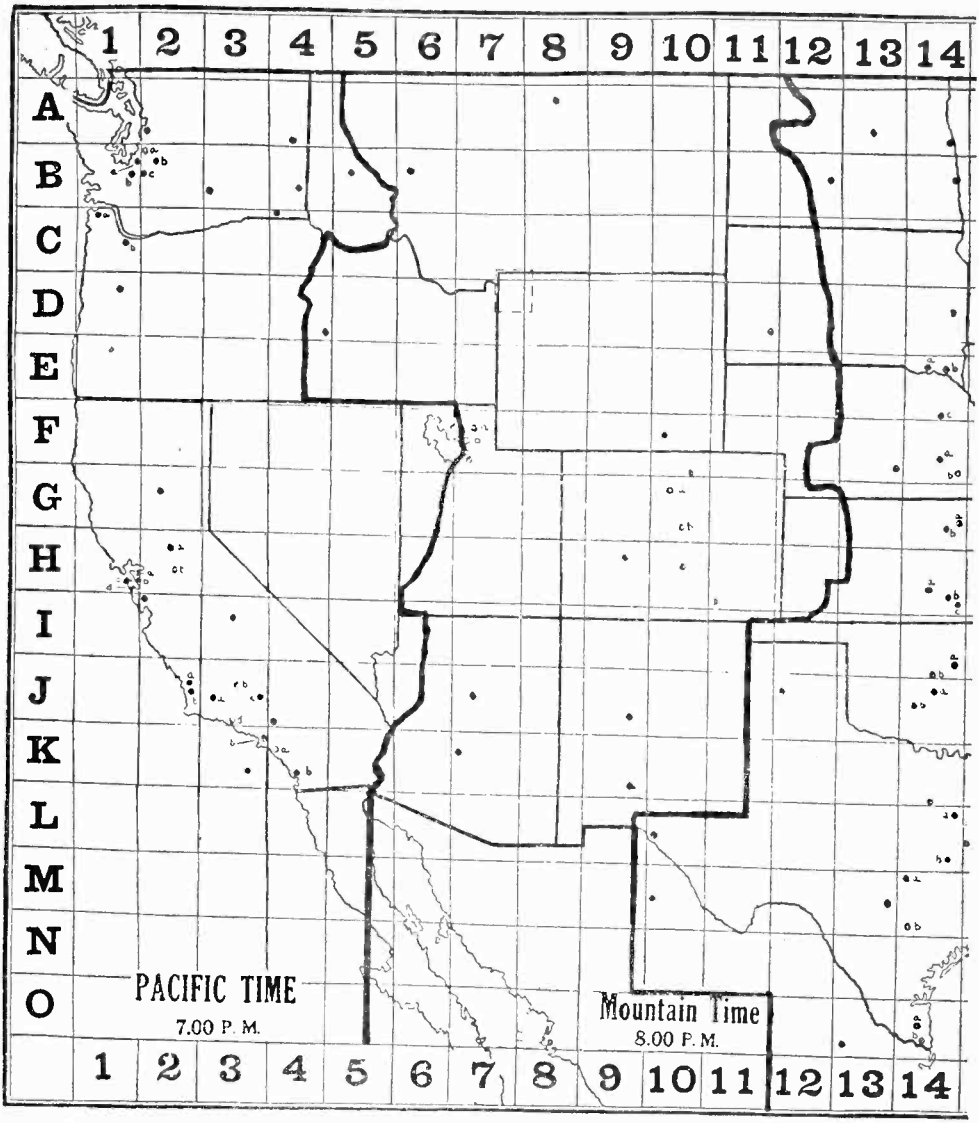
IN STATUTE MILES

Louisville, Ky.	Memphis, Tenn.	Miami, Fla.	Minneapolis, Minn.	Missoula, Mont.	Nashville, Tenn.	New Orleans, La.	New York, N. Y.	Norfolk, Va.	Oklahoma, Okla.	Omaha, Nebr.	Philadelphia, Pa.	Phoenix, Ariz.	Pittsburgh, Pa.	Portland, Me.	Portland, Oreg.	Richmond, Va.	St. Louis, Mo.	Salt Lake City, Utah	San Francisco, Calif.	Schenectady, N. Y.	Seattle, Wash.	Shreveport, La.	Spokane, Wash.	Springfield, Mass.	Vermillion, S. Dak.	Washington, D.C.
1174	938	1710	980	695	1117	1030	1810	1696	518	718	1748	330	1498	2015	1107	1628	938	483	893	1823	1178	764	1028	1889	742	1648
317	335	610	905	1790	218	427	747	507	753	815	663	1592	520	1022	2172	470	467	1580	2133	840	2180	548	1960	863	917	542
498	792	958	948	1947	597	1001	170	167	1173	1026	90	2002	194	446	2367	128	731	1858	2451	278	2341	1064	2110	2821	1083	33
1623	1506	2368	1140	252	1631	1713	2153	2137	1138	1044	2113	733	1863	2282	349	2060	1389	292	516	2120	405	1433	290	2196	973	2045
823	1133	1258	1129	2124	941	1359	188	467	1490	1280	268	2295	478	190	2553	471	1036	2099	2696	150	2508	1410	2279	79	1314	392
1093	777	1100	1335	1706	952	536	1695	1465	659	1061	1614	1023	1424	1951	1944	1428	975	1317	1675	1770	2015	510	1858	1805	1161	1493
483	802	1184	733	1740	626	1087	291	435	1117	883	278	1904	178	438	2167	375	662	1701	2298	249	2130	1080	1900	325	916	290
268	461	2190	356	1348	394	831	711	696	689	432	664	1451	411	892	1765	618	259	1260	1855	702	1743	725	1514	774	479	594
92	410	957	603	1578	239	708	568	474	755	620	501	1578	258	802	1987	399	308	1450	2037	605	1974	688	1746	659	694	403
309	627	1088	632	1640	456	922	404	420	946	738	343	1745	115	603	2063	353	490	1567	2163	408	2035	904	1804	478	785	303
1035	878	1732	699	670	1018	1079	1628	1562	503	485	1575	585	1320	1803	985	1488	793	372	946	1618	1020	799	827	1692	468	1490
477	485	1338	235	1074	523	825	1023	983	469	122	972	1154	718	1157	1479	905	270	952	1547	1012	1470	624	1243	1085	187	695
315	621	1156	542	1552	468	938	483	522	905	666	444	1685	208	657	1975	445	452	1490	2087	467	1945	891	1715	540	705	397
1253	978	1662	1156	1115	1169	986	1902	1755	578	875	1834	347	1592	2126	1286	1695	1033	689	993	1930	1373	752	1238	1990	920	1726
818	882	1721	219	819	900	1221	1213	1258	786	590	1186	1225	952	1313	1248	1180	658	865	1447	1157	1206	1002	976	1260	284	1161
751	448	1150	870	1312	643	470	1398	1226	108	590	1324	658	1097	1642	1612	1170	568	977	1454	1445	1658	209	1470	1495	689	1210
807	492	941	1087	1595	666	288	1415	1195	456	828	1335	1065	1140	1678	1885	1154	697	1249	1693	1487	1938	233	1753	1524	938	1214
693	591	1468	399	891	697	870	1275	1216	357	135	1222	901	967	1454	1271	1142	455	708	1297	1267	1288	615	1061	1340	167	1139
480	176	983	722	1385	370	358	1125	955	260	490	1051	1094	825	1371	1733	897	325	1116	1648	1175	1759	142	1552	1824	605	936
636	830	1545	272	1200	760	1187	849	948	926	547	827	1550	630	924	1638	870	591	1242	1833	776	1588	1043	1360	860	510	813
595	591	328	1192	2070	502	511	838	548	988	1098	756	1800	703	1113	2442	953	755	1840	2375	960	2450	733	2239	957	1203	647
480	370	1247	413	1117	472	678	1037	1009	293	165	1037	1045	784	1300	1397	937	238	922	1500	1107	1505	326	1286	1173	280	943
1825	1602	2355	1522	910	1777	1675	2446	2352	1182	1212	2388	357	2135	2631	825	2283	1585	577	345	2445	956	1420	939	2515	1291	2295
----	319	923	605	1550	153	623	650	528	675	579	580	1512	345	892	1953	457	242	1400	1983	695	1945	598	1720	745	663	473
319	----	878	700	1483	195	358	953	778	422	529	878	1264	660	1205	1852	722	242	1250	1800	1010	1867	279	1652	1055	642	763
923	878	----	1516	2399	821	681	1095	802	1233	1402	1023	1998	1014	1357	2716	831	1067	2098	2603	1229	2740	950	2528	1210	1510	927
605	700	1516	----	1010	465	1050	1019	1047	692	891	985	1279	745	1145	1435	968	464	988	1585	975	1403	859	1173	1056	238	936
1550	1483	2359	1010	----	1582	1733	2030	2045	1162	978	1997	932	1754	2133	430	1967	1331	435	762	1978	395	1457	170	2060	887	1940
153	195	821	695	1582	----	470	758	586	602	604	683	1445	472	1015	1970	526	253	1390	1958	820	1973	470	1752	863	704	567
623	358	681	1050	1733	470	----	1173	932	575	645	1090	1318	923	1445	2063	899	599	1433	1923	1259	2098	280	1898	1287	960	968
650	953	1095	1019	2030	758	1173	----	293	1324	1144	83	2142	313	277	2455	287	673	1972	2568	142	2419	1230	2190	120	1189	204
528	778	802	1047	2045	586	932	293	----	1186	1095	220	2027	316	565	2458	79	771	1925	2510	626	2440	1037	2211	411	1166	145
675	422	1033	692	1162	602	575	1324	1186	----	405	1256	843	1013	1550	1488	1122	456	862	1386	1354	1523	297	1324	1412	502	1150
579	529	1402	891	978	604	845	1144	1095	405	----	1094	1032	837	1318	1373	1020	352	833	1425	1133	1372	617	1149	1205	115	1012
580	878	1023	985	1997	683	1090	83	720	1256	1094	----	2079	254	360	2419	205	808	1923	2518	805	2388	1153	2159	801	1143	122
1512	1264	1998	1279	932	1445	1318	2142	2027	843	1032	2079	----	1829	2345	1007	1960	1270	504	652	2152	1112	1067	1020	2220	1043	1980
345	660	1014	745	1754	472	923	313	316	1013	837	254	1829	----	545	2174	242	561	1670	2264	350	2145	939	1918	400	891	188
892	1209	1357	1145	2133	1015	1445	277	565	1550	1318	360	2345	545	----	2563	565	1094	2127	2725	197	2513	1484	2285	159	1345	480
1953	1852	2716	1435	430	1970	2063	2455	2358	1488	1373	2419	1007	2174	2563	----	2381	1723	636	536	2405	143	1783	295	2488	1293	2360
457	722	831	968	1967	526	699	287	79	1122	1020	205	1960	242	565	2381	----	699	1850	2436	406	2362	985	2133	407	1089	96
842	242	1067	464	1331	253	599	673	771	456	352	808	1270	561	1094	1723	699	----	1158	1738	898	1722	466	1500	958	450	710
1400	1250	2098	988	435	1390	1433	1972	1925	862	803	1923	562	1670	2127	636	1850	1158	----	592	1950	697	1155	548	2027	785	1845
1983	1800	2603	1585	762	1958	1923	2568	2510	1386	1425	2518	652	2264	2725	536	2436	1738	592	----	2548	680	1655	730	2625	1383	2437
695	1010	1229	975	1978	820	1259	142	426	1354	1133	205	2152	350	197	2405	406	898	1950	2548	----	2363	1290	2139	86	1165	313
1945	1867	2740	1403	395	1973	2098	2419	2440	1523	1372	2388	1112	2145	2513	143	2362	1722	697	680	2363	----	1820	229	2445	1282	2335
598	279	950	859	1457	470	260	1230	1037	297	617	1153	1067	939	1484	1783	985	466	1155	1655	1290	1820	----	1621	1333	726	1035
1720	1652	2528	1173	170	1752	1898	2190	2211	1324	1149	2159	1020	1918	2285	295	2133	1500	548	730	2139	229	1621	----	2216	1055	2105
745	1055	1210	1056	2060	868	1287	120	411	1412	1205	201	2220	400	159	2488	407	958	2027	2625	86	2445	1333	2216	----	1242	321
663	642	1510	238	887	704	960	1189	1166	502	115	1143	1043	891	1345	1293	1089	450	785	1383	1165	1282	726	1055	1242	----	1073
473	763	927	936	1940	567	968	204	145	1150	1012	122	1980	188	480	2360	96	710	1845	2437	313	2335	1035	2105	321	1073	----

ing. 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. Where two stations in the same locality have the same frequency, they are required to divide 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 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 they 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 Radex Press,
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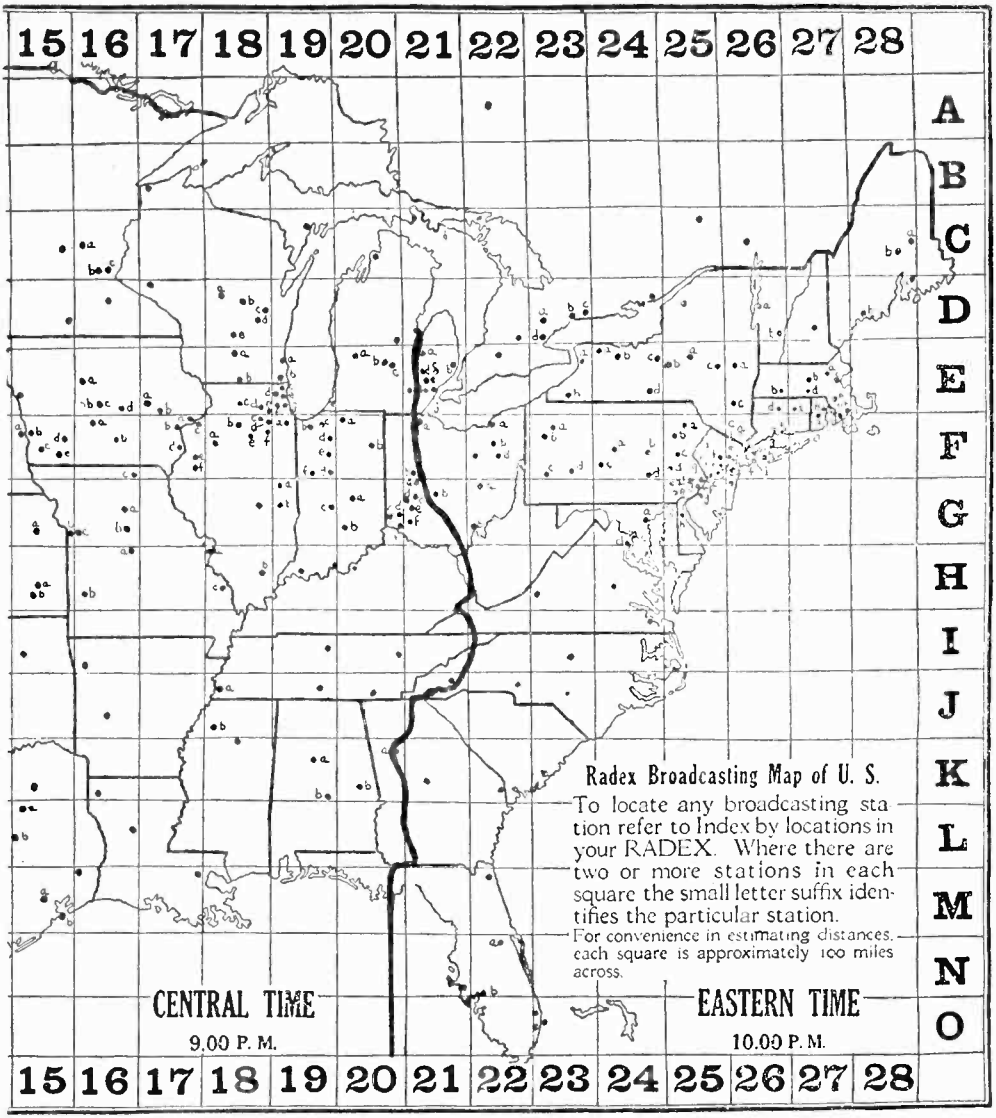

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540 kilocycles 555.6 meters

CKX	500	Brandon, Manitoba	Manitoba Telephone System

550 kilocycles 545.1 meters

CYY	100	Merida, Mexico	Socialist Party
KFDY	500	Brookings, S. D.	S. D. State College
KFUO	500	St. Louis, Mo.	Concordia Theological Seminary
KFYR	500	Bismarck, N. D.	Hoskins-Meyer
KSD	500	St. Louis, Mo.	Pulitzer Publishing Co.
KTAB	500	Oakland, Cal.	Associated Broadcasters
WEAN	250	Providence, R. I.	The Shepard Stores
WEAO	750	Columbus, Ohio	Ohio State University
WGR	1000	Buffalo, N. Y.	Radio Station WGR Inc.
WKRC	500	Cincinnati, Ohio	Kodel Radio Corp.

560 kilocycles 535.4 meters

KFDM	500	Beaumont, Texas	Magnolia Petroleum Co.
KFEQ	2500	St. Joseph, Mo.	Scroggin & Co. Bank
KLZ	1000	Denver, Colo.	Reynolds Radio Co., Inc.
KOAC	1000	Corvallis, Ore.	State Agricultural College
WDGY	500	Minneapolis, Minn.	Dr. George W. Young
WFI	500	Philadelphia, Pa.	Strawbridge & Clothier
WHDI	500	Minneapolis, Minn.	Wm. Hood Dunwoody Indus. Institute
WLIT	500	Philadelphia, Pa.	Lit Brothers
WMBF	500	Miami Beach, Fla.	Fleetwood Hotel Corp.
WNOX	1000	Knoxville, Tenn.	Sterchi Bros.
WOI	3500	Ames, Iowa	Iowa State College

570 kilocycles 526.0 meters

KGKO	250	Wichita Falls, Tex.	Wichita Falls Brdcstg. Co.
KMTR	1000	Hollywood, Cal.	KMTR Radio Corp.
KPLA	1000	Los Angeles, Cal.	Pacific Development Radio Co.
KUOM	500	Missoula, Mont.	University of Montana
KXA	500	Seattle, Wash.	American Radio Tel. Co.
WHA	750	Madison, Wis.	University of Wisconsin
WIBO	1000	Chicago, Ill.	Nelson Bros. Bond & Mfg. Co.
WKBN	500	Youngstown, Ohio	W. P. Williamson, Jr.
WMAC	250	Cazenovia, N. Y.	Clive B. Meredith
WMCA	500	New York City	Greeley Square Hotel Co.
WNAX	1000	Yankton, S. D.	Dakota Radio Apparatus Co.
WNYC	500	New York City	Dept. of Plants and Structures
WPCC	500	Chicago, Ill.	North Shore Congregational Church
WSMK	200	Dayton, Ohio	Stanley M. Krohn, Jr.
WSYR	250	Syracuse, N. Y.	Clive B. Meredith
WWNC	1000	Asheville, N. C.	Citizens Brdcstg. Co.

580 kilocycles 516.9 meters

CHMA	250	Edmonton, Alta.	Christian and Missionary Alliance
CHNC	500	Toronto, Ont.	Radio Research Society
CJBC	500	Toronto, Ont.	Jarvis Street Baptist Church
CJCA	500	Edmonton, Alta.	The Edmonton Journal
CJSC	500	Toronto, Ont.	The Evening Telegram
CKCL	500	Toronto, Ont.	The Dominion Battery Co.
CKNC	500	Toronto, Ont.	Canadian National Carbon Co.
CKUA	500	Edmonton, Alta.	University of Alberta
CNRE	500	Edmonton, Alta.	Canadian National Railways
KGFX	200	Pierre, S. D.	Dana McNeil
KSAC	500	Manhattan, Kans.	State Agricultural College
WOBU	250	Charleston, W. Va.	Charleston Radio Brdcstg. Co.
WSAZ	250	Huntington, W. Va.	McKellar Electric Co.
WSUI	500	Iowa City, Iowa	University of Iowa
WTAG	250	Worcester, Mass.	Telegram Publishing Co.

590 kilocycles 508.2 meters

KHQ	1000	Spokane, Wash.	Louis Wasmer, Inc.
WCAJ	500	Lincoln, Nebr.	Nebraska Wesleyan University
WEEI	1000	Boston, Mass.	Edison Elec. Illuminating Co.
WOW	1000	Omaha, Nebr.	Woodmen of the World
WEMC	1000	Berrien Springs, Mich.	Emmanuel Missionary College

600 kilocycles 499.7 meters

CFCH	250	Iroquois Falls, Ont.	Abitibi Power & Paper Co.
CHRC	25	Quebec, Que.	E. Fontaine
CJRM	500	Moose Jaw, Sask.	Jas. Richardson & Sons
CJRW	500	Fleming, Sask.	Jas. Richardson & Sons, Ltd.
CKCI	22.5	Quebec, Que.	LeSoleil
CKCV	50	Quebec, Que.	G. A. Vandry
CNRQ	50	Quebec, Que.	Canadian National Railways
KFSD	500	San Diego, Cal.	Airfan Radio Corp.
KWYO	500	Laramie, Wyo.	Bishop N. S. Thomas
WCAC	250	Storrs, Conn.	Conn. Agricultural College
WCAO	250	Baltimore, Md.	Monumental Radio Co., Inc.
WEBW	350	Beloit, Wis.	Beloit College
WOAN	500	Lawrenceburg, Tenn.	Vaughan School of Music
WREC	500	Memphis, Tenn.	WREC, Inc.
WTIC	250	Hartford, Conn.	Travelers Insurance Co.

610 kilocycles 491.5 meters

KFRC	1000	San Francisco, Cal.	Don Lee, Inc.
WDAF	1000	Kansas City, Mo.	Kansas City Star Co.
WFAN	500	Philadelphia, Pa.	Keystone Broadcasting Co., Inc.
WIP	500	Philadelphia, Pa.	Gimbel Bros., Inc.
WOQ	1000	Kansas City, Mo.	Unity School of Christianity

620 kilocycles 483.6 meters

KFAD	500	Phoenix, Ariz.	Electrical Equipment Co.
KGW	1000	Portland, Ore.	Oregonian Publishing Co.
WDAE	1000	Tampa, Fla.	Tampa Publishing Co.
WDBO	1000	Orlando, Fla.	Rollins College, Inc.
WJAY	500	Cleveland, Ohio	Cleveland Radio Brdcstg. Corp.
WLBZ	250	Bangor, Me.	Maine Brdcstg. Co.
WTMJ	1000	Milwaukee, Wis.	Milwaukee Journal

630 kilocycles 475.9 meters

CFCT	500	Victoria, B. C.	Victoria Broadcasting Association
CJGX	500	Yorkton, Sask.	Winnipeg Grain Exchange
CNRA	500	Moncton, N. B.	Canadian National Railways
CYR	250	Mazatlan, Mex.	Castulo Llamas
KFRU	500	Columbia, Mo.	Stephens College
WGBF	500	Evansville, Ind.	Evansville on the Air, Inc.
WMAL	250	Washington, D.C.	M. A. Leese Co.
WOS	500	Jefferson City, Mo.	State Marketing Bureau

640 kilocycles 468.5 meters

KFI	5000	Los Angeles, Cal.	Earle C. Anthony, Inc.
WAIU	500	Columbus, Ohio	American Insurance Union

650 kilocycles 461.3 meters

WSM	5000	Nashville, Tenn.	National Life & Accident Ins. Co.

660 kilocycles 454.3 meters

WAAW	500	Omaha, Nebr.	Omaha Grain Exchange
WEAF	50000	New York City	National Broadcasting Co., Inc.

670 kilocycles 447.5 meters

WMAQ	5000	Chicago, Ill.	Chicago Daily News, Inc.

680 kilocycles 440.9 meters

KPO	1000	San Francisco, Cal.	Hale Bros. & The Chronicle
WPTF	1000	Raleigh, N. C.	Durham Life Insurance Co.

690 kilocycles 434.5 meters

CFAC	500	Calgary, Alta.	The Calgary Herald
CFCN	1800	Calgary, Alta.	W. W. Grant, Ltd.
CHCA	250	Calgary, Alta.	The Western Farmer
CJCJ	250	Calgary, Alta.	Albertan Publishing Co., Ltd.
CKCO	100	Ottawa, Ont.	Dr. G. M. Geldert
CNRC	500	Calgary, Alta.	Canadian National Railways
CNRO	500	Ottawa, Ont.	Canadian National Railways
NAA	1000	Arlington, Va.	U. S. Navy

700 kilocycles 428.3 meters

KFVD	250	Culver City, Cal.	Auburn Fuller Co.
WLW	50000	Cincinnati, Ohio	Crosley Radio Corp.

710 kilocycles 422.3 meters

CYO	100	Mexico City	M. T. Zetina
WOR	5000	Newark, N. J.	L. Bamberger & Co.

720 kilocycles 416.4 meters

WGN	25000	Chicago, Ill.	Chicago Tribune
WLIB	25000	Chicago, Ill.	Liberty Weekly, Inc.

730 kilocycles 410.7 meters

CHLS	50	Vancouver, B. C.	W. G. Hassell
CHYC	750	Montreal, Que.	Northern Electric Co.
CKAC	1200	Montreal, Que.	La Presse Publishing Co.
CKCD	50	Vancouver, B. C.	Vancouver Daily Province
CKFC	50	Vancouver, B. C.	United Church of Canada
CKMO	50	Vancouver, B. C.	Sprott-Shaw Radio Co.
CKWX	100	Vancouver, B. C.	A. Holstead & Wm. Hanlon
CNRM	1650	Montreal, Que.	Canadian National Railways

740 kilocycles 405.2 meters

KMMJ	1000	Clay Center, Neb.	The M. M. Johnson Co.
WSB	10000	Atlanta, Ga.	Atlanta Journal Co.

750 kilocycles 399.8 meters

CYJ	2000	Mexico City	
CYL	500	Mexico City	R. Ascarraga
WCX	5000	Detroit, Mich.	Detroit Free Press
WJR	5000	Detroit, Mich.	WJR, Inc.

760 kilocycles 394.5 meters

WEW	1000	St. Louis, Mo.	St. Louis University
WJZ	30000	New York City	Radio Corp. of America, Inc.

770 kilocycles 389.4 meters

KFAB	5000	Lincoln, Nebr.	Nebraska Buick Automobile Co.
WBBM	25000	Chicago, Ill.	Atlas Investment Co.

780 kilocycles 384.4 meters

CJCB	50	Sydney, N. S.	N. Nathanson
CKY	5000	Winnipeg, Manitoba	Manitoba Telephone System
CNRW	500	Winnipeg, Manitoba	Canadian National Railways
KELW	500	Burbank, Cal.	Earl L. White
KTM	500	Santa Monica, Cal.	Pickwick Brdcstg. Corp.
WBSO	250	Wellesley Hills, Mass.	Babson's Statistical Organization
WMC	500	Memphis, Tenn.	Memphis Commercial-Appeal
WPOR	500	Norfolk, Va.	WTAR Radio Corp.
WTAR	500	Norfolk, Va.	WTAR Radio Corp.

790 kilocycles 379.5 meters

KGO	7500	Oakland, Cal.	General Electric Co.
WGY	50000	Schenectady, N. Y.	General Electric Co.
6KW	1500	Tuinucu, Cuba	Frank H. Jones

800 kilocycles 374.8 meters

CYH	100	Mexico City	C. de Tarnava
KTHS	10000	Hot Springs, Ark.	Chamber of Commerce
WBAP	50000	Fort Worth, Tex.	Carter Publications, Inc.
WSAI	5000	Cincinnati, Ohio	Crosley Radio Corp., Lessee

810 kilocycles 370.2 meters

WCCO	15000	Minneapolis-St. Paul	Washburn-Crosby Co.
WPCH	500	Hoboken, N. J.	Eastern Broadcasters, Inc.

820 kilocycles 365.6 meters

WHAS	5000	Louisville, Ky.	Courier-Journal & Times

830 kilocycles 361.2 meters

HHK	1000	Port au Prince, Haiti	Republic of Haiti
KOA	12500	Denver, Colo.	General Electric Co.
WHDH	1000	Gloucester, Mass.	Matheson Radio Co., Inc.

840 kilocycles 356.9 meters

CFCA	500	Toronto, Ont.	Star Publishing & Ptg. Co.
CHCT	1000	Red Deer, Alta.	G. F. Tull & Ardern, Ltd.
CJBC	1000	Toronto, Ont.	Jarvis Street Baptist Church
CKLC	1000	Red Deer, Alta.	Alberta Pacific Grain Co.
CKOW	500	Toronto, Ont.	Nestle's Food Co.
CMC	500	Havana, Cuba	Cuban Telephone Co.
CNRT	500	Toronto, Ont.	Canadian National Railways

850 kilocycles 352.7 meters

KWKH	20000	Shreveport, La.	W. K. Henderson
WWL	5000	New Orleans, La.	Loyola University

860 kilocycles 348.6 meters

KFOZ	250	Hollywood, Cal.	Leslie E. Taft
WABC	5000	New York City	Atlantic Broadcasting Corp.
WBOQ	5000	New York City	Atlantic Broadcasting Corp.
XFX	500	Mexico City	Department of Education
2OK	100	Havana, Cuba	Merio G. Velez
7SR	500	Elia, Cuba	Salvador Rionda

870 kilocycles 344.6 meters

WENR	50000	Chicago, Ill.	Great Lakes Brdcstg. Co.
WLS	5000	Chicago, Ill.	The Prairie Farmer

880 kilocycles 340.7 meters

CHCS	10	Hamilton, Ont.	The Hamilton Spectator
CHML	50	Hamilton, Ont.	Maple Leaf Radio Co.
CKOC	100	Hamilton, Ont.	Wentworth Radio Supply Co.
KFKA	500	Greeley, Colo.	State Teachers College
KLX	500	Oakland, Cal.	Tribune Publishing Co.
KPOF	500	Denver, Colo.	Pillar of Fire, Inc.
WCOC	500	Columbus, Miss.	Crystal Oil Co.
WGBI	250	Scranton, Pa.	Scranton Broadcasters, Inc.
WQAN	250	Scranton, Pa.	Scranton Times

890 kilocycles 336.9 meters

CFBO	50	St. John, N. B.	C. A. Munro, Ltd.
CYC	50	Vera Cruz, Mex.	M. A. Fernandez
KFNF	500	Shenandoah, Iowa	Henry Field Seed Co.
KGJF	250	Little Rock, Ark.	Church of the Nazarene
KUSD	500	Vermillion, S. D.	University of South Dakota
WGST	250	Atlanta, Ga.	Georgia School of Technology
WILL	250	Urbana, Ill.	University of Illinois
WJAR	250	Providence, R. I.	The Outlet Co.
WKAQ	500	San Juan, P. R.	Radio Corp. of Porto Rico
WMAZ	250	Macon, Ga.	Mercer University
WMMN	250	Fairmont, W. Va.	Holt Rowe Novelty Co.

900 kilocycles 333.1 meters

KGBU	500	Ketchikan, Alaska	Alaska Radio & Service Co.
KHJ	1000	Los Angeles, Cal.	Don Lee, Inc.
KSEI	250	Pocatello, Idaho	KSEI Broadcasting Association
WFBL	750	Syracuse, N. Y.	The Onondaga Co., Inc.
WFLA	750	Clearwater, Fla.	Chamber of Commerce
WKY	1000	Oklahoma City	WKY Radiophone Co.
WLBL	2000	Stevens Pt., Wis.	Wisconsin Dept. of Markets
WMAK	750	Buffalo, N. Y.	WMAK Brdcstg. Station, Inc.
WSUN	750	St. Petersburg, Fla.	Chamber of Commerce

910 kilocycles 329.6 meters

CFQC	500	Saskatoon, Sask.	The Electric Shop
CJGC	500	London, Ont.	Free Press Printing Co.
CJHS	250	Saskatoon, Sask.	Radio Service, Ltd.
CNRS	500	Saskatoon, Sask.	Canadian National Railways

920 kilocycles 325.9 meters

CYX	500	Mexico City	El Excelsior
KOMO	1000	Seattle, Wash.	Fisher's Blend Station
KPRC	1000	Houston, Tex.	Houston Printing Co.
WAAF	500	Chicago, Ill.	Drovers Journal Publishing Co.
WWJ	1000	Detroit, Mich.	The Detroit News

930 kilocycles 322.4 meters

CHNS	500	Halifax, N. S.	Halifax Herald
CKIC	50	Wolfville, N. S.	Acadia University
CYQ	100	Tampico, Mex.	Cipriano Sagaon S. en C.
KFWI	500	San Francisco, Cal.	Radio Entertainments, Inc.
KFWM	500	Oakland, Cal.	Oakland Educational Society
KGBZ	500	York, Nebr.	George R. Miller
KMA	500	Shenandoah, Iowa	May Seed & Nursery Co.
WBRC	500	Birmingham, Ala.	Birmingham Broadcasting Co.
WDBJ	250	Roanoke, Va.	Richardson-Wayland Elec. Corp.
WIBG	50	Elkins Park, Pa.	St. Pauls P. E. Church

940 kilocycles 319.0 meters

KFEL	250	Denver, Colo.	Eugene P. O'Fallon, Inc.
KFXF	250	Denver, Colo.	Pikes Peak Broadcasting Co.
KGU	500	Honolulu, Hawaii	Marion A. Mulrony
KOIN	1000	Portland, Ore.	KOIN, Inc.
WCSH	500	Portland, Maine	Congress Square Hotel Co.
WFIW	1000	Hopkinsville, Ky.	The Acme Mills, Inc.

950 kilocycles 315.6 meters

KFWB	1000	Los Angeles, Cal.	Warner Bros. Broadcasting Corp.
KGHL	500	Billings, Mont.	Northwestern Auto Supply Co.
KLDS	500	Independence, Mo.	Church of Latter Day Saints
KMBC	500	Independence, Mo.	Midland Broadcasting Co.
KPSN	1000	Pasadena, Cal.	Pasadena Star-News
WHB	500	Kansas City, Mo.	Sweeney Automobile School
WRC	500	Washington, D. C.	Radio Corp. of America
2RK	20	Havana, Cuba	Raoul Karman

960 kilocycles 312.3 meters

CFCY	100	Charlottetown, P. E. I.	The Island Radio Co.
CFRB	1000	Twp. of King, Ont.	Standard Radio Mfg. Corp.
CHCK	30	Charlottetown, P. E. I.	W. E. Burke
CHWC	500	Regina, Sask.	R. H. Williams & Sons
CJBC	5000	Toronto, Ont.	Jarvis St. Baptist Church
CJBR	500	Regina, Sask.	Cooperative Wheat Producers
CKCK	500	Regina, Sask.	Leader Pub. Co.
CKGW	5000	Bowmanville, Ont.	Gooderham & Worts
CNRR	500	Regina, Sask.	Canadian Nat'l. Railways
CYU	100	Puebla, Mex.	A. del P. Zaonz

970 kilocycles 309.1 meters

CZF	250	Chihuahua, Mex.	State of Chihuahua
KJR	5000	Seattle, Wash.	Northwest Radio Service Co.
WCFL	1500	Chicago, Ill.	Chicago Federation of Labor

980 kilocycles 305.9 meters

KDKA	50000	Pittsburgh, Pa.	Westinghouse Elec. & Mfg. Co.

990 kilocycles 302.8 meters

WBZ	15000	Springfield, Mass.	Westinghouse Elec. & Mfg. Co.
WBZA	500	Boston, Mass.	Westinghouse Elec. & Mfg. Co.

1000 kilocycles 299.8 meters

CYA	500	Mexico City	E. R. Gomes
KGFH	250	Glendale, Cal.	Frederick Robinson
WHO	5000	Des Moines, Iowa	Bankers Life Co.
WOC	5000	Davenport, Iowa	Palmer School of Chiropractic

1010 kilocycles 296.8 meters

CFLC	50	Prescott, Ont.	Radio Association
CKCR	50	Brantford, Ont.	John Patterson
CKSH	50	St. Hyacinthe, Que.	City of St. Hyacinthe
KGGF	500	Picher, Okla.	D. L. Connell, M. D.
KOW	500	San Jose, Cal.	First Baptist Church
WHN	250	New York City	Marcus Loew Booking Agency
WNAD	500	Norman, Okla.	University of Oklahoma
WPAP	250	Cliffside, N. J.	Palisades Amusement Park
WQAO	250	Cliffside, N. J.	Calvary Baptist Church
WRNY	250	New York City	Experimenter Publishing Co.
WSIS	250	Sarasota, Fla.	Chamber of Commerce

1020 kilocycles 293.9 meters

KFKX	5000	Chicago, Ill.	Westinghouse Elec. & Mfg. Co.
KYW	5000	Chicago, Ill.	Westinghouse Elec. & Mfg. Co.
KYWA	500	Chicago, Ill.	Westinghouse Elec. & Mfg. Co.
WRAX	250	Philadelphia, Pa.	Berachah Church, Inc.

1030 kilocycles 291.1 meters

CFCF	1650	Montreal, Que.	Canadian Marconi Co.
CJOR	50	Sea Island, B. C.	G. C. Chandler
CNRV	500	Vancouver, B. C.	Canadian Nat'l Railways

1040 kilocycles 288.3 meters

KRLD	10000	Dallas, Texas	KRLD, Inc.
WFAA	5000	Dallas, Texas	Dallas Morning News
WKAR	500	East Lansing, Mich.	Michigan Agricultural College
WKEN	1000	Buffalo, N. Y.	Radio Station WKEN, Inc.

1050 kilocycles 285.5 meters

KFKB	5000	Milford, Kansas	KFKB Broadcasting Association
KNX	5000	Hollywood, Cal.	Western Broadcast Co.
2MG	20	Havana, Cuba	M. y G. Salas

1060 kilocycles 282.8 meters

KWJJ	500	Portland, Ore.	Wilbur Jerman
WBAL	10000	Baltimore, Md.	Consolidated Gas, Elec. & Pwr. Co.
WJAG	500	Norfolk, Nebr.	Norfolk Daily News
WTIC	5000	Hartford, Conn.	Travelers Insurance Co.

1070 kilocycles 280.2 meters

WAAT	300	Jersey City, N. J.	Bremer Broadcasting Corp.
WCAZ	50	Carthage, Ill.	Carthage College
WDZ	100	Tuscola, Ill.	James L. Bush
WEAR	1000	Cleveland, Ohio	WTAM and WEAR, Inc.
WTAM	3500	Cleveland, Ohio	WTAM and WEAR, Inc.

1080 kilocycles 277.6 meters

WBT	5000	Charlotte, N. C.	C. C. Coddington
WCBD	5000	Zion, Ill.	Wilbur Glenn Voliva
WMBI	5000	Chicago, Ill.	Moody Bible Institute

1090 kilocycles 275.1 meters

CYB	500	Mexico City	J. J. Reynosa
KMOX	5000	St. Louis, Mo.	Voice of St. Louis
2UF	10	Havana, Cuba	Benito V. Ferro

1100 kilocycles 272.6 meters

KGDM	50	Stockton, Cal.	E. F. Peffer
WLWL	5000	New York City	Missionary Society of St. Paul
WPG	5000	Atlantic City, N. J.	Municipality of Atlantic City

1110 kilocycles 270.1 meters

KSOO	2000	Sioux Falls, S. D.	Sioux Falls Broadcast Assn.
WRVA	1000	Richmond, Va.	Larus & Bros. Co., Inc.
2TW	20	Havana, Cuba	Roberto E. Ramirez

1120 kilocycles 267.7 meters

CFJC	15	Kamloops, B. C.	N. S. Dalgleish & Sons
CFRC	500	Kingston, Ont.	Queen's University
CHGS	25	Summerside, P. E. I.	R. T. Holman, Ltd.
CJOC	50	Lethbridge, Alta.	J. E. Palmer
CKPR	50	Midland, Ont.	E. O. Swan
KFSG	500	Los Angeles, Cal.	Echo Park Evang. Assn.
KMIC	500	Inglewood, Cal.	James R. Fouch
KRSC	50	Seattle, Wash.	Radio Sales Corp.
KUT	500	Austin, Texas	KUT Broadcasting Co.
WCOA	500	Pensacola, Fla.	City of Pensacola
WDEL	250	Wilmington, Del.	WDEL, Inc.
WHAD	250	Milwaukee, Wis.	Marquette University
WISN	250	Milwaukee, Wis.	Evening Wisconsin Co.
WTAW	500	College Station, Texas	Agricultural & Mech. College

1130 kilocycles 265.3 meters

CYF	100	Oaxaca, Mex.	F. Zonillo
KSL	5000	Salt Lake City	Radio Service Corp. of Utah
WJJD	20000	Mooseheart, Ill.	Loyal Order of Moose
WOV	1000	New York City	International Brdcstg. Corp.

1140 kilocycles 263.0 meters

KVOO	5000	Tulsa, Okla.	Southwestern Sales Corp.
WAPI	5000	Birmingham, Ala.	Alabama Polytechnic Institute

1150 kilocycles 260.7 meters

KJBS	100	San Francisco, Cal.	Julius Brunton & Sons Co.
WHAM	5000	Rochester, N. Y.	Stromberg-Carlson Tel. Mfg. Co.
6BY	200	Cienfuegos, Cuba	Jose Ganduxe

1160 kilocycles 258.5 meters

WOWO	10000	Ft. Wayne, Ind.	Main Auto Supply Co.
WWVA	5000	Wheeling, W. Va.	West Virginia Brdcstg. Corp.

1170 kilocycles 256.3 meters

KEJK	500	Los Angeles, Cal.	R. S. MacMillan
KTNT	5000	Muscatine, Iowa	Norman Baker
WCAU	1000	Philadelphia, Pa.	Universal Broadcasting Co.
2OL	100	Havana, Cuba	Oscar C. Orta

1180 kilocycles 254.1 meters

KEX	5000	Portland, Ore.	Western Broadcasting Co.
KOB	10000	State College, N. M.	College of Agriculture
WGBS	500	New York City	General Broadcasting System

1190 kilocycles 252.0 meters

WICC	500	Bridgeport, Conn.	Bridgeport Broadcasting Station
WOAI	5000	San Antonio, Texas	Southern Equipment Co.

1200 kilocycles 249.9 meters

KFHA	50	Gunnison, Colo.	Western College of Colorado
KFJB	100	Marshalltown, Iowa	Marshall Electric Co.
KFKZ	15	Kirksville, Mo.	State Teachers College
KFWC	100	Ontario, Cal.	James R. Fouch
KFWF	100	St. Louis, Mo.	St. Louis Truth Center, Inc.
KGCU	100	Mandan, N. D.	Mandan Radio Association
KGDE	50	Fergus Falls, Minn.	Jaren Drug Co.
KGDY	15	Oldham, S. D.	J. Albert Loesch
KGEK	50	Yuma, Colo.	Beehler Elec. Equipment Co.
KGEW	100	Fort Morgan, Colo.	City of Fort Morgan
KGFK	50	Hallock, Minn.	Kittson County Enterprise
KGY	10	Lacey, Wash.	St. Martin's College
KMJ	100	Fresno, Cal.	The Fresno Bee
KPPC	50	Pasadena, Cal.	Pasadena Presbyterian Church
KSMR	100	Santa Maria, Cal.	Santa Maria Valley R. R. Co.
KVOS	100	Bellingham, Wash.	L. Kessler
KWG	100	Stockton, Cal.	Portable Wireless Tel. Co.
KXO	100	El Centro, Cal.	E. R. Irey and F. M. Bowles
WABI	100	Bangor, Maine	First Universalist Church
WABZ	100	New Orleans, La.	Coliseum Place Baptist Church
WBBW	100	Norfolk, Va.	Ruffner Junior High School
WBBY	75	Charleston, S. C.	Washington Light Infantry
WBBZ	100	Ponca City, Okla.	C. L. Carrell
WCAT	100	Rapid City, S. D.	State School of Mines
WCAX	100	Burlington, Vt.	University of Vermont
WCLO	100	Kenosha, Wis.	C. E. Whitmore
WEPS	100	Gloucester, Mass.	Matheson Radio Co., Inc.
WFBC	50	Knoxville, Tenn.	First Baptist Church
WFBE	100	Cincinnati, Ohio	Park View Hotel
WHBC	10	Canton, Ohio	St. John's Parish
WHBY	100	West De Pere, Wis.	St. Norbert's College
WIBX	100	Utica, N. Y.	WIBX, Inc.
WIL	100	St. Louis, Mo.	WIL Broadcasting Corp.
WJBC	100	La Salle, Ill.	Hummer Furniture Co.
WJBL	100	Decatur, Ill.	Wm. Gushard Dry Goods Co.
WJBW	30	New Orleans, La.	Charles C. Carlson, Jr.
WKBE	100	Webster, Mass.	K. & B. Electric Co.
WKJC	100	Lancaster, Pa.	Kirk Johnson & Co.
WLAP	30	Louisville, Ky.	American Brdcstg. Corp. of Ky.
WLBG	250	Petersburg, Va.	Robert Allen Gamble
WMAY	100	St. Louis, Mo.	Kingshighway Pres. Church
WMT	100	Waterloo, Iowa	Waterloo Broadcasting Co.
WNBO	15	Washington, Pa.	John Brownlee Spriggs
WNBW	5	Carbondale, Pa.	Home Cut Glass & China Co.
WNBX	10	Springfield, Vt.	First Congregational Church
WPRC	100	Harrisburg, Pa.	Wilson Printing & Radio Co.
WQBJ	65	Clarksburg, W. Va.	John Raikes
WRAF	100	La Porte, Ind.	The Radio Club, Inc.
WRBL	50	Columbus, Ga.	R. E. Martin
WWAE	100	Hammond, Ind.	Hammond-Calumet Brdcstg. Co.
2BB	15	Havana, Cuba	Bernardo Barrie

1210 kilocycles 247.8 meters

CFCO	25	Chatham, Ont.	Western Ontario "Better Radio" Club
CFNB	50	Fredericton, N. B.	James S. Neill & Sons
CHWK	5	Chilliwack, B. C.	Chilliwack Brdcstg. Co., Ltd.
CKMC	15	Cobalt, Ont.	R. L. MacAdam
CKPC	25	Preston, Ont.	Wallace Russ
KDLR	100	Devils Lake, N. D.	Radio Electric Co.
KFOR	100	Lincoln, Nebr.	Howard A. Shuman
KFVS	100	Cape Girardeau, Mo.	Hirsch Battery & Radio Co.
KGCR	100	Watertown, S. D.	Cutler's Radio Brdcstg. Service
KPCB	100	Seattle, Wash.	Pacific Coast Biscuit Co.
KPQ	100	Seattle, Wash.	Archie Taft & Louis Wasmer
KWEA	100	Shreveport, La.	William E. Antony
WBAX	100	Wilkes-Barre, Pa.	John H. Stenger, Jr.
WCBS	100	Springfield, Ill.	H. L. Dewing & Chas. Messter
WCOH	100	Greenville, N. Y.	Westchester Brdcstg. Corp.
WCRW	100	Chicago, Ill.	Clinton R. White
WDWF	100	Cranston, R. I.	Dutee W. Flint
WEBE	100	Cambridge, Ohio	Roy W. Waller
WEBQ	50	Harrisburg, Ill.	First Trust & Savings Bank
WEDC	100	Chicago, Ill.	Emil Denemark, Inc.
WGBB	100	Freeport, N. Y.	Harry H. Carman
WGCM	100	Gulfport, Miss.	Gulf Coast Music Co.
WHBF	100	Rock Island, Ill.	Beardsley Specialty Co.
WHBU	100	Anderson, Ind.	Citizens Bank
WIBA	100	Madison, Wis.	Capital Times-Strand Theatre
WINR	100	Bay Shore, N. Y.	Radiotel Mfg. Co., Inc.
WJBI	100	Red Bank, N. J.	Robert S. Johnson
WJBU	100	Lewisburg, Pa.	Bucknell University
WJBY	50	Gadsden, Ala.	Electric Construction Co.
WLBV	100	Mansfield, Ohio	Mansfield Broadcasting Assn.
WLCI	50	Ithaca, N. Y.	Lutheran Assn. of Ithaca
WLSI	100	Cranston, R. I.	The Lincoln Studios, Inc.
WMAN	50	Columbus, Ohio	W. E. Heskitt
WMBG	100	Richmond, Va.	Havens & Martin, Inc.
WMBR	100	Tampa, Fla.	F. J. Reynolds
WOCL	25	Jamestown, N. Y.	A. E. Newton
WOMT	100	Manitowoc, Wis.	Francis M. Kadow
WPAW	100	Pawtucket, R. I.	Shartenburg & Robinson
WRBQ	100	Greenville, Miss.	J. Pat Scully
WRBU	100	Gastonia, N. C.	A. J. Kirby Music Co.
WSBC	100	Chicago, Ill.	World Battery Co., Inc.
WSIX	100	Springfield, Tenn.	638 Tire & Vulcanizing Co.
WTAX	50	Streator, Ill.	Williams Hardware Co.
WTAZ	15	Richmond, Va.	W. Reynolds & T. J. McGuire

1220 kilocycles 245.8 meters

KFKU	1000	Lawrence, Kans.	University of Kansas
WCAD	500	Canton, N. Y.	St. Lawrence University
WCAE	500	Pittsburgh, Pa.	Kaufman & Baer Co.
WREN	1000	Lawrence, Kans.	Jenny Wren Co.

1230 kilocycles 243.8 meters

KFIO	100	Spokane, Wash.	North Central High School
KFQD	100	Anchorage, Alaska	Anchorage Radio Club
KYA	1000	San Francisco, Cal.	Pacific Broadcasting Corp.
WBIS	500	Boston, Mass.	The Shepard Stores
WFBM	1000	Indianapolis, Ind.	Indianapolis Power & Light Co.
WNAC	500	Boston, Mass.	The Shepard Stores
WPSC	500	State College, Pa.	Pennsylvania State College
WSBT	500	South Bend, Ind.	South Bend Tribune

1240 kilocycles 241.8 meters

KTAT	1000	Ft. Worth, Texas	Texas Air Transport Brdcst. Co.
WGHP	750	Detroit, Mich.	American Brdcstg. Corp.
WIOD	1000	Miami Beach, Fla.	Isle of Dreams Brdcstg. Co.
WJAD	1000	Waco, Texas	Frank P. Jackson
WQAM	1000	Miami, Fla.	Miami Brdcstg. Co.
WRBC	500	Valparaiso, Ind.	Immanuel Lutheran Church

1250 kilocycles 239.9 meters

KFMX	1000	Northfield, Minn.	Carleton College
KFOX	1000	Long Beach, Cal.	Nichols & Warinner, Inc.
KIDO	1000	Boise, Idaho	Boise Brdcstg. Station
KXL	500	Portland, Ore.	KXL Broadcasters
WAAM	2000	Newark, N. J.	WAAM, Inc.
WCAL	1000	Northfield, Minn.	St. Olaf College
WGCP	250	Newark, N. J.	May Radio Broadcast Corp.
WGMS	1000	St. Paul-Minneapolis	University of Minnesota
WLB	1000	Minneapolis, Minn.	University of Minnesota
WODA	1000	Paterson, N. J.	Richard E. O'Dea
WRHM	1000	Minneapolis, Minn.	Rosedale Hospital Co., Inc.

1260 kilocycles 238.0 meters

KOIL	1000	Council Bluffs, Iowa	Mona Motor Oil Co.
KRGV	500	Harlingen, Texas	Valley Radio-Electric Corp.
KWWG	500	Brownsville, Texas	Chamber of Commerce
WJAX	1000	Jacksonville, Fla.	City of Jacksonville
WLBW	500	Oil City, Pa.	Petroleum Telephone Co.

1270 kilocycles 236.1 meters

KFUM	1000	Colorado Spgs., Colo.	W. D. Corley
KGCA	50	Decorah, Iowa	Charles W. Greenley
KOL	1000	Seattle, Wash.	Seattle Brdcstg. Co.
KTW	1000	Seattle, Wash.	First Presbyterian Church
KWLC	100	Decorah, Iowa	Luther College
WASH	250	Grand Rapids, Mich.	Baxter Laundries, Inc.
WDSU	1000	New Orleans, La.	Joseph H. Uhalt
WEAI	500	Ithaca, N. Y.	Cornell University
WFBR	250	Baltimore, Md.	Baltimore Radio Show
WOOD	500	Grand Rapids, Mich.	Walter B. Stiles, Inc.

1280 kilocycles 234.2 meters

WCAM	500	Camden, N. J.	City of Camden
WCAP	500	Asbury Park, N. J.	Radio Industries Broadcast Co.
WDAY	1000	Fargo, N. D.	WDAY, Inc.
WDOD	1000	Chattanooga, Tenn.	Chattanooga Radio Co., Inc.
WEBC	1000	Superior, Wis.	Head of Lake Brdcstg. Co.
WOAX	500	Trenton, N. J.	Franklyn J. Wolff
WRR	500	Dallas, Texas	City of Dallas
2LR	50	Havana, Cuba	Jose Lara

1290 kilocycles 232.4 meters

KDYL	1000	Salt Lake City	Intermountain Brdcstg. Corp.
KFUL	500	Galveston, Texas	Will H. Ford
KLCN	50	Blytheville, Ark.	C. L. Lintzrnich
KTSA	1000	San Antonio, Texas	Lone Star Broadcast Co.
WJAS	1000	Pittsburgh, Pa.	Pittsburgh Radio Supply House
WNBZ	10	Saranac Lake, N. Y.	Smith & Mace

1300 kilocycles 230.6 meters

KFH	500	Wichita, Kansas	Hotel Lassen
KFJR	500	Portland, Ore.	Ashley C. Dixon & Son
KGEF	1000	Los Angeles, Cal.	Trinity Methodist Church
KTBI	750	Los Angeles, Cal.	Bible Institute of Los Angeles
KTBR	500	Portland, Ore.	M. E. Brown
WBBR	1000	Rossville, N. Y.	Peoples Pulpit Association
WEVD	500	Woodhaven, N. Y.	Eugene V. Debs Memorial Fund
WHAP	1000	New York City	Defenders of Truth Society, Inc.
WHAZ	500	Troy, N. Y.	Rensselaer Polytechnic Institute
WIBW	1000	Topeka, Kansas	Topeka Brdcstg. Assn.

1310 kilocycles 228.9 meters

KFBK	100	Sacramento, Cal.	Jas. McClatchy Co.
KFGQ	100	Boone, Iowa	Boone Biblical College
KFIU	10	Juneau, Alaska	Alaska Elec. Light & Power Co.
KFJY	100	Ft. Dodge, Iowa	C. S. Tunwall

KFPL	15	Dublin, Texas	C. C. Baxter
KFPM	15	Greenville, Texas	The New Furniture Co.
KFUP	100	Denver, Colo.	Fitzsimmons General Hospital
KFXJ	50	Edgewater, Colo.	R. G. Howell
KFXR	100	Oklahoma City	Exchange Ave. Baptist Church
KGEZ	100	Kalispell, Mont.	Flathead Broadcasting Assn.
KGFI	15	San Angelo, Texas	San Angelo Broadcasting Co.
KGHG	50	McGeehee, Ark.	Chas. W. McCollum
KMED	50	Medford, Ore.	W. J. Virgin
KRMD	50	Shreveport, La.	Robert M. Dean
KTSL	50	Shreveport, La.	Bates Radio & Electric Co.
KWCR	100	Cedar Rapids, Iowa	H. E. Paar
WAGM	50	Royal Oak, Mich.	Robert L. Miller
WBOW	100	Terre Haute, Ind.	Banks of Wabash Brdcstg. Assn.
WBRE	100	Wilkes-Barre, Pa.	Louis G. Baltimore
WCLS	100	Joliet, Ill.	WCLS, Inc.
WDAH	100	El Paso, Texas	Trinity Methodist Church
WEBR	100	Buffalo, N. Y.	H. H. Howell
WEHS	100	Evanston, Ill.	Victor C. Carlson
WFBG	100	Altoona, Pa.	Wm. F. Gable Co.
WFDF	100	Flint, Mich.	Frank D. Fallain
WFKD	50	Philadelphia, Pa.	Foulkrod Radio Engineering Co.
WGAL	15	Lancaster, Pa.	Lancaster Electric Supply Co.
WGH	100	Newport News, Va.	Virginia Brdcstg. Co., Inc.
WHBP	100	Johnstown, Pa.	Johnstown Automobile Co.
WHFC	100	Chicago, Ill.	Goodson & Wilson, Inc.
WIBU	100	Poynette, Wis.	William C. Forrest
WJAK	50	Marion, Ind.	Marion Brdcstg. Co.
WKAV	100	Laconia, N. H.	Laconia Radio Club
WKBB	100	Joliet, Ill.	Sanders Bros.
WKBC	100	Birmingham, Ala.	R. B. Broyles Furn. Co.
WKBI	50	Chicago, Ill.	Fred L. Schoenwolf
WKBS	100	Galesburg, Ill.	Permil N. Nelson
WLBC	50	Muncie, Ind.	Donald A. Burton
WLBO	100	Galesburg, Ill.	Fred A. Trebbe, Jr.
WMBL	100	Lakeland, Fla.	Benford's Radio Studios
WNAT	100	Philadelphia, Pa.	Lennig Bros. Co.
WNBH	100	New Bedford, Mass.	New Bedford Broadcasting Co.
WNBJ	50	Knoxville, Tenn.	Lonsdale Baptist Church
WOBT	15	Union City, Tenn.	Tittsworth's Radio & Music Shop
WOL	100	Washington, D. C.	American Broadcasting Co.
WRAW	100	Reading, Pa.	Avenue Radio & Electric Shop
WRK	100	Hamilton, Ohio	S. W. Doron & J. C. Slade
WSAJ	100	Grove City, Pa.	Grove City College
WSMD	100	Salisbury, Md.	Tom F. Little

1320 kilocycles 227.1 meters

KGHB	250	Honolulu, Hawaii	Radio Sales Co.
KGHF	250	Pueblo, Colo.	C. P. Ritchie & J. E. Finch
KGIQ	250	Twin Falls, Idaho	Stanley M. Soule
KID	250	Idaho Falls, Idaho	Jack W. Duckworth, Jr.
WADC	1000	Akron, Ohio	Allen T. Simmons
WSMB	500	New Orleans, La.	Saenger Theatre & Maison Blanche

1330 kilocycles 225.4 meters

CYM	1500	Torreon, Mexico	
KSCJ	1000	Sioux City, Iowa	Perkins Bros. Co.
WDRC	500	New Haven, Conn.	Doolittle Radio Corp.
WTAQ	1000	Eau Claire, Wis.	Gillette Rubber Co.

1340 kilocycles 223.7 meters

KFPW	50	Siloam Springs, Ark.	Rev. Lannie W. Stewart
KMO	500	Tacoma, Wash.	KMO, Inc.
KVI	1000	Des Moines, Wash.	Puget Sound Brdcstg. Co.
WSPD	500	Toledo, Ohio	Toledo Broadcasting Co.

1350 kilocycles 222.1 meters

KWK	1000	St. Louis, Mo.	Greater St. Louis Brdcstg. Corp.
WBNY	250	New York City	Baruchrome Corp.
WCDA	250	Brooklyn, N. Y.	Italian Educ. Brdcstg. Co.
WKBQ	250	New York City	Standard Cahill Co., Inc.
WMSG	250	New York City	Madison Square Garden

1360 kilocycles 220.4 meters

KFBB	500	Havre, Mont.	F. A. Buttery Co.
KGB	250	San Diego, Cal.	Pickwick Brdcstg. Corp.
KGIR	250	Butte, Mont.	Symons Broadcasting Co.
WGES	500	Chicago, Ill.	Oak Leaves Broacasting Corp.
WJKS	500	Gary, Ind.	Johnson-Kennedy Radio Corp.
WLEX	500	Lexington, Mass.	Lexington Air Stations
WMAF	500	S. Dartmouth, Mass.	Round Hills Radio Corp.
WQBC	300	Utica, Miss.	Chamber of Commerce

1370 kilocycles 218.7 meters

KCRC	100	Enid, Okla.	Champlin Refining Co.
KFBL	50	Everett, Wash.	Leese Bros.
KFEC	50	Portland, Ore.	Meier & Frank Co.
KFJI	50	Astoria, Ore.	George Kincaid
KFJM	500	Grand Forks, N. D.	University of North Dakota
KFJZ	100	Ft. Worth, Texas	Henry C. Allison
KFLX	100	Galveston, Texas	George Roy Clough
KFUR	50	Ogden, Utah	Peery Building Co.
KGAR	100	Tucson, Ariz.	Tucson Motor Service Co.
KGBX	100	St. Joseph, Mo.	Foster-Hall Tire Co.
KGCI	100	San Antonio, Texas	Liberto Radio Sales
KGDA	50	Dell Rapids, S. D.	Home Auto Co.
KGER	100	Long Beach, Cal.	C. Merwin Dobyns
KGFG	100	Oklahoma City	Faith Tabernacle Assn.
KGFL	50	Raton, N. M.	Hubbard & Murphy
KGGM	100	Albuquerque, N. M.	Jay Peters
KGKL	100	San Angelo, Texas	KGKL, Inc., Opr. by Ragsdale Auto Co.
KGRC	100	San Antonio, Texas	Eugene Roth
KKP	15	Seattle, Wash.	City of Seattle
KOH	100	Reno, Nevada	Jay Peters
KOOS	50	Marshfield, Ore.	H. H. Hanseth
KRE	100	Berkeley, Cal.	First Congregational Church
KVL	100	Seattle, Wash.	Arthur C. Dailey
KWKC	100	Kansas City, Mo.	Wilson Duncan Brdcstg. Co.
KZM	100	Hayward, Cal.	Leon P. Tenney
WBBL	100	Richmond, Va.	Grace Covenant Presbyterian Church
WCBM	100	Baltimore, Md.	Baltimore Brdcstg. Corp.
WELK	100	Philadelphia, Pa.	Howard R. Miller
WFBJ	100	Collegeville, Minn.	St. John's University
WGL	100	South Bend, Ind.	Fred C. Zieg
WHBD	100	Bellefontaine, Ohio	First Presbyterian Church
WHBQ	100	Memphis, Tenn.	Broadcasting Station WHBQ, Inc.
WHDF	100	Calumet, Mich.	Chas. C. MacLeod
WIBM	100	Jackson, Mich.	C. L. Carrell
WJBK	50	Ypsilanti, Mich.	James F. Hopkins
WJBO	100	New Orleans, La.	Valdemar Jensen
WMBO	100	Auburn, N. Y.	Radio Service Laboratories
WRAK	50	Erie, Pa.	C. R. Cummins
WRBT	50	Wilmington, N. C.	Wilmington Radio Association
WRJN	100	Racine, Wis.	Racine Broadcasting Corp.
WSVS	50	Buffalo, N. Y.	Seneca Vocational School

1380 kilocycles 217.3 meters

KQV	500	Pittsburgh, Pa.	Doubleday-Hill Electric Co.
KSO	1000	Clarinda, Iowa	Berry Seed Co.
WCSO	500	Springfield, Ohio	Wittenberg College
WKBH	1000	La Crosse, Wis.	Callaway Music Co.

1390 kilocycles 215.7 meters

KFPY	500	Spokane, Wash.	Symons Investment Co.
KLRA	1000	Little Rock, Ark.	Arkansas Broadcasting Co.
KOW	500	Denver, Colo.	Associated Industries, Inc.
KOY	500	Phoenix, Ariz.	Nielson Radio Supply Co.
KUOA	1000	Fayetteville, Ark.	University of Arkansas
KWSC	500	Pullman, Wash.	State College of Washington
WHK	1000	Cleveland, Ohio	Radio Air Service Corp.

1400 kilocycles 214.2 meters

WBAA	500	Lafayette, Ind.	Purdue University
WBBC	500	Brooklyn, N. Y.	Brooklyn Broadcasting Corp.
WCGU	500	Coney Island, N. Y.	U. S. Broadcasting Corp.
WCMA	500	Culver, Ind.	Culver Military Academy
WKBF	500	Indianapolis, Ind.	Noble Butler Watson
WLTH	500	Brooklyn, N. Y.	The Voice of Brooklyn, Inc.
WSGH	500	Brooklyn, N. Y.	Amateur Radio Specialty Co.

1410 kilocycles 212.6 meters

KFLV	500	Rockford, Ill.	A. T. Frykman
KGRS	1000	Amarillo, Texas	Gish Radio Service
WDAG	250	Amarillo, Texas	J. Laurence Martin
WHBL	500	Sheboygan, Wis.	Press Pub. Co. & C. L. Carrell
WBCM	500	Bay City, Mich.	James E. Davidson

1420 kilocycles 211.1 meters

KFIF	100	Portland, Ore.	Benson Polytechnic Institute
KFIZ	100	Fond du Lac, Wis.	Commonwealth-Reporter
KFQU	100	Holy City, Cal.	W. E. Riker
KFQW	100	Seattle, Wash.	KFQW, Inc.
KFXD	50	Jerome, Idaho	Service Radio Co.
KFXY	100	Flagstaff, Ariz.	Mary M. Costigan
KFYO	100	Abilene, Texas	T. E. Kirksey
KGCN	50	Concordia, Kansas	Concordia Broadcasting Co.
KGCX	10	Vida, Mont.	First State Bank
KGFF	100	Alva, Okla.	Earl E. Hampshire
KGFJ	100	Los Angeles, Cal.	Ben S. McGlashan
KGFW	50	Ravenna, Neb.	Otto F. Sothman
KGGC	50	San Francisco, Cal.	Golden Gate Brdcstg. Co.
KGHD	50	Missoula, Mont.	Elmore-Nash Broadcasting Corp.
KGIW	100	Trinidad, Colo.	Trinidad Creamery Co., Inc.
KGKX	15	Sand Point, Idaho	C. E. Twiss
KICK	100	Red Oak, Iowa	Red Oak Radio Corp.
KOCW	100	Chickasha, Okla.	College for Women
KORE	100	Eugene, Ore.	Eugene Broadcasting Station
KTAP	100	San Antonio, Texas	Alamo Brdcstg. Co.
KTUE	5	Houston, Texas	Uhalt Electric
KXRO	75	Aberdeen, Wash.	KXRO, Inc.
WAAD	25	Cincinnati, Ohio	Ohio Mechanics Institute
WEDH	30	Erie, Pa.	Erie Dispatch-Herald
WHDL	10	Tupper Lake, N. Y.	George Franklin Bissell
WHIS	100	Bluefield, W. Va.	Daily Telegraph
WHPP	10	New York City	Bronx Broadcasting Co.
WIAS	100	Ottumwa, Iowa	Poling Electric Co.
WIBR	50	Steubenville, Ohio	Thurman A. Owings
WKBP	50	Battle Creek, Mich.	Enquirer-News Co.
WLBF	100	Kansas City, Mo.	Everett L. Dillard
WLBH	30	Patchogue, N. Y.	Joseph J. Lombardi
WLEY	100	Lexington, Mass.	Lexington Air Station
WMBC	100	Detroit, Mich.	Michigan Broadcasting Co., Inc.
WMBH	100	Joplin, Mo.	Edwin Dudley Aber
WMRJ	10	Jamaica, N. Y.	Peter J. Prinz
WQBZ	60	Weirton, W. Va.	J. H. Thompson
WSRO	100	Middletown, Ohio	Harry W. Fahrlander
WSSH	100	Boston, Mass.	Tremont Temple Baptist Church
WTBO	50	Cumberland, Md.	Cumberland Electric Co.

1430 kilocycles 209.7 meters

WBAK	500	Harrisburg, Pa.	Penna. State Police
WBRL	500	Manchester, N. H.	Booth Radio Laboratories
WCAH	250	Columbus, Ohio	Commercial Radio Service Co.
WGBC	500	Memphis, Tenn.	First Baptist Church
WMBS	500	Lemoyne, Pa.	Mack's Battery Co.
WNBR	500	Memphis, Tenn.	John Ulrich

1440 kilocycles 208.2 meters

KLS	250	Oakland, Cal.	Warner Bros.
WABO	500	Rochester, N. Y.	Lake Ave. Baptist Church
WCBA	250	Allentown, Pa.	B. B. Musselman
WHEC	500	Rochester, N. Y.	Hickson Electric Co.

WMBD	500	Peoria Heights, Ill.	Peoria Heights Radio Laboratory
WNRC	500	Greensboro, N. C.	Wayne M. Nelson
WOKO	500	Peekskill, N. Y.	Harold E. Smith
WSAN	250	Allentown, Pa.	Allentown Call Publishing Co.
WTAD	500	Quincy, Ill.	Ills. Stock Medicine Brdcstg. Corp.

1450 kilocycles 206.8 meters

KSBA	1000	Shreveport, La.	Elliott & Steere
WBMS	250	Union City, N. J.	WBMS Broadcasting Corp.
WFJC	500	Akron, Ohio	W. F. Jones Broadcast, Inc.
WIBS	250	Elizabeth, N. J.	New Jersey Broadcasting Corp.
WKBO	250	Jersey City, N. J.	Camith Corp.
WNJ	250	Newark, N. J.	Radio Investment Co.
WSAR	250	Fall River, Mass.	Doughty & Welch Electric Co.
WTFI	500	Toccoa, Ga.	Toccoa Falls Institute

1460 kilocycles 205.4 meters

KSTP	10000	St. Paul, Minn.	National Battery Brdcstg. Co.
WJSV	10000	Washington, D. C.	Independent Publishing Co.

1470 kilocycles 204.0 meters

KFJF	5000	Oklahoma City	National Radio Mfg. Co.
KGA	5000	Spokane, Wash.	Northwest Radio Service Co.
WKBW	5000	Buffalo, N. Y.	Churchill Evangelistic Assn.
WRUF	5000	Gainesville, Fla.	University of Florida

1480 kilocycles 202.6 meters

WCKY	5000	Covington, Ky.	L. B. Wilson
WJAZ	5000	Chicago, Ill.	Zenith Radio Corp.
WORD	5000	Batavia, Ill.	People's Pulpit Association
WSOA	5000	Chicago, Ill.	Radiophone Brdcstg. Corp.

1490 kilocycles 201.2 meters

KPWF	50000	Westminster, Cal.	Pacific Western Brdcstg. Fed.
WBAW	5000	Nashville, Tenn.	Waldrum Drug Co.
WLAC	5000	Nashville, Tenn.	Life & Casualty Insurance Co.
WFBL	1000	Syracuse, N. Y.	The Onondaga Co.

1500 kilocycles 199.9 meters

KDB	100	Santa Barbara, Cal.	Santa Barbara Brdcstg. Co.
KGDR	15	San Antonio, Texas	KGDR Brdcstg. Co.
KGKB	100	Brownwood, Texas	Eagle Publishing Co.
KGHI	100	Little Rock, Ark.	Berean Bible Class
KGHX	50	Richmond, Texas	Ft. Bend County School Board
KPJM	100	Prescott, Ariz.	Frank Wilburn
KUJ	10	Longview, Wash.	Columbia Valley Brdcstg. Co.
KWBS	15	Portland, Ore.	Schaeffer Radio Co.
KWTC	100	Santa Ana, Cal.	Pacific Broadcasting Foundation
WAFD	100	Detroit, Mich.	Albert B. Parfet Co.
WALK	50	Willow Grove, Pa.	Albert A. Walker
WCLB	100	Brooklyn, N. Y.	Arthur Faske
WHBW	100	Philadelphia, Pa.	D. R. Kienzie
WIBZ	15	Montgomery, Ala.	Alexander D. Trum
WILM	100	Wilmington, Del.	Delaware Brdcstg. Co.
WKBV	100	Brookville, Ind.	Knox Battery & Electric Co.
WKBZ	50	Ludington, Mich.	K. L. Ashbacker
WLBX	100	Long Island City, N. Y.	John N. Brahy
WLOE	100	Chelsea, Mass.	Boston Brdcstg. Co.
WMBA	100	Newport, R. I.	LeRoy Joseph Beebe
WMBJ	100	Wilkinsburg, Pa.	Rev. John W. Sproul
WMBQ	100	Brooklyn, N. Y.	Paul J. Gollhofer
WMES	50	Boston, Mass.	Mass. Educational Society
WMPC	100	Lapeer, Mich.	First M. E. Church
WNBF	50	Binghamton, N. Y.	Howitt-Wood Radio Co.
WPSW	50	Philadelphia, Pa.	School of Wireless Telegraphy
WRBJ	10	Hattiesburg, Miss.	Woodruff Furniture Co.
WWRL	100	Woodside, N. Y.	Wm. H. Reuman

INDEX BY LOCATIONS WITH MAP KEY

ALABAMA			
Birmingham K-19-a	5000	WAPI	1140
	100	WBRC	930
	10	WKBC	1310
Gadsden K-20-a	50	WJBY	1210
Montgomery K-19-b	15	WIBZ	1500
ALASKA			
Anchorage	100	KFQD	1230
Juneau	10	KFIU	1310
Ketchikan	500	KGBU	900
ARIZONA			
Flagstaff J-7	100	KFXY	1420
Phoenix K-7	500	KFAD	620
	500	KOY	1390
Prescott J-6	100	KPJM	1500
Tucson L-7	100	KGAR	1370
ARKANSAS			
Blytheville I-18	50	KLCN	1290
Fayetteville I-16	1000	KUOA	1390
Hot Springs J-16	10000	KTHS	800
Little Rock J-17	100	KGHI	1500
	250	KGJF	890
	1000	KLRA	1390
McGehee K-17	50	KGHG	1310
Siloam Springs I-16	50	KFPW	1340
CALIFORNIA			
Berkeley H-1-a	100	KRE	1370
Burbank J-4	500	KELW	780
Culver City K-3	250	KFVD	700
El Centro K-5	100	KXO	1200
Fresno I-3	100	KMJ	1200
Glendale K-3	250	KGFH	1000
Hayward H-2	100	KZM	1370
Hollywood K-3	250	KFOZ	850
	1000	KMTR	570
Holy City I-2	100	KFQU	1420
Inglewood K-4	500	KMIC	1120
Long Beach K-4-a	1000	KFOX	1250
	100	KGER	1370
Los Angeles K-3-b	500	KEJK	1170
	5000	KFI	640
	500	KFSG	1120
	1000	KFWB	950
	1000	KGEF	1300
	100	KGFJ	1420
	1000	KHJ	900
	5000	KNX	1050
	1000	KPLA	570
Oakland H-1-b	750	KTBI	1300
	500	KFWM	930
	7500	KGO	790
	250	KLS	1440
	500	KLX	880
	500	KTAB	550
Ontario	100	KFWC	1200
Pasadena J-4	50	KPPC	1200
	1000	KPSN	950
Sacramento H-2-a	100	KFBK	1310
San Diego K-4-b	500	KFSD	600
	250	KGB	1360
San Francisco H-1-c	1000	KFRC	610
	500	KFWI	930
	50	KGGC	1420
	100	KJBS	1100
	1000	KPO	680
	1000	KYA	1230
San Jose I-2	500	KQW	1010
Santa Ana K-4	100	KWTC	1500
Santa Barbara J-3	100	KDB	1500
Santa Maria J-2-b	100	KSMR	1200
Santa Monica K-3	500	KTM	780
Stockton H-2-b	50	KGDM	1100
	100	KWG	1200
Westminster	50000	KPWF	1490
COLORADO			
Colo. Springs H-10	1000	KFUM	1270
Denver G-10-b	250	KFEL	940
	100	KFUP	1310
	250	KFXF	940
	1000	KLZ	560
	12500	KOA	830
	500	KOW	1390
	500	KPOF	880
Edgewater G-10	50	KFXJ	1310
Fort Morgan G-11	100	KGEW	1200
Greeley F-10	500	KFKA	880
Gunnison H-9	50	KFHA	1200
Pueblo H-11	250	KGHF	1320
Trinidad H-10	100	KGIW	1420
Yuma G-11	50	KGEK	1200
CONNECTICUT			
Bridgeport F-26	500	WICC	1190
Hartford E-26-d	5000	WTIC	1060
Mansfield E-27-i	250	WCAC	600
New Haven F-26-b	500	WDRC	1330
DELAWARE			
Wilmington G-25	250	WDEL	1120
	100	WILM	1500
DISTRICT OF COLUMBIA			
Washington G-24-c	250	WMAL	630
	500	WRC	950
	10000	WJSV	1460
	100	WOL	1310
FLORIDA			
Clearwater N-21	750	WFLA	900
Gainesville M-21	5000	WRUF	1470
Jacksonville M-22	1000	WJAX	1260
Lakeland N-22	100	WMBL	1310
Miami O-23	1000	WQAM	1240
Miami Beach O-23	1000	WIOD	1240
	500	WMBF	560
Orlando N-22	1000	WDBO	620
Pensacola L-19	500	WCOA	1120
Sarasota N-22	250	WSIS	1010
St. Petersburg N-21	750	WSUN	900
Tampa N-22-b	1000	WDAE	620
	100	WMBR	1210
GEORGIA			
Atlanta K-20-a	250	WGST	890
	10000	WSB	740
Columbus K-20	50	WRBL	1200
Macon K-21	250	WMAZ	890
Toccoa J-21	500	WTFI	1450
HAWAII			
Honolulu	250	KGHB	1320
	500	KGU	940
IDAHO			
Boise D-4	1000	KIDO	1250
Idaho Falls D-7	250	KID	1320
Jerome E-5	50	KFXD	1420
Pocatello E-7	250	KSEI	900
Sand Point	15	KGKX	1420
Twin Falls E-5	250	KGIQ	1320

INDEX BY LOCATIONS WITH MAP KEY

ILLINOIS

Batavia F-18-c	5000	WORD	1480
Carthage F-17-e	50	WCAZ	1070
Chicago E-19-g	5000	KFKX	1020
	5000	KYW	1020
	500	KYWA	1020
	500	WAAF	920
	25000	WBBM	770
	1500	WCFL	970
	100	WCRW	1210
	100	WEDC	1210
	50000	WENR	870
	500	WGES	1360
	25000	WGN	720
	100	WHFC	1310
	1000	WIBO	570
	5000	WJAZ	1480
	50	WKBI	1310
	25000	WLIB	720
	5000	WLS	870
	5000	WMAQ	670
	5000	WMBI	1080
	500	WPCC	570
	100	WSBC	1210
	5000	WSOA	1480
Decatur G-18	100	WJBL	1200
Evanston E-19	100	WEHS	1310
Galesburg F-18-a	100	WKBS	1310
	100	WLBO	1310
Harrisburg H-18-b	50	WEBQ	1210
Joliet E-19-f	100	WCLS	1310
	100	WKBB	1310
La Salle F-18-d	100	WJBC	1200
Mooseheart E-18-e	20000	WJJD	1130
Peoria Heights G-18	500	WMBD	1440
Quincy G-17	500	WTAD	1440
Rockford E-18-c	500	KFLV	1410
Rock Island F-17-c	100	WHBF	1210
Springfield G-18	100	WCBS	1210
Streator F-18-e	50	WTAX	1210
Tuscola G-19-b	100	WDZ	1070
Urbana G-19-a	250	WILL	890
Zion E-19-c	5000	WCBD	1080

INDIANA

Anderson G-20-a	100	WHBU	1210
Brookville G-20	100	WKBV	1500
Culver F-19-d	500	WCMA	1400
Evansville H-19	500	WGBF	630
Fort Wayne F-20-b	100	WGL	1370
	10000	WOWO	1160
Gary F-19	500	WJKS	1360
Hammond F-19	100	WWAE	1200
Indianapolis G-19-c	1000	WFBM	1230
	500	WKBF	1400
Lafayette F-19-f	500	WBAA	1400
La Porte F-19-c	100	WRAF	1200
Marion	50	WJAK	1310
Muncie G-20	50	WLBC	1310
South Bend F-20-a	500	WSBT	1230
Terre Haute G-19	100	WBOW	1310
Valparaiso F-19-b	500	WRBC	1240

IOWA

Ames E-16-c	3500	WOI	560
Boone E-16	100	KFGQ	1310
Cedar Rapids E-17-a	100	KWCR	1310
Clarinda E-15-c	1000	KSO	1380
Council Bluffs F-15-b	1000	KOIL	1260
Davenport F-17-a	5000	WOC	1000
Decorah D-17	50	KGCA	1270
	100	KWLC	1270
Des Moines F-16-a	5000	WHO	1000
Fort Dodge E-16-a	100	KFJY	1310
Iowa City E-17-b	500	WSUI	580
Marshalltown E-16-d	100	KFJB	1200
Muscatine F-17-b	5000	KTNT	1170
Ottumwa F-17	100	WIAS	1420
Red Oak F-15	100	KICK	1420
Shenandoah F-15-c	500	KFNF	890
	500	KMA	930
Sioux City E-15	1000	KSCJ	1330
Waterloo F-17	100	WMT	1200

KANSAS

Concordia G-14	50	KGCN	1420
Lawrence G-15-a	1000	KFKU	1220
	1000	WREN	1220
Manhattan G-14-a	500	KSAC	580
Milford G-14	5000	KFKB	1050
Topeka G-14	1000	WIBW	1300
Wichita H-14-a	500	KFH	1300

KENTUCKY

Covington	5000	WCKY	1480
Hopkinsville I-19	1000	WFIW	940
Louisville H-20	5000	WHAS	820
	30	WLAP	1200

LOUISIANA

New Orleans M-17	100	WABZ	1200
	1000	WDSU	1270
	100	WJBO	1370
	30	WJBW	1200
	500	WSMB	1320
	5000	WWL	850
Shreveport K-16	50	KRMD	1310
	1000	KSBA	1450
	50	KTSL	1310
	100	KWEA	1210
	20000	KWKH	850

MAINE

Bangor C-28-b	100	WABI	1200
	250	WLBZ	620
Portland D-28-b	500	WCSH	940

MARYLAND

Baltimore G-24-a	10000	WBAL	1060
	250	WCAO	600
	100	WCBM	1370
	250	WFBR	1270
Cumberland G-23	50	WTBO	1420
Salisbury G-25	100	WSMD	1310

MASSACHUSETTS

Boston E-27-c	500	WBIS	1230
	500	WBZA	990
	1000	WEEI	590
	50	WMES	1500
	500	WNAC	1230
	100	WSSH	1420
	100	WLOE	1500
Chelsea E-27	250	WSAR	1450
Fall River E-27	100	WEPS	1200
Gloucester E-27	1000	WHDH	830
	500	WLEX	1360
Lexington E-27	100	WLEY	1420
New Bedford E-27-g	100	WNBH	1310
S. Dartmouth E-27	500	WMAF	1360
Springfield E-26-b	15000	WBZ	990
Webster E-27-d	100	WKBE	1200
Wellesley Hills E-27	250	WBSO	780
Worcester E-27-b	250	WTAG	580

MICHIGAN

Battle Creek E-20	50	WKBP	1420
Bay City D-21	500	WBCM	1410
Berrien Spgs. E-19	1000	WEMC	590
Calumet B-18	100	WHDF	1370

Detroit E-21-g	100	WAFD	1500
	5000	WCX	750
	750	WGHP	1240
	5000	WJR	750
	100	WMBC	1420
	1000	WWJ	920
East Lansing E-20-b	500	WKAR	1040
Flint E-21-a	100	WFDF	1310
Grand Rapids E-20-a	250	WASH	1270
	500	WOOD	1270
Jackson E-20	100	WIBM	1370
Lapeer E-21	100	WMPC	1500
Ludington D-19	50	WKBZ	1500
Royal Oak E-21-e	50	WAGM	1310
Ypsilanti E-21-f	50	WJBK	1370

MINNESOTA

Collegeville C-15	100	WFBJ	1370
Fergus Falls B-15	50	KGDE	1200
Hallock A-14	50	KGFK	1200
Minneapolis C-16-B	15000	WCCO	810
	500	WDGY	560
	1000	WGMS	1250
	500	WHDI	560
	1000	WLB	1250
	1000	WRHM	1250
Northfield D-16	1000	KFMX	1250
	1000	WCAL	1250
St. Paul C-16-c	10000	KSTP	1460
	15000	WCCO	810
	1000	WGMS	1250

MISSISSIPPI

Columbus K-18	500	WCOC	880
Greenville K-17	100	WRBQ	1210
Gulfport M-18	100	WGCM	1210
Hattiesburg L-18	10	WRBJ	1500
Utica L-17	300	WQBC	1360

MISSOURI

Cp. Girardeau H-18-c	100	KFVS	1210
Columbia G-16-b	500	KFRU	630
Independence G-16-c	500	KLDS	950
	500	KMBC	950
Jefferson City H-16-a	500	WOS	630
Joplin H-16	100	WMBH	1420
Kansas City G-15-b	100	KWKC	1370
	1000	WDAF	610
	500	WHB	950
	100	WLBF	1420
	1000	WOQ	610
Kirksville F-16-c	15	KFKZ	1200
St. Joseph G-15	2500	KFEQ	560
	100	KGBX	1370
St. Louis H-18-a	500	KFUO	550
	100	KFWF	1200
	5000	KMOX	1090
	500	KSD	550
	1000	KWK	1350
	1000	WEW	760
	100	WIL	1200
	100	WMAY	1200

MONTANA

Billings C-8	500	KGHL	950
Butte C-7	250	KGIR	1360
Havre A-8	500	KFBB	1360
Kalispell A-5	100	KGEZ	1310
Missoula B-6	50	KGHD	1420
	500	KUOM	570
Vida B-10	10	KGCX	1420

NEBRASKA

Clay Center G-14	1000	KMMJ	740
Lincoln F-14-b	5000	KFAB	770
	100	KFOR	1210
	500	WCAJ	590
Norfolk E-14-c	500	WJAG	1060
Omaha F-15-a	500	WAAW	660
	1000	WOW	590
Ravenna F-13	50	KGFW	1420
York F-13	500	KGBZ	930

NEVADA

Reno G-3	100	KOH	1370

NEW HAMPSHIRE

Laconia D-27	100	WKAV	1310
Manchester E-27	500	WBRL	1430

NEW JERSEY

Asbury Park G-26	500	WCAP	1280
Atlantic City G-25	5000	WPG	1100
Camden F-25-f	500	WCAM	1280
Cliffside F-26	250	WPAP	1010
	250	WQAO	1010
Elizabeth F-26-h	250	WIBS	1450
Hoboken F-26	500	WPCH	810
Jersey City F-26-d	300	WAAT	1070
	250	WKBO	1450
Newark F-25-h	2000	WAAM	1250
	250	WGCP	1250
	250	WNJ	1450
	5000	WOR	710
Paterson F-26-c	1000	WODA	1250
Red Bank G-26	100	WJBI	1210
Trenton F-25	500	WOAX	1280
Union City F-26	250	WBMS	1450

NEW MEXICO

Albuquerque	100	KGGM	1370
Raton I-11	50	KGFL	1370
State College K-9	10000	KOB	1180

NEW YORK

Auburn E-24	100	WMBO	1370
Bay Shore F-26-h	100	WINR	1210
Binghamton E-25	50	WNBF	1500
Brooklyn F-26-f	500	WBBC	1400
	250	WCDA	1350
	100	WCLB	1500
	500	WLTH	1400
	100	WMBQ	1500
	500	WSGH	1400
Buffalo E-23-a	100	WEBR	1310
	1000	WGR	550
	5000	WKBW	1470
	1000	WKEN	1040
	750	WMAK	900
	50	WSVS	1370
Canton D-25	500	WCAD	1220
Cazenovia E-25-b	250	WMAC	570
Coney Island F-26	500	WCGU	1400
Freeport F-26-i	100	WGBB	1210
Greenville E-26	100	WCOH	1210
Ithaca E-24-d	500	WEAI	1270
	50	WLCI	1210
Jamaica F-26-f	10	WMRJ	1420
Jamestown E-23-b	25	WOCL	1210
Long Island City F-26	100	WLBX	1500

New York City F-26	5000	WABC	850
	250	WBNY	1350
	5000	WBOQ	860
	50000	WEAF	660
	500	WGBS	1180
	1000	WHAP	1300
	250	WHN	1010
	10	WHPP	1420
	30000	WJZ	760
	250	WKBQ	1350
	5000	WLWL	1100
	500	WMCA	570
	250	WMSG	1350
	500	WNYC	570
	1000	WOV	1130
	250	WRNY	1010
Patchogue	30	WLBH	1420
Peekskill F-26-a	500	WOKO	1440
Rochester E-24-b	500	WABO	1440
	5000	WHAM	1150
	500	WHEC	1440
Rossville F-26	1000	WBBR	1300
Saranac Lake D-26	10	WNBZ	1290
Schenectady E-25-c	50000	WGY	790
Syracuse E-24-c	750	WFBL	900
	250	WSYR	570
Troy E-21-a	500	WHAZ	1300
Tupper Lake D-25	10	WHDL	1420
Utica E-25-a	100	WIBX	1200
Woodhaven F-26	500	WEVD	1300
Woodside F-26	100	WWRL	1500

NORTH CAROLINA

Asheville J-21	1000	WWNC	570
Charlotte J-22	5000	WBT	1080
Gastonia J-22	100	WRBU	1210
Greensboro I-22	500	WNRC	1440
Raleigh I-23	1000	WPTF	680
Wilmington J-24	50	WRBT	1370

NORTH DAKOTA

Bismarck B-12	500	KFYR	550
Devils Lake A-13	100	KDLR	1210
Fargo B-14	1000	WDAY	1280
Grand Forks A-14	500	KFJM	1370
Mandan B-12	100	KGCU	1200

OHIO

Akron F-22-b	1000	WADC	1320
	500	WFJC	1450
Bellefontaine G-21-a	100	WHBD	1370
Cambridge F-22	100	WEBE	1210
Canton F-22-d	10	WHBC	1200
Cincinnati G-20-e	25	WAAD	1420
	100	WFBE	1200
	500	WKRC	550
	50000	WLW	700
	5000	WSAI	800
Cleveland F-22-a	1000	WEAR	1070
	1000	WHK	1390
	500	WJAY	620
	3500	WTAM	1070
Columbus G-21-b	500	WAIU	640
	250	WCAH	1430
	750	WEAO	550
	50	WMAN	1210
Dayton G-21-e	200	WSMK	570
Hamilton G-20-d	100	WRK	1310
Mansfield F-21	100	WLBV	1210
Middletown G-20	100	WSRO	1420
Springfield G-21-c	500	WCSO	1380
Steubenville F-22	50	WIBR	1420
Toledo F-21-a	500	WSPD	1340
Youngstown F-22	500	WKBN	570

OKLAHOMA

Alva I-13	100	KGFF	1420
Chickasha J-14-b	100	KOCW	1420
Enid I-14	100	KCRC	1370
Norman J-14-a	500	WNAD	1010
Oklahoma I-14-b	5000	KFJF	1470
	100	KFXR	1310
	100	KGFG	1370
	1000	WKY	900
Picher I-15	500	KGGF	1010
Ponca City I-14	100	WBBZ	1200
Tulsa I-15	5000	KVOO	1140

OREGON

Astoria C-1-a	50	KFJI	1370
Corvallis D-1	1000	KOAC	560
Eugene D-1	100	KORE	1420
Marshfield E-1	50	KOOS	1370
Medford E-1	50	KMED	1310
Portland C-1-b	5000	KEX	1180
	50	KFEC	1370
	100	KFIF	1420
	500	KFJR	1300
	1000	KGW	620
	1000	KOIN	940
	500	KTBR	1300
	15	KWBS	1500
	500	KWJJ	1060
	500	KXL	1250

PENNSYLVANIA

Allentown F-25-c	250	WCBA	1440
	250	WSAN	1440
Altoona F-24-c	100	WFBG	1310
Carbondale F-25	5	WNBW	1200
Elkins Park G-25-c	50	WIBG	930
Erie E-23	30	WEDH	1420
	50	WRAK	1370
Grove City F-23-b	100	WSAJ	1310
Harrisburg F-24-d	500	WBAK	1430
	100	WPRC	1200
Johnstown F-23-d	100	WHBP	1310
Lancaster G-25-a	15	WGAL	1310
	100	WKJC	1200
Lemoyne G-24	500	WMBS	1430
Lewisburg F-24-b	100	WJBU	1210
Oil City F-23-a	500	WLBW	1260
Philadelphia G-25-d	1000	WCAU	1170
	100	WELK	1370
	500	WFAN	610
	500	WFI	560
	50	WFKD	1310
	100	WHBW	1500
	500	WIP	610
	500	WLIT	560
	100	WNAT	1310
	50	WPSW	1500
	250	WRAX	1020
Pittsburgh F-23-c	50000	KDKA	980
	500	KQV	1380
	500	WCAE	1220
	1000	WJAS	1290
Reading F-25-d	100	WRAW	1310
Scranton F-25-a	250	WGBI	880
	250	WQAN	880
State College F-24-a	500	WPSC	1230
Washington F-23	15	WNBO	1200
Wilkes-Barre F-25-b	100	WBAX	1210
	100	WBRE	1310
Wilkinsburg F-23	100	WMBJ	1500
Willow Grove G-25	50	WALK	1500

PORTO RICO

San Juan	500	WKAQ	890

RHODE ISLAND

Cranston F-27-a	100	WDWF	1210
	100	WLSI	1210
Newport F-27	100	WMBA	1500
Pawtucket E-27	100	WPAW	1210
Providence E-27-h	250	WEAN	550
	250	WJAR	890

SOUTH CAROLINA

Charlestown K-23	75	WBBY	1200

SOUTH DAKOTA

Brookings D-14	500	KFDY	550
Dell Rapids D-14	50	KGDA	1370
Oldham D-14	15	KGDY	1200
Pierre D-12	200	KGFX	580
Rapid City D-11	100	WCAT	1200
Sioux Falls D-14	2000	KSOO	1150
Vermillion E-14-b	500	KUSD	890
Watertown	100	KGCR	1210
Yankton E-14-a	1000	WNAX	570

TENNESSEE

Chattanooga J-20	1000	WDOD	1280
Knoxville I-20	50	WFBC	1200
	50	WNBJ	1310
	1000	WNOX	560
Lawrenceburg J-19	500	WOAN	600
Memphis J-18-a	500	WGBC	1430
	100	WHBQ	1370
	500	WMC	780
	500	WNBR	1430
	500	WREC	600
Nashville I-19	5000	WBAW	1490
	5000	WLAC	1490
	5000	WSM	650
Springfield I-19	100	WSIX	1210
Union City I-18	15	WOBT	1310

TEXAS

Amarillo J-12	1000	KGRS	1410
	250	WDAG	1410
Austin L-14-b	500	KUT	1120
Beaumont M-16	500	KFDM	560
Breckenridge K-13	100	KFYO	1420
Brownsville O-14-b	500	KWWG	1260
Brownwood L-13	100	KGKB	1500
College Sta. M-13	500	WTAW	1120
Dallas L-15-a	10000	KRLD	1040
	5000	WFAA	1040
	500	WRR	1280
Dublin K-14	15	KFPL	1310
El Paso L-10	100	WDAH	1310
Fort Worth L-14-a	100	KFJZ	1370
	1000	KTAT	1240
	50000	WBAP	800
Galveston M-15-b	100	KFLX	1370
	500	KFUL	1290
Greenville K-15	15	KFPM	1310
Harlingen O-14	500	KRGV	1260
Houston M-15-a	1000	KPRC	920
	5	KTUE	1420
Richmond M-15	50	KGHX	1500
San Angelo M-12	15	KGFI	1310
	100	KGKL	1370
San Antonio M-14-a	100	KGCJ	1370
	15	KGDR	1500
	100	KGRC	1370
	100	KTAP	1420
	1000	KTSA	1290
	5000	WOAI	1190
Waco L-15-b	1000	WJAD	1240
Wichita Falls K-14	250	KGKO	570

UTAH

Ogden F-7-b	50	KFUR	1370
Salt Lake City F-7-c	1000	KDYL	1290
	5000	KSL	1130

VERMONT

Burlington D-26-a	100	WCAX	1200
Springfield D-26-b	10	WNBX	1200

VIRGINIA

Arlington G-24-d	1000	NAA	690
Newport News	100	WGH	1310
Norfolk I-24	100	WBBW	1200
	500	WPOR	780
	500	WTAR	780
Petersburg I-24	250	WLBG	1200
Richmond H-24	100	WBBL	1370
	100	WMBG	1210
	1000	WRVA	1110
	15	WTAZ	1210
Roanoke H-23	250	WDBJ	930

WASHINGTON

Aberdeen B-1	75	KXRO	1420
Bellingham A-1	100	KVOS	1200
Des Moines B-1	1000	KVI	1340
Everett A-2	50	KFBL	1370
Lacey B-2-b	10	KGY	1200
Longview B-1	10	KUJ	1500
Pullman B-4	500	KWSC	1390
Seattle B-2-a	100	KFQW	1420
	5000	KJR	970
	15	KKP	1370
	1000	KOL	1270
	1000	KOMO	920
	100	KPCB	1210
	100	KPQ	1210
	50	KRSC	1120
	1000	KTW	1270
	100	KVL	1370
	500	KXA	570
Spokane A-4	100	KFIO	1230
	500	KFPY	1390
	5000	KGA	1470
	1000	KHQ	590
Tacoma B-1-a	500	KMO	1340

WEST VIRGINIA

Bluefield	100	WHIS	1420
Charleston H-22	250	WOBU	580
Clarksburg G-22	65	WQBJ	1200
Fairmont G-23	250	WMMN	890
Huntington G-22	250	WSAZ	580
Weirton G-22	60	WQBZ	1420
Wheeling G-22	5000	WWVA	1160

WISCONSIN

Beloit E-18-b	350	WEBW	600
Eau Claire D-17	1000	WTAQ	1330
Fond du Lac D-18-d	100	KFIZ	1420
Kenosha E-19	100	WCLO	1200
La Crosse E-17	1000	WKBH	1380
Madison E-18-2	750	WHA	570
	100	WIBA	1210
Manitowoc D-19	100	WOMT	1210

Milwaukee E-19-a	250	WHAD	1120
	250	WISN	1120
	1000	WTMJ	620
Poynette D-18-e	100	WIBU	1310
Racine E-19	100	WRJN	1370
Sheboygan C-18	500	WHBL	1410
Stevens Pt. D-18-b	2000	WLBL	900
Superior B-17	1000	WEBC	1280
West De Pere D-19	100	WHBY	1200
WYOMING			
Laramie F-10	500	KWYO	600
CANADA			
ALBERTA			
Calgary	500	CFAC	690
	1800	CFCN	690
	250	CHCA	690
	250	CJCJ	690
	500	CNRC	690
Edmonton	250	CHMA	580
	500	CJCA	580
	500	CKUA	580
	500	CNRE	580
Lethbridge	50	CJOC	1120
Red Deer	1000	CHCT	840
	1000	CKLC	840
BRITISH COLUMBIA			
Chilliwack	5	CHWK	1210
Kamloops	15	CFJC	1120
Sea Island	50	CJOR	1030
Vancouver	50	CHLS	730
	50	CKCD	730
	50	CKFC	730
	50	CKMO	730
	100	CKWX	730
	500	CNRV	1030
Victoria	500	CFCT	630
MANITOBA			
Brandon	500	CKX	540
Winnipeg	5000	CKY	780
	500	CNRW	780
NEW BRUNSWICK			
Fredericton	50	CFNB	1210
Moncton	500	CNRA	630
St. John	50	CFBO	890
NOVA SCOTIA			
Halifax	500	CHNS	930
Sydney	50	CJCB	780
Wolfville	50	CKIC	930
ONTARIO			
Bowmanville	5000	CKGW	960
Brantford	50	CKCR	1010
Chatham	25	CFCO	1210
Cobalt	15	CKMC	1210
Hamilton	10	CHCS	880
	50	CHML	880
	100	CKOC	880
Iroquois Falls	250	CFCH	600
King Twp.	1000	CFRB	960
Kingston	500	CFRC	1120
London	500	CJGC	910
Midland	50	CKPR	1120
Ottawa	100	CKCO	690
	500	CNRO	690
Prescott	50	CFLC	1010
Preston	25	CKPC	1210
Toronto	500	CFCA	840
	500	CFCL	580
	500	CHNC	580
	500	CJBC	580
	1000	CJBC	840
	5000	CJBC	960
	500	CJSC	580
	500	CKCL	580
	500	CKNC	580
	500	CKOW	840
	500	CNRT	840
PRINCE EDWARD ISLAND			
Charlottetown	100	CFCY	960
	30	CHCK	960
Summerside	25	CHGS	1120
QUEBEC			
Montreal	1650	CFCF	1030
	750	CHYC	730
	1200	CKAC	730
	1650	CNRM	730
Quebec	25	CHRC	600
	22	CKCI	600
	50	CKCV	600
	50	CNRQ	600
St. Hyacinthe	50	CKSH	1010
SASKATCHEWAN			
Fleming	500	CJRW	600
Moose Jaw	500	CJRM	600
Regina	500	CHWC	960
	500	CJBR	960
	500	CKCK	960
	500	CNRR	960
Saskatoon	500	CFQC	910
	250	CJHS	910
	500	CNRS	910
Yorkton	500	CJGX	630
HAITI			
Port au Prince	1000	HHK	830
MEXICO			
Chihuahua	250	CZF	970
Mazatlan	250	CYR	630
Merida	100	CYY	550
Mexico City	500	CYA	1000
	500	CYB	1090
	100	CYH	800
	2000	CYJ	750
	500	CYL	750
	100	CYO	710
	500	CYX	920
	500	XFX	860
Oaxaca	100	CYF	1130
Puebla	100	CYU	960
Tampico	100	CYQ	930
Torreon	1500	CYM	1330
Vera Cruz	50	CYC	890
CUBA			
Cienfuegos	200	6BY	1150
Elia	500	7SR	860
Havana	500	CMC	840
	15	2BB	1200
	50	2LR	1280
	20	2MG	1050
	100	2OK	860
	100	2OL	1170
	20	2RK	950
	20	2TW	1110
	10	2UF	1090
Tuinucu	1500	6KW	790

CFAC 690
Calgary, Alta.
CFBO 890
St. John, N. B.
CFCA 840
Toronto, Ont.
CFCF 1030
Montreal, Que.
CFCH 600
Iroquois Falls, Ont.
CFCN 690
Calgary, Alta.
CFCO 1210
Chatham, Ont.
CFCT 630
Victoria, B. C.
CFCY 960
Charlottet'n, P.E.I.
CFJC 1120
Kamloops, B. C.
CFLC 1010
Prescott, Ont.
CFNB 1210
Fredericton, N. B.
CFQC 910
Saskatoon, Sask.
CFRB 960
Twp. of King, Ont.
CFRC 1120
Kingston, Ont.
CHCA 690
Calgary, Alta.
CHCK 960
Charlottet'n, P.E.I.
CHCS 880
Hamilton, Ont.
CHCT 840
Red Deer, Alta.
CHGS 1120
Summerside, P.E.I.
CHLS 730
Vancouver, B. C.
CHMA 580
Edmonton, Alta.
CHML 880
Hamilton, Ont.
CHNC 580
Toronto, Ont.
CHNS 930
Halifax, N. S.
CHRC 600
Quebec, Que.
CHWC 960
Regina, Sask.
CHWK 1210
Chilliwack, B. C.
CHYC 730
Montreal, Que.
CJBC 580 840-960
Toronto, Ont.
CJBR 960
Regina, Sask.
CJCA 580
Edmonton, Alta.
CJCB 780
Sydney, N. S.
CJCJ 690
Calgary, Alta.
CJGC 910
London, Ont.
CJGX 630
Yorkton, Sask.
CJHS 910
Saskatoon, Sask.
CJOC 1120
Lethbridge, Alta.

CJOR 1030
Sea Island, B. C.
CJRM 600
Moose Jaw, Sask.
CJRW 600
Fleming, Sask.
CJSC 580
Toronto, Ont.
CKAC 730
Montreal, Que.
CKCD 730
Vancouver, B. C.
CKCI 600
Quebec, Que.
CKCK 960
Regina, Sask.
CKCL 580
Toronto, Ont.
CKCO 690
Ottawa, Ont.
CKCR 1010
Brantford, Ont.
CKCV 600
Quebec, Que.
CKFC 730
Vancouver, B. C.
CKGW 960
Bowmanville, Ont.
CKIC 930
Wolfville, N. S.
CKLC 840
Red Deer, Alta.
CKMC 1210
Cobalt, Ont.
CKMO 730
Vancouver, B. C.
CKNC 580
Toronto, Ont.
CKOC 880
Hamilton, Ont.
CKOW 840
Toronto, Ont.
CKPC 1210
Preston, Ont.
CKPR 1120
Midland, Ont.
CKSH 1010
St. Hyacinthe, Que.
CKUA 580
Edmonton, Alta.
CKWX 730
Vancouver, B. C.
CKX 540
Brandon, Man.
CKY 780
Winnipeg, Man.
CMC 840
Havana, Cuba.
CNRA 630
Moncton, N. B.
CNRC 690
Calgary, Alta.
CNRE 580
Edmonton, Alta.
CNRM 730
Montreal, Que.
CNRO 690
Ottawa, Ont.
CNRQ 600
Quebec, Que.
CNRR 960
Regina, Sask.
CNRS 910
Saskatoon, Sask.
CNRT 840
Toronto, Ont.

CNRV 1030
Vancouver, B. C.
CNRW 780
Winnipeg, Man.
CYA 1000
Mexico City
CYB 1090
Mexico City
CYC 890
Vera Cruz, Mex.
CYF 1130
Oaxaca, Mex.
CYH 800
Mexico City
CYJ 750
Mexico City
CYL 750
Mexico City
CYM 1330
Torreon, Mex.
CYO 710
Mexico City
CYQ 930
Tampico, Mex.
CYR 630
Mazatlan, Mex.
CYU 960
Puebla, Mex.
CYX 920
Mexico City
CYY 550
Merida, Mex.
CZF 970
Chihuahua, Mex.
HHK 830
Port au Prince, Haiti
KDB 1500
Santa Barbara, Cal.
KDKA 980
Pittsburgh, Pa.
KDLR 1210
Devils Lake, N. D.
KDYL 1290
Salt Lake City
KEJK 1170
Los Angeles, Cal.
KELW 780
Burbank, Cal.
KEX 1180
Portland, Ore.
KFAB 770
Lincoln, Nebr.
KFAD 620
Phoenix, Ariz.
KFBB 1360
Havre, Mont.
KFBK 1310
Sacramento, Cal.
KFBL 1370
Everett, Wash.
KFDM 560
Beaumont, Texas
KFEC 1370
Portland, Ore.
KFEL 940
Denver, Colo.
KFEQ 560
St. Joseph, Mo.
KFGQ 1310
Boone, Iowa
KFH 1300
Wichita, Kansas
KFHA 1200
Gunnison, Colo.
KFI 640
Los Angeles, Cal.

KFIF 1420
Portland, Ore.
KFIO 1230
Spokane, Wash.
KFIU 1310
Juneau, Alaska
KFIZ 1420
Fond du Lac, Wis.
KFJB 1200
Marshalltown, Ia.
KFJF 1470
Oklahoma City
KFJI 1370
Astoria, Ore.
KFJM 1370
Grand Forks, N.D.
KFJR 1300
Portland, Ore.
KFJY 1310
Fort Dodge, Ia.
KFJZ 1370
Ft. Worth, Texas
KFKA 880
Greeley, Colo.
KFKB 1050
Milford, Kansas
KFKU 1220
Lawrence, Kans.
KFKX 1020
Chicago, Ill.
KFKZ 1200
Kirksville, Mo.
KFLV 1410
Rockford, Ill.
KFLX 1370
Galveston, Texas
KFMX 1250
Northfield, Minn.
KFNF 890
Shenandoah, Iowa
KFOR 1210
Lincoln, Nebr.
KFOX 1250
Long Beach, Cal.
KFPL 1310
Dublin, Texas
KFPM 1310
Greenville, Texas
KFPW 1340
Siloam Spgs., Ark.
KFPY 1390
Spokane, Wash.
KFQD 1230
Anchorage, Alaska
KFQU 1420
Holy City, Cal.
KFQW 1420
Seattle, Wash.
KFQZ 860
Hollywood, Cal.
KFRC 610
San Francisco, Cal.
KFRU 630
Columbia, Mo.
KFSD 600
San Diego, Cal.
KFSG 1120
Los Angeles, Cal.
KFUL 1290
Galveston, Texas
KFUM 1270
Col. Spgs., Colo.
KFUO 550
St. Louis, Mo.
KFUP 1310
Denver, Colo.

KFUR 1370
Ogden, Utah
KFVD 700
Culver City, Cal.
KFVS 1210
CapeGirardeau,Mo.
KFWB 950
Los Angeles, Cal.
KFWC 1200
Ontario, Cal.
KFWF 1200
St. Louis, Mo.
KFWI 930
San Francisco, Cal.
KFWM 930
Oakland, Cal.
KFXD 1420
Jerome, Idaho
KFXF 940
Denver, Colo.
KFXJ 1310
Edgewater, Colo.
KFXR 1310
Oklahoma City
KFXY 1420
Flagstaff, Ariz.
KFYO 1420
Abilene, Texas
KFYR 550
Bismarck, N. D.
KGA 1470
Spokane, Wash.
KGAR 1370
Tucson, Ariz.
KGB 1360
San Diego, Cal.
KGBU 900
Ketchikan, Alaska
KGBX 1370
St. Joseph, Mo.
KGBZ 930
York, Nebr.
KGCA 1270
Decorah, Iowa
KCRC 1370
Oklahoma City
KGCI 1370
San Antonio, Texas
KGCN 1420
Concordia, Kans.
KGCR 1210
Watertown, S. D.
KGCU 1200
Mandan, N. D.
KGCX 1420
Vida, Mont.
KGDA 1370
Dell Rapids, S. D.
KGDE 1200
Fergus Falls, Minn.
KGDM 1100
Stockton, Cal.
KGDR 1500
San Antonio, Texas
KGDY 1200
Oldham, S. D.
KGEF 1300
Los Angeles, Cal.
KGEK 1200
Yuma, Colo.
KGER 1370
Long Beach, Cal.
KGEW 1200
Fort Morgan, Colo.
KGEZ 1310
Kalispell, Mont.

KGFF 1420
Alva, Okla.
KGFG 1370
Oklahoma City
KGFH 1000
Glendale, Cal.
KGFI 1310
San Angelo, Texas
KGFJ 1420
Los Angeles, Cal.
KGFK 1200
Hallock, Minn.
KGFL 1370
Raton, N. M.
KGFW 1420
Ravenna, Nebr.
KGFX 580
Pierre, S. D.
KGGC 1420
San Francisco, Cal.
KGGF 1010
Picher, Okla.
KTSL 1310
Shreveport, La.
KGGM 1370
Albuquerque, N. M.
KGHB 1320
Honolulu, Hawaii
KGHD 1420
Missoula, Mont.
KGHF 1320
Pueblo, Colo.
KGHG 1310
McGehee, Ark.
KGHI 1500
Little Rock, Ark.
KGHL 950
Billings, Mont.
KGHX 1500
Richmond, Texas
KGIQ 1320
Twin Falls, Ida.
KGIR 1360
Butte, Mont.
KGIW 1420
Trinidad, Colo.
KGJF 890
Little Rock, Ark.
KGKB 1500
Brownwood, Texas
KGKL 1370
San Angelo, Texas
KGKO 570
Wichita Falls, Tex.
KGKX 1420
Sand Point, Idaho
KGO 790
Oakland, Cal.
KGRC 1370
San Antonio, Texas
KGRS 1410
Amarillo, Texas
KGU 940
Honolulu, Hawaii
KGW 620
Portland, Ore.
KGY 1200
Lacey, Wash.
KHJ 900
Los Angeles, Cal.
KHQ 590
Spokane, Wash.
KICK 1420
Red Oak, Iowa
KID 1320
Idaho Falls, Idaho

KIDO 1250
Boise, Idaho
KJBS 1150
San Francisco, Cal.
KJR 970
Seattle, Wash.
KKP 1370
Seattle, Wash.
KLCN 1290
Blytheville, Ark.
KLDS 950
Independence, Mo.
KLRA 1390
Little Rock, Ark.
KLS 1440
Oakland, Cal.
KLX 880
Oakland, Cal.
KLZ 560
Denver, Colo.
KMA 930
Shenandoah, Iowa
KMBC 950
Independence, Mo.
KMED 1310
Medford, Ore.
KMIC 1120
Inglewood, Cal.
KMJ 1200
Fresno, Cal.
KMMJ 740
Clay Center, Nebr.
KMO 1340
Tacoma, Wash.
KMOX 1090
St. Louis, Mo.
KMTR 570
Hollywood, Cal.
KNX 1050
Los Angeles, Cal.
KOA 830
Denver, Colo.
KOAC 560
Corvallis, Ore.
KOB 1180
State College, N. M.
KOCW 1420
Chickasha, Okla.
KOH 1370
Reno, Nevada
KOIL 1260
Council Bluffs, Ia.
KOIN 940
Portland, Ore.
KOL 1270
Seattle, Wash.
KOMO 920
Seattle, Wash.
KOOS 1370
Marshfield, Ore.
KORE 1420
Eugene, Ore.
KOW 1390
Denver, Colo.
KOY 1390
Phoenix, Ariz.
KPCB 1210
Seattle, Wash.
KPJM 1500
Prescott, Ariz.
KPLA 570
Los Angeles, Cal.
KPO 680
San Francisco, Cal.
KPOF 880
Denver, Colo.
KPPC 1200
Pasadena, Cal.

KPQ 1210
Seattle, Wash.
KPRC 920
Houston, Texas
KPSN 950
Pasadena, Cal.
KQV 1380
Pittsburgh, Pa.
KQW 1010
San Jose, Cal.
KPWF 1490
Westminster, Cal.
KRE 1370
Berkeley, Cal.
KRGV 1260
Harlingen, Texas
KRLD 1040
Dallas, Texas
KRMD 1310
Shreveport, La.
KRSC 1120
Seattle, Wash.
KSAC 580
Manhattan, Kans.
KSBA 1450
Shreveport, La.
KSCJ 1330
Sioux City, Iowa
KSD 550
St. Louis, Mo.
KSEI 900
Pocatello, Idaho
KSL 1130
Salt Lake City
KSMR 1200
Santa Maria, Cal.
KSO 1380
Clarinda, Iowa
KSOO 1110
Sioux Falls, S. D.
KSTP 1460
St. Paul, Minn.
KTAB 550
Oakland, Cal.
KTAP 1420
San Antonio, Texas
KTAT 1240
Ft. Worth, Texas
KTBI 1300
Los Angeles, Cal.
KTBR 1300
Portland, Ore.
KTHS 800
Hot Springs, Ark.
KTM 780
Santa Monica, Cal.
KTNT 1170
Muscatine, Iowa
KTSA 1290
San Antonio, Texas
KTUE 1420
Houston, Texas
KTW 1270
Seattle, Wash.
KUJ 1500
Longview, Wash.
KUOA 1390
Fayetteville, Ark.
KUOM 570
Missoula, Mont.
KUSD 890
Vermillion, S. D.
KUT 1120
Austin, Texas
KVI 1340
Des Moines, Wash.

KVL 1370
Seattle, Wash.
KVOO 1140
Tulsa, Okla.
KVOS 1200
Bellingham, Wash.
KWBS 1500
Portland, Ore.
KWCR 1310
Cedar Rapids, Ia.
KWEA 1210
Shreveport, La.
KWG 1200
Stockton, Cal.
KWJJ 1060
Portland, Ore.
KWK 1350
St. Louis, Mo.
KWKC 1370
Kansas City, Mo.
KWKH 850
Shreveport, La.
KWLC 1270
Decorah, Iowa
KWSC 1390
Pullman, Wash.
KWTC 1500
Santa Ana, Cal.
KWWG 1260
Brownsville, Texas
KWYO 600
Laramie, Wyo.
KXA 570
Seattle, Wash.
KXL 1250
Portland, Ore.
KXO 1200
El Centro, Cal.
KXRO 1420
Aberdeen, Wash.
KYA 1230
San Francisco, Cal.
KYW 1020
Chicago, Ill.
KYWA 1020
Chicago, Ill.
KZM 1370
Hayward, Cal.
NAA 690
Arlington, Va.
WAAD 1420
Cincinnati, Ohio
WAAF 920
Chicago, Ill.
WAAM 1250
Newark, N. J.
WAAT 1070
Jersey City, N. J.
WAAW 660
Omaha, Nebr.
WABC 860
New York City
WABI 1200
Bangor, Maine
WABO 1440
Rochester, N. Y.
WABZ 1200
New Orleans, La.
WADC 1320
Akron, Ohio
WAFD 1500
Detroit, Mich.
WAGM 1310
Royal Oak, Mich.
WAIU 640
Columbus, Ohio

WALK 1500
Willow Grove, Pa.
WAPI 1140
Birmingham, Ala.
WASH 1270
Gr. Rapids, Mich.
WBAA 1400
Lafayette, Ind.
WBAK 1430
Harrisburg, Pa.
WBAL 1060
Baltimore, Md.
WBAP 800
Fort Worth, Texas
WBAW 1490
Nashville, Tenn.
WBAX 1210
Wilkes-Barre, Pa.
WBBC 1400
Brooklyn, N. Y.
WBBL 1370
Richmond, Va.
WBBM 770
Chicago, Ill.
WBCM 1410
Bay City, Mich.
WBBR 1300
Rossville, N. Y.
WBBW 1200
Norfolk, Va.
WBBY 1200
Charleston, S. C.
WBBZ 1200
Ponca City, Okla.
WBIS 1230
Boston, Mass.
WBMS 1450
Union City, N. J.
WBNY 1350
New York City
WBOQ 860
New York City
WBOW 1310
Terre Haute, Ind.
WBRC 930
Birmingham, Ala.
WBRE 1310
Wilkes-Barre, Pa.
WBRL 1430
Manchester, N. H.
WBSO 780
Wellesley H'ls. Mass
WBT 1080
Charlotte, N. C.
WBZ 990
Springfield, Mass.
WBZA 990
Boston, Mass.
WCAC 600
Storrs, Conn.
WCAD 1220
Canton, N. Y.
WCAE 1220
Pittsburgh, Pa.
WCAH 1430
Columbus, Ohio
WCAJ 590
Lincoln, Nebr.
WCAL 1250
Northfield, Minn.
WCAM 1280
Camden, N. J.
WCAO 600
Baltimore, Md.
WCAP 1280
Asbury Park, N. J.

WCAT 1200
Rapid City, S. D.
WCAU 1170
Philadelphia, Pa.
WCAX 1200
Burlington, Vt.
WCAZ 1070
Carthage, Ill.
WCBA 1440
Allentown, Pa.
WCBD 1080
Zion, Ill.
WCBM 1370
Baltimore, Md.
WCBS 1210
Springfield, Ill.
WCCO 810
Minneap.-St. Paul
WCDA 1350
Brooklyn, N. Y.
WCFL 970
Chicago, Ill.
WCGU 1400
Coney Island, N. Y.
WCKY 1480
Covington, Ky.
WCLB 1500
Brooklyn, N. Y.
WCLO 1200
Kenosha, Wis.
WCLS 1310
Joliet, Ill.
WCMA 1400
Culver, Ind.
WCOA 1120
Pensacola, Fla.
WCOC 880
Columbus, Miss.
WCOH 1210
Greenville, N. Y.
WCRW 1210
Chicago, Ill.
WCSH 940
Portland, Maine
WCSO 1380
Springfield, Ohio
WCX 750
Detroit, Mich.
WDAE 620
Tampa, Fla.
WDAF 610
Kansas City, Mo.
WDAG 1410
Amarillo, Texas
WDAH 1310
El Paso, Texas
WDAY 1280
Fargo, N. D.
WDBJ 930
Roanoke, Va.
WDBO 620
Orlando, Fla.
WDEL 1120
Wilmington, Del.
WDGY 560
Minneapolis, Minn.
WDOD 1280
Chattanooga, Tenn.
WDRC 1330
New Haven, Conn.
WDSU 1270
New Orleans, La.
WDWF 1210
Cranston, R. I.
WDZ 1070
Tuscola, Ill.

WEAF 660
New York City
WEAI 1270
Ithaca, N. Y.
WEAN 550
Providence, R. I.
WEAO 550
Columbus, Ohio
WEAR 1070
Cleveland, Ohio
WEBC 1280
Superior, Wis.
WEBE 1210
Cambridge, Ohio
WEBQ 1210
Harrisburg, Ill.
WEBR 1310
Buffalo, N. Y.
WEBW 600
Beloit, Wis.
WEDC 1210
Chicago, Ill.
WEDH 1420
Erie, Pa.
WEEI 590
Boston, Mass.
WEHS 1310
Evanston, Ill.
WELK 1370
Philadelphia, Pa.
WEMC 590
Berrien Spgs., Mich.
WENR 870
Chicago, Ill.
WEPS 1200
Gloucester, Mass.
WEVD 1300
Woodhaven, N. Y.
WEW 760
St. Louis, Mo.
WFAA 1040
Dallas, Texas
WFAN 610
Philadelphia, Pa.
WFBC 1200
Knoxville, Tenn.
WFBE 1200
Cincinnati, Ohio
WFBG 1310
Altoona, Pa.
WFBJ 1370
Collegeville, Minn.
WFBL 900-1490
Syracuse, N. Y.
WFBM 1230
Indianapolis, Ind.
WFBR 1270
Baltimore, Md.
WFDF 1310
Flint, Mich.
WFI 560
Philadelphia, Pa.
WFIW 940
Hopkinsville, Ky.
WFJC 1450
Akron, Ohio
WFKD 1310
Philadelphia, Pa.
WFLA 900
Clearwater, Fla.
WGAL 1310
Lancaster, Pa.
WGBB 1210
Freeport, N. Y.
WGBC 1430
Memphis, Tenn.

WGBF 630
Evansville, Ind.
WGBI 880
Scranton, Pa.
WGBS 1180
New York City
WGCM 1210
Gulfport, Miss.
WGCP 1250
Newark, N. J.
WGES 1360
Chicago, Ill.
WGH 1310
Newport News, Va.
WGHP 1240
Detroit, Mich.
WGL 1370
Ft. Wayne, Ind.
WGMS 1250
St. Paul-Minneap.
WGN 720
Chicago, Ill.
WGR 550
Buffalo, N. Y.
WGST 890
Atlanta, Ga.
WGY 790
Schenectady, N. Y.
WHA 570
Madison, Wis.
WHAD 1120
Milwaukee, Wis.
WHAM 1150
Rochester, N. Y.
WHAP 1300
New York City
WHAS 820
Louisville, Ky.
WHAZ 1300
Troy, N. Y.
WHB 950
Kansas City, Mo.
WHBC 1200
Canton, Ohio
WHBD 1370
Bellefontaine, Ohio
WHBF 1210
Rock Island, Ill.
WHBL 1410
Sheboygan, Wis.
WHBP 1310
Johnstown, Pa.
WHBQ 1370
Memphis, Tenn.
WHBU 1210
Anderson, Ind.
WHBW 1500
Philadelphia, Pa.
WHBY 1200
West De Pere, Wis.
WHDF 1370
Calumet, Mich.
WHDH 830
Gloucester, Mass.
WHDI 560
Minneapolis, Minn.
WHDL 1420
Tupper Lake, N. Y.
WHEC 1440
Rochester, N. Y.
WHFC 1310
Chicago, Ill.
WHIS 1420
Bluefield, W. Va.
WHK 1390
Cleveland, Ohio
WHN 1010
New York City

WHO 1000
Des Moines, Iowa
WHPP 1420
New York City
WIAS 1420
Ottumwa, Iowa
WIBA 1210
Madison, Wis.
WIBG 930
Elkins Park, Pa.
WIBM 1370
Jackson, Mich.
WIBO 570
Chicago, Ill.
WIBR 1420
Steubenville, Ohio
WIBS 1450
Elizabeth, N. J.
WIBU 1310
Poynette, Wis.
WIBW 1300
Topeka, Kansas
WIBX 1200
Utica, N. Y.
WIBZ 1500
Montgomery, Ala.
WICC 1190
Bridgeport, Conn.
WIL 1200
St. Louis, Mo.
WILL 890
Urbana, Ill.
WILM 1500
Wilmington, Del.
WINR 1210
Bay Shore, N. Y.
WIOD 1240
Miami Beach, Fla.
WIP 610
Philadelphia, Pa.
WISN 1120
Milwaukee, Wis.
WJAD 1240
Waco, Texas
WJAG 1060
Norfolk, Nebr.
WJAK 1310
Marion, Ind.
WJAR 890
Providence, R. I.
WJAS 1290
Pittsburgh, Pa.
WJAX 1260
Jacksonville, Fla.
WJAY 620
Cleveland, Ohio
WJAZ 1480
Chicago, Ill.
WJBC 1200
La Salle, Ill.
WJBI 1210
Red Bank, N. J.
WJBK 1370
Ypsilanti, Mich.
WJBL 1200
Decatur, Ill.
WJBO 1370
New Orleans, La.
WJBU 1210
Lewisburg, Pa.
WJBW 1200
New Orleans, La.
WJBY 1210
Gadsden, Ala.
WJJD 1130
Mooseheart, Ill.

WJKS 1360
Gary, Ind.
WJR 750
Detroit, Mich.
WJSV 1460
Washington, D. C.
WJZ 760
New York City
WKAQ 890
San Juan, P. R.
WKAR 1040
East Lansing, Mich.
WKAV 1310
Laconia, N. H.
WKBB 1310
Joliet, Ill.
WKBC 1310
Birmingham, Ala.
WKBE 1200
Webster, Mass.
WKBF 1400
Indianapolis, Ind.
WKBH 1380
La Crosse, Wis.
WKBI 1310
Chicago, Ill.
WKBN 570
Youngstown, Ohio
WKBO 1450
Jersey City, N. J.
WKBP 1420
Battle Creek, Mich.
WKBQ 1350
New York City
WKBS 1310
Galesburg, Ill.
WKBV 1500
Brookville, Ind.
WKBW 1470
Buffalo, N. Y.
WKBZ 1500
Ludington, Mich.
WKEN 1040
Grand Island, N. Y.
WKJC 1200
Lancaster, Pa.
WKRC 550
Cincinnati, Ohio
WKY 900
Oklahoma City
WLAC 1490
Nashville, Tenn.
WLAP 1200
Louisville, Ky.
WLB 1250
Minneapolis, Minn.
WLBC 1310
Muncie, Ind.
WLBF 1420
Kansas City, Mo.
WLBG 1200
Petersburg, Va.
WLBH 1420
Patchogue, N. Y.
WLBL 900
Stevens Point, Wis.
WLBO 1310
Galesburg, Ill.
WLBV 1210
Mansfield, Ohio
WLBW 1260
Oil City, Pa.
WLBX 1500
L. I. City, N. Y.
WLBZ 620
Bangor, Me.

WLCI 1210
Ithaca, N. Y.
WLEX 1360
Lexington, Mass.
WLEY 1420
Lexington, Mass.
WLIB 720
Chicago, Ill.
WLIT 560
Philadelphia, Pa.
WLOE 1500
Chelsea, Mass.
WLS 870
Chicago, Ill.
WLSI 1210
Cranston, R. I.
WLTH 1400
Brooklyn, N. Y.
WLW 700
Cincinnati, Ohio
WLWL 1100
New York City
WMAC 570
Cazenovia, N. Y.
WMAF 1360
S. Dartm'th, Mass.
WMAK 900
Buffalo, N. Y.
WMAL 630
Washington, D. C.
WMAN 1210
Columbus, Ohio
WMAQ 670
Chicago, Ill.
WMAY 1200
St. Louis, Mo.
WMAZ 890
Macon, Ga.
WMBA 1500
Newport, R. I.
WMBC 1420
Detroit, Mich.
WMBD 1440
Peoria Heights, Ill.
WMBF 560
Miami Beach, Fla.
WMBG 1210
Richmond, Va.
WMBH 1420
Joplin, Mo.
WMBI 1080
Chicago, Ill.
WMBJ 1500
Wilkinsburg, Pa.
WMBL 1310
Lakeland, Fla.
WMBO 1370
Auburn, N. Y.
WMBQ 1500
Brooklyn, N. Y.
WMBR 1210
Tampa, Fla.
WMBS 1430
Lemoyne, Pa.
WMC 780
Memphis, Tenn.
WMCA 570
New York City
WMES 1500
Boston, Mass.
WMMN 890
Fairmont, W. Va.
WMPC 1500
Lapeer, Mich.
WMRJ 1420
Jamaica, N. Y.
WMSG 1350
New York City

WMT 1200
Waterloo, Iowa
WNAC 1230
Boston, Mass.
WNAD 1010
Norman, Okla.
WNAT 1310
Philadelphia, Pa.
WNAX 570
Yankton, S. D.
WNBF 1500
Binghamton, N. Y.
WNBH 1310
WewBedford, Mass.
WNBJ 1310
Knoxville, Tenn.
WNBO 1200
Washington, Pa.
WNBR 1430
Memphis, Tenn.
WNBW 1200
Carbondale, Pa.
WNBX 1200
Springfield, Vt.
WNBZ 1290
Saranac Lake, N. Y.
WNJ 1450
Newark, N. J.
WNOX 560
Knoxville, Tenn.
WNRC 1440
Greensboro, N. C.
WNYC 570
New York City
WOAI 1190
San Antonio, Texas
WOAN 600
Lawrenceb'g, Tenn.
WOAX 1280
Trenton, N. J.
WOBT 1310
Union City, Tenn.
WOBU 580
Charleston, W. Va.
WOC 1000
Davenport, Iowa
WOCL 1210
Jamestown, N. Y.
WODA 1250
Paterson, N. J.
WOI 560
Ames, Iowa
WOKO 1440
Peekskill, N. Y.
WOL 1310
Washington, D. C.
WOMT 1210
Manitowoc, Wis.
WOOD 1270
Gr. Rapids, Mich.
WOQ 610
Kansas City, Mo.
WOR 710
Newark, N. J.
WORD 1480
Batavia, Ill.
WOS 630
Jefferson City, Mo.
WOV 1130
New York City
WOW 590
Omaha, Nebr.
WOWO 1160
Fort Wayne, Ind.
WPAP 1010
Cliffside, N. J.

WPAW 1210
Pawtucket, R. I.
WPCC 570
Chicago, Ill.
WPCH 810
Hoboken, N. J.
WPG 1100
Atlantic City, N. J.
WPOR 780
Norfolk, Va.
WPRC 1200
Harrisburg, Pa.
WPSC 1230
State College, Pa.
WPSW 1500
Philadelphia, Pa.
WPTF 680
Raleigh, N. C.
WQAM 1240
Miami, Fla.
WQAN 880
Scranton, Pa.
WQAO 1010
Cliffside, N. J.
WQBC 1360
Utica, Miss.
WQBJ 1200
Clarksburg, W. Va.
WQBZ 1420
Weirton, W. Va.
WRAF 1200
La Porte, Ind.
WRAK 1370
Erie, Pa.
WRAW 1310
Reading, Pa.
WRAX 1010
Philadelphia, Pa.
WRBC 1240
Valparaiso, Ind.
WRBJ 1500
Hattiesburg, Miss.
WRBL 1200
Columbus, Ga.
WRBQ 1210
Greenville, Miss.
WRBT 1370
Wilmington, N. C.
WRBU 1210
Gastonia, N. C.
WRC 950
Washington, D. C.
WREC 600
Memphis, Tenn.
WREN 1220
Lawrence, Kansas
WRHM 1250
Minneapolis, Minn.
WRJN 1370
Racine, Wis.
WRK 1310
Hamilton, Ohio
WRNY 1010
New York City
WRR 1280
Dallas, Texas
WRUF 1470
Gainesville, Fla.
WRVA 1110
Richmond, Va.
WSAI 800
Cincinnati, Ohio
WSAJ 1310
Grove City, Pa.
WSAN 1440
Allentown, Pa.

WSAR 1450 Fall River, Mass.	**WSUN** 900 St. Petersburg, Fla.	**WWL** 850 New Orleans, La.
WSAZ 580 Huntington, W. Va.	**WSVS** 1370 Buffalo, N. Y.	**WWNC** 570 Asheville, N. C.
WSB 740 Atlanta, Ga.	**WSYR** 570 Syracuse, N. Y.	**WWRL** 1500 Woodside, N. Y.
WSBC 1210 Chicago, Ill.	**WTAD** 1440 Quincy, Ill.	**WWVA** 1160 Wheeling, W. Va.
WSBT 1230 South Bend, Ind.	**WTAG** 580 Worcester, Mass.	**XFX** 860 Mexico City
WSGH 1400 Brooklyn, N. Y.	**WTAM** 1070 Cleveland, Ohio	**2BB** 1200 Havana, Cuba
WSIS 1010 Sarasota, Fla.	**WTAQ** 1330 Eau Claire, Wis.	**2LR** 1280 Havana, Cuba
WSIX 1210 Springfield, Tenn.	**WTAR** 780 Norfolk, Va.	**2MG** 1050 Havana, Cuba
WSM 650 Nashville, Tenn.	**WTAW** 1120 College Sta., Tex.	**2OK** 860 Havana, Cuba
WSMB 1320 New Orleans, La.	**WTAX** 1210 Streator, Ill.	**2OL** 1170 Havana, Cuba
WSMD 1310 Salisbury, Md.	**WTAZ** 1210 Richmond, Va.	**2RK** 950 Havana, Cuba
WSMK 570 Dayton, Ohio	**WTBO** 1420 Cumberland, Md.	**2TW** 1110 Havana, Cuba
WSOA 1480 Chicago, Ill.	**WTFI** 1450 Toccoa, Ga.	**2UF** 1090 Havana, Cuba
WSPD 1340 Toledo, Ohio	**WTIC** 600-1060 Hartford, Conn.	**6BY** 1150 Cienfuegos, Cuba
WSRO 1420 Middletown, Ohio	**WTMJ** 620 Milwaukee, Wis.	**6KW** 790 Tuinucu, Cuba
WSSH 1420 Boston, Mass.	**WWAE** 1370 Hammond, Ind.	**7SR** 860 Elia, Cuba
WSUI 580 Iowa City, Iowa	**WWJ** 920 Detroit, Mich.	

Television Stations

		Kcs.
W9XAG	Aero Products, Inc., 1768 Wilson Ave., Chicago, Ill.	**4700-4900**
W2XBT	Frank L. Carter, 3978 Bliss St., Long Island City, N. Y.	**8195**
WCFL	Chicago Federation of Labor, Ft. of Grand Ave., Chicago	**620**
W9XAA	Chicago Federation of Labor, Ft. of Grand Ave., Chicago	**4460-4660**
W1XAY	J. Smith Dodge, Adams St., Lexington, Mass.	**4800-4900**
W6XN	General Electric Co., 5555 E. 14th St., Oakland, Cal.	**2052-4560**
W3XK	Jenkins Laboratories, 1519 Connecticut Ave., Washington	**4900-5000**
W6XBW	P. S. Lucas, 422 Holland Ave., Los Angeles	**2140-4280**
6XAM	Ben S. McGlashan, Wash. and Oak Sts., Los Angeles	**2000-2100**
W6XC	Robert B. Parrish, 5155 S. Grammercy Place, Los Angeles	**4500-4600**
W2XAL	Hotel Roosevelt, 45th and Madison Ave., New York	**3091-9700**
W2XBS	Radio Corp. of America (Portable), 70 Van Cortlandt Park, S. Bronx, New York, N. Y.	**2100-330**
W2XBV	Radio Corp. of America (Portable)	**4500-4600**
W2XBW	Radio Corp. of America (Portable), Initial location: River Road, Bound Brook, N. J.	**15100-15200**
W6XF	Calvin J. Smith, 334 N. Serrano Ave., Los Angeles	**4700-4900**
W2XBU	Harold E. Smith, Beacon, N. Y.	**4700-4900**
W8XAV	Westinghouse Electric Mfg. Co. E. Pittsburgh, Pa.	**4700-4800 15100-15200**
W4XA	WREC, Inc., Whitehaven, Tenn.	**2400-2500**
WIBO	Nelson Bros. Bond & Mfg. Co., Milwaukee Ave., at Ballard Rd., Chicago, Ill.	**570**

Mexican Short-Wave Stations

Call Letters	Owner	Power Watts	Call Letters	Owner	Power Watts
CYL	Raul Azcarraga, Mexico, D. F.	**500**	**CYY**	Partido Socialista del Sureste, Merida, Yuc.	**105**
CYB	"El Buen Tono," Mexico, D. F.	**500**			
CYR	C stulo Llamas, Mazatlan, Sin.	**500**	**CYS**	Efrain R. Gomez, Mexico, D. F.	**250**
CYX	Pablo Langarica, Mexico, D. F.	**500**	**CYH**	Miguel S. Castro, Mexico, D. F.	**105**
CYM	Roberto Reyes, Monterrey, N. L.	**200**	**CYO**	Martinez y Zetina, Mexico, D. F.	**101**
CYF	F. Zorilla, Oaxaca, Oax.	**100**	**CZE**	Secretaria de Educacion Publica, Mexico, D. F.	**500**

*All stations are licensed to operate on wavelengths between 350 and 550 meters.

The Short Wave Stations

For the information of those who are exploring the short-wave field, the following list of stations known to be broadcasting between 26.3 and 109.0 meters, is given. The definite wave length used by each station cannot be given as the experiments are being carried on at different frequencies. These frequencies are too high for the ordinary receiver and special instruments must be built in order to receive these stations. Most of the programs in this field are the same as those in the broadcast bands merely being duplicated at high frequencies in order that they may carry farther and reach distant lands. The stations are designated by the initial letter X with a numeral preceding which indicates the radio district in which the station is located.

Call	Station	Owner	City and State	Meters	Watts
1 XAA	WRAH	Stanley N. Read	Providence, R. I.		7.5
1 XAE	WBZ	Westinghouse Elec. & Mfg. Co	Springfield, Mass.	70.0	
1 XAF	WEEI	Edison Elec. Illuminating Co	Boston, Mass.		
1 XAG		Edison Elec. Illuminating Co	Boston, Mass.		
1 XY	WBRL	Booth Radio Laboratories	Tilton, N. H.	105-109	250
2 XA	WRMU	Yacht "MU-1" Grebe Co	New York		
2 XAC	WGY	General Electric Co	Schenectady, N. Y.		
2 XAD	WGY	General Electric Co	Schenectady, N. Y.		
2 XAE	WGY	General Electric Co	Schenectady, N. Y.		
2 XAF	WGY	General Electric Co	Schenectady, N. Y.	32.7	
2 XAG	WGY	General Electric Co	Schenectady, N. Y.		
2 XAH	WGY	General Electric Co	Schenectady, N. Y.		
2 XAK	WGY	General Electric Co	Schenectady, N. Y.		
2 XAL	WRNY	Experimenter Pub. Co	New York	30.91	500
2 XAO		Atlantic Broadcasting Co	New York	105.9	100
2 XAQ	WOR	L. Bamberger Co	Newark, N. J.	65.4	50
2 XAW	WGY	General Electric Co	Schenectady, N. Y.		
2 XBA	WAAM	WAAM, Inc	Newark, N. J.	65.18	50
2 XBH		Chas. G. Ungar	Coney Island, N. Y.	54.02	150
2 XE	WABC	Atlantic Broadcasting Co	Richmond Hill, N. Y.	21.1	50
2 XZ		National Broadcasting Co	Bellmore, L. I.	49.15	50000
3 XK		C. Francis Jenkins Labs	Washington, D. C.		
3 XL		Radio Corp. of America	Bound Brook, N. J.	59.96	30000
3 XN		Bell Telephone Laboratory	Whippany, N. J.		
4 XE		William Justice Lee	Winter Park, Fla.	200.	250
6 XA	KNX	Los Angeles Express	Los Angeles, Cal.	107.1	100
6 XAF	KNRC	Clarence B. Juneau	Santa Monica, Cal.	108.2	100
6 XAI	KGGM	Los Angeles Radio Club	Los Angeles, Cal.	66.04	50
6 XAK	KFWH	F. W. Morse	Chico, Cal.	108.2	50
6 XAL	KFQZ	L. E. Taft	Hollywood, Cal.	66.04	50
6 XAN	KRLO	Freeman Lang	Los Angeles, Cal.	105.9	250
6 XAR	KJBS	J. Brunton & Sons	San Francisco, Cal.	32.	50
6 XAU	KHJ	Times-Mirror Co	Los Angeles, Cal.	104.1	50
6 XAZ		Nelson Radio Co	San Diego, Cal.	106.	50
6 XBA	KFSG	Air-Fan Radio Corp	Los Angeles, Cal.	108.2	250
6 XBE	KFBC	W. K. Azbill	San Diego, Cal.		
6 XBH	KFQV	W. E. Riker	Holy City, Cal.	31-106	50
6 XBR	KFWB	Warner Bros. Picture Studios	Los Angeles, Cal.	40-105	50
6 XBX	KFVD	McWhinnie Elec. Co	Venice, Cal.	105.	50
7 XAB	KFPY	Symons Investment Co	Spokane, Wash.	105.9	
7 XAO	KWJJ	Wilbur Jerman, Inc.	Portland, Ore.	53-54	100
7 XC	KJR	Northwest Radio Service	Seattle, Wash.		
7 XO		Northwest Radio Service	Seattle, Wash.		
8 XAC	WHAM	Stromberg-Carlson Tel. Mfg. Co	Rochester, N. Y.		
8 XAL	WLW	Crosley Radio Corp.	Cincinnati, Ohio	52.05	500
8 XAO	WJR	WJR, Inc	Detroit, Mich.	32.	75
8 XF	WHK	Radio Air Service Corp	Cleveland, Ohio	66.04	500
8 XJ	WEAO	Ohio State University	Columbus, Ohio	54.02	250
8 XK	KDKA	Westinghouse Elec. & Mfg. Co	Pittsburgh, Pa.	62.5	40000
8 XP	KDKA	Westinghouse Elec. & Mfg. Co	Pittsburgh, Pa.	10-150	500
9 XAB	WNAL	R. J. Rockwell	Omaha, Nebr.	105.	50
9 XU	KOIL	Mona Motor Oil Co	Council Bluffs, Ia.	61.06	500

PRINCIPAL FOREIGN STATIONS

Call Letters	Location	Wave Length
AGC	Nauen, Germany	17.2
PCLL	Kootwijk, Holland	18.0
WOWO	Fort Wayne	22.8
5SW	Chelmsford, England	24.0
2XAB	New York	24.0
2FC	Sydney, Australia	28.5
2ME	Sydney, Australia	28.5
PCJJ	Hilversum, Holland	30.2
JB	Johannesburg, S. Africa	32.0
PCLL	Kootwijk, Holland	32.0
3LO	Melbourne, Australia	32.0
2XAI	Newark	43.0
WJSV	Mt. Vernon, Va	56.0
AJG	Nauen, Germany	56.7
GC	Paris, France	60.0
CJRX	Winnipeg, Manitoba	25.6

QUICK INDEX TO FAVORITE FEATURES

PROGRAM	CALL	DIAL NUMBERS			DAY	HOUR

RADIO TROUBLE SHOOTING

: : : By E. R. HAAN : : :

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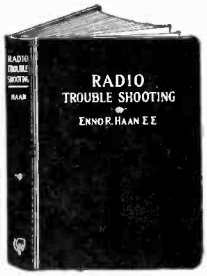

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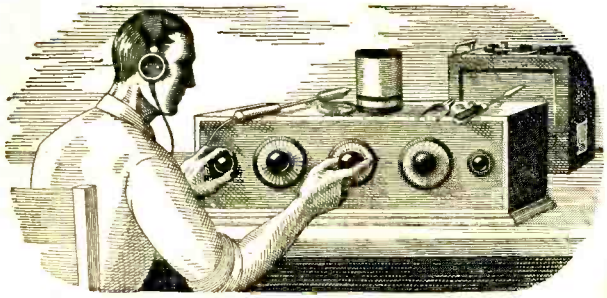

If all the Radio sets I've "fooled" with in my time were piled on top of each other, they'd reach about halfway to Mars. The trouble with me was that I thought I knew so much about Radio that I really didn't know the first thing. I thought Radio was a plaything — that was all I could see in it for me.

I Thought Radio Was a Plaything

But Now My Eyes Are Opened, and I'm Making Over $100 a Week!

$50 a week! Man alive, just one year ago a salary that big would have been the height of my ambition.

Twelve months ago I was skimping along on starvation wages, just barely making both ends meet. It was the same old story—a little job, a salary just as small as the job.

If you'd told me a year ago that in twelve months time I would be making $100 and more every week in the Radio business—whew! I know I'd have thought you were crazy. But that's the sort of money I'm pulling down right now—and in the future I expect even more. Why, only today—

But I am getting ahead of my story. I was hard up a year ago because I was kidding myself, that's all—not because I had to be.

When broadcasting first became the rage, I first began dabbling with Radio. There's a fascination—something that grabs hold of a fellow—about twirling a little knob and suddenly listening to a voice speaking a thousand miles away!

Up to a year ago, I was just a dabbler—I thought Radio was a plaything. I never realized what an enormous, fast-growing industry Radio had come to be—employing thousands and thousands of trained men. I usually stayed home in the evenings after work, because I didn't make enough money to go out very much.

And as for the idea that a splendid Radio job might be mine, if I made a little effort to prepare for it—such an idea never entered my mind. When a friend suggested it to me one year ago I laughed at him.

"You're kidding me," I said.

"I'm not," he replied. "Take a look at this ad."

He pointed to a page ad in a magazine I'd seen many times but just passed up. This time I read the ad carefully. It told of many big opportunities for trained men to succeed in the great new Radio field. With the advertisement was a coupon. I sent the coupon in, and in a few days received a handsome 64-page book, telling about the opportunities in the Radio field and how a man can prepare quickly and easily at home to take advantage of these opportunities. Well, it was a revelation to me. I read the book carefully, and when I finished it I made my decision.

What's happened in the twelve months since that day, seems almost like a dream to me now. For ten of those twelve months, I've had a Radio business of my own. At first, of course, I started it as a little proposition on the side, under the guidance of the National Radio Institute. It wasn't long before I was getting so much to do that I quit my measly little clerical job, and devoted my full time to my Radio business.

Since that time I've gone right on up. They would have given me just as much help, too, if I had wanted to follow some other line of Radio besides building my own retail business—such as broadcasting, manufacturing, experimenting, sea operating, or any one of the score of lines they prepare for you. And to think that until that day I sent for their eye-opening book, I'd been wailing, "I never had a chance."

Now I'm making, as I told you before, over $100 a week. And I know the future holds even more, for Radio is one of the most progressive, fastest-growing businesses in the world today. And it's work that I like—work a man can get interested in.

You may not be as bad off as I was. But think it over—are you satisfied? Are you making enough money, at work that you like? Would you sign a contract to stay where you are now for the next ten years—making the same money? If not, you'd better be doing something about it.

This new Radio game is a live-wire field of golden rewards. The work is fascinating, absorbing, well paid. The National Radio Institute—oldest and largest Radio home-study school in the world—will train you inexpensively in your own home to know Radio from A to Z.

Take another tip—No matter what your plans are, no matter how much or how little you know about Radio—clip the coupon below and look their free book over. It is filled with interesting facts, figures, and photos, and the information it will give you is worth a few minutes of anybody's time. You will place yourself under no obligation—the book is free, and is gladly sent to anyone who wants to know about Radio. Just address J. E. Smith, President, National Radio Institute, Dept. 9Q91, Washington, D. C.

J. E. SMITH, President,
National Radio Institute, Dept. 9Q91,
Washington, D. C.

Dear Mr. Smith:—Please send me your 64-page free book, giving all information about the opportunities in Radio and how I can learn quickly and easily at home to take advantage of them. I understand this request places me under no obligation, and that no salesman will call on me.

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