MIDSUMMER EDITION

RADIO INDEX

The Radio Fan's Own Magazine

25c

Remedying Distortion in Speakers
Elimination of Radio Noises
What's Wrong With My Set?
Cause and Cure of Hum

No. 40 N. S. E.

HOW TO TUNE A SET CORRECTLY

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

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 keys. frequency by the Federal Radio Commission. We also find that it has a power of 50,000 watts, that it is located in New York City and is owned by the National Broadcasting Co., Inc.

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

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

We now have found that the dial numbers for 630 keys. are 72-70 and the dial numbers for 660 keys. are 69-67. If we now will set our dials for 70-68 it is obvious we will have our set tuned for 650 keys. We listen carefully and if they are on the air and within range of our set we will tune in WSM of Nashville at this point. We then enter the dial readings for WSM opposite 650 keys. Now it is clear that if we reset our dials at 71-69 our set will be tuned to 640 keys. and at that point KFI of Los Angeles will be heard, always assuming, of course, that it is on the air and within range of our particular set.

Now we tune in some other station, proceeding as before until after an evening or two, we have 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 hearing. The Radio Commission has had to give the same frequency in most cases to several stations but they have distributed them geographically so they should not interfere. When two stations in the same locality have the same frequency, they are required to divide the time. In this case, of course, it is not possible to tell which one of the two stations is broadcasting at the particular moment we hear it, but we do know it is one or the other of them.

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

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

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

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.	
KFAU	500	Laramie, Wyo.	Bishop N. S. Thomas	
KFSD	500	San Diego, Calif.	Airfan Radio Corp.	
WCAO	250	Baltimore, Md.	Monumental Radio Co., Inc.	
WEBW	500	Beloit, Wisc.	Beloit College	
WOAN	500	Lawrenceburg, Tenn.	Vaughan School of Music	
WREC	1000	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.	
WHAP	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.	
WDAE	1000	Tampa, Fla.	Tampa Publishing Co.	
WHBQ	1000	Orlando, Fla.	Bulliet College, Inc.	
WLBZ	500	Bower-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 Rail—ys	
CYR	250	Magadan, 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, 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.	

THE JUNE-JULY-AUGUST 1930

RADIO INDEX

REG. U. S. PATENT OFFICE

FRED CLAYTON BUTLER
Editor and Publisher

SIXTH YEAR

Contents

NUMBER 40

Published Monthly Excepting July and August
See Subscription Blank on page 63

THE RADEX PRESS
1367 East 6th Street . . . . Cleveland, Ohio

DISTORTION in DYNAMIC SPEAKERS

A Radio Set is no better than the Speaker

By J. B. Smith

ALTHOUGH dynamic speakers appear rugged and durable, they are nevertheless, highly sensitive and there are many factors which may cause trouble for the radio fan. Faults in the speaker immediately affect reception as the tone quality and frequency range depend just as much on the efficiency of a speaker as they do on the correct design of a receiver. Prevalent troubles, which are encountered in dynamic speakers are hum and rattling, and it is an easy matter for the average radio fan to eliminate or at least minimize these troubles by following the suggestions offered in this article. Owing to its sensitiveness and capability of delivering accurate reproduction, small faults are more likely to be noticed in a dynamic speaker than in a speaker of less efficiency. The cone is usually made of specially prepared paper and has a glued seam. The widest edge of the cone is fastened to a flexible leather band, which is in turn fastened to the cone frame. It is possible, although of seldom occurance, that the glue loosens, permitting the edges in contact with each other to vibrate, causing a noticeable rattle, or a harshness which is highly accentuated at a particular frequency. The glue for mending such a loose joint should be waterproof so that the mended seam will not be susceptible to moisture in the atmosphere, and the glue must also be flexible after it has dried. It is also possible for the cone supports to get loose, giving rise to rattling, but it is an easy matter to remedy this by tightening them up properly.

Around the apex of the cone a ring is fitted, which is just a trifle larger than the pole piece of the speaker. A small coil of wire, called the voice coil, is wound around this ring, the coil sometimes consisting merely of a copper strip $\frac{1}{16}$ inch wide. It is absolutely necessary for the ring to be spaced equally from the pole piece at every point or rattling will result. Often the space between the two is only five-thousandths of an inch, and equidistant spacing is a matter of utmost importance and it requires extreme care to make an accurate adjustment. It has been found best practice to make adjustments in the following way: If the pole piece is adjustable, having a bolt at the end, loosen the bolt, permitting the pole piece to be shifted. Then take a piece of heavy wrapping paper, or any paper of suitable thickness, which when wound around the pole piece will space the ring around it equidistantly. Use just enough paper for this purpose to obtain a sliding fit, rather than a snug fit which makes it hard to remove this paper again after the pole piece has been tightened. Some Dynamic speakers are not equipped with an adjustable pole piece. In such cases it will be necessary to adjust the cone-frame supports. The cone frame is usually bolted to the body of the speaker by means of brackets and it is comparatively an easy matter to loosen the bolts on the brackets. After the adjustment of the pole piece or cone has been made, check the results by pushing lightly on the cone, forcing the ring back over the pole piece a short distance. Do this with both hands, touching points on the cone diametrically opposite each other. If no scraping or scratching is noticed the adjustment is O. K.

Dynamic speakers operating directly on the a. c. lines are equipped with a step-down transformer and a rectifier, usually a dry rectifier. It must be remembered that these rectifiers will not last indefinitely, and will become exhausted after constant use. When your reception gradually becomes weaker in volume, it is a good idea to renew the

(*Continued on page 20*)

RUSHING into COURT

Some Stations are Doing their Best to Destroy Radio

THE courts are playing havoc with radio control and responsibility for this deplorable condition rests clearly upon the shoulders of certain broadcasting stations. Certainly no one should more clearly recognize the need for federal control of radio than the owners of broadcasting stations. The Congress passed the radio act creating the Federal Radio Commission and giving to that body full control over radio. Yet when the Commission in carrying out its duties, issues an order making changes which in their opinion will help to clear up the air-lanes, the stations affected rush into court and ask for an injunction against the Commission. We do not recall any cases of poorer sportsmanship than that displayed by such stations. Station WGY has the doubtful honor of being their leader, as that station was the first to attempt to break down the authority of the Commission or at least the first station of major importance.

Even boys playing ball on the sandlots respect the decision of the umpire, but here we have great business concerns with great investments, rushing into courts like cry-babies whenever the umpire calls them out or the captain orders them to play in another position. Every one of these stations must recognize the necessity of some action to clear up the air, but each one of them wants the action taken against the others and his own station left alone. It would almost serve them right if the hands of the Commission were completely tied by the courts thus throwing the air into a howling chaos. Such a condition would be the death of radio and these investments of which they are so jealous, would be rendered worthless. The pity is that the real sufferers would be the innocent listeners.

What a difference a little make-up makes! On the left we see Georgia Backus as her own little self and on the right, ladees and gentlemun, we see the imp of the Nit Wits who amuses a nation every Saturday night through the Columbia System.

It is the greatest folly to take a decision of the Commission to court. In a recent case the engineers of the Commission decided that a certain change in frequency allotment was necessary and after full consideration it was ordered by the Commission. The stations affected rushed into court and at the hearing the judge, who knew nothing whatever about radio, said in effect, "Oh, you had better give this station the time that it asks for," and the Commission was forced to undo its work of improvement. Of what use is the Commission if any station affected by its orders can secure an

injunction preventing the Commission from making any changes?

On February 5, 1930, the Commission adopted a recommendation of its engineers widening the frequency separation between certain cleared-channel stations which were too closely situated geographically to prevent cross-talk. The Commission sent to all stations affected a copy of this recommendation and asked those stations for an expression of opinion relative to the change. Receiving no serious objections, the Commission on April 7th passed a resolution making the proposed changes effective on April 30th. On April 14th the Commission renewed the licenses of the stations affected on the new wave-lengths. RADEX went to press on the 15th and, of course, gave the new frequencies as of May first. Then several of the stations rushed into court and asked for injunctions. One court granted an injunction, thus tying the hands of the Commission. On April 25th, after RADEX was in the hands of the news dealers, the Commission was forced to adopt a resolution postponing until July 31st the effective date of the change.

In its efforts to give its readers the correct information right up to the minute, RADEX thus gave them information which was meanwhile nullified by the courts. Many of our readers have written us sympathetically realizing that the misinformation was no fault of ours, but some, on the other hand, not understanding the situation have blamed us for giving changes which were not put into effect. Our plight is immaterial. The real danger is that this piece of poor sportsmanship on the part of certain stations is endangering the whole radio structure and threatens a proper Federal control of radio which would result in nothing short of a national calamity. Stations which rush into court to tie the hands of the Commission whenever their particular station is affected by its orders are national trouble-makers and deserve the contempt of the radio-listeners. In future, RADEX will try to publish the names of stations thus attempting to break down control and, in its small way, hold them up to the scorn they deserve. We urge other radio publications and newspapers everywhere to take the same position.

THE CHANGES in MAY

IN January the Radio Commission moved WGBS, New York City, from 1180 to 600 kcys. The Commission, finding that this change was not working satisfactorily, later issued an order returning WGBS to 1180. The station thereupon applied for an injuction to prevent the change. The court granted a stay until a hearing could be held. The Commission which had previously granted the application of WICC, Bridgeport, to move from 1190 to 600, granted the license. WGBS asked the courts to hold the Commission in contempt for moving WICC to 600 kcs. after the court had ordered WGBS left on that frequency pending a hearing. The courts now order WICC returned to its former frequency of 1190. RADEX therefore shows WGBS still on 600 kcs. and WICC on its old wave of 1190.

Twenty-six of the stations which were changed to new frequencies in May are also being returned to their former channels in this edition in accordance with the injunction granted by the courts and fully explained in another article.

Other changes this month are as follows: KPCB, Seattle, from 1500 to 650; CMBC, Havana, 890 to CMQ, 1240; CMX from 920 to 900; XEX, Mexico City, from 920 to 950; XFF, Chihuahua from 920 to 960; WIBA, Madison, from 1210 to 1280.

New stations include one in Thomasville, Ga., as yet without call letters; WPDF, in Flint, Mich., one in Tupelo, Miss., unnamed.

KGDA moves from Dell Rapids to Mitchell, S. D. KGHB and WEAR are deleted. A number of stations have been given permits to move to other cities; these are marked with a Y in the index.

The Columbia broadcasting system has acquired station WPG, Atlantic City, as a permanent link in the Columbia chain. Listeners in the area covered by this station will hear Columbia programs starting May 1, when the entire personnel, equipment and operation will be taken over.

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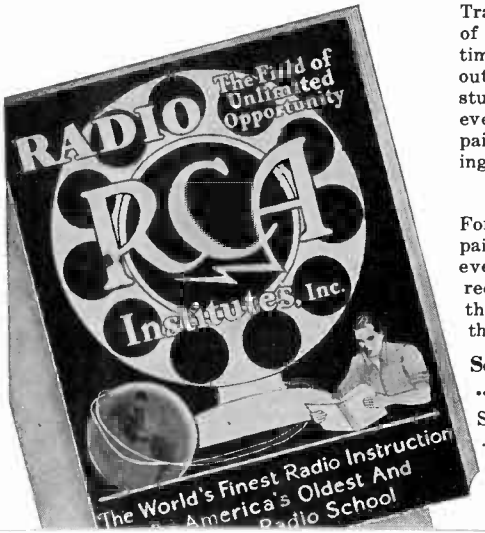

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CROSS-CALLS for Puzzle Fans

Fun and Education in One Dose

Answers to the puzzle in the May issue are pouring in as we go to press and each successful solver will receive a copy of the June number with our compliments. As the correct solution is being given in this article, answers received after June first cannot be considered. Likewise solutions for the June tests must be in our hands before July first.

Dropping this page out of the April issue brought us many "how-about-its" and proved to us that this feature was of real interest to a great many of our readers. These cross-calls are really an education in station history, sugar-coated by puzzle interest. Many friends write us that through these puzzles they are learning more about stations, their geographical locations, peculiarities and general data than they could possibly have learned in any other way. To those who have not yet succombed, we urge that they begin at once. Take a pencil and start now.

The problem this month was submitted by J. Kenneth Louden, of Orangeville, Ontario, and one of those attractive leatherette covers has been sent him for devising it. As Bill Hays says: "Here they are."

Horizontal

1. Fifty watts in Ontario.
5. Evangelistic Association.
9. Washing and ironing done here.
14. Polytechnic Institute.
18. Last three letters of station in Mass.
21. On same wave as four stations with one-quarter the power.
24. "House of Magic."
27. Associated Broadcasters (reverse).
31. Last two letters Hamilton station.
33. Last two letters Red Deer station.
35. Letters stand for city and state (reverse).
39. Recently taken over by NBC.
42. First two letters Texas newspaper station.
44. First and last letters 250 watts in Calif.
46. On 1370 (reverse).
49. Don Lee, Inc.
53. First two letters 1500 kcs.
55. Last two letters Florida.
57. Five watts.
61. F-16-a (reverse).
64. A telephone company.
67. A Columbia outlet.
70. Mississippi Broadcasting Co.
75. On 1310.
79. Last three letters also owner's initials.
83. In I-14.

Vertical

1. Agricultural college (reverse).
2. A seed company.
3. Last two letters, power and paper.
6. First two letters of 1310 station.
7. Daytime station (reverse).
8. Also on 1310.
9. NBC outlet, 5000 watts.
13. Last two letters Toronto station.
17. Former call of Mexico City (reverse)
21. Frequency measure (abbr.).
23. First two letters of two stations in same city.
27. State college (reverse).
28. Daily newspaper, last three letters.
31. By the Golden Gate (reverse).
34. Canada, at end of dial.
37. A state university (revere).
38. The Oregonian (reverse).
51. Transmitter at Kearney, N. J. (reverse).
52. Tull and Ardern.
54. Last two letters, North Carolina.
55. Last two letters, La Presse.
57. In Alberta.
58. Haiti.

63. A state station.
65. Middle letters New York City station.
67. Seattle.
73. First and third letters, London.
75. First and last letters, "Voice of the Capitol."

And here we have the correct solution for the puzzle that appeared in the May edition:

WIP WHK WWAE
J WOR KFOX W
Z WRC KFBL WE
KWK WCAC WHA
KOL WORD KGAR
RY WSBC WMES
E WNAT WCBS K
WMBI KGGC KM
WOAX KGBU KPO
KPQ WJAS KHQ
AI WMBR WQJ W
R KGRS WLW W
WMRJ WOS KHJ

Here is the answer to the teaser sent in by Viggo K. Jensen who found seven world stations whose calls contained all the letters of the alphabet:

CNRQ Quebec, Canada
EATH Vienna, Austria
KGDY Oldham, S. Dak.
LOV Buenos Ayres, Arg.
SMZP Udevalle, Sweden
WJBU Lewisburg, Pa.
XFI Mexico City

And here are the eight stations the puzzle editor found which contain all the letters of the alphabet with only six duplications:

CMBZ, WCAU, KVEP, WLTH, WSYR, WJDX, KFGQ, KOIN.

So far no reader has compiled a list with less duplications. Let's try it again.

Somebody's stolen Rudy Vallee's sax and clarinet and he'd like to get his bare hands on the thief. "They were worth their weight in gold," he says.

* * *

Persons visiting transmitting stations such as the 5,000-watter WABC are advised to leave their watches at home. Watches, when taken close to broadcast transmitters which are in operation, have the habit of becoming magnetized. Magnetized watches do queer things, such as gaining two or three hours one day and losing as many the next.

THE BUFFALO DX CLUB

IN January, 1928, about 40 radio listeners, mostly readers of the weekly radio magazine in the *Buffalo Evening News*, gathered in a local hotel and laid plans for forming a DX Club. The first regular meeting was held in March of that year, and similar meetings have been held every month since, on the first Tuesday evening of the month.

One of the early steps taken was to organize a very efficient interference committee, which cooperated with the local light and power company, telephone company, etc., to the end that Buffalo today probably has less interference from "man-made static" than any city of its size in the country.

The club has never officially been "on the air," but in spite of that fact, it has grown steadily until now there are over 300 active members, about 25% of which are distributed over the eastern half of the country.

It is probable that more "Courtesy Programs" have been arranged for this club than for all other similar organizations combined. These are special broadcasts put on, usually after midnight, by stations that are seldom, if ever, heard by local listeners. On the morning of Sunday, February 23, 1930, thirteen stations on the 1310 kyc. channel broadcast at intervals of 15 minutes each, and listeners had the unique experience of hearing all these in the same night, without turning their dials. Almost any Saturday or Sunday night you will hear at least one station announce "This is a special broadcast for members and friends of the Buffalo Evening News DX Club."

Certificates are issued for verified reception of stations in groups of 50, 100, 200, 400 and 600. Stamps are not considered proper verification by this club. Various contests are also held, the most important one for this year being a cup contest, in which a silver cup will be given the member who secures the greatest number of verifications during the entire year.

When the Buffalo News Station, WRDA, is completed, this club will be one of its regular features.

WHAT'S WRONG with MY SET?

Conducted by J. B. Smith
Technical Editor

I have noticed that on the Zenith Model 52 a selectivity control is provided on the left side of the panel. Could I install one on my Radiola Model 60, which is a superheterdyne receiver?

The selectivity control on the Model 52 Zenith consists of a small coil connected in series with the secondary winding of the tuning coil, and functions by changing the inductance value of this winding. It is questionable whether or not this device could be installed on your Radiola 60 without entailing a certain amount of trouble. However, it is a matter of experiment and should not be attempted unless the operation of a tuning coil and its connections are thoroughly understood.

With high-powered transmission lines completely encircling my home, a dilapidated trolley line running in front, and a factory using several thousand kilowatts of energy per hour about a hundred yards from the house, the reception I get just about drives me crazy. However, I found that on a vacant lot about 600 feet away, and about 75 feet above the elevation of the house, there is practically no interference as I made exhaustive tests with a portable set. I intend to erect an aerial on this lot and bring the lead-in wire to the house underground, using a lead-covered cable for this purpose. Do you think that I could get better reception in this way without so much troublesome interference?

An aerial erected 600 feet away and 75 feet above the house would not remedy the trouble as the electrical disturbances no doubt cover the entire area within several blocks. With the portable set the interference seemed to be missing, which was due to the small pickup value of the loop as compared to that of a regular aerial, and the fact that a loop is directional. It is, of course, entirely possible that the interference would be picked up with less intensity a few hundred feet away, but not enough to justify the expense of a lead-covered lead-in cable. An underground antenna, such as a Subantenna would probably be your best bet. It is claimed that such an aerial eliminates static and other atmospheric disturbances by making use of the ground waves instead of the air waves. However, one cannot expect to get rid of all the interference in this way, but it will be greatly minimized. The best method of handling such interference problems is to tackle them at their source. In many cities the power companies cooperate with the home owners in chasing down troubles of this sort.

My superheterodyne has given good results but the neighbors complain that it interferes with their reception. If this is true what can I do to prevent the trouble?

Every superheterodyne has an oscillator, which serves as a miniature broadcasting station. On some circuits using an energized loop for a pick-up inductance, quite a bit of interference with the neighbors' reception will be evident. The best remedy in such a case would be the provision of a stage of untuned radio frequency ahead of the first tube, which necessitates quite a change in the wiring. If the loop is not energized, the oscillator should be well shielded. Although this procedure may not entirely eliminate the trouble it will nevertheless reduce it considerably.

In doing some of my own trouble shooting I have come across a Freshman Model QD 16S A. C. receiver in which I am unable to find the cause of the following trouble: No signal at all below 50 on the dial although the stations above this point come in well with the usual amount of volume. New tubes do not remedy the trouble. Could you give me a few pointers as to where the trouble might lie?

It seems to me as if one of the rotor condenser plates touches a stator at a point where the dial reads 50. A short-circuited condenser would act exactly the way you have described.

I have a Kolster six-tube battery-oper-

(Continued on page 10)

R. T. I. QUALIFIES YOU TO MAKE MONEY AND ITS SERVICE KEEPS YOU UP-TO-THE-MINUTE ON THE NEWEST DEVELOPMENTS IN RADIO, TELEVISION, AND TALKING PICTURES

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Your radio course has enabled me to earn over $500 in two months. This is all spare time work, as I have a permanent position with my father in our store. I give you all the credit for the above. —J. NOFFSINGER, R. 1, Box 37, Greenville, Ky.

MAKES $25 A DAY

I make as high as $25.00 per day and have made $600.00 in 2 months from Radio work. That's not so bad when I'm only 19 and in a small town. You did all you said you would and much more.—FLOYD KNISELY, Box 91, St. Joe, Ind.

RADIO & TELEVISION INSTITUTE
Dept. 85-A, 4806 St. Anthony Court, Chicago

Send me Free and prepaid your BIG BOOK "Tune In On Big Pay" and full details of your three-in-one Home Training (without obligating me in any way).

Name.....

Address.....

City..... State.....

What's Wrong with My Set?

(*Continued from page 8*)

ated receiver using five 201A tubes and one 112A power tube for which I would like to substitute a 171A. I would like to know the filament consumption and the filament voltage of these tubes; also the amount of plate voltage necessary for the power tubes mentioned.

The current consumed by the filaments of the 201A, 112A and 171A tubes is .25 ampere, whereas the 112 and 171 tubes consume .5 ampere. The filament voltage is 5 volts. Maximum plate voltage for the 112A is 157 and for the 171A it is 180 volts. Of course, grid bias on the power tubes must be increased proportional to the plate voltage, the 171A requiring 40.5 volts of C-bias at 180 volts plate potential, while the 112A tube only takes 10.5 volts of the C-bias at 157 volts of plate potential.

I have a Polydyne Model 5268, using four 226, one 227 and a 250 power tube besides a 281 rectifier. The set was operating satisfactorily but suddenly stopped entirely. The tubes light and test O. K. I checked the connections of the wiring but failed to locate the trouble. Will you kindly inform me where I may look for the trouble?

First of all determine whether or not your power supply is producing plate voltage and if not, one or more filter condensers are short-circuited. Another probable cause of the trouble is an open circuit in the audio end, such as a transformer being burned out or possibly the loudspeaker.

My Radiola 60 has recently developed trouble. The volume will suddenly drop but eventually it will come back again to normal. I find that by manipulating the dial in the interval of low volume I can get the station at normal volume on either side of the usual setting. Sometimes I can bring it back to normal again by simply turning on full volume and then resetting the volume control back to the former position. Can you tell me the cause and cure of this trouble? I would also like to use a variable condenser and coil across my aerial to obtain greater selectivity. Kindly advice me the correct type, number of turns, etc., and the proper method of hooking it up.

A defective tube may be the source of your trouble, or a faulty volume control. It seems as if a tube overloads when tuned in resonance with a signal. Also try different values of grid leaks, which may remedy the trouble. As the fading is sudden, and the signal also comes back quickly, and as the signal can be tuned on each side of the peak of the wave, the trouble cannot very well be ascribed to natural fading due to static and other atmospheric conditions. RADEX has published an article on "How to Make a Wave Trap" in the September, 1929, issue, which contains all the information you may desire. Copies of this issue can be obtained at the usual price by sending to our subscription department.

I have a Freshman Polydyne Model 5234 A. C. receiver. Lately fading has been very noticeable, even on locals. Snapping off the set and then on again overcomes the difficulty for short periods of time. Kindly advise me what to do.

It seems that your trouble is a leaky filter condenser in the power supply. If the condenser were entirely short-circuited, the set would cease functioning entirely. A leak in the condenser may cause fading. Relieving the voltage remedies the situation temporarily as you have experienced.

I have installed an oil burner recently and since then have had quite a bit of interference in my radio reception. Can you kindly tell me in what parts of the burner the trouble originates?

If you would have designated exactly what type of oil burner you have I could give you the exact information concerning the particular make. However, as it is you may look for interference trouble at the pump motor, at the ignition system, or at the temperature-control device or thermostat. If the noise is a steady crackling or scratching during the time that the burner is actually in operation, you may be reasonably certain that the trouble is located in the motor brushes. With d. c. the interference is practically continuous, but with a. c. it is usually

(*Continued on page 21*)

As Our READERS view RADIO

Letters to the Editor

The Cuban stations seem to be moving to new locations nightly and it is quite impossible to keep track of them. The situation in Cuba is what we may expect in the United States unless some curb can be put on stations which run into court every time the Radio Commission takes any action affecting their wave or power. From H. Walter Fricke, of New Jersey, comes this comment: "The Cuban stations are certainly moving around a great deal. On March 31st, shortly before midnight, I picked up CMX of Havana on about 900 kc. I wrote them for a verification which I received on April 14th. In their reply they confirmed their operation on 900 kc. They put on a special program for our Newark News Radio Club last Sunday morning. With three cheers for RADEX, I am 'signing off'."

Karl Halpern, of New York, has a verification from CMX, Havana, giving 898 kc. as their correct frequency which is pretty close to Mr. Fricke's 900. Let's call them 899 for an average. "They are on the air from 12 midnight to 4 a.m., Saturdays, EST," says Mr. Halpern.

"I have been getting CMK, Havana, at 1090 to 1100 kcs. (Those Cubans will not stay on their wave-length for over two months)," comments A. L. Britt, of California. "By the way, what's your objection to listing KMPC, of Beverly Hills? They are on the air regularly." (KMPC changed its call to KEJK in April and is properly listed in RADEX.) Mr. Britt adds, "Your WTAM is sure a 'wow' for stepping out big. Comes to us like a local. Taking into consideration the power behind their output, you have only three or four rivals, among which let's mention WBT, KOIN and that big-little 250-watt station at Twin Falls, Idaho, KGIQ."

Harris W. Schiestel, of Michigan, confirms CMK on 1090 kcs. "I have heard them most every night for the past five weeks. I have logged 196 stations in 85 days—178 American, 15 Canadian and three Cuban stations. *Thanks to RADEX!*"

Discourteous Stations

We are receiving so many complaints from readers that certain stations do not reply to their requests for verification even when stamp is sent for reply (and in some cases when a dime is sent for an Ekko stamp) that we have about decided to designate such indifferent stations in our index and thus save our readers annoyance and disappointment. So let us know the names of those stations which ignore your letters and we will give them an asterisk or something.

The man who made chewing gum famous. The one and only Will Rogers, former cowboy, mayor, ambassador extraordinary, and man about the country. Every Sunday at ten p.m. EDST. CBS.

Miss Carrie Alice Brinkerhoff, of Illinois, lists the following: KSL (five letters) CKY, CMW, KFAB, WCOC, CFCR, KJR, WEHC, WFBM, WJBW and KLRA. Have any other readers

had a similar experience with these particular stations?

Pest Announcers

Miss Brinkerhoff makes the following interesting comment regarding those announcers who do not announce.

"Sometimes a distant station comes in clearly with vocal or instrumental numbers but when an announcement follows the voice is faint and indistinct. I listened 25 minutes recently and not once could I hear call letters or name of selections to be played. Then they signed off—at least I could hear nothing more. I think if announcers would say less and speak more slowly, this trouble could be eliminated."

Herbert Whitaker, of New York, also writes us regarding this subject and others. "It seems to me there can be but two reasons for this reluctance on the part of announcers to naming their stations. One of these is to keep the listener tuned in for the entire program as I have noticed that these neglectful stations seldom have a program worth listening to. The other is that they might possibly be ashamed of the programs produced. I have a new Victor 32 radio and get a lot of enjoyment out of it although I am in a bad location. Ever since I installed this set I have been receiving programs on 1310 kcs., but never until one night recently did I get a station announcement. I certainly should like to see something done about these stations which do not obey the regulations of the Radio Commission." Mr. Whitaker kindly adds: "I received the first copy on my subscription to your wonderful little book this week and to say I am pleased with it is quite inadequate."

From Tampico, Mexico, we receive a letter from Wendell Cox informing us that he has contracted for the construction of a 500-watt crystal-controlled broadcasting station and will advise us later as to the wave-length and call letters.

From Iquitos, Peru, J. C. Arana writes that he is interested in short-wave receivers and would like to have descriptive literature, price list, etc. His address is Prospero 78-82, Casilla 137, Iquitos, Peru, (Amazon River) via Para.

A most interesting letter is that from Roger Causse, radio operator on the SS. Thermo (KUNP). "Mr. Hubbard says he can never get WJBT. Evidently Mr. Hubbard doesn't listen at the right time as I have heard WJBT on Sundays several times although I have never been able to get WBPQ. Neither have I ever gotten KFQA although I get KMOX. Also, I can get WTAR anytime, but never WPOR. I see you have listed NBA in this issue. The owner is the U. S. Navy and it is operated by the Balboa Radio Club. Tell Mr. F. H. Dexter, of San Juan, P. R., that news is sent out daily by WPG at 6:15 p.m. EST.

"I have done some pretty good DX of low-power stations while on ship board. I have heard KUJ at Longview, Wash., while off the Florida coast when he was using ten-watts. I also picked up KLCN at Blytheville, Ark., using seven and one-half watts, over a thousand miles at sea. I have heard WNBO, Washington, Pa., off the Cuban coast while he was using fifteen watts. I have verifications from all of these. I also picked up the twenty-watter WIBU, at Poynette, Wis., while between Florida and the Bahamas, WNBR, twenty-watts, and WREC, fifty-watts, while several hundred miles at sea before they increased their power."

For Short Wavers

To our short-wave enthusiasts, the following letter from P. J. Soper, of New Jersey, will be of especial interest.

"The letter from H. N. Fricke, of North Bergen, N. J., published in the April RADEX, was interesting to me, because I have been using a Pilot Super Wasp for two months, and have had very interesting trips on it. It is necessary to have two aerials, one about 10 feet long, and the other 100 or perhaps 125. I use an aerial that is about 90 feet long, my space for an aerial being limited.

"The 10-foot aerial is used with the Blue coils, as these tune the 200 to 500 meter broadcast band, and with a longer aerial good selectivity can not be expected. Besides the Blue, there are four other sets of coils, Red, Orange, Yellow and Green. The Red coil tunes 14 to 27

(*Continued on page 22*)

Just Whose Job is the

ELIMINATION of RADIO NOISES?

By C. Hubert Anderson

JUST whose job is it to find interference? Is it yours, mine or the other fellows? We wouldn't be characteristically American unless we tried to pass the buck to the other fellow.

Practically everyone upon hearing interference immediately blames the power company, so we will consider them first. "It is the power company's job," we say,

"Because they are the ones who are responsible for it, and further I am buying the electricity to run my radio from them, as well as to light my home while I listen in." The latter part of this statement is quite true, but actual statistics prove the first part to be a misstatement of fact. In every city where records have been kept it has been found that the power company is responsible for only 25% of the causes of interference, the general average being 22%. Therefore is it just to ask someone who is responsible for only 22% of the trouble to bear all the cost of finding and remedying it? You must also remember that the telephone company, telegraph company, railroads with their automatic block signals, create interference, as do street cars and interurbans. It costs the power company the wages of the man who hunts the interference and when he finds it, suppose it is not some of their property that is to blame? Can the power company fix it? Well, hardly. The owner must do that. Then why ask the power company to find the other fellows troubles?

Is it the radio dealer's job to find interference? "He should find it because he sold me my radio and is the fellow who is making the profit out of the radio business." Again the statement is partially correct and partially incorrect. Is it fair to ask the dealer to look up interference for someone who bought their radio from a mail order catalog, or whose little boy made it for them? When the interference is eliminated for one, it is eliminated for all, so the dealer or power company would not only be benefiting you, but everyone else as well. Does the dealer make any of the inter-

Getting a little local color! Dale Wimbrow, famous for his negro characterizations, and Virginia Gates, continuity writer, get the "low-down" straight from the source. The porters' jokes will later come to you Wednesday evenings at 7:45 Columbia Broadcasting Time.

ference? Most certainly not. It would be highly detrimental to his business.

Statistics prove that more than 50% of the cause for interference exists in *your* home. Now just who is it who wants relief? Is it the power company, the dealer, or yourself? Most assuredly you are the one who wants, needs and demands relief. And, if you are to blame for more than 50% of the trouble, then, why isn't it your job to find it? You go downtown and buy a violet ray machine, you hook it up and take a treatment. You are making that interference, not the dealer or the power company. You should remember that the jurisdiction and authority of the power company stops at your meter. Under the law the power company is only selling you power at the meter and you have every legal right to use it as you wish, so long as you pay for it. Your power company can not cut off your electric service simply because you have a violet ray machine, a bad oil-burning furnace or any one of a thousand other interference creating devices hooked onto their lines. Your power company can not fix your oil-burning furnace or other interference-creating device unless you ask them to. It is your property and not theirs that is causing the trouble.

All interference must arise from some electrical cause. By strict interpretation this definition of interference would include static disturbances, but static is never on, all the time. Static comes in periodically as pops, crashes and bangs, whereas interference is constant, while it is on.

The bothersome interference may come through the air from the outside, may come through circuits used for power, light, telephone or telegraph service, faults in electrical wiring and electrical devices within the building where the radio is located, or may arise within the radio set itself.

It is not sufficient to simply realize that some kind of interference is spoiling reception. It is quite necessary to be able to make an intelligent first guess as to the cause. About the only thing on which such a guess can be based is the kind of sounds that are heard. I will describe a few, although it is extremely difficult in some cases.

A rapid and regular clicking noise which keeps time with the frequency of the power lines may be attributed to a vibrating battery charger.

A rapid whirring noise which rises in pitch immediately after it starts and then falls in pitch as it comes to a stop may be blamed to motors and generators using commutators and brushes.

An intermittent rasping and scratching noise of varying intensity may be caused by defective insulators, accidental grounds or loose contacts in any circuit.

A loud roar which dies out after a few seconds is usually caused by the charging of a lightning arrestor.

A more or less steady and continual crackling comes from arc lamps, medical devices or any electrical device in which there is a heating coil.

A buzzing which lasts for only a few seconds at a time is generally due to vibrators, door bells, telephone bells, and so on.

A violent squeal which rises and falls in pitch when the radio dial is not being touched is caused by an oscillating and radiating regenerative radio. The changes are caused by the operator of the offending radio, because he cannot be satisfied with his lack of success in tuning and is continually trying to do the impossible by changing his controls. We would all like to murder that fellow.

A loud crashing noise which rises in intensity and finally dies away after five or ten seconds is generally caused by trolley cars, elevated or subway trains, whose trolleys, wheels or shoes are sparking, or broken bonds on rails.

Rather musical long and short dashes and dots which rise and fall in pitch are caused by radio telegraph stations. These sometimes are noticed when tuning at the highest and lowest frequencies.

A steady, rapid, sharp buzzing may be caused by the small motors used in vacuum sweepers, electric sewing machines, oil burners, and so on.

A low pitched, rather soft vibration, continuing as long as the radio is used is almost always caused by the antenna or ground wire being near the power lines

or from an improperly filtered power supply unit in the radio itself.

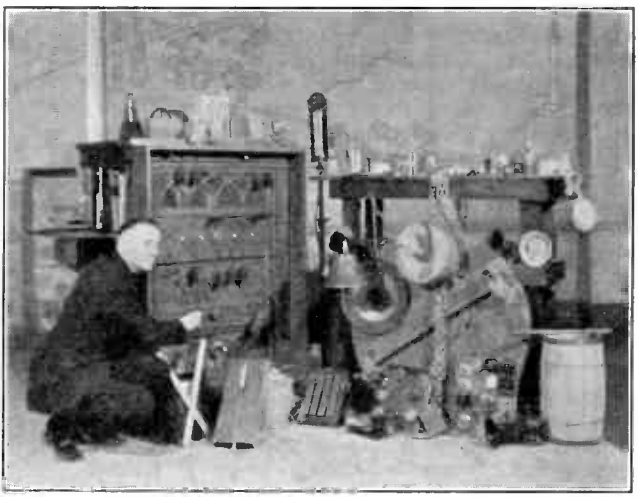
A cracking sound which recurs at regular intervals is generally due to electric sign flashers.

The first step in locating the source of an interference is to decided whether it is in the radio, electrical devices within your own home, in outside power, light, telephone or telegraph lines, or in the air.

First, disconnect your antenna. If the interference continues, disconnect the ground wire. Then connect the antenna and ground binding posts on the radio with a short piece of wire. If it still continues, the fault is very likely to be in the radio itself, unless it is an all-electric, when, of course, if the interference is bad and is in the electric circuits, it may still be heard.

If the removal of the antenna or ground stops the interference, the trouble has been coming through the air or it may be due to faults in the antenna or ground. Reconnect both of them and then go over them when the radio is in operation, moving and shaking all joints, insulators and supports. If this procedure has any effect on the interference, it indicates that there are poor connections or poor insulators in the antenna or ground circuits.

To determine whether the interference comes from the electrical equipment within your own home, wait until the offending noises are decidedly noticeable, then get a long electric cord that will reach over to your neighbor's house. Connect this cord into one of his electric light sockets. Pull the plug on your radio out of your light socket and connect it to the cord running over to the neighbors. This procedure is necessary if you have an all-electric radio so that you may have electricity to run your radio when you make the test. Having done this go to wherever your meter is located. There you will find at least one switch, which, when pulled, cuts off all the electricity in your home. With this switch pulled, and your radio running off your neighbors' electricity, if the noise stops it proves absolutely that the source of interference is in your own home.



And here we have "the Big Noise" of the CBS, Albert J. Sinton, Chief Sound Technician, who more than "doubles in brass." He is the whistle of the "Twentieth Century," the waves on the rocks, the fire-engine siren and the baying of the hounds. Some outfit!

The next step is to go over your home, carefully testing all fuses, lamps, sockets, switches, connections and so on. By a process of elimination you will find the noise. If you have more than one switch, try closing them one at a time and notice when the noise starts up again.

The location of the antenna should be checked and if it runs near to or parallel with other wires, its position must be changed so that it is as nearly

as possible at right angles to these wires. Using a shorter antenna or a lower antenna will help reduce the effect of the interference, although it will not eliminate it. The effect of the interference may be reduced by connecting a variable resistor between the antenna and ground binding posts on the radio. A variable Clarostat will do very well for this test. This will by-pass most of the low frequency to ground, but it will also greatly reduce the sensitivity and distance-getting ability of the radio. Another method is to put up an aerial of 200 feet, 300 feet, or even longer and connect it in series with a small condenser of about .00025 microfarads, although the exact capacity will have to be determined in each case by actual trial. This has the effect of giving you the increased pick up of a long aerial, thus increasing the volume of music picked out of the air, and the condenser in series gives the tuning effect of a short aerial to keep the broadcasting stations from covering too many points on your dial.

If it is finally decided that the interference is coming from outside your home, either over the power wires leading into your home, or through the air to the antenna, it is advisable to attempt to cooperate with other listeners in the neighborhood. Inquire of these neighbors whether they experience the same kind of interference and enlist their help in tracing it to its source.

Now you have heard a great deal about interference and whose job it is to find it, what are you going to do about it? Are you going to continue to sit at home having your programs absolutely ruined or are you going to take action? All too many listeners take radio programs as a service to which they are justly entitled and don't write and thank the broadcasters, but getting rid of interference is a matter where *you* will have to take action.

Why don't you take five minutes of your time to express your willingness to cooperate in getting rid of interference? Just as long as you continue to sit there on your cockle burr you are going to have pain. Then why don't you get up in arms about radio interference? Why spend your money for a radio and then get no pleasure out of it? I can tell you about all these things, but I can not act for you. That you will have to do for yourself. Are the radio fans of Fort Madison more awake than they are in your town? It would seem that way, because we got together, organized a radio council and are getting results, while you only idly talk about it. Crystalize that talk into definite action. Write me a letter and I'll send you the necessary blanks to organize a radio council. If you don't rouse yourself from your lethargy, you have no complaint coming. Go on and suffer, that is your privilege. I'm certain we aren't going to suffer in Fort Madison as you are doing.

Editor's Note—The article above is a report of a talk given by C. Hubert Anderson over Station WOC, of Davenport, Iowa. Mr. Anderson is Chairman of the Interference Committee of the Associated Radio Councils, Inc. He will answer all letters and send literature regarding organizing to combat interference. His address is Fort Madison, Iowa. Be sure to send two-cent stamp when writing.

NOCTOVISION—Or Seeing in the Dark

CLOSELY related to television comes noctovision, which one might call "seeing in the dark." It is the transmission of the image of an object in complete darkness so that it is invisible to the human eye. This is accomplished by means of a photo-electric cell and infra-red rays. The photo-electric cell is highly sensitive to infra-red rays as well as it is to visible light rays. The same process of transmission is used as in television. The advantage of the infra-red rays lies in the fact that they can penetrate fog and smoke, where visible light rays would be absorbed. It is possible to photograph persons in the dark without even their knowledge. Lenses and the wall of the photo-electric cell must be made of quartz when infra-red rays are used for this purpose as glass will not transmit them. Ultra-violet rays, which are also invisible, can likewise be used with similar results.

What is back of the

HUM in SPEAKERS?

By N. Earl Borch

A MAJORITY of the problems put up to our "Question Mill" concern the disturbing hum prevalent in so many dynamic speakers on a. c. sets. It will in time be eliminated, for every radio engineer is working on the problem. At present there is no panacea for it, although some sets are much better in this respect than others. From *Radio* we quote from an article by N. Earl Borch which will at least throw some light upon the causes of this hum, which should be interesting to our readers.

Many cases of bad a-c hum are due entirely to external causes and not to any fault of the filter system of the receiver so troubled. Although this is commonly known as "60-cycle" hum and is caused by that frequency, the hum which is heard is that of 180 cycles, the third harmonic of 60 cycles.

A 60-cycle current reverses its direction 120 times a second, the current value rising to a maximum and falling back to zero this number of times. Likewise, the magnetic field which surrounds the supply wires alternately rises to a maximum and collapses to zero 120 times a second. The third harmonic of this 60-cycle frequency, 180 cycles per second, is within the band of frequencies which are reproduced by the radio amplifier and heard by the ear.

Hum and Volume

Consequently, when any magnetic field variation at this frequency is impressed upon any sensitive part of the receiver, it may be heard as a hum in the loudspeaker. The intensity of this hum will depend entirely upon the amount of coupling between the sensitive parts of the receiver (including aerial and ground) and the strength of the magnetic, field. The greater the current flowing the greater will be the intensity of the magnetic field and the more energy pick-up may be had. Also, the closer the sensitive parts of the receiver are to the source, the greater will be the pick-up. Generally, the higher the voltage in the cirucit, the greater the power consumption, and the greater are the precautions necessary to prevent interference from such a source.

Assuming that the receiver itself is entirely free from hum, the service man is required to locate the external cause and, if possible, to eliminate its effect. In the order of their importance the most commonly found causes of such hum are as follows:

1. Improperly grounded neutral power wire of the house line.
2. Receiver too close to high tension lines carrying heavy current.
3. Coupling between aerial lead-in or ground wire with some electrical circuit carrying a heavy current.
4. Poor ground connection to the radio receiver.
5. Pick-up between any of the sensi-

The original "Boop-boop-pah-doop girl," Miss Helen Kane in one of her pensive moods. Recently guest artist on Parmount-Publix Hour over the Columbia System.

tive parts of the receiver itself and a source of heavy magnetic field variation.

6. Aerial running parallel and close to high tension lines.

7. Inside aerial running parallel to and close to wiring of the building.

8. Loudspeaker leads being coupled magnetically to electrical circuit in building.

Neutral Ground Important

If the neutral of the power wire is improperly grounded the line will be in an unbalanced condition and bad hum is often heard from the loudspeaker, particularly coming in on the carrier wave from the broadcast station. This condition may be checked by means of a test lamp, which should be rated at 220 volts. One connection from the lamp is made to the nearest water pipe, and the other connection alternately touched to the two or three wires of the service to the building. In the case of a three-wire service, the neutral wire should be the center one at the service switch, the two outside leads being known as the "hot" leads. When the lamp is connected to one of the hot leads and the water pipe it should glow at full brilliancy, just as it will when connected from one of the hot leads to the neutral. If, when connected between the hot lead and the water pipe it does not glow, the neutral wire is not grounded, and if it glows dully, the resistance between the neutral and the water pipe is too high and a new wire should be run in. This work should comply with local city ordinances pertaining to it.

If the receiver is located close to a circuit carrying a heavy electric current, the resultant magnetic field may be dense enough to induce a current into exposed sensitive parts of the receiver. (If the receiver is thoroughly shielded, this is rarely the case.) This condition may be determined by means of a compass. If the needle movement is erratic, upon bringing it near the receiver or the walls of the room, a different location must be found for the receiver in order to stop the hum.

Wherever possible, the aerial lead-in and ground wire should be run outside the building and far enough away from

(*Continued on page 25*)

Our Readers Comment on a

DX LEAGUE of the WORLD

THE article in the April issue brought us many favorable and some enthusiastic letters supporting the idea of a world-wide organization of radio listeners. Among the comments received are the following:

"I am heartily in sympathy with the proposed RADIO DX League. I think membership in it should not be individual but through affiliation with some Club, otherwise the League will be apt to become unwieldy. Time is of such tremendous importance in DX work that the machinery of the League should be made as simple as possible."—*C. M. Falconer, Maryland.*

"I took the matter of your proposed Radio DX League up with our executive committee and with the club members present at the last meeting of our club. (The Buffalo Evening News Club.) It was the consensus of opinion that such an organization would be of great benefit, not only to individuals, but to the entire radio industry. It could be made the means of a much greater cooperation between listener and broadcaster, and as a clearing house for information from both sides, should be invaluable. If the scheme could be carried through of having chapters in various cities, associated with the League, each chapter could contribute so much toward the support of the League and part of the dues of each member in the chapter could apply toward the dissemination of information in weekly or bi-monthly bulletins."—*E. K. Bame, New York.*

"You can count on my support. The fans in the different districts could QSL and exchange notes on reception in their particular location and then it would help us to get our verifications."—*R. Reid, Pelton, Ontario.*

"I think it is a great idea. You ought to have a huge membership. My suggestion is to 'precede wif de propolition'."—*D. MacMillan, Massachusetts.*

"I think it would be helpful to both the broadcaster and the listener to have such a League. The broadcaster would have a reliable source of information as to the kind of program which appeals to the listeners."—*Julian T. Dixon, Alabama.*

There were many other letters approving the suggestion and asking to be included in the membership—too many for us to reproduce or even quote. But the same article brought to light two other associations already in the field of which we were unaware. One of these is the Associated Radio Councils, Inc. whose work is mentioned in another article. The second is the National Radio Society, Inc. The former is at present concerned only with the elimination of interference and the program of the latter is still somewhat indefinite, but their primary purpose seems to be the bringing together in one organiza-

Less than five feet tall but how she can play the organ. "Ann Leaf at the Organ," is a synonym for real enjoyment. Hear her in Midnight Melodies every night over the CBS. Take our word for it, she is worth sitting up for.

tion all the various factors of radio—"listeners, manufacturers, dealers, broadcasting station operators, advertisers, and artists."

If a Radio DX League is to be organized, it must not duplicate the activities of any other organization and, as suggested by the above writers, it should have the full and hearty cooperation of already existing local clubs. If a conference could be held composed of delegates from each existing local radio-listeners' club as well as others who are greatly interested in the work, undoubtedly definite plans could be worked out for a strong organization with a real service program. Very plainly, that is the next step.

Distortion in Speakers

(Continued from page 2)

rectifier, provided, of course, this condition is not caused by poor tubes in the receiver. The latter should be tested before replacing the speaker rectifier. The average life of a dry rectifier is usually from one to two years, depending on the amount of service it has given.

Total inaudibility of reception, due to a fault in the speaker, which can easily be determined by substituting another speaker, may be due to a number of causes. The proper method of tracing the trouble to its source is to first determine whether the wall outlet is furnishing current. This will usually be the case unless a fuse of the house-lighting circuit has burned out. Then determine whether or not the speaker cord carrying this current is in good condition, for as is the case with other electrical appliances, the cord may be broken at some point. Then test the transformer for an open circuit, which may be done with the aid of a C-battery and a voltmeter, connected in series. Test across the plug for the condition of the primary winding of the transformer. If there is no reading across the two ends of the primary or the two ends of the secondary, there is an open circuit, and the winding in question is most likely burned out. The coils of the speaker, including the voice coil, must also be similarly tested for an open circuit, and finally the speaker cord. No doubt the trouble will be located with this process of elimination. However, such occurances of trouble are rare.

Distortion of reception can be caused by an improperly adjusted voice coil, an incorrect value of the coupling unit, which delivers the output of the receiver to the loudspeaker, a strain on any part of the cone causing it to respond to vibrations unequally. The cone may be damaged as already mentioned, setting up an unequal strain. Another source of distorted reception is an inadequate baffle to which the cone frame of the speaker is fastened. For good results the baffle must be at least 16 inches wide from each outer edge to the edge of the cone frame. A larger baffle is preferable but usually not practical owing to the space it requires. Be sure that the cone frame is fastened onto the baffle securely.

A. C. hum, noticeable in varying intensities, is a universal trouble experienced with dynamic speakers. Part of this hum is often traced to the receiver itself if the latter is electrically operated on the a. c. lines. If the receiver produces part of the hum, this is carried along with the regular signal and it is impossible to eliminate at the speaker end. Therefore, one should first of all determine how much of the hum comes from the set. This is done by merely substituting a sensitive speaker of the magnetic type for the dynamic speaker, which should reproduce the hum caused by the power supply of the set. The following methods will help to eliminate hum from a receiver: A 100,000-ohm fixed resistor is connected from the F-terminal of the r. f. coil preceding the detector, to the center tap of the filament-heating transformer, a .1-mfd. by-pass condenser being shunted across this resistor. A second method is to connect the center tap of the filament winding of the transformer, which supplies the 227 detector tube, to the 45-volt terminal of the B-supply, which will supply a bias of from 22½ to 45 volts on this tube. Should the hum be traced to the power stage, connect a 20-ohm, center-tapped resistor across the filament

lines running the center tap to the grid return. The dynamic speaker should then be tested for hum, which can be done by merely plugging it into the a. c. lines without connecting it to the receiver output. If an a. c. dynamic speaker is of the low-voltage type, which can be determined by testing across the output of the rectifier with a suitable voltmeter, connect a low-voltage, high-capacity condenser across the rectifier terminals. Also connect one across the terminals of the voice coil. These two methods have been found highly satisfactory for eliminating and reducing hum. Some dynamic speakers are equipped with a variable resistor connected between the voice coil and field winding, proper adjustment of this resistor being necessary to avoid hum. Obviously, the resistor may be defective, necessitating replacement.

What's Wrong with My Set?

(Continued from page 10)

noticed only when the motor starts, as such motors are of the repulsion starting, inductance type. If your switch is operated automatically by a small additional motor, considerable interference is quite likely to occur when it runs, which lasts from 20 to 100 seconds. If the contacts on your thermostat open slowly the resultant arcing also causes trouble. Adjustment of the apparatus is the remedy. Ignition interference usually lasts from 15 to 60 seconds but sometimes during the entire period of operation, it being either continuous or intermittent. After determining exactly what causes your trouble, which may be one or more of the above-mentioned ones, correspond with the Tobe Deutschmann Corp., Filterette Division, at Canton, Mass. They will gladly suggest a device that you can install to eliminate the trouble.

I have a Radiola No. 18 and have logged about 65 stations from Canada to Cuba and west to California. I can get KFI, Los Angeles, almost any night. On my dial the upper end and lower end do not bring in the stations as clearly as the center section. Can you suggest a remedy? Also tell me if my reception is good or should I expect more?

Your receiver has a slight tendency to oscillate at the extreme lower end of the dial, while like most t. r. f. receivers, signals are weak at the upper end. This can be overcome by properly adjusting the neutralizing condensers. However, by so doing you will also reduce the effectiveness of the center portion of the tuning range of your set. You are getting remarkable results and I suggest that you do not make any changes.

I have a Mastertone H. F. L. receiver, which has been O. K. until recently, when reception died down gradually at periods and then after some time, breaks in again at full volume. Can you suggest where the trouble lies?

A slow leaking by-pass condenser somewhere in your set is causing the trouble. Have all the condensers of both the receiver and the power-supply unit tested by a reputable radio service man in order to locate the defective one. The condensers should be tested for their capacity to hold a charge for several minutes. After the defective condenser has been replaced the trouble will be over.

I have an Erla Monodic, Type S-50 with a Philco A and B eliminator. At times the reception will almost fade out entirely and then come in real loud after a short time. When this occurs I notice that the tubes brighten up and then the receiver will work satisfactorily for several days. Sometimes there is loud crackling sound, which cannot be stopped by disconnecting the aerial and ground. Would a power tube be beneficial? I am also troubled with lack of selectivity occasionally.

There is undoubtedly a corroded connection on the storage battery in the Philco unit, which causes the tubes to fluctuate in brilliancy. If this is not the case there must be a broken or loose connection in the filament lines. The noise may be traced to the same cause although one of the leads on the B-supply may also be loose, causing crackling noises. A power tube would not help you to obtain greater efficiency to a noticeable extent in your case, and I would keep the present arrangement as long as the

tone quality is satisfactory. To make the set tune sharper reduce the length of the aerial and keep the A-battery fully charged. About once a year it is necessary to renew the small square jars of the B-eliminator, and the storage battery also deteriorates after considerable service.

I have a seven-tube A. C. set. Can I use a dynamic speaker with it The set is equipped with a S X280 power tube.

Yes, you can use a dynamic loudspeaker with your receiver, your output being sufficient to operate such a type of speaker. The cord of the speaker is connected in the usual way to the output terminals of the receiver, while the power cord is connected to a convenient outlet. However, there may be an a. c. hum noticeable during reception, especially if the B-power is taxed to the utmost. Be sure in all circumstances to get a speaker of the better grade as one type of dynamic varies considerably from another. Another point that must be taken into consideration is in regard to an output device. If your receiver already has an output transformer, get a speaker without one. On the other hand, if your receiver has no output transformer, get a speaker that has one.

As a reader of RADEX I would like to have some advice regarding some trouble in my radio receiver. The set is a Benjamin t. r. f. five-tube affair about four years old. I am bothered with excessive hooting and screeching when tuning in a signal. The range of the set is good. I can receive Ft. Worth, Texas, St. Petersburg, Fla., from my home in Toronto, Can. About two weeks ago the rheostat controlling the detector tube burned out and I cannot find the right connections in replacing it with a new rheostat. When I tried it the new one was entirely burned out. Will you kindly inform me?

The noise you notice when tuning in a signal is due to oscillation, a common trait of t.r.f. receivers of this type. When your tubes are old you will find it necessary to turn the volume control up higher than ordinarily. With old tubes the signal will not be amplified as it should, and naturally one turns up the volume control, which throws the set into oscillation, causing squeals. Have your tubes tested and the old ones replaced. Of course, even with new tubes, oscillation will result by turning up the volume control too far. Now in regard to the short circuit in your receiver: A rheostat must be connected in series with the tubes that it is intended to control. If such a connection is made the rheostat will not burn out unless subjected to a higher voltage than ordinarily runs through the filament lines. Of course, it is possible that there is a direct short-circuit from the A-pos. to the A-neg. line on one side of the rheostat, permitting an excessive flow of current through it, which burns it out. In your case, it is best to let a radio service man make the repair for you, which will only take a short time and will cost very little.

Letters to the Editor

(*Continued from page 12*)

meters; Orange, 26 to 50 meters; Yellow 50 to 100 meters, and Green, 100 to 200 meters.

"I very seldom use any other than the Red and Orange coils, because most of the real DX work is one on these two. The longer aerial is used for these. On the Red coil, I set my dials at 18 and 20½, for PHI, Huizen, Holland. This station is heard from 8:00 a.m. until shortly after 10:00 a.m. Eastern Standard Time, on Monday, Wednesday, Thursday, Friday and Saturday. PHI is generally very clear, but reception is not the same every day, and sometimes PHI will not be heard at all. (Also, the dial readings are apt to be different on the various Pilot short-wave sets.) At 65 and 77. I hear KGO, Oakland, Cal. (W6XN), in the evening. At 72 and 87 I hear G5SW, Chelmsford, England, each day except Saturday and Sunday, between 2:00 p.m. and 7:00 p.m. At 74 and 79 I listen to CJRX, Winnepeg, Manitoba, each evening, starting at 5:30. The wave-lengths: PHI, 16.88; KGO, 23.35; G5SW, 25.53; CJRX, 25.6.

"On the Orange coil, at dial setting 21 and 24, Germany is heard. The announcement is as follows: "Berlin, Stettin, Magdeburg, Koenigswurster-

hausen, und der Reichs Rundfunk kurzwellen sender auf welle 31.8." This station is on in the afternoons until about 6:30 p.m. EST. At 18 and 23, PCJ, Eindhoven, Holland, is heard, starting at 6:00 p.m. each Thursday and Friday night. Then, perhaps the most interesting short wave station, NRH, Heredia, Costa Rica, using 7½ watts of power, and 30.3 meters, is heard each night between 10 and 11 EST. It is surprising how clear NRH comes in at times. They are 3820 feet above sea level, and 2600 miles from New York. None of these stations are very regularly heard now.

"All of them announce in English occasionally, with the exception of the German station. I have not heard an English announcement from Germany yet.

"There is much more to hear on the short-wave receiver, but it would take too long to tell about it, and I believe this letter is long enough. I have been studying the code, and have been able to identify such calls as: DUI, XDA, TIR, KEJ, KKZ, PJZ, CMA, etc. It is very interesting, but, as must be expected, difficult."

A. H. B. Jordan, of Washington, has a peculiar problem. The immediate vicinity of his residence is so surrounded by local interference that he wants to erect his aerial on a hill six hundred feet away and then run it underground through a lead pipe to his home. He has tested the reception on the hill with a portable set and found it clear. Our technical editor points out that the portable set operating from a directional loop would naturally be more free from disturbance than a regular set and that, if the latter were used on the hill, it might be found that interference there was just as bad as at the other location. Although we know of no similar experiments, we feel sure Mr. Jordan will find that after making the change he had an aerial 700 feet long and reception would be so broad as to be worthless. We doubt that any lead covering, no matter how well grounded, would prevent the pick up of signals along its entire length. The remedy seems to us to lie in a strenuous campaign to eliminate the interference by attaching filterettes to the offending causes.

Grape Fruit Reception

"On the morning of December 27th," writes Irving K. Smith, of Maine, "I brought in station KRGV, of Harlingen, Texas. The announcer said that the grapefruit was fast ripening in the Rio Grande valley and offered to send a dozen to the most distant listener. I wrote to the station and received a card acknowledging my response. Several weeks later, to my surprise, the grapefruit arrived, express prepaid, and they were excellent! For the past five months, RADEX has been my infallible radio guide. I bought the December number at a newsstand, solved the cross-call puzzle and thus got the next issue free. I became more interested and bought the following three numbers. Please find enclosed my yearly subscription."

Cover to Cover

It is surprising how many people are getting but a small portion of the enjoyment out of their radio which it is capable of giving just because they do not understand that there is a scientific method of tuning. Milton P. Christa, of Michigan, tells of the way in which he gets the most from his radio and his RADEX. "I believe I use the book as completely as anyone could. I spend the best part of an evening checking each new issue with the one before. First I cut the tabs of the index and mark the dial numbers of my set. Then in 'What's On the Air Tonight,' I mark the stations under each feature which I receive best. Then I fill in the dial numbers on which I receive each frequency. Then I check stations I have not verified so I can see at a glance when I get a station if there is a possibility of its being a new station to me. RADEX tells me in nearly every case in two or three seconds whether or not there is such a chance. This allows me to cover many times the ground when DXing that I would be able to cover without my RADEX.

"In the list by states, I keep total number of verifications by states. In the index by call letters, I check EKKO stamps received and use this also as a

key for letters sent, answered and not answered by stations. I give each station two chances to answer. This, you see, takes me from cover to cover and gives me the most use of a book and the most real fun I ever received for twenty-five cents. I am now using a Kolster 980 ($900 list). This last winter I spent in California and took a RADEX with me from Detroit and used it with a Bosch set there. This trip to the coast certainly gave me a kick as I received sixty new stations I never heard ffom Detroit and that is something to a DXer.

"Your newest set-up showing daytime stations, etc., has been great as I had wasted many hours late at night trying to get stations which I now find were daylight stations. I have between four and five hundred Ekko stamps covering all 96 channels and many letters, books, prizes and presents from the stations. My stamps are from the United States, Mexico, Cuba, Canada, and three from Japan. I am not a youngster any more but certainly get a kid's kick out of a new station. I feel that your little book has given me help, enjoyment and saved me many hours, so I look on it as a real friend."

Station WWWW

John Malone, of Illinois, contributes the information that "The Smith Family" were tuning in a fight recently over WENR from the fictitious station WWWW and that this may have been the announcement heard by Ernest T. Bracy. John is also fifteen years old and would like to hear from DXers Robert Brady and George Lilley in order, as he says, to form a DX triumvirate of fifteen-year olds. "Speaking of DX," he says, "I have a pretty good record myself. I have logged a total of 293 stations and I haven't the use of short waves either. My best verified catch is WJBI, 100 watts, in Red Bank, N. J., over 700 miles away. Last night I was up until after eleven o'clock working this month's crossword puzzle. One letter has me stumped, but I think I can get it in time for another free RADEX. It certainly was hard to get started but once started, I just slid right through it."

Joseph Mohr, of Pennsylvania, writes that KQV puts on a Polish program every Sunday afternoon at four o'clock. This is in answer to an inquiry from Akron, Ohio.

Here is a real DX record. Henry T. Tyndall, Jr., of Vermont, writes that he has 788 verified Ekko stamps, including 58 on the Pacific coast, 10 in Mexico, 9 in Cuba, 60 in Canada. "As I have been a DX hound since early in 1924, I know a little about the value of a good log. You may be interested in knowing that RADEX is the only log I use and I consider it at least the 99.58% perfection that you claim."

New Club in Toronto

W. T. Downey, of Toronto, writes: "For the past six months I have been a reader of RADEX and I sure like it. I am especially interested in the articles on DX work so I am writing this to let you know about a DX club being formed in Toronto. It is open to members anywhere in the world and will cost them nothing. Any who wish to join need just write to the Radio Editor, The Evening Telegram, 233 Bay Street, Toronto, Ontario. He has membership cards which he will send to every member. Soon they will give different kinds of seals to those qualifying for different grades of DXers. To receive these, one will have to secure verifications from a certain number of stations over 2,000 miles distant, some over 1,500 miles, and so on. Have you received the new station in Toronto? It is CHRY, the Royal York Hotel, and broadcasts on 690 kcs. at 5000 watts.

"Is there anything out of the ordinary with the broadcasting transmitter of WCKY at Covington, Kentucky? It comes in so loud in the evenings in spite of WKBW at Buffalo which is so near here with 1480 kcs. and which comes in very well. I might add that a month ago I tuned in WFDV, at Rome, Ga., which is only 100 watts, and it came in great."

Paul S. White, of New York City, has received 192 stations from coast to coast on a Crosley Bandbox 601 battery set.

More on Short Waves

Here is a twelve-year-old reader, Robert J. Gilchrist, of New Jersey, who wants a list of the short-wave stations

it is possible to get with a regular broadcast receiver. He says he hears "loads" of them but has lonly identified two to date. Sorry, Robert, but there are no short-wave stations that *should* be heard on a broadcast set. Such a set tunes between 550 and 1500 kcs., and there are, of course, no short-wave stations on those frequencies. What you are hearing is undoubtedly harmonics—what might be called *echoes* of the short wave.

And speaking of short waves, Karl Halpern, already quoted, says the length of the aerial should not be more than fifty feet in order to get good results. And Mrs. Clara Kibblehouse, of Pennsylvania, who is an invalid and "passes many a sleepless hour by playing radio golf," writes that she finds a great deal of pleasure with her Hammarlund short-wave set. She picks up HKZ, at Bogata, South America, now and then, Here is a thought for set manufacturers. Why is it that no bright, ingenious manufacturer has yet brought out a combination short-wave and broadcast-wave receiver, or are there such of which we do not know? There are combination radio-phonographs but we know of none of the better sets which incorporates a short-wave adaptor and surely there would be a big market for them.

Mrs. Kibblehouse says, "For some reason I cannot pick up KGO (W6XN) lately. I had received them on my twenty-meter coil lower than 5SW. I wrote to them to find whether there had been a change and they sent me a verification but no answer to my inquiry." Can any of our readers advise Mrs. Kibblehouse?

D X Records

Melvin de Jager, of New Jersey, tells us he has received 309 stations in about a year, many of which were over 2,000 miles away. He received a fifty-watter KGCA, in Decorah, Iowa. And James Betz, Monroe, Mich., received CKWX, at Vancouver, a hundred-watter, which is pretty fair reception.

Some friend sends us a clipping regarding station 2-XIP, at Horseheads, N. Y., which is broadcasting, evidently without authority, on a frequency of 830 kcs. Its broadcasts are given only on Sunday, which probably accounts for the Radio Commission winking at its operation.

Guy B. Welsh, of Pennsylvania, has received a total of 45 hundred-watters. Joseph Stokes, of Pennsylvania, reports that the Cuban station CMBC has had its call changed to CMQ and is now on 1240 instead of 890 kcs. Can any of our other readers verify this?

Hum in Speakers

(*Continued from page 18*)

its walls to be separated at least one foot from all electrical circuits, particularly so if the wiring is of the open skeleton type, with porcelain knobs and tubes used to insulate the wires from surrounding walls and floors. If hum is had from receivers in apartment houses having built-in aerials, the erection of a separate aerial will be found necessary.

Many receivers will give a hum if no ground wire is used. This may be due to a poor neutral ground as explained above or to the electrical characteristics of the receiver itself. Sometimes this is reduced by reversing the attachment plug on the power input to the receiver. A pipe is not always a good ground, and, in all cases where possible, an independent ground should be used.

The CBS chain has an office boy whose job each Saturday night is to go on the air in a sort of intruding manner. The boy is Nick Corpolongo, captain of the page boys at the chain's studios. It is his job to interrupt Ted Husting with a lot of questions in the Sportslants program.

* * *

There's no telling what the inquisitive feminine will ask, particularly about Rudy Vallee. A fair inquirer wanted to know if his hair was naturally curly or whether he used a marcelling iron. Answer: Rudy's hair is his least worry. The only implements he uses are a comb and brush.

* * *

Broadcasting in Germany has been placed under control of the federal post office.

USING the CLIPPERS

on World News of Radio

By "Pretzelite"

One of our good correspondents who uses the above nom de plume, sends us so many clippings of miscellaneous bits about radio, that we are setting aside a page for his use. We are sure our readers will find this page most interesting.

Audrey Marsh, soprano, heard over the Columbia System, is only 18 years old.

* * *

A combination fountain pen and radio receiver is the invention of a Manila university student.

* * *

Chocolate fudge ranks first in the types of candy received by WLS entertainers. Angel food cake comes next.

* * *

A radio course in French is being offered as the newest course in the curriculum of the University of North Carolina.

* * *

Because of economic conditions in Australia, 2,000 radio fans have been compelled to give up their listeners' licenses.

* * *

Buenos Aires—Excellent finger prints have been exchanged by radio with Berlin police. The time of transmission was eight minutes.

* * *

The only three-minute minstrel show on the air is staged each Saturday night at WLS by the Maple City Four Quartet.

* * *

The Neon lamp used in television is capable of extinguishing and relighting itself as many as 100,000 times a second.

* * *

Helen Richards, described as "South America's only woman baritone," is participating in 14 programs over WABC each week.

* * *

Radio business is picking up in the land of the ukulele. Purchases of apparatus from the United States last year more than doubled those of 1928.

Application of ultra-short radio waves that vibrate almost as fast as infra-red rays for radio messages has been accomplished successfully by a German scientist.

* * *

Radio tubes have many names the world over. In France they are lamps, in Germany they are called "rohe," while in England and many other countries they become valves.

* * *

A Frenchman claims to have invented a piano for radio broadcasting that eliminates the twang of vibrating wires by transmitting only the pure tones when the keys are struck.

* * *

A poll of some of the listeners of WABC showed that 90 per cent of them preferred the announcement of the name of an orchestra number after it was played rather than before.

* * *

Edith Thayer, who is Jane McGrew in the CBS Showboat hour, is recovering from severe injuries sustained when her automobile overturned. She is at her mother's home in Cochaituate, Mass.

* * *

Because it takes 13 muscles to smile and 64 to frown," WBBM, Chicago station, each morning, except Sunday, broadcasts a "smile program" to keep its listeners from "overworking." The program consists of organ music by Al Carney.

* * *

Baby Rose Marie will be the next radio sensation and the first child star of the ether. The entire National Broadcasting Company is getting behind her in an endeavor to put her over so that she will attain the status of Rudy Vallee and Amos 'n' Andy.

N—National

KEY TO CHAIN STATIONS

C—Columbia

CFRB	960 C	KOL	1270 C	WBT	1080 N	WFAN	610 C	WJAX	900 N	WOC	1000 N
CKAC	730 C	KOMO	920 N	WBZ	990 N	WFBL	1360 C	WJDX	1270 N	WOW	590 N
CKGW	690 N	KPO	680 N	WBZA	990 N	WFBM	1230 C	WJJD	1090 C	WOWO	1180 C
KDKA	980 N	KPRC	920 N	WCAE	1220 N	WFI	560 N	WJR	750 N	WPG	1100 C
KDYL	1290 C	KRLD	1040 C	WCAH	1430 C	WFIW	940 C	WJZ	760 N	WPTF	680 N
KECA	1430 N	KSD	550 N	WCAO	600 C	WFJC	1450 N	WKBN	570 C	WQAM	560 C
KFAB	770 N	KSL	1130 N	WCAU	1170 C	WGHP	1240 C	WKBW	1480 C	WRC	950 N
KFH	1300 C	KSTP	1460 N	WCCO	810 C	WGN	720 N	WKRC	550 C	WREC	600 C
KFJF	1480 C	KTHS	1040 N	WCFL	970 N	WGR	550 N	WKY	900 N	WREN	1220 N
KFKX	1020 N	KTRH	1120 C	WCKY	1490 N	WGST	890 C	WLAC	1470 C	WRR	1280 C
KFI	640 N	KTSA	1290 C	WCSH	940 N	WGY	790 N	WLBW	1260 C	WRVA	1110 N
KFPY	1340 C	KVI	760 C	WDAE	1220 C	WHAM	1150 N	WLBZ	620 C	WSAI	1330 N
KFRC	610 C	KVOO	1140 N	WDAF	610 N	WHAS	820 N	WLIB	720 N	WSB	740 N
KGO	790 N	KWK	1350 N	WDAY	940 C	WHEC	1440 C	WLIT	560 N	WSM	650 N
KGW	620 N	KYW	1020 N	WDBJ	930 C	WHK	1390 C	WLS	870 N	WSMB	1320 N
KHJ	900 C	WABC	860 C	WDBO	1120 C	WHO	1000 N	WLW	700 N	WSPD	1340 C
KHQ	590 N	WADC	1320 C	WDOD	1280 C	WHP	1430 C	WMAK	900 C	WTAG	580 N
KLRA	1390 C	WAIU	640 C	WDSU	1250 C	WIBO	560 N	WMAL	630 C	WTAM	1070 N
KLZ	560 C	WAPI	1140 N	WEAF	660 N	WIBW	580 C	WMAQ	670 C	WTAR	780 C
KMBC	950 C	WBAL	1060 N	WEAN	780 C	WIOD	1300 N	WMC	780 N	WTIC	1060 N
KMOX	1090 C	WBAP	800 N	WEBC	1290 N	WIS	1010 C	WMT	600 C	WTMJ	620 N
KOA	830 N	WBBM	770 C	WEEI	590 N	WISN	1120 C	WNAC	1230 C	WTOC	1260 C
KOIL	1260 C	WBCM	1410C	WENR	870 N	WJAR	890 N	WNAX	570 C	WWJ	920 N
KOIN	940 C	WBRC	930 C	WFAA	800 N	WJAS	1290 C	WOAI	1190 N	WWNC	570 C

ENTER YOUR DIAL NUMBERS IN THESE SPACES

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

WHAT'S ON THE AIR TONIGHT?

A WEEKLY CALENDAR

Leading Features of the Network Programs

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

Programs of the National Broadcasting Company begin with WEAF and WJZ; those of the Columbia Broadcasting System with WABC.

These programs are correct to date but are subject to change daily thereafter

Daily (Except Saturday and Sunday)

6:45-8:00 Tower Health Exercises
WEAF WEEI WCAE WFI WRC WGY

8:00-8:15 The Quaker Crackels Man
WJZ WBAL KDKA WBZ WBZA

8:00-8:30 Organ Reveille
WABC WCAU WCAO WHP WJAS WFBL
WMAK WHK WKRC WGHP WKBN KOIL
KMBC WIBW KFH WBCM WSPD WMT
WWNC WBRC WDOD WREC WLAC KLRA

8:30-8:45 Morning Devotions
WABC WCAU WHP WFBL WMAK WKRC
WGHP KOIL KMBC KFH WBCM WSPD
WWNC WDBJ WBRC WDOD WREC WLAC

8:30-9:00 Cheerio
WEAF WEEI WCKY WRC WGY WGR
WJAR WTAG WCSH WCAE WWJ WOW
WDAF KSTP WPTF WAPI KPRC WFI
WSB WJAX WTAM WRVA WHAS CKGW

9:00-9:30 Something for Everyone
WABC WCAU WMAL WHP WJAS WFBL
WKBW WKRC WGHP WMAQ KMOX KOIL
WGL WBCM WSPD WMT WWNC WDBJ
WBRC WDOD WREC WLAC KLRA KLZ

10:00-10:30 Ida Bailey Allen
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WADC WHK
WKRC WGHP WOWO WBBM KMOX KOIL
KMBC WISN WCCO WSPD

10:00-11:00 National Home Hour
WEAF WEEI WJAR WTAG WCSH WFI
WRC WTAM WGY WGR WCAE WWJ
WSAI WHO KFKX WCFL

11:00-11:30 Forecast Schoo lof Cookery
WJZ WBZ WBZA WHAM KDKA WLW
KWK WREN WJR WGN

11:15-11:30 Radio Household Institute
WEAF WEEI WTAG WCSH WLIT WRC
WGY WGR WCAE WTAM WWJ WSAI
KVOO KSD WTMJ KSTP WJAR WHO
WDAF WEBC WHAS WSM WMC WSB
WAPI WSMB KPRC WOAI WKY KFKX

12:00-12:30 Columbia Revue
WABC WEAN WFAN WCAO WMAL WHP
WJAS WLBW WFBL WMAK WADC WGHP
WKBN WOWO KMBC WCCO WBCM WMT
WWNC WDBJ WBRC WFIW WDOD WREC
KLRA KLZ KHJ KFRC KFPY

12:30-1:30 Yoeng's Restaurant Orchestra
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WLBW WFBL WMAK
WADC WKRC WGHP KOIL KMBC WCCO
KFH WBCM WSPD WMT WWNC WBRC
WFIW WDOD WREC WLAC KLRA KLZ

1:30-2:00 Harold Stern and Ambassador Orchestra
WABC WEAN WLBZ WCAU WCAO WMAL
WHP WJAS WLBW WFBL WMAK WADC
WKRC WGHP WBCM WSPD WWNC WDBJ
WBRC WDOD WLAC KLRA

1:45-2:30 National Farm and Home Hour
WJZ WHAM KDKA WJR WLW KSTP
WEBC WRVA WPTF WBT WJAX WHAS
WSM WMC WSB KVOO WKY WOAI
WRC WHO WOW WDAF KPRC WJDX
WBAL WBAP WSMB WIOD KFKX KWK
WREN KOA WLS

2:45-3:45 Band of a Thousand Melodies
WJZ WBAL WJR KDKA KWK WAPI
KYW WSM

3:00-3:30 Columbia Ensemble
WCAO WMAL WHP WJAS WFBL WMAK
WADC WGHP WKBN WFBM KMOX KMBC
WISN WIBW WGL WBCM WSPD WMT
WWNV WDBJ WBRC WDOD WREC WLAC
KLRA KLZ KVI KFPY

3:30-4:00 Columbia Educational Features
WABC WCAU WCAO WMAL WHP WFBL
WMAK WADC WKRC WKBN WFBM WMAQ
KOIL KMBC WIBW WGL WBCM WSPD
WMT WWNC WDBJ WBRC WDOD WREC
WLAC KLRA KLZ KDYL KVI KFPY

4:00-5:00 U.S. Band Concert
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WFBL WMAK WADC WHK
WKRC WGHP WFBM WMAQ WBBM KMOX
KOIL KMBC WISN WIBW WGL WBCM
WSPD WMT WWNC WDBJ WBRC WDOD
WREC WLAC KLRA KLZ KDYL KFRC

7:00-7:15 Amos 'n' Andy
WJZ WBZ WBZA WHAM KDKA WIOD
WRC CKGW WJAX WRVA WPTF WBT
WJAX

11:30-11:45 Amos 'n' Andy
KYW KWK WREN WTMJ KSTP WEBC
WKY WJR KPRC WOAI KOA KSL
WDAF WMAQ KECA KGO KOMO KGW
KHQ WHAS WSM WMC WSB WSMB
WBAP WCKY WJDX KFAB KTHS WLW

Sunday

1:30-2:00 The Aztecs
WNAC WLBZ WCAU WCAO WMAL WHP
WKBW WADC WGHP WOWO WCCO WSPD
WWNC WTAR KLRA KLZ KVI KFPY
WDAY

2:00-3:00 Ballad Hour
WLBZ WCAU WCAO WHP WFBL WKBW
WADC WKRC WGHP WKBN KMBC WISN
WCCO WIBW WBCM WSPD WMT WWNC
WDBJ WBRC WFIW WDOD WLAC KLRA
KLZ KVI KFPY

2:00-3:00 Roxy Symphony Concert
WJZ WBZA WBZ WBAL KDKA WLW
KYW WRC WFAA WEBC KFAB CKGW
WHAS KSTP

3:00-3:30 Ann Leaf At the Organ
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WKBW WADC WKRC
WKBN WOWO WMAQ KMBC WISN WCCO
WBCM WSPD WMT WWNC WTAR WBRC

WFIW WLAC KLRA KLZ KDYL KVI
KFPY WDAY

3:00-4:00 National Youth Conference
WJZ WBAL WRVA WPTF WSB WOAI
KFAB KDKA WLW KWK WREN KVOO
KPRC KSL KGO KGW KOMO WBT
WFAA WAPI WJAX

3:30-4:00 Conclave of Nations
WABC WLBZ WCAU WCAO WMAL WHP
WJAS WFBL WKBW WADC WHK WKRC
WGHP WKBN WOWO WFBM WMAQ KOIL
KMBC WISN WCCO WIBW KFH WBCM
WSPD WMT WWNC WDBJ WBRC WFIW
WDOD WREC WLAC KLRA KLZ KVI

4:00-5:00 Cathedral Hour
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WLBW WFBL WKBW
WADC WHK WKRC WGHP WKBN WOWO
WFBM KMOX KOIL KMBC WISN WCCO
WIBW KFH WBCM WSPD WMT WWNC
WDBJ WBRC WFIW WDOD WREC WLAC
KLRA KLZ KDYL KVI KFPY

4:00-5:00 Dr. S. Parkes Cadman
WEAF WEEI WJAR WTAG WCSH WGY
WGR WCAE WOW WRVA WPTF WJAX
WBT WSM WMC WSB WKY WOAI
KGO KOMO KHQ WSAI WHAS WAPI
KVOO KPRC KOA WEBC KGW WFJC

5:00-5:30 Joint Recital
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WLBW WKBW WADC
WHK WKRC WGHP WKBN WOWO KMOX
KOIL KMBC WISN WCCO WIBW KFH
WBCM WSPD WMT WWNC WTAR WBRC
WFIW WREC KLRA KLZ KDYL KHJ
KVI KFPY WLAC

5:00-6:00 Davey Hour
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WGR WCAE WFJC WSAI
KSD WOW WDAF WTAM WENR WOC

5:00-6:00 National Religious Service
WJZ WBZ WBZA WBAL WHAM KFAB
WLW KWK WEBC WJAX WSMB KOA

5:30-6:00 Sermon by Rev. Donald Grey Barnhouse
WABC WEAN WNAC WCAU WCAO WMAL
WHP WJAS WLBW WFBL WKBW CFRB
WADC WKRC WGHP WOWO WFBM WMAQ

6:00-7:00 Catholic Hour
WEAF WEEI WJAR WTAG WCSH WRC
WGY WWJ KSD WEBC WBT WIOD
WSM WAPI WKY WJDX KGO KPO
KHQ KOMO KGW WSAI WHO WLIT
WGR KOA WFJC CKGW

6:30-7:00 The Gauchos
WABC WCAU WMAL WHP WJAS WLBW
WFBL WKRC WGHP WKBN WOWO KMOX
KOIL KMBC WIBW WMT WWNC WDBJ
WDOD KLRA KLZ KFPY

7:00-7:30 Iodent Big Brother Club
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WGR WCAE WFJC WWJ
WSAI WLS KSD WHO WOW WDAF

7:00-7:30 The Globe Trotter
WFAN WMAL WHP WJAS WFBL WKBN
KMOX WISN WIBW WBCM WSPD WMT
WWNC WDBJ WFIW WDOD KLRA KLZ
KFRC KVI KFPY

7:30-7:45 Twinplex Twins
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WHEC WADC WKRC
WGHP KMOX KOIL WJJD

7:30-8:00 Williams' Oilomatics
WJZ WBZ WBZA WBAL WJR WGN
KWK KOA KSL WHAM WLW WREN

7:30-8:30 Major Bowes' Family
WEAF WJAR WRC WGY WCAE WWJ
WSAI WJDX KSD WOW WFJC WIOD
WHAS WMC WSB WKY WTAM KTHS
WOAI WSMB KSTP WCSH WTMJ WHO

7:45-8:00 The World's Business
WABC WEAN WNAC WCAO WMAL WJAS
WLBW WFBL WADC WKRC WGHP WKBN
WMAQ KMOX KOIL KMBC WISN WCCO
WIBW WGL WBCM WMT WWNC WDBJ
WFIW WDOD WREC KLRA KLZ KDYL

8:00-8:15 Enna Jettick Melodies
WJZ WBZ WBZA WHAM WKY WJR
KWK WREN WFAA KPRC WOAI WHAS
WSM WTMJ KSTP WMC KOA KYW
WEBC WIOD KTHS WSMB KPO KOMO
KFI KGW KSL CKGW WJDX KDKA

8:00-8:30 La Palina Rhapsodizers
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WADC WHK
WKRC WGHP WFBM KMOX KOIL KMBC
WISN WJJD WSPD

8:15-9:15 Collier's Radio Hour
WJZ WBZ WBZA WHAM KDKA WJR
KYW KWK WREN KOA KSL KGW
KOMO KHQ KPO KFI WCKY

8:30-9:00 Chase and Sanborn Choral Orchestra
WEAF WJAR WTAG WCSH WRC WGY
WGR WCAE WFJC WAPI WWJ WSAI
KSD WOW WLS WDAF WIOD WHAS
WEBC WMC WSB CKGW WSMB WKY
KTHS KPRC WOAI WBT WTMJ WJDX
WTAM KSTP WLIT WIBO WHO WPTF

8:45-9:00 Liberty Bell Filling Station—Chic Sale
WABC WADC WCAO WNAC WMAK WBBM
WKRC WHK WGHP WOWO KMBC WLBW
KOIL WCAU WJAS KMOX WFBL WSPD
WMAL WHP WFBM WHEC WGST KTRH
WFIW WISN WWNC WTAR WDBJ WBRC
WDOD WREC WDSU WRR KFJF KTSA

9:00-9:15 "Our Government"
WEAF WJAR WTAG WCSH WRC WGY
WCAE KSD WHAS WKY WSAI WFJC
WSB WBT WMC WSM WFAA WOW
WOAI WWJ WSMB WTIC WEBC RVA
WJDX KVOO WLIT WOC WPTF

9:00-10:00 Majestic Theatre of the Air
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WDEL CFRB
CKAC WADC WHK WKRC WGHP WOWO
WFBM WBBM KMOX KOIL KMBC WISN
WCCO WIBW WSPD WWNC WSAZ WTAR
WDBJ WBRC WDOD WREC WLAC WDSU
KRLD KLRA KFJF KTSA KLZ KDYL
KHJ KFRC KOL KOIN KFPY CNRO

9:15-9:45 Canadian Pacific Ballad Operas
WJZ WBZ WBZA WHAM KDKA WJR
KWK WREN WCKY KYW

9:15-10:15 Atwater Kent Hour
WEAF WEEI WRC WFI WGY WGR
WCAE WTAM WWJ WSAI WGN KSD
WOW KSTP KOA KSL KFI KGW
KOMO KPO KHQ WSM WMC WSB
WFAA KPRC WOAI WKY WSMB WBT
WHAS WDAF WHO

10:00-10:30 Will Rogers
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WKBW WADC WHK
WKTC WGHP WOWO WBBM KMOX KOIL
KMBC WSPD WWNC WBRC WLAC WRR
KLZ KDYL KHJ KFRC KOIN KFPY
KOL

10:15-11:15 National Oratorio Society
WJZ KWK WHAM KDKA CKGW WSMB
WREN

10:15-10:45 Studebaker Champions
WEAF WTIC WTAG WFI WCSH WRC
WGY WGR WCAE WTAM WWJ WGN
KSTP WJAR WTMJ WEBC KOA KGO
KGW KOMO KFI KHQ WOW WEEI
WDAF WFJC WSAI WHO

10:30-11:00 Around the Samovar
WABC WEAN WNAC WCAO WMAL WHP
WJAS WLBW WFBL WMAK WKBW WADC
WHK WKRC WGHP WKBN WFBM KMOX

KOIL KMBC WISN KFH WSPD WMT
WDBJ WFIW WDOD WLAC KLRA KLZ
KDYL KHJ KFRC KVI KFPY

10:45-11:15 Sunday at Seth Parker's
WEAF WCAE WHAS WJAX WOW WKY
WWJ WFJC WGY WRC KOA KGO
WEEI WIOD WGR KPRC WMC WSB

11:00-12:00 Back Home Hour
WABC WMAL WHP WLBW WKBW WADC
WGHP WKBN WFBM WISN WCCO KFH
WBCM WSPD WDBJ WFIW WDOD WREC
KLRA KFPY WHK

11:15-11:45 Russian Cathedral Choir
WEAF WJAX WWJ WOW WBAP WGY
KSTP WRC WGR WMC WHO

Monday

11:15-11:30 Senator Arthur Capper
WABC WEAN WNAC WLBZ WCAO WMAL
WJAS WLBW WFBL WMAK WGHP KMBC
WIBW WBCM WSPD WWNC WDBJ WFIW
WDOD WREC KLRA KDYL KVI KFPY

11:30-11:45 Children's Corner
WABC WEAN WNAC WLBZ WCAO WMAL
WHP WJAS WLBW WFBL WMAK WGHP
WKBN KMBC WBCM WMT WWNC WDBJ
WFIW WDOD WREC KLRA KLZ KHJ
KFRC KVI KFPY

11:45-12:00 Three Men In a Tub
WABC WEAN WNAC WLBZ WCAO WMAL
WHP WJAS WLBW WMAK WADC WKBN
KMOX KOIL KMBC KFH WBCM WSPD
WWNC WDBJ WREC KLRA WDAY

2:00-2:30 The Honoluluans
WABC WLBZ WFAN WCAO WMAL WHP
WJAS WFBL WMAK WADC WGHP WKBN
WFBM WBBM KOIL WISN WBCM WSPD
WMT WWNC WDBJ WBRC WDOD WREC
WLAC KLRA KLZ KDYL KHJ KFPY

2:30-3:00 Ann Leaf at the Organ
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WFBL WMAK WADC
WHK WKRC WGHP WKBN WOWO WFBM
WBBM KOIL KMBC WISN WIBW KFH
WBCM WSPD WMT WWNC WDBJ WBRC
WDOD WREC WLAC KLRA KLZ KDYL
KHJ KVI KFPY

4:00-4:15 Moxie Hostess Program
WEAF WFI WRC WGY WGR WCAE
WFJC WSAI WTAM

5:00-5:30 Tea Time Troubadours
WABC WFAN WCAO WMAL WHP WMAK
WADC WGHP WBBM KOIL KMBC WISN
WIBW WBCM WSPD WMT WWNC WTAR
WDBJ WBRC WREC WLAC KLRA KLZ
KDYL KFRC KVI KFPY WDAY

6:00-6:30 Harry Tucker and His Orchestra
WABC WHP WLBW WFBL WMAK WADC
WKBN WBBM KMBC WGL KFH WBCM
WMT WDBJ WBRC WFIW WDOD WREC
KLRA KLZ KVI KFPY

6:00-6:30 Mormon Tabernacle Choir
WJZ WBAL WSM KWK KOA KSL
KGO KOMO KFAB WAPI KDKA KSTP
WREN WRVA WIBO KGW KPO WLW

7:15-7:30 The World Today
WEAF WJAR WCSH WFI WRC WCAE
WWJ WSAI KSD WEBC WBT WSB
WSMB WOAI WJDX KSTP

7:30-8:30 Roxy and His Gang
WJZ WBZ WREN WBZA WHAM KWK
WSB WSM WSMB WPTF WIBO WJDX

7:45-8:00 Bernard Levitow's Ensemble
WABC WLBZ WHP WJAS WLBW WFBL
WHK WGHP WFBM KMBC WISN WIBW
WBCM WMT WWNC WDBJ WBRC WFIW
WDOD WREC WLAC KLRA KLZ KVI
KFPY

7:30-8:00 Colonial Beacon Lights
WEAF WEEI WJAR WTAG WCSH WGR
WGY

8:00-8:30 Henry-George
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WADC WHK
WKRC WGHP WFBM WMAQ KMOX KOIL
KMBC WISN WCCO WGL KFH WSPD

8:00-8:30 Voice of Firestone
WEAF WEEI WTIC WJAR WTAG WCSH
WLIT WRC WGY WGR WCAE WWJ
WSAI KSD WOC WOW WDAF WIOD
KTHS WSMB KSTP WTMJ WEBC WJAX
WHAM WSM WMC WSB WBT WRVA
KVOO KPRC WOAI WKY WFJC WTAM
WFAA WJDX CKGW KYW WPTF

8:30-9:00 Family Goes Abroad
WJZ WJR WBT KDKA WJAX WMC
WJDX KOA WSMB CKGW WHAM WREN

8:30-9:00 Ceco Couriers
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WADC WHK
WKRC WGHP WFBM WMAQ KMOX KOIL
KMBC WCCO WSPD

8:30-9:30 A. & P. Gypsies
WEAF WEEI WTIC WJAR WTAG WCSH
WLIT WRC WGY WGR WCAE WWJ
WSAI WGN KSD WOC WDAF WTAM

9:00-9:30 Maytag Orchestra
WJZ WBZ WBZA WHAM KDKA WJR
KYW KWK WREN KSTP WEBC WSM
WMC WSB WSMB KVOO WKY KTHS
KPRC WOAI KOA KSL WCKY WJDX
KGO KECA KGW KHQ KOMO

9:00-9:30 Physical Culture Magazine Hour
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WADC WHK
WKRC WGHP WMAQ KMOX KOIL KMBC

9:30-10:00 Chesebrough Real Folks
WJZ WBZ WBZA WHAM KDKA KWK
KYW WLW WJR CKGW WREN

9:30-10:00 General Motors Family Party
WEAF WEEI WTIM WJAR WCSH WTAG
WLIT WRC WGY WGR WCAE WTAM
WWJ WGN KSD WOC WOW WDAF
KSTP WSAI WTMJ WHAS WSM WMC
WSB WBT WJAX WFAA KPRC WOAI
WKY KOA KSL KGO KFI KGW

9:30-10:00 An Evening in Paris
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK CFRB WADC
WHK WKRC WGHP WOWO WMAQ KMOX
KOIL KMBC WSPD

10:00-10:30 Stromberg-Carlson Program
WJZ WBZ WBZA WHAM KDKA WJR
KYW KWK WREN WTMJ WEBC WRVA
WBT WJAX WIOD WHAS WSM WMC
WSB WAPI WSMB WKY KTHS WBAP
KPRC WOAI KOA KGO KFI KGW
KHQ KOMO WJDX KSTP

10:00-10:30 Ovaltine Plane of Dreams
WEAF WEEI WJAR WTAG WCSH WLIT
WRC WGY WGR WCAE WWJ WSAI
WIBO KSD WOC WOW WDAF

10:00-10:30 Robert Burns' Panatela Program
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WADC WHK
WKRC WGHP WOWO WFBM WMAQ KMOX
KOIL KMBC WSPD

10:30-11:00 Empire Builders
WJZ WBZ WBZA WHAM KDKA WJR
KYW KWK WREN WTMJ KSTP WLW
WEBC WKY WFAA KPRC WOAI KOA
KSL KGO KFI KOMO KHQ KGW

10:30-11:00 Sign of the Shell
WEAF WEEI WTIC WJAR WTAG WCSH
WLIT WRC WGY WGR WCAE WWJ
WSAI WENR KSD WOC WOW WDAF

WRVA WPTF WBT WJAX WIOD WHAS
WSM WMC WSB WSMB WJDX WTAM

10:30-11:00 Jesse Crawford
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WLBW WMAK WADC
WHK WGHP WOWO WMAQ KOIL KMBC
WISN KFH WBCM WSPD WMT WWNC
WTAR WDBJ WBRC WFIW WREC WLAC
KLRA KLZ KDYL KFRC KVI KFPY
KOL WDAY

11:00-11:30 The Columbians
WABC WEAN WNAC WCAU WCAO WMAL
WLBW WFBL WMAK WHK WKRC WGHP
WKBN WOWO WFBM KOIL KMBC WISN
WCCO WIBW KFH WBCM WSPD WMT
WWNC WDBJ WFIW WDOD WREC KLRA
KLZ KDYL KFPY

11:30-12:00 Roy Ingraham's Paramount Orchestra
WABC WEAN WCAO WMAL WLBW WFBL
WKBW WADC WGHP WKBN WOWO WFBM
KOIL KMBC WISN WIBW KFH WBCM
WSPD WMT WWNC WDBJ WBRC WFIW
WDOD WREC KLRA KLZ KDYL KFPY

11:45-12:00 Literary Digest Prohibition Poll
KWK WENR WREN KFAB KSTP WEBC
WTMJ WHAS WSM WMC WSB WJDX
WAPI WSMB KPRC WFAA WOAI WKY

Tuesday

9:30-9:45 U.S. Army Band Concert
WABC WMAL WHP WLBW WFBL WKBW
WGHP WBBM KMOX KOIL WGL WBCM
WSPD WWNC WDBJ WBRC WFIW WDOD
WREC WLAC KLRA KDYL

10:30-10:45 O'Cedar Time
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WKBW WADC WKRC
WGHP WOWO WBBM KMOX KOIL KMBC
WISN WCCO WSPD WGST WBRC WDOD
WREC WLAC WDSU KRLD KFJF KLRA
KTRH KTSA WPG

11:00-11:15 "Your Child"
WEAF WRC WOC WGY WWJ KSD
WSM KSTP WJAR WTAG WCSH WCAE
WSAI WEBC WPTF WBT WJAX WIOD
WHAS WKY KTHS

11:00-11:15 Air-Way House Cleaning
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WHEC WKBW WADC
WKRC WGHP WOWO WFBM WBBM KMOX
KOIL KMBC WSPD

2:30-3:00 The Aztecs
WABC WEAN WFAN WCAU WCAO WMAL
WHP WJAS WLBW WFBL WKBW WADC
WGHP WKBN WOWO WFBM WISN WBCM
WSPD WMT WWNC WDBJ WBRC WDOD
WREC WLAC KLRA KLZ KDYL KFPY

5:30-6:00 Bert Lown Biltmore Orchestra
WFAN WCAO WMAL WHP WJAS WKBW
WADC WGHP WOWO KOIL KMBC WISN
WBCM WSPD WMT WWNC WDBJ WBRC
WREC WLAC KLRA KLZ KDYL KFRC
KVI KFPY WDAY

6:30-6:45 Huston Ray Manhattan Towers Orchestra
WABC WMAL WHP WJAS WLBW WKBW
WGHP WOWO KMBC KFH WBCM WSPD
WMT WWNC WTAR WREC KLRA KLZ
WDAY

6:45-7:00 Literary Digest Prohibition Poll
WJZ WBZ WBZA WLW WHAM KDKA
WJR WRVA WPTF WBT WJAX WIOD

7:00-7:30 Bernhard Levitow's Commodore Ensemble
WLBZ WCAO WMAL WHP WJAS WLBW
WKBW WKBN WBCM WMT WDBJ WBRC
WDOD KLRA KLZ KFRC KVI KFPY

7:00-7:30 Voters' Service
WEAF WJAR WTAG WCSH WGR WWJ
WSAI WOW WDAF WEBC WHAS WMC
WSMB WFAA WSB WOAI KGO KGW
KOMO KHQ KOA WHO WJDX

7:30-8:00 Soconyland Sketches
WEAF WEEI WJAR WTAG WCSH WGY

8:00-8:30 Troika Bells
WEAF WFI WRC WCAE WWJ WSAI
CKGW

8:00-8:30 Pure Oil Orchestra
WJZ WBAL WHAM KDKA WJR KYW
KWK WREN KSTP WTMJ WEBC WHAS
WMC WBT WJAX WRVA WSM WSB
WCKY WIOD KFAB WJDX

8:00-8:30 Blackstone Program
WABC WEAN WNAC WCAU WCAO WMAL
WHP WJAS WLBW WFBL WHEC WKBW
WGHP KOIL KMBC WRHM WMT

8:30-9:00 Romany Patteran
WABC WEAN WNAC WCAU WCAO WMAL
WHP WJAS WLBW WFBL WKBW WADC
WHK WKRC WKBN KMOX KOIL KMBC
WIBW WBCM WSPD WDBJ WBRC WDOD
WREC WLAC KLRA KLZ KFPY

8:30-9:00 Around the World with Libby
WJZ WBZ WBZA WBAL WHAM KDKA
WJR WLW KWK KYW WHAS WSM
WMC WSB WSMB KOA KSL KGO
KGW KOMO KHQ KECA WREN

9:00-9:30 Eveready Program
WEAF WEEI WFI WRC WGY WGR
WCAE WTAM WWJ WGN KSD WHO
WDAF WHAS WSM WMC WSB WJAR
KOA KSL KGO KFI KGW KOMO
KHW WSMB WJDX WCSH WFJC WSAI

9:00-9:30 Johnson and Johnson
WJZ WBZ WBZA WBAL WHAM KDKA
KYW KWK WLW CKGW WREN

9:00-10:00 Mardi Gras
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WLBW WKBW WADC
WHK WGHP WKBN WBBM KMOX KOIL
KMBC WISN WCCO WIBW KFH WBCM
WSPD WMT WWNC WTAR WDBJ WBRC
WFIW WREC WLAC KLRA KLZ KFRC
KVI KFPY

9:30-10:00 Sunoco Show
WJZ WBZA WBAL WHAM KDKA WJR
WCKY KYW CKGW

9:30-10:00 Happy Wonder Bakers
WEAF WJAR WEEI WTAG WCSH WRC
WGY WGR WCAE WTAM WFJC WWJ
WSAI WIBO KSD WHO WOW WDAF
WTMJ KSTP WEBC WRVA WHAS WMC
WSB WSMB KVOO WKY WOAI KOA
KSL WJDX KGO KOMO KECA KGW
KHQ WBAP WFI

10:00-10:15 Enna Jettick Songbird
WEAF WEEI WJAR WTAG WTAM WCSH
WFI WRC WGY WGR WCAE WFJC
WWJ WSAI WIBO KSD WOW WDAF
WHO

10:00-10:30 Westinghouse Salute
WJZ WBZ WBZA WBAL KDKA WJR
KYW KWK WEBC WBT WJAX WHAS
WSM WMC KECA WAPI WSMB KGW
KPRC KOA KSL KGO KHQ KOMO
WHAM WREN WRVA WKY WOAI WSB

10:00-10:30 Graybars, "Mr. and Mrs."
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WKBW WADC WHK
WKRC WGHP WKBN WOWO WFBM WBBM
KMOX KOIL KMBC WISN WCCO WIBW
WSPD WWNC WTAR WDBJ WGST WBRC
WDOD WREC WLAC WDSU KRLD KLRA
KFJF KTSA KLZ KDYL KHJ KFRC
KOL KOIN KFPY

10:15-10:30 Breen and de Rose
WEAF WEEI WJAR WTAG WFI WCAE
KSD WCSH WWJ

10:30-11:00 Grand Opera Concert
WABC WEAN WNAC WCAO WMAL WHP

WJAS WLBW WFBL WKBW WHK WKRC
WKBN WFBM WBCM WWNC WDBJ WBRC
WFIW WDOD WREC WLAC KLRA KFPY

10:30-11:30 Radio-Keith-Orpheum Hour
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WGR WCAE WFJC WWJ
WSAI KSD WHO WOW WAPI WSMB
WFAA KPRC WOAI WKY KTHS KOA
KSL KGO KGW KOMO KHQ WIBO
WTAM WJDX WTMJ KSTP WRVA WBT
WJAX WIOD WHAS WSM WMC WSB
WDAF WEBC KECA

11:15-12:00 Ted Weems and His Orchestra
WABC WEAN WFAN WCAO WMAL WHP
WLBW WFBL WKBW WGHP KOIL KMBC
WISN WIBW KFH WBCM WSPD WMT
WDBJ WBRC WFIW WDOD WREC KLRA
KLZ KDYL KFPY

11:30-12:00 Phil Spitalny's Music
WEAF WFI WGR WFJC WWJ WOW
KSD CKGW WDAF

12:00-12:30 Anson Weeks' Hotel Roosevelt Orchestra
WABC WEAN WNAC WLBZ WCAU WHP
WADC WGHP KOIL KMBC WISN WCCO
WIBW KFH WBCM WSPD WMT WWNC
WTAR WDBJ WBRC WFIW WREC KLRA
KLZ KDYL KVI KFPY WDAY

Wednesday

10:30-11:00 U. S. Navy Band Concert
WABC WEAN WNAC WCAU WCAO WHP
WJAS WLBW WMAK WADC WGHP WOWO
WBBM KMOX KOIL WBCM WSPD WWNC
WDBJ WLAC KLRA KDYL

2:00-2:30 Syncopated Silhouettes
WABC WEAN WNAC WCAU WCAO WMAL
WHP WJAS WFBL WMAK WADC WHK
WKRC WGHP WKBN WFBM WBBM KOIL
KMBC WISN WIBW WGL KFH WBCM
WSPD WMT WWNC WDBJ WBRC WDOD
WREC WLAC KLRA KLZ KDYL KVI
KFPY

4:00-5:00 Radio Guild
WJZ KWK WJAX KOA KOMO CKGW
KTHS WSM WIOD WPTF WHAM WBAL
WBAP KFAB WAPI KSL KGO

5:00-5:15 Columbia Grenadiers
WABC WEAN WFAN WMAL WHP WFBL
WMAK WGHP WKBN WMAQ KMOX KMBC
WISN WCCO WSPD WMT WWNC WDOD
WREC KLRA KLZ

5:15-5:45 Footnotes—Dance Orchestra
WFAN WCAO WMAL WHP WJAS WADC
WGHP WBBM KOIL KMBC WISN WIBW
WGL WBCM WSPD WMT WWNC WTAR
WDBJ WBRC WREC WLAC KLRA KLZ
KDYL KFRC KVI WDAY

6:00-6:15 "Going to Press"
WABC WLBW WFBL WADC KMBC KFH
WBCM WMT WWNC WDBJ WFIW WDOD
WREC KLRA KLZ KDYL KVI KFPY

6:15-6:30 Heywood Broun's Radio Column
WABC WMAL WLBW WGHP WKBN WISN
KFH WBCM WSPD WMT WWNC WREC
KLRA KLZ WDAY

6:30-7:00 Roy Ingraham's Paramount Orchestra
WABC WHP WJAS WIBW WFBL WMAK
WKRC WKBN KOIL KMBC WGL KFH
WBCM WWNC WDBJ WBRC WFIW WDOD
KLRA KLZ KFRC KVI KFPY

7:15-7:45 Bernhard Levitow and His Ensemble
WABC WLBZ WMAL WHP WJAS WLBW
WMAK WHK WFBM KOIL WISN WCCO
WGL WBCM WMT WWNC WDBJ WBRC
WDOD KLRA KLZ KHJ KFRC KVI

7:45-8:00 Adventures of Colonel Powell
WABC WLBZ WLBW WFBL KMBC WCCO
WBCM WMT WWNC WDBJ WDOD WLAC
KLRA KLZ KHJ KFRC KVI KFPY

7:45-8:00 Wilbur Coon Players
WEAF WTIC WJAR WTAG WCSH WRC
WGY WGR WCAE WFJC WWJ WSAI
WIBO KSD WOC WOW WDAF

8:00-8:30 In a Russian Village
WABC WEAN WNAC WLBZ WCAO WHP
WJAS WLBW WKBW WADC WKRC WMAQ
KOIL WISN WBCM WMT WWNC WTAR
WDBJ WBRC WFIW KLRA KLZ KHJ
KFRC KVI KOL WDAY

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

8:30-9:00 Forty Fathom Trawlers
WABC WEAN WNAC WCAU WCAO WMAL
WHP WJAS WLBW WFBL WHEC WKBW
WADC WHK WKRC WGHP WFBM WMAQ
KMOX WGL WSPD

8:30-9:00 Mobiloil Concert
WEAF WEEI WJAR WTAG WCSH WLIT
WRC WGR WCAE WWJ WSAI KSD
WOC WOW WFJC WTAM KOA KVOO
WFAA KPRC WOAI WKY KSL WTIC
WGY WGN KSTP WEBC WTMJ

8:30-9:00 Sylvania Foresters
WJZ WBZ WBZA WHAM KDKA KWK
WREN KYW KFAB

9:00-9:15 Wadsworth Program
WJZ WBZ WBZA WHAM KDKA WJR
WLS KWK WREN

9:00-9:30 Van Heusen Program
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WADC WHK
WKRC WGHP WOWO WMAQ KMOX KOIL
KMBC WSPD

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

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

9:30-10:00 Frontier Days
WJZ KDKA WREN WHAM WIBO KWK

9:30-10:00 La Palina Smoker
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WMAK WADC WHK
WKRC WGHP WOWO WMAQ KMOX KOIL
KMBC WISN WCCO WSPD WREC

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

10:00-10:30 Golden Gems
WJZ KDKA WHAM WJR

10:30-11:00 Cuckoo
WJZ KDKA WCKY WIBO WREN KWK
WBZ WBZA WHAM CKGW

10:30-11:00 Coca Cola Topnotchers
WEAF WEEI WTIC WJAR WTAG WCSH
WLIT WRC WGR WCAE WWJ WSAI
KYW KSD WOC KSTP WEBC WRVA
WBT WJAX WIOD WSM WMC WSB
WAPI WSMB WKY KTHS KPRC WOAI
KOA KSL KGO KECA KGW KHQ
KOMO WJDX WGY WDAF CKGW WPTF
WVOO CKGW

11:00-11:30 Mystery House
WEAF WJAR WCAE WTAG WRC WGR
WWJ KSD WOC WDAF WEBC WJDX

11:00-12:00 The Merrymakers
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WADC WKRC WGHP WOWO KMOX
KOIL KMBC WISN WCCO WIBW WBCM
WSPD WMT WWNC WTAR WDBJ WBRC
WFIW WREC WLAC KLRA KLZ KDYL
KVI KOL WDAY WLBW

12:00-12:30 Royal York Dance Orchestra
WJZ WBZ WBZA WHAM KDKA WJR
WLW WIBO KWK WREN KFAB

Thursday

11:00-11:15 Boni and Ami
WEAF WJAR WTAG WCSH WLIT WRC
WGY WGR WCAE WTAM WWJ WSAI
KYW KSD WOC WDAF WTMJ KSTP
WEBC WRVA WBT WJAX WIOD WHAS
WSM WMC WSB WAPI WSMB KVOO
WKY KTHS KPRC WOAI CKGW WJDX
KOA KSL KPO KGO KFI KOMO
KGW KHO

11:30-11:45 Du Barry Beauty Talk
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WKBW WADC WHK
WKRC WGHP WAIU WOWO WBBM KOIL
KMBC WISN WSPD

4:00-5:00 U.S. Army Band
WJZ WJR WCFL WSM KWK WREN
WLW KOA KGO KOMO WRC WBZ
WBZA KSTP WSM KGW KOMO

5:00-5:30 Radio-Keith-Orpheum Program
WEAF WEEI WTIC WJAR WCSH WLIT
WRC WCAE WFJC WSAI KSD WOC
WOW WTAG WGY WWJ WDAF WGR
WTAM KYW

5:15-5:30 Bert Lown's Biltmore Orchestra
WABC WFAN WCAO WMAL WHP WFBL
WKBW WGHP WKBN WOWO KMOX KMBC
WISN WCCO KFH WBCM WMT WWNC
WDOD WREC KDYL

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

6:00-6:30 Hotel Shelton Orchestra
WABC WHP WLBW WFBL WKBW WADC
WHK WOWO WBBM KMBC KFH WBCM
WMT WWNC WDBJ WBRC WFIW WDOD
WREC KLRA KLZ KVI KFPY

7:00-7:30 Mid-Week Federation Hymn Sing
WEAF WCSH WMC WJAR WIBO WJDX
WWJ WHAS

7:30-8:00 In the Nation's Capital
WEAF WSMB WOIA WEBC WMC WJAR
WTAG WRC WSAI WIBO WJDX KOA
KPO KGO KGW KECA KOMO KHQ
WJAX WBT KPRC

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

8:00-8:30 Columbia Educational Feature
WABC WEAN WNAC WFAN WCAO WMAL
WJAS WLBW WFBL WKBW WHK WKRC
WGHP WKBN WOWO WFBM KOIL WISN
WCCO WIBW KFH WBCM WMT WWNC
WDBJ WFIW WDOD WREC WLAC KLRA
KLZ KDYL KHJ KFRC KFPY

8:00-9:00 B. A. Rolfe Lucky Strike Dance Orchestra
WJZ WBAL WHAM KDKA WJR KYW
KWK WREN

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

8:30-9:00 U. S. Marine Band Concert
WABC WEAN WNAC WLBZ WCAO WMAL
WHP WJAS WLBW WKBW WADC WKRC
WGHP WKBN WOWO WBBM KOIL KMBC
WCCO WIBW KFH WBCM WWNC WTAR
WDBJ WFIW KLRA KLZ KHJ KFRC
KVI KFPY WDAY

9:00-9:30 Arabesque
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WLBW WKBW WADC
WHK WKRC WGHP WOWO WBBM KOIL
KMBC WISN WCCO WIBW WBCM WSPD
WMT WWNC WTAR WDBJ WBRC WFIW
WLAC KLRA KLZ KHJ KFRC KVI
KFPY WDAY

9:00-9:30 Arco Birthday Party
WEAF WEEI WJAR WTAG CKGW WCSH
WFI WRC WGY WGR WSB WSM
WIOD WJAX KOA KSL WBAP WOAI
WRVA WBT WWJ WSAI KSD WDAF
KYW WCAE WEBC WSMB WJDX WPTF
WFJC WTMJ WMC KGO KECA KOMO
KHQ WHO WOW KGW

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

9:30-10:00 Milford Knights of the Garter
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WKBW WADC WHK
WKRC WGHP WOWO WBBM KMOX KOIL
KMBC WCCO WSPD WGST WDSU KLZ

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

9:30-10:00 Maxwell House Melodies
WJZ WBZ WBZA WBAL WHAM KDKA
WJR WLW KSTP WKY WTMJ WEBC
WHAS WSM WMC WBT KPRC KOA
WJAX WRVA WSB KYW KWK WREN
WIOD WSMB WOAI KGO KECA KGW
KSL KOMO KHQ WBAP

10:00-10:30 Mid-Week Kodak Hour
WABC WEAN WNAC WCAU WCAO WMAL
WJAS WLBW WFBL WHEC WKBW WADC
WHK WKRC WGHP WOWO WFBM WBBM
KMOX KOIL KMBC WISN WCCO WSPD
WMT WGST WBRC WREC WDSU WRR
KTSA KLZ KDYL KHJ KFRC KOIN
KVI KFPY

10:00-11:00 RCA Victor Hour
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WGR WCAE WFJC WWJ
WSAI KSD WOW WEBC WRVA WHO
WBT WKY KPRC WOAI KOA KSL
WTMJ WBAP WJAX WIOD WHAS WSM
WMC WSB WSMB KYW WDAF KVOO
KTHS WTAM KSTP KGO KGW KFI
KOMO KHQ WJDX

10:00-11:00 Atwater Kent Mid-Week Program
WJZ WBZ WBZA WBAL WHAM KDKA
WJR KWK WREN WGN WCKY

10:30-11:00 Columbia Educational Features
WABC WEAN WNAC WFAN WCAO WMAL
WHP WLBW WFBL WKBW WADC WHK
WKRC WKBN WOWO KMOX KOIL KMBC
WISN WIBW KFH WBCM WSPD WMT
WWNC WDBJ WBRC WFIW WDOD WREC
WLAC KLRA KLZ KDYL KFRC KFPY

11:00-11:30 Dream Boat
WABC WEAN WFAN WCAO WMAL WHP
WLBW WFBL WKBW WKRC WGHP WFBM
KMBC WISN WIBW WGL KFH WBCM
WSPD WMT WWNC WDBJ WBRC WFIW
WDOD WREC KLRA KLZ KDYL KFPY

11:00-11:30 Conoco Adventures
WLS KWK WDAF WREN WOW WHO
WLW WMC KVOO WKY WFAA KTHS
KPRC WOAI KOA KSL WHAS

11:00-12:00 Great Love Scenes in Music
WEAF WRC WGR KSD CKGW WFI
WWJ

11:30-12:00 Ben Pollack and His Orchestra
WABC WLBZ WCAU WCAO WMAL WHP
WLBW WKBW WKRC WGHP WKBN KOIL
KMBC WISN WCCO WIBW WGL KFH
WBCM WSPD WMT WWNC WTAR WDBJ
WBRC WFIW WREC WLAC KLRA KLZ
KDYL KFRC KVI KFPY KOL WDAY

Friday

11:15-11:30 Columbia Salon Orchestra
WABC WEAN WNAC WCAU WCAO WMAL
WLBW WFBL WMAK WADC WHK WGHP
WOWO KMOX KOIL KMBC WBCM WSPD
WWNC WDBJ WFIW WDOD WLAC KLRA
KLZ

11:45-12:00 Founding a Nation

WEAF	WEEI	WJAR	WTAG	WCSH	WLIT
WRC	WGY	WCAE	WTAM	WSAI	WWJ
WGN	KSD	WOW	WDAF	WTMJ	KSTP
WEBC	WRVA	WPTF	WBT	WJAX	WIOD
WHAS	WSM	WMC	WAPI	WSMB	WKY
KTHS	KPRC	WOAI	KOA	WJDX	WGR
WHO					

3:00-3:30 Columbia Ensemble

WEAN	WNAC	WLBZ	WCAU	WCAO	WMAL
WHP	WMAK	WGHP	WKBN	KOIL	WGL
WBCM	WSPD	WMT	WWNC	WTAR	WDBJ
WBRC	WREC	WLAC	KLRA	KLZ	KDYL
KVI	KFPY	WDAY	WADC	WISN	

6:00-6:15 The Melody Musketeers

WABC	WFAN	WMAL	WHP	WLBW	WMAK
WGHP	WKBN	MKBC	WISN	KFH	WBCM
WSPD	WMT	WWNC	WREC	KLRA	KLZ
WDAY					

7:00-7:30 Bernhard Levitow Commodore Ensemble

WABC	WLBZ	WCAO	WHP	WJAS	WLBW
WMAK	WADC	WKRC	WGL	KFH	WBCM
WMT	WWNC	WTAR	WDBJ	WBRC	WFIW
WREC	KLRA	KLZ	KFRC	KVI	KFPY

7:30-8:00 Raybestos Twins

WEAF	WTIC	WCSH	WLIT	KOA	WRC
WCAE	WWJ	WSAI	WIBO	KSD	WOW
WDAF	CKGW	WGR	WGY	WSM	WMC
WSB	WAPI	WSMB	WHAS	WJDX	

8:00-8:30 Nit Wit Hour

WABC	WEAN	WNAC	WLBZ	WMAL	WJAS
WLBW	WFBL	WMAK	WADC	WHK	WKRC
WGHP	WFBM	WMAQ	KMOX	KOIL	KMBC
WCCO	WIBW	WBCM	WSPD	WMT	WWNC
WDBJ	WFIW	WDOD	WREC	WLAC	KLZ
KVI	KFPY				

8:00-9:00 Cities Service Concert Orchestra

WEAF	WEEI	WTIC	WLIT	WRC	WGR
WCAE	WTAM	WJAR	WCSH	KYW	KSD
WOW	WDAF	KSTP	WTMJ	WKY	WWJ
WOC	KOA	WFAA	WSAI	WEBC	KOMO
KGO	KGW	KHQ	WOAI	KPRC	KSL
WTAG	CKGW	KECA			

8:30-8-45 Hickok Program

WJZ	WBZ	WBZA	WHAM	KDKA	WIBO
WMC	WREN	KFAB			

8:45-9:00 Natural Bridge Program

WJZ	WBZ	WBZA	WHAM	KDKA	WLW
KWK	WRVA	WJAX	WIOD	KFAB	WIBO
WBT	WREN	WPTF			

9:00-9:30 Clicquot Club Eskimos

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

9:00-9:30 Interwoven Pair

WJZ	WBZ	WBZA	WHAM	KDKA	WMC
WKY	WREN	KPRC	WOAI	KOA	WHAS
WSM	WSB	WBT	WJAX	KWK	WRVA
KSL	KGO	KOMO	KHQ	KGW	WAPI
WSMB	WIOD	WLW	WFAA	WJR	CKGW
KSTP	WEBC	KYW			

9:00-10:00 True Story Hour

WABC	WEAN	WNAC	WCAU	WCAO	WMAL
WJAS	WLBW	WFBL	WHEC	WMAK	WADC
WHK	WKRC	WGHP	WOWO	WMAQ	KMOX
KOIL	KMBC	WISN	WCCO	KFH	WSPD
KRLD	KLRA	KFJF	KTSA	KLZ	KDYL
KHJ	KFRC	KOIN	KVI	KFPY	

9:30-10:00 Old Company's Songalogue

WEAF	WEEI	WTIC	WJAR	WCSH	WLIT
WRC	WGY				

9:30-10:00 Armour Program

WJZ	WBZ	WBZA	WJR	KYW	WREN
KSTP	WEBC	WRVA	WMC	WSB	WSMB
KPRC	WOAI	KOA	KSL	WSM	WKY
WBT	WHAS	KGO	KFI	KGW	KOMO
KHQ	WJAX	WJDX	WIOD	KDKA	WTMJ
WAPI	WHAM	KWK			

10:00-10:30 Armstrong Quakers

WJZ	WBZ	WBZA	KDKA	KYW	KWK
WREN	KPRC	WHAN	WJR	KSTP	WTMJ
WEBC	WHAS	WSM	WSB	WBT	KVOO
WOAI	KTHS	WKY	WSMB	KOA	KSL
KGO	KFI	KGW	KOMO	KHQ	WMC
WBAP	WLW				

10:00-10:30 At the Sign of the Green and White

WABC	WEAN	WNAC	WCAU	WCAO	WMAL
WHP	WJAS	WLBW	WFBL	WMAK	WADC
WKRC	WGHP	WOWO	WMAQ	KMOX	KOIL
WISN	WCCO	WIBW	KFH	WSPD	WWNC
WTAR	WGST	WBRC	WREC	WLAC	WDSU
KLRA	WRR	KFJF	KLZ	KDYL	KHJ
KFRC	KOIN	KFPY	WQAM	WDBO	WTOC
WDAE	KTRH	KOL			

10:00-11:00 Raleigh Revue

WEAF	WEEI	WJAR	WTAG	WFJC	WCSH
WLIT	WRC	WOW	WGY	WGR	WCAE
WWJ	WSAI	WIBO	KSD	WOC	KOMO
WDAF	KOA	KECA	KGW	KHQ	KSD
KGO	KSL				

10:30-11:00 Kodak Week-End Program

WJZ	WBZ	WBZA	WHAM	KDKA	WJR
WLW	KYW	KWK	WREN	KSTP	WEBC
WRVA	WBT	WJAX	WIOD	WSM	WMC
WSB	WSMB	KVOO	WKY	KTHS	WOAI
WJDX	WRC				

10:30-11:00 Gold Medal Fast Freight

WABC	WEAN	WNAC	WCAU	WCAO	WJAS
WLBW	WMAK	WADC	WHK	WKRC	WGHP
WOWO	WBBM	KMOX	KOIL	KMBC	WISN
WCCO	KFH	WTAR	WDBJ	WREC	WLAC
KLRA	KFJF	KDYL	KHJ	KFRC	KOIN
KFPY	WLAP	KOL			

11:00-11:15 Elgin Program

WJZ	WBZ	WBZA	WHAM	KDKA	KWK
WREN	KFAB	WEBC	WRVA	WPTF	WBT
WJAX	WIOD	WSM	WSB	WJDX	WSMB
KVOO	WKY	KTHS	KPRC	WOAI	KOA
KSL	KGO	KECA	KGW	KOMO	KHQ
WIBO	WCKY				

11:00-11:30 Bert Lown and His Orchestra

WABC	WEAN	WCAO	WLBW	WFBL	WHK
WGHP	KOIL	KMBC	WISN	WIBW	KFH
WBCM	WSPD	WMT	WWNC	WDBJ	WBRC
WFIW	WDOD	WREC	KLRA	KLZ	KDYL

11:00-12:00 Vincent Lopez and His Orchestra

WEAF	CKGW	WSM	WGY	WFJC	WWJ
WOW	WDAF				

11:30-12:00 Will Osborne and His Orchestra

WABC	WEAN	WCAO	WLBW	WFBL	WMAK
WADC	WKRC	WGHP	KOIL	KMBC	WISN
WIBW	WGL	KFPY	KFH	WBCM	WSPD
WMT	WWNC	WDBJ	WBRC	WFIW	WDOD
WREC	KLRA	KLZ	KDYL		

Saturday

10:00-10:30 Columbia Grenadiers

WABC	WEAN	WNAC	WLBZ	WCAU	WCAO
WMAL	WHP	WJAS	WLBW	WFBL	WKBW
WHK	WFBM	WBBM	KMOX	KOIL	KMBC
WCCO	WGL	KFH	WBCM	WSPD	WWNC
WFIW	WDOD	WLAC	KLRA		

10:30-11:30 U. S. Army Band Concert

WABC	WEAN	WNAC	WLBZ	WCAU	WCAO
WMAL	WHP	WJAS	WFBL	WKBW	WKBN
WFBM	KOIL	KMBC	WIBW	WGL	WBCM
WSPD	WMT	WWNC	WDBJ	WFIW	WDOD
WREC	KLRA	KLZ	KHJ	KFRC	KVI

11:30-12:00 Saturday Syncopators

WABC	WEAN	WNAC	WLBZ	WCAU	WCAO
WMAL	WHP	WJAS	WLBW	WFBL	WKBW
WHK	WGHP	WFBM	WBBM	KMOX	KOIL
KMBC	WCCO	WGL	WBCM	WSPD	WWNC
WFIW	WDOD	WLAC	KLRA	KDYL	

12:00-12:30 Adventures of Helen and Mary

WABC	WEAN	WNAC	WFAN	WMAL	WHP
WJAS	WFBL	WKBW	WADC	WGHP	WKBN

WFBM KMBC WCCO WIBW WBCM WMT
WWNC WBRC WFIW WDOD WREC KLRA
KLZ KHJ KFRC KFPY

2:00-2:30 Ann Leaf at the Organ
WABC WCAU WCAO WMAL WHP WJAS
WFBL WKBW WADC WGHP WKBN WOWO
WBBM KMOX KOIL WCCO WBCM WSPD
WMT WWNC WDBJ WBRC WDOD WREC
WLAC KLRA KLZ KDYL KHJ KFPY

4:00-4:30 University of Maine Band
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WKBW WADC WKRC WGHP
WKBN KMOX KOIL KMBC WCCO WIBW
WBCM WSPD WMT WWNC WTAR WDBJ
WBRC WREC WLAC KLRA KLZ KVI
KFPY KOL WDAY

4:30-5:00 French Trio
WABC WFAN WCAO WMAL WHP WFBL
WKBW WGHP WOWO WMAQ KMOX KMBC
WCCO WBCM WSPD WMT WWNC WDOD
WREC KLRA KLZ KHJ KFRC KVI
KFPY

5:00-5:45 Paul Specht and His Orchestra
WABC WFAN WCAO WMAL WHP WJAS
WKBW WADC WHK WGHP WOWO WBBM
KOIL KMBC WIBW WBCM WSPD WMT
WWNC WTAR WDBJ WBRC WREC WLAC
KLRA KLZ KHJ KFRC KVI KFPY
WDAY

5:45-6:00 Skinner Concert
WEAF WLIT WRC WGY WCAE WSAI
KYW KSD WEEI

6 00-6:30 Hotel Shelton Orchestra
WABC WHP WLBW WFBL WKBW WADC
WFBM WBBM KMBC WIBW KFH WBCM
WWNC WDBJ WBRC WFIW WDOD WREC
KLRA KLZ KHJ KFRC KVI KFPY

6:30-7:00 "Ted Husing's Sportslants"
WABC WHP WJAS WLBW WKBW WKRC
WKBN WFBM KOIL KMBC KFH WBCM
WMT WWNC WDBJ WBRC WFIW WDOD
KLRA KLZ KHJ KVI KFPY

7:00-7:15 Floyd Williams
WEAF WEEI WJAR WCSH WGY WWJ
WOW WSM WMC WSB WSMB

7:00-8:00 Melo Maniacs
WABC WLBZ WHP WJAS WLBW WKBW
WADC WKRC WOWO KOIL WCCO WIBW
KFH WBCM WMT WWNC WTAR WDBJ
WBRC WFIW WREC KLRA KLZ KHJ
KFRC KVI KFPY

7:15-7:30 The Jameses
WEAF WTAG WGY WWJ WOW CKGW
WJAR

7:15-7:30 RCA Theremin Music
WJZ WREN KWK KFAB KSTP WEBC
WPTF WBT WSM WIOD WHAS WSB
WSMB KVOO KPRC WOAI KOA KSL
WMC KTHS

7:30-8:00 Phil Spitalny's Music
WEAF WJAR WCSH WGY WWJ WHO
WRVA WPTF WTAG KSTP

7:30-8:00 The Fuller Man
WJZ WBZ WBZA WBAL WHAM KDKA
WLW KYW CKGW WREN KFAB KWK
KOA KSL KGO KECA KGW KHQ

8:00-8:15 Dixies Circus
WJZ WBZ WBZA KDKA WLW KYW

8:00-8:30 The New Business World
WEAF WJAR WTAG WFI WCSH WRC
WGY WGR WWJ WSAI WOW WDAF
WRVA WPTF WBT WMC WSMB KOA
WCAE WOAI KTHS WFJC KSD WHO
WJAX KPRC KGO KGW KHQ KOMO
KECA KSL WCAE KSTP

8:00-8:30 Columbia Educational Features
WABC WEAN WNAC WLBZ WCAO WMAL
WJAS WLBW WKBW WADC WKRC WOWO
WISN WIBW KFH WBCM WMT WWNC
WTAR WDBJ WFIW KLRA KHJ KFRC
KVI KFPY KOL WDAY

8:30-9:00 Del Monte Program
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WGR WCAE WFJC WWJ
WSAI KYW KSD WHO WOW WDAF
WTMJ KSTP WEBC WRVA WPTF WBT
WJAX WIOD WHAS WMC WSB WSM
WAPI WSMB KTHS WBAP KPRC WOAI
KOA KSL WJDX WTAM

8:30-9:00 The Silver Flute
WJZ WHAM WJR KWK CKGW KOA
KDKA

8:30-9:00 Dixie Echoes
WABC WEAN WLBZ WFAN WCAO WMAL
WJAS WLBW WFBL WKBW WADC WKRC
WGHP WKBN WFBM KMOX KOIL KMBC
WISN WCCO WIBW WBCM WSPD WMT
WWNC WDBJ WBRC WDOD WREC WLAC
KLRA KLZ KHJ KVI KFPY

9:00-10:00 Hank Simmons' Show Boat
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WLBW WFBL WKBW
WADC WHK WKRC WGHP WKBN WOWO
WFBM WMAQ KMOX KOIL KMBC WISN
WIBW KFH WBCM WSPD WMT WWNC
WDBJ WBRC WFIW WDOD WREC WLAC
KLZ KDYL KHJ KFRC KVI KFPY

9:00-10:00 General Electric Hour
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WGR WCAE WTAM WWJ
KSD WHO WOW WDAF WTMJ WEBC
WJAX WHAS WSB WBT KPRC WOAI
WRVA WSAI KSTP WAPI WKY KOA
KGW KOMO KHQ KSL KGO KFI
WSMB WIBO WMC WFAA

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

10:00-11:00 B. A. Rolfe and His Orchestra
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WGR WCAE WWJ WGN
KSD WHO WOW WDAF WIOD KSTP
WTMJ WSMB WJAX WHAS WSB WBT
KPRC WMC WOAI WKY WAPI WSAI
WFJC KOA KGO KFI KSL KGW
KOMO KHQ WEBC WJDX WRVA WFAA

10:00-11:00 Paramount Publix Hour
WABC WEAN WNAC WLBZ WCAU WCAO
WMAL WHP WJAS WLBW WFBL WHEC
WKBW CFRB WADC WHK WKRC WGHP
WCAH WKBN WOWO WFBM WBBM KMOX
KOIL KSCJ KMBC WISN WCCO WIBW
KFH WBCM WSPD WMT WWNC WTAR
WDBJ WBRC WFIW WDOD WREC WLAC
WDSU KRLD KLRA KFJF KTSA KLZ
KDYL KHJ KFRC KOL KNX KOIN
KFPY

11:00-11:30 Roy Ingraham's Paramount Orchestra
WABC WEAN WLBZ WCAU WCAO WMAL
WHP WLBW WFBL WKBW WKRC WGHP
KOIL KMBC WISN WIBW WBCM WMT
WWNC WDBJ WBRC WFIW WDOD WREC
KLRA KLZ KDYL KFPY WADC WHK
KNX

11:15-12:00 Smith Ballew's Club Richman Orchestra
WEAF WFI WFJC WWJ KSD WOW
WDAF WSMB WKY WCKY WIOD

11:30-12:00 Anson Weeks' Hotel Roosevelt Orchestra
WABC KOL WLBZ WCAU WDAY WCAO
WMAL WHP WLBW WKBW WADC WKRC
WGHP WKBN KMOX KOIL KMBC WISN
WCCO WIBW KFH WBCM WSPD WMT
WWNC WTAR WDBJ WBRC WFIW WREC
WLAC KLRA KLZ KDYL KFRC KVI
KFPY

12:00-1:00 Rudy Vallee and His Orchestra
WEAF WRC WTAM KSD WHO KSTP
WJAX

INDEX BY FREQUENCIES AND DIAL NUMBERS

KEY

Frequency in kilocycles. Wave lengths in meters. Second column shows night power in watts. Third column symbols: D, daytime only. S, Sunday only. Stations dividing time have same small figures. X means station has been granted permit to increase power. + means station has greater power during day. CP indicates station has construction permit only. Some Cuban and Mexican stations have odd frequencies. Correct kilocycles shown in small figures. N means NBC chain. C means Columbia chain. Z has been granted permit to change frequency. Y given permit to move to another city.

540 kilocycles 555.6 meters

CKX	500	---	Brandon, Manitoba	Manitoba Telephone System
XFA	50	---	Mexico City	Sria. de Agricultura y Fomento

550 kilocycles 545.1 meters

KFDY	500	1+	Brookings, S. D.	S. D. State College
KFUO	500	2+	St. Louis, Mo.	Concordia Theological Seminary
KFYR	1000	1	Bismarck, N. D.	Hoskins-Meyer
KOAC	1000	---	Corvallis, Ore.	State Agricultural College
KSD	500	2N	St. Louis, Mo.	Pulitzer Publishing Co.
WGR	1000	N	Buffalo, N. Y.	Radio Station WGR, Inc.
WKRC	1000	C	Cincinnati, Ohio	WKRC Incorporated
XEY	105	---	Merida, Yucatan	Partido Socialista del Sureste

560 kilocycles 535.4 meters

KFDM	500	X+	Beaumont, Texas	Magnolia Petroleum Co.
KLZ	1000	C	Denver, Colo.	Reynolds Radio Co., Inc.
KTAB	1000	---	Oakland, Cal.	Associated Broadcasters
WEBW	500	3DY	Beloit, Wis.	Wisconsin State Journal Co.
WFI	500	1N	Philadelphia, Pa.	Strawbridge & Clothier
WIBO	1000	3+N	Chicago, Ill.	Nelson Bros. Bond & Mortgage Co.
WLIT	500	1N	Philadelphia, Pa.	Lit Brothers
WNOX	1000	X+	Knoxville, Tenn.	Sterchi Bros.
WPCC	500	3S	Chicago, Ill.	North Shore Congregational Church
WQAM	1000	C	Miami, Fla.	Miami Broadcasting Co.

570 kilocycles 526.0 meters

KGKO	250	+	Wichita Falls, Texas	Wichita Falls Broadcasting Co.
KMTR	500	---	Hollywood, Cal.	KMTR Radio Corp.
KXA	500	---	Seattle, Wash.	American Radio Tel. Co.
WEAO	750	1	Columbus, Ohio	Ohio State University
WKBN	500	1C	Youngstown, Ohio	W. P. Williamson, Jr.
WMAC	250	2	Cazenovia, N. Y.	Clive B. Meredith
WMCA	500	3	New York City	Knickerbocker Broadcasting Co., Inc.
WNAX	1000	C	Yankton, S. D.	Gurney Seed & Nursery Co.
WNYC	500	3	New York City	Dept. of Plants and Structures
WSYR	250	2	Syracuse, N. Y.	Clive B. Meredith
WWNC	1000	C	Asheville, N. C.	Citizens Broadcasting Co., Inc.

580 kilocycles 516.9 meters

CFCL	500	3S	Toronto, Ont.	Dominion Battery Co.
CHMA	250	4	Edmonton, Alta.	Christian and Missionary Alliance
CJCA	500	4	Edmonton, Alta.	The Edmonton Journal, Ltd.
CJSC	500	4	Toronto, Ont.	The Evening Telegram
CKCL	500	3	Toronto, Ont.	The Dominion Battery Co.
CKNC	500	3	Toronto, Ont.	Canadian National Carbon Co., Ltd.
CKUA	500	4	Edmonton, Alta.	University of Alberta
CNRE	500	4	Edmonton, Alta.	Canadian National Railways
KGFX	200	D	Pierre, S. D.	Dana McNeil
KSAC	500	2+	Manhattan, Kans.	State Agricultural College
WIBW	500	2+C	Topeka, Kansas	Topeka Broadcasting Assn., Inc.
WOBU	250	1	Charleston, W. Va.	Charleston Radio Broadcasting Co.
WSAZ	250	1	Huntington, W. Va.	WSAZ, Inc.
WTAG	250	N	Worcester, Mass.	Telegram Publishing Co.

590 kilocycles 508.2 meters

KHQ	1000	X+N	Spokane, Wash.
WCAJ	500	1	Lincoln, Nebr.
WEEI	1000	N	Boston, Mass.
WEMC	1000	D	Berrien Springs, Mich.
WOW	1000	1N	Omaha, Nebr.
XFI	1000	---	Mexico City
------	500	CP	Lynchburg, Va.

600 kilocycles 499.7 meters

CFCH	250	3	Iroquois Falls, Ont.
CJRM	500	4	Moose Jaw, Sask.
CJRW	500	4	Fleming, Sask.
CMW	1000	595	Havana, Cuba
CNRO	500	3	Ottawa, Ont.
KFSD	500	+	San Diego, Cal.
WCAC	250	2+	Storrs, Conn.
WCAO	250	C	Baltimore, Md.
WGBS	600	2+	New York City
WMT	500	---	Waterloo, Iowa
WOAN	500	1	Lawrenceburg, Tenn.
WREC	500	1+C	Memphis, Tenn.

610 kilocycles 491.5 meters

CMBY	200	612	Havana, Cuba
KFRC	1000	C	San Francisco, Cal.
WDAF	1000	N	Kansas City, Mo.
WFAN	500	2C	Philadelphia, Pa.
WIP	500	2	Philadelphia, Pa.
WJAY	500	D	Cleveland, Ohio

620 kilocycles 483.6 meters

KGW	1000	X+N	Portland, Ore.
KTAR	500	+	Phoenix, Arizona
WFLA	1000	1+	Clearwater, Fla.
WLBZ	500	---	Bangor, Maine
WSUN	1000	1+	St. Petersburg, Fla.
WTMJ	1000	+N	Milwaukee, Wis.

630 kilocycles 475.9 meters

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

640 kilocycles 468.5 meters

CMCF	250	643	Havana, Cuba
KFI	5000	N	Los Angeles, Cal.
WAIU	500	C	Columbus, Ohio
WOI	5000	D	Ames, Iowa
XFG	2000	---	Mexico City

650 kilocycles 461.3 meters

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

660 kilocycles 454.3 meters

WAAW	500	D	Omaha, Neb.
WEAF	50000	N	New York City

670 kilocycles 447.5 meters

WMAQ	5000	C	Chicago, Ill.
XBB	1000	---	Mexico City

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

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

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

Oregonian Publishing Co.
KAR Broadcasting Co.
Chamber of Commerce
Maine Broadcasting Co., Inc.
Chamber of Commerce
Milwaukee Journal

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

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

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

Omaha Grain Exchange
National Broadcasting Co., Inc.

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

KCYS.
670
MTRS.
447.5
DIAL
61

680 kilocycles — 440.9 meters

KFEQ	2500	D	St. Joseph, Mo.
KPO	5000	N	San Francisco, Cal.
WPTF	1000	N	Raleigh, N. C.
------	250	CP	Gueda Springs, Kans.

690 kilocycles — 434.5 meters

CFAC	500	1	Calgary, Alta.
CFCN	500	1	Calgary, Alta.
CHCA	500	1	Calgary, Alta.
CHRY	5000	2N	Toronto, Ont.
CJCJ	500	1	Calgary, Alta.
CKGW	5000	2N	Toronto, Ont.
CNRC	500	1	Calgary, Alta.
CNRX	5000	2	Toronto, Ont.
NAA	1000	---	Arlington, Va.
VAS	500	---	Louisburg, N. S.

700 kilocycles — 428.3 meters

WLW	50000	N	Cincinnati, Ohio

710 kilocycles — 422.3 meters

KMPC	500	---	Los Angeles, Cal.
WOR	5000	---	Newark, N. J.

720 kilocycles — 416.4 meters

WGN	25000	N	Chicago, Ill.
WLIB	25000	N	Chicago, Ill.

730 kilocycles — 410.7 meters

CHLS	50	1	Vancouver, B. C.
CHYC	5000	2	Montreal, Que.
CKAC	5000	2C	Montreal, Que.
CKCD	50	1	Vancouver, B. C.
CKFC	50	1	Vancouver, B. C.
CKMO	50	1	Vancouver, B. C.
CKWX	100	1	Vancouver. B. C.
CNRM	5000	2	Montreal, Que.
XEN	1000	---	Mexico City

740 kilocycles — 405.2 meters

KMMJ	1000	---	Clay Center, Neb.
WSB	5000	N	Atlanta, Ga.

750 kilocycles — 399.8 meters

TIX	50	---	San Jose, Costa Rica
WJR	5000	N	Detroit, Mich.

760 kilocycles — 394.5 meters

KVI	1000	C	Tacoma, Wash.
WEW	1000	D	St. Louis, Mo.
WJZ	30000	N	New York City

770 kilocycles — 389.4 meters

KFAB	5000	1N	Lincoln, Nebr.
WBBM	25000	1C	Chicago, Ill.
WJBT	25000	1S	Chicago, Ill.

780 kilocycles — 384.4 meters

CKY	5000	3	Winnipeg, Manitoba
CNRW	5000	3	Winnipeg, Manitoba
KELW	500	2	Burbank, Cal.
KTM	500	2+	Los Angeles, Cal.
WEAN	250	+C	Providence, R. I.
WMC	500	+N	Memphis, Tenn.
WPOR	500	1	Norfolk, Va.
WTAR	500	1C	Norfolk, Va.

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Scroggin & Co. Bank
Hale Bros. & The Chronicle
Durham Life Insurance Co.
R. E. Campbell and F. L. Stallard

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The Calgary Herald
Western Broadcasting Co.
The Western Farmer
Canadian Pacific Railways
Albertan Publishing Co., Ltd.
Gooderham & Worts, Ltd.
Canadian National Railways
Canadian National Railways
U. S. Navy
Canadian Marconi Co.

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Crosley Radio Corp.

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R. S. MacMillan
Bamberger Broadcasting Service, Inc.

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Chicago Tribune
Chicago Tribune

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W. G. Hassell
Northern Electric Co., Ltd.
La Presse Publishing Co., Ltd.
Vancouver Daily Province
United Church of Canada
Sprott-Shaw Radio Co.
A. Holstead & Wm. Hanlon
Canadian National Railways
General Electric, S. A.

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The M. M. Johnson Co.
Atlanta Journal Co.

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WJR, The Goodwill Station, Inc.

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Puget Sound Broadcasting Co., Inc.
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Radio Corp. of America, Inc.

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Nebraska Buick Automobile Co.
The Atlass Co., Inc.
The Atlass Co., Inc.

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Manitoba Telephone System
Canadian National Railways
Earl L. White
Pickwick Broadcasting Corp.
The Shepard Co.
Memphis Commercial-Appeal
WTAR Radio Corp.
WTAR Radio Corp.

790 kilocycles — 379.5 meters

CMHC	500	791	Tuinucu, Cuba
KGO	500	N	Oakland, Cal.
WGY	50000	N	Schenectady, N. Y.

800 kilocycles — 374.8 meters

WBAP	5000	1XN	Fort Worth, Texas
WFAA	50000	1XN	Dallas, Texas

810 kilocycles — 370.2 meters

WCCO	7500	C	Minneapolis, Minn.
WPCH	500	D	New York City

820 kilocycles — 365.6 meters

CMI	500	815	Havana, Cuba
WHAS	10000	N	Louisville, Ky.

830 kilocycles — 361.2 meters

CMGA	300	834	Colon, Cuba
KOA	12500	N	Denver, Colo.
WHDH	1000	D	Gloucester, Mass.
WRUF	5000	---	Gainesville, Fla.

840 kilocycles — 356.9 meters

CFCA	500	1	Toronto, Ont.
CHCT	1000		Red Deer, Alta.
CKLC	1000	2	Red Deer, Alta.
CMC	500	---	Havana, Cuba
CNRD	1000	2	Red Deer, Alta.
CNRT	500	1	Toronto, Ont.
WGM	100	3	Adamsburg, Pa.
WOOP	100	3	Jeannette, Pa.

850 kilocycles — 352.7 meters

KWKH	10000	1	Shreveport, La.
NBA	750	846	Balboa, Canal Zone
WWL	5000	1	New Orleans, La.

860 kilocycles — 348.6 meters

KFQZ	250	---	Los Angeles, Cal.
KMO	500	+	Tacoma, Wash.
WABC	5000	1XC	New York City
WBOQ	5000	1X	New York City
WHB	500	D	Kansas City, Mo.

870 kilocycles — 344.6 meters

WENR	50000	1N	Chicago, Ill.
WLS	5000	1XN	Chicago, Ill.

880 kilocycles — 340.7 meters

CHCS	10	4	Hamilton, Ont.
CHML	50	4	Hamilton, Ont.
CHRC	100	3	Quebec, Que.
CJCB	50	---	Sydney, N. S.
CKCI	22.5	3	Quebec, Que.
CKCV	50	3	Quebec, Que.
CKOC	50	4	Hamilton, Ont.
CNRQ	50	3	Quebec, Que.
KFKA	500	2+	Greeley, Colo.
KLX	500	---	Oakland, Cal.
KPOF	500	2	Denver, Colo
WCOC	500	+	Meridian, Miss.
WGBI	250	1	Scranton, Pa.
WQAN	250	1	Scranton, Pa.
WSUI	500	---	Iowa City, Iowa

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Frank H. Jones
National Broadcasting Co., Inc.
General Electric Co.

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Carter Publications, Inc.
News & Journal

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Northwestern Broadcasting, Inc.
Eastern Broadcasters, Inc.

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Instituto Provincial
Courier-Journal & Times

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Leopoldo V. Figueros
National Broadcasting Co., Inc.
Alfred F. Kleindinst
University of Florida

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Star Publishing & Ptg. Co.
G. F. Tull & Ardern ,Ltd.
Alberta Pacific Grain Co., Ltd.
Cuban Telephone Co.
Canadian National Railways
Canadian National Railways
Oakford-Olympia Park Corp.
Oakford-Olympia Park Corp.

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Hello World Broadcasting Corp.
United States Navy
Loyola University

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Taft Radio & Broadcasting Co., Inc.
KMO, Inc.
Atlantic Broadcasting Corp.
Atlantic Broadcasting Corp.
WHB Broadcasting Co.

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Great Lakes Broadcasting Co.
Agricultural Broadcasting Co.

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The Hamilton Spectator
Maple Leaf Radio Co., Ltd.
E. Fontaine
N. Nathanson
Le "Soleil," Ltd.
G. A. Vandry
Wentworth Radio & Auto Sply. Co., Ltd.
Canadian National Railways
Midwestern Radio Corp.
Tribune Publishing Co.
Pillar of Fire, Inc.
Mississippi Broadcasting Co.
Scranton Broadcasters, Inc.
Scranton Times
University of Iowa

KCYS.
880
MTRS.
340.7
DIAL
31

890 kilocycles 336.9 meters

CFBO	50	---	St. John, N. B.	C. A. Munro, Ltd.
CKCO	100	---	Ottawa, Ont.	Dr. G. M. Geldert
KFNF	500	2+	Shenandoah, Iowa	Henry Field Seed Co.
KGJF	250	---	Little Rock, Ark.	Church of the Nazarene
KUSD	500	2+	Vermillion, S. D.	University of South Dakota
WGST	250	1	Atlanta, Ga.	Georgia School of Technology
WILL	250	2+	Urbana, Ill.	University of Illinois
WJAR	250	+N	Providence, R. I.	The Outlet Co.
WKAQ	500	---	San Juan, P. R.	Radio Corp. of Porto Rico
WMAZ	250	1+	Macon, Ga.	Junior Chamber of Commerce
WMMN	250	+	Fairmount, W. Va.	Holt-Rowe Novelty Co.

900 kilocycles 333.1 meters

CMX	250	---	Havana, Cuba	Francisco Lavin
KGBU	500	---	Ketchikan, Alaska	Alaska Radio & Service Co.
KHJ	1000	C	Los Angeles, Cal.	Don Lee, Inc.
KSEI	250	---	Pocatello, Idaho	KSEI Broadcasting Association, Inc.
WJAX	1000	N	Jacksonville, Fla.	City of Jacksonville
WKY	1000	N	Oklahoma City	WKY Radiophone Co.
WLBL	2000	D	Stevens Pt., Wis.	Wisconsin Dept. of Markets
WMAK	750	C1	Buffalo, N. Y.	WMAK Broadcasting System, Inc.
WRDA	1000	CP1	Buffalo, N. Y.	Buffalo Evening News

910 kilocycles 329.6 meters

CFQC	500	1	Saskatoon, Sask.	The Electric Shop, Ltd.
CJGC	500	2	London, Ont.	Free Press Printing Co., Ltd.
CJHS	250	1	Saskatoon, Sask.	Radio Service, Ltd.
CNRL	500	2	London, Ont.	Canadian National Railways
CNRS	500	1	Saskatoon, Sask.	Canadian National Railways
XFX	1000	---	Mexico City	Sria. de Educacion Publica

920 kilocycles 325.9 meters

CMHD	250	---	Caibarien, Cuba	Manuel A. Alverez
HHK	1000	---	Port au Prince, Haiti	Republic of Haiti
KFEL	500	1	Denver, Colo.	Eugene P. O'Fallon, Inc.
KFXF	500	1	Denver, Colo.	Colorado Radio Corp.
KOMO	1000	N	Seattle, Wash.	Fisher's Blend Station, Inc.
KPRC	1000	+N	Houston, Texas	Houston Printing Co.
WAAF	500	D	Chicago, Ill.	Drovers Journal Publishing Co.
WBSO	250	DX	Wellesley Hills, Mass.	Babson Statistical Organization, Inc.
WWJ	1000	N	Detroit, Mich.	The Detroit News

930 kilocycles 322.4 meters

CFRC	500	3	Kingston, Ont.	Queen's University
CHNS	500	---	Halifax, N. S.	Halifax Herald, Ltd.
CKIC	50	---	Wolfville, N. S.	Acadia Academy
CKPR	50	3	Midland, Ont.	Midland Broadcasting Corp.
KFWI	500	1	San Francisco, Cal.	Radio Entertainments, Inc.
KFWM	500	1+	Oakland, Cal.	Educational Broadcasting Corp.
KGBZ	500	2+	York, Nebr.	Dr. George R. Miller
KMA	500	2+	Shenandoah, Iowa	May Seed & Nursery Co.
WBRC	500	+C	Birmingham, Ala.	Birmingham Broadcasting Co., Inc.
WDBJ	250	+C	Roanoke, Va.	Richardson-Wayland Elec. Corp.
WIBG	50	D	Elkins Park, Pa.	St. Pauls P. E. Church

940 kilocycles 319.0 meters

KGU	1000	---	Honolulu, Hawaii	Marion A. Mulrony
KOIN	1000	C	Portland, Ore.	KOIN, Inc.
WAAT	300	---	Jersey City, N. J.	Bremer Broadcasting Corp.
WCSH	500	XN	Portland, Maine	Congress Square Hotel Co.
WDAY	1000	C	Fargo, N. D.	WDAY, Inc.
WFIW	1000	C	Hopkinsville, Ky.	The Acme Mills, Inc.
WHA	750	D	Madison, Wis.	University of Wisconsin

950 kilocycles 315.6 meters

CMCB	150	952	Havana, Cuba	Jose Fernandez Suviaur
KFWB	1000	---	Hollywood, Cal.	Warner Bros. Broadcasting Corp.
KGHL	500	---	Billings, Mont.	Northwestern Auto Supply Co., Inc.
KMBC	1000	C	Kansas City, Mo.	Midland Broadcasting Co., Inc.
WRC	500	N	Washington, D. C.	Radio Corp. of America
XEX	500	---	Mexico City	Excelsior, Cia Editorial, S. A.

960 kilocycles 312.3 meters

CFCR	500	3	Regina, Sask.
CFCY	250	1	Charlottetown, P. E. I.
CFRB	4000	2C	Toronto, Ont.
CHCK	30	1	Charlottetown, P. E. I.
CHWC	500	3	Pilot Butte, Sask.
CJBR	500	3	Regina, Sask.
CKCK	500	3	Regina, Sask.
CNRR	500	3	Regina, Sask.
XEE	101	---	Pueblo. Pue.
XFF	250	---	Chihuahua, Chih.

Sydney I. Robinson
The Island Radio Co.
Rogers-Majestic Corp., Ltd.
W. E. Burke
R. H. Williams & Sons, Ltd.
Cooperative Wheat Producers, Ltd.
Leader Publishing Co., Ltd.
Canadian National Railways
Ramon Huerta G.
Gobierno Estado de Chihuahua

970 kilocycles 309.1 meters

KJR	5000	D	Seattle, Wash.
XEH	1000	---	Monterey, N. L.
WCFL	1500	N	Chicago, Ill.

Northwest Broadcasting System, Inc.
Ing. Constantino de Tarnava
Chicago Federation of Labor

980 kilocycles 305.9 meters

KDKA	50000	N	Pittsburgh, Pa.

Westinghouse Elec. & Mfg. Co.

990 kilocycles 302.8 meters

WBZ	15000	1N	Springfield, Mass.
WBZA	500	1N	Boston, Mass.

Westinghouse Elec. & Mfg. Co.
Westinghouse Elec. & Mfg. Co.

1000 kilocycles 299.8 meters

KFVD	250	---	Culver City, Cal.
WHO	5000	1N	Des Moines, Iowa
WOC	5000	1N	Davenport, Iowa
XEI	101	---	Morellia, Mexico

Los Angeles Broadcasting Co.
Central Broadcasting Co.
Central Broadcasting Co.
Carlos Gutierrez M.

1010 kilocycles 296.8 meters

CFLC	50	3	Prescott, Ont.
CKCR	50	3	Waterloo, Ont.
CKSH	50	---	St. Hyacinthe, Que.
KGGF	500	2	Picher, Okla.
KQW	500	---	San Jose, Cal.
WHN	250	1	New York City
WIS	500	C+	Columbia, S. C.
WNAD	500	2	Norman, Okla.
WPAP	250	1	New York City
WQAO	250	1	New York City
WRNY	250	1	New York City

Radio Association
John Patterson
City of St. Hyacinthe
D. L. Connell, M. D.
Pacific Agricultural Foundation Ltd.
Marcus Loew Booking Agency
George T. Barnes, Inc.
University of Oklahoma
Calvary Baptist Church
Calvary Baptist Church
Aviation Radio Station, Inc.

1020 kilocycles 293.9 meters

KFKX	10000	1N	Chicago, Ill.
KYW	10000	1N	Chicago, Ill.
WRAX	250	D	Philadelphia, Pa.

Westinghouse Elec. & Mfg. Co.
Westinghouse Elec. & Mfg. Co.
Berachah Church, Inc.

1030 kilocycles 291.1 meters

CFCF	1650	---	Montreal, Que.
CJOR	50	---	Sea Island, B. C.
CMBW	50	1027	Marianao, Cuba
CMBZ	100	1027	Havana, Cuba
CNRV	500	---	Vancouver, B. C.

Canadian Marconi Co.
G. C. Chandler
Modesto Alvarez
Manuel y G. Salas
Canadian National Railways

1040 kilocycles 288.3 meters

KRLD	10000	1C	Dallas, Texas
KTHS	10000	1N	Hot Springs, Ark.
WKAR	1000	D	East Lansing, Mich.
WKEN	1000	---	Buffalo, N. Y.

KRLD Radio Corp.
Chamber of Commerce
Michigan Agricultural College
Radio Station WKEN, Inc.

1050 kilocycles 285.5 meters

KFKB	5000	---	Milford, Kansas
KNX	5000	X	Hollywood, Cal.

KFKB Broadcasting Assn., Inc.
Western Broadcast Co.

KCYS.
1050
MTRS.
285.5
DIAL

1060 kilocycles 282.8 meters

KWJJ	500	---	Portland, Ore.	KWJJ Broadcast Co., Inc.
WBAL	10000	1N	Baltimore, Md.	Consolidated Gas Elec. & Pwr. Co.
WJAG	1000	---	Norfolk, Nebr.	Norfolk Daily News
WTIC	50000	1N	Hartford, Conn.	Travelers Broadcasting Service Corp.

1070 kilocycles 280.2 meters

KJBS	100	D	San Francisco, Cal.	Julius Brunton & Sons Co.
WCAZ	50	D	Carthage, Ill.	Superior Broadcasting Service
WDZ	100	D	Tuscola, Ill.	James L. Bush
WTAM	50000	1N	Cleveland, Ohio	WTAM & WEAR, Inc.

1080 kilocycles 277.6 meters

WBT	5000	N	Charlotte, N. C.	Station WBT, Inc.
WCBD	5000	1	Zion, Ill.	Wilbur Glenn Voliva
WMBI	5000	1	Chicago, Ill.	Moody Bible Institute

KFOX OKLAHOMA CITY

1090 kilocycles 275.1 meters

KFQA	5000	1SX	St. Louis, Mo.	Voice of St. Louis, Inc.
KMOX	5000	1CX	St. Louis, Mo.	Voice of St. Louis, Mo.

1100 kilocycles 272.6 meters

CMCE	100	1098	Havana, Cuba	Julio E. Power
CMK	2000	1095	Havana, Cuba	Cuban Broadcasting Co., Hotel Plaza
KGDM	250	DX	Stockton, Cal.	E. F. Peffer
WLWL	5000	1	New York City	Missionary Society of St. Paul
WPG	5000	1C	Atlantic City, N. J.	Municipality of Atlantic City

1110 kilocycles 270.1 meters

KSOO	2000	---	Sioux Falls, S. D.	Sioux Falls Broadcasting Assn., Inc.
WRVA	5000	N	Richmond, Va.	Larus & Bros. Co., Inc.

1120 kilocycles 267.7 meters

CFJC	15	---	Kamloops ,B. C.	N. S. Dalgleish & Sons
CHGS	25	---	Summerside, P. E. I.	R. T. Holman, Ltd.
CJOC	50	---	Lethbridge, Alta.	Harold R. Carson
KFIO	100	D	Spokane, Wash.	Spokane Broadcasting Corp.
KFSG	500	3	Los Angeles, Cal.	Echo Park Evag. Assn.
KMIC	500	3	Inglewood, Cal.	Dalton's, Inc.
KRSC	50	D	Seattle, Wash.	Radio Sales Corp.
KTRH	500	2	Houston, Texas	Rice Hotel
WDBO	500	+C	Orlando, Fla.	Orlando Broadcasting Co., Inc.
WDEL	250	+	Wilmington, Del.	WDEL, Inc.
WHAD	250	1	Milwaukee, Wis.	Marquette University
WISN	250	1C	Milwaukee, Wis.	Evening Wisconsin Co.
WTAW	500	2	College Station, Texas	Agricultural & Mech. College
------	150	CP	Rayne, La.	Ber, Killmer & Bailey

1130 kilocycles 265.3 meters

KSL	5000	N	Salt Lake City	Radio Service Corp. of Utah
WJJD	20000	---	Mooseheart, Ill.	Loyal Order of Moose
WOV	1000	D	New York City	International Broadcasting Corp.
XEF	105	---	Oaxaca, Oax.	Federico Zorrilla

1140 kilocycles 263.0 meters

KVOO	5000	1N	Tulsa, Okla.	Southwestern Sales Corp.
WAPI	5000	1N	Birmingham. Ala.	Alabama Polytechnic Institute

1150 kilocycles 260.7 meters

CMHA	200	1154	Cienfuegos, Cuba	Jose Ganduxe
WHAM	5000	N	Rochester, N. Y.	Stromberg-Carlson Tel. Mfg. Co.

1160 kilocycles 258.5 meters

WOWO	10000	1C	Ft. Wayne, Ind.	Main Auto Supply Co.
WWVA	5000	1	Wheeling, W. Va.	West Virginia Broadcasting Corp.

1170 kilocycles 256.3 meters

KTNT	5000	---	Muscatine, Iowa	Norman Baker
WCAU	10000	C	Philadelphia, Pa.	Universal Broadcasting Co.

1180 kilocycles 254.1 meters

KEX	5000	2	Portland, Ore.	Western Broadcasting Co.
KOB	20000	2	State College, N. M.	College of Agriculture & Mech. Arts
WDGY	1000	1	Minneapolis, Minn.	Dr. George W. Young
WHDI	500	1	Minneapolis, Minn.	Wm. Hood Dunwoody, Industry Inst.

1190 kilocycles 252.0 meters

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

1200 kilocycles 249.9 meters

KBTM	100	D	Paragould, Ark.	W. J. Beard's Temple of Music
KFHA	50	---	Gunnison, Colo.	Western College of Colorado
KFJB	100	+	Marshalltown, Iowa	Marshall Electric Co., Inc.
KFWF	100	5	St. Louis, Mo.	St. Louis Truth Center, Inc.
KGCU	100	---	Mandan, N. D.	Mandan Radio Association
KGDE	100	+	Fergus Falls, Minn.	Jaren Drug Co.
KGDY	15	XY	Oldham, S. D.	J. Albert Loesch and George W. Wright
KGEK	50	9	Yuma, Colo.	Beehler Elec. Equipment Co.
KGEW	100	9	Fort Morgan, Colo.	City of Fort Morgan
KGFJ	100	---	Los Angeles, Cal.	Ben S. McGlashan
KGFK	50	ZY	Hallock, Minn.	Lautzenheiser & Mitchell
KGHI	100	---	Little Rock, Ark.	Berean Bible Class
KGY	10	+	Lacey, Wash.	St. Martin's College
KSMR	100	---	Santa Maria, Cal.	Santa Maria Valley R. R. Co.
KVOS	100	---	Bellingham, Wash.	KVOS, Inc.
KWG	100	---	Stockton, Cal.	Portable Wireless Tel. Co., Inc.
KXO	100	---	El Centro, Cal.	E. R. Irey and F. M. Bowles
WABI	100	---	Bangor, Maine	Pine Tree Broadcasting Corp.
WABZ	100	1	New Orleans, La.	Coliseum Place Baptist Church
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	2	Burlington, Vt.	University of Vermont
WCLO	100	Y	Kenosha, Wis.	WCLO Radio Corp.
WCOD	100	3	Harrisburg, Pa.	Norman R. Hoffman
WEHC	100	+	Emory, Va.	Emory & Henry College
WFBC	50	---	Knoxville, Tenn.	First Baptist Church
WFBE	100	---	Cincinnati, Ohio	WFBE, Inc.
WHBC	10	4S	Canton, Ohio	St. John's Catholic Church
WHBY	100	---	Green Bay, Wis.	St. Norbert's College
WIBX	100	+	Utica, N. Y.	WIBX, Inc.
WIL	100	5+	St. Louis, Mo.	Missouri Broadcasting Corp.
WJBC	100	6	La Salle, Ill.	Hummer Furniture Co.
WJBL	100	6	Decatur, Ill.	Commodore Broadcasting, Inc.
WJBW	30	1	New Orleans, La.	Charles C. Carlson, Jr.
WKJC	100	3	Lancaster, Pa.	Kirk Johnson & Co.
WLAP	30	X+	Louisville, Ky.	American Broadcasting Corp. of Ky.
WLBG	100	+	Petersburg, Va.	Robert Allen Gamble
WMAY	100	5+	St. Louis, Mo.	Kingshighway Presbyterian Church
WNBO	100	4	Washington, Pa.	John Brownlee Spriggs
WNBW	10	---	Carbondale, Pa.	Home Cut Glass & China Co.
WNBX	10	2	Springfield, Vt.	First Congregational Church
WORC	100	X	Worcester, Mass.	Alfred Frank Kleindienst
WPDF	100	8	Flint, Mich.	City of Flint
WRAF	100	8	La Porte, Ind.	Chas. Middleton
WRBL	50	---	Columbus, Ga.	David Parmer
WWAE	100	8	Hammond, Ind.	Hammond-Calumet Broadcasting Cory.
XEA	101	---	Guadalajara, Jal.	Alberto Palos Sauza
XES	250	---	C. Lerdo Dgo.	Cerveceria de Durango, S. A.
10-BP	25	---	Wingham, Ont.	Radio & Electric Shop
-----	50	D	Monroe, La.	J. C. Liner

KCYS.
1200
MTRS.
249.9
DIAL

1210 kilocycles 247.8 meters

CFCO	100	---	Chatham, Ont.	Western Ontario "Better Radio" Club
CFNB	50	---	Fredericton, N. B.	James S. Neill & Sons, Ltd.
CHWK	5	---	Chilliwack, B. C.	Chilliwack Broadcasting Co., Ltd.
CKMC	15	---	Cobalt, Ont.	R. L. MacAdam
CKPC	25	---	Preston, Ont.	Wallace Russ
KDFN	100	---	Casper, Wyo.	Donald Lewis Hathaway
KDLR	100	---	Devils Lake, N. D.	KDLR, Inc.
KFOR	100	+	Lincoln, Nebr.	Howard A. Shuman
KFVS	100	6	Cape Girardeau, Mo.	Hirsch Battery & Radio Co.
KFXM	100	9	San Bernardino, Calif.	J. C. & E. W. Lee
KGCR	100	---	Watertown, S. D.	Cutler's Radio Brdcstg. Service, Inc.
KGMP	100	CP	Elk City, Okla.	Bryant Radio & Electric Co.
KGNO	100	CP	Dodge City, Kans.	Melvin A. McCollum
KMJ	100	---	Fresno, Cal.	James McClatchy Co.
KPPC	50	9	Pasadena, Cal.	Pasadena Presbyterian Church
KWEA	100	---	Shreveport, La.	Hello World Broadcasting Corp.
WBAX	100	1	Wilkes-Barre, Pa.	John H. Stenger, Jr.
WBBL	100	---	Richmond, Va.	Grace Covenant Presbyterian Church
WCBS	100	2	Springfield, Ill.	H. L. Dewing & Chas, Messter
WCOH	100	3	Yonkers, N. Y.	Westchester Broadcasting Corp.
WCRW	100	4	Chicago, Ill.	Clinton R. White
WDWF	100	5	Providence, R. I.	Dutee W. Flint
WEBE	100	Y	Cambridge, Ohio	Roy W. Waller
WEBQ	100	6	Harrisburg, Ill.	First Trust & Savings Bank
WEDC	100	4	Chicago, Ill.	Emil Denemark, Inc.
WGBB	100	3	Freeport, N. Y.	Harry H. Carman
WGCM	100	---	Gulfport, Miss.	Great Southern Land Co., Inc.
WHBF	100	---	Rock Island, Ill.	Beardsley Specialty Co.
WHBU	100	---	Anderson, Ind.	Citizens Bank
WJBI	100	3	Red Bank, N. J.	Robert S. Johnson
WJBU	100	1	Lewisburg, Pa.	Bucknell University
WJBY	50	---	Gadsden, Ala.	Gadsden Broadcasting Co., Inc.
WJW	100	---	Mansfield, Ohio	Mansfield Broadcasting Assn.
WLCI	50	---	Ithaca, N. Y.	Lutheran Assn. of Ithaca
WLSI	100	5	Providence, R. I.	The Lincoln Studios, Inc.
WMAN	50	---	Columbus, Ohio	Columbus Broadcasting Co.
WMBG	100	---	Richmond, Va.	Havens & Martin, Inc.
WMRJ	10	3	Jamaica, N. Y.	Peter J. Prinz
WOCL	25	---	Jamestown, N. Y.	A. E. Newton
WOMT	100	---	Manitowoc, Wis.	Francis M. Kadow
WPAW	100	5	Pawtucket, R. I.	Shartenburg & Robinson Co.
WRBQ	100	X+	Greenville, Miss.	J. Pat Scully
WRBU	100	---	Gastonia, N. C.	A. J. Kirby Music Co.
WSBC	100	4	Chicago, Ill.	World Battery Co., Inc.
WSIX	100	---	Springfield, Tenn.	638 Tire & Vulcanizing Co.
WTAX	50	2	Streator, Ill.	Williams Hardware Co.
------	50	---	Thomasville, Ga.	Stevens Luke

1220 kilocycles 245.8 meters

KFKU	1000	1	Lawrence, Kans.	University of Kansas
KWSC	500	X+	Pullman, Wash.	State College of Washington
WCAD	500	D	Canton, N. Y.	St. Lawrence University
WCAE	1000	N	Pittsburgh, Pa.	Gimbel Bros.
WDAE	1000	C	Tampa, Fla.	Tampa Publishing Co.
WREN	1000	1N	Lawrence, Kans.	Jenny Wren Co.

1230 kilocycles 243.8 meters

KFQD	100	---	Anchorage, Alaska	Anchorage Radio Club
KGGM	250	+	Albuquerque, N. Mex.	New Mexico Broadcasting Co.
KYA	1000	---	San Francisco, Calif.	Pacific Broadcasting Corp.
WBIS	1000	2	Boston, Mass.	Shepard-Norwell Co.
WFBM	1000	1C	Indianapolis, Ind.	Indianpolis Power & Light Co.
WNAC	1000	2C	Boston, Mass.	Shepard-Norwell Co.
WPSC	500	D	State College, Pa.	Pennsylvania State College
WSBT	500	1	South Bend, Ind.	South Bend Tribune

1240 kilocycles 241.8 meters

CMQ	100	---	Havana, Cuba	D. Fernendez Cruz
KSAT	1000	1	Ft. Worth, Texas	Texas Air Transport Brdcst.
WACO	1000	1	Waco, Texas	Central Texas Broadcasting Co., Inc.
WGHP	1000	C	Detroit, Mich.	Kunsky-Trendle Broadcasting Corp.

1250 kilocycles 239.9 meters

KFMX	1000	2	Northfield, Minn.	Carleton College
KFOX	1000	---	Long Beach, Cal.	Nichols & Warinner, Inc.
KIDO	1000	---	Boise, Idaho	Boise Broadcasting Station
WAAM	1000	1+	Newark, N. J.	WAAM, Inc.
WCAL	1000	2	Northfield, Minn.	St. Olaf College
WDSU	1000	C	New Orleans, La.	Jos. H. Uhalt
WGCP	250	1	Newark, N. J.	May Radio Broadcast Corp.
WGMS	1000	2	Minneapolis, Minn.	Northwestern Broadcasting Inc.
WLB	1000	2	Minneapolis, Minn.	University of Minnesota
WODA	1000	1	Paterson, N. J.	Richard E. O'Dea
WRHM	1000	2	Minneapolis, Minn.	Minneapolis Broadcasting Corp.
------	500	CP	Little Rock, Ark.	Joseph E. Phelps

1260 kilocycles 238.0 meters

KOIL	1000	C	Council Bluffs, Iowa	Mona Motor Oil Co.
KRGV	500	1	Harlingen, Texas	Valley Radio-Electric Corp.
KVOA	500	D	Tucson, Ariz.	Robert M. Riculfi
KWWG	500	1	Brownsville, Texas	Chamber of Commerce
WLBW	500	C+	Oil City, Pa.	Radio-Wire Program Corp.
WTOC	500	C	Savannah, Ga.	Savannah Broadcasting Co.

1270 kilocycles 236.1 meters

KFUM	1000	---	Colorado Springs, Colo.	W. D. Corley
KGCA	50	2D	Decorah, Iowa	Charles W. Greenley
KOL	1000	3C	Seattle, Wash.	Seattle Broadcasting Co., Inc.
KTW	1000	3	Seattle, Wash.	First Presbyterian Church
KWLC	100	2D	Decorah, Iowa	Luther College
WASH	500	1	Grand Rapids, Mich.	WASH Broadcasting Corp.
WEAI	1000	D	Ithaca, N. Y.	Cornell University
WFBR	250	---	Baltimore, Md.	Baltimore Radio Show, Inc.
WJDX	500	+N	Jackson, Miss.	Lamar Life Insurance Co.
WOOD	500	1	Grand Rapids, Mich.	Walter B. Stiles, Inc.

1280 kilocycles 234.2 meters

KFBB	1000	+	Great Falls, Mont.	Buttrey Broadcast, Inc.
WCAM	500	1	Camden, N. J.	City of Camden
WCAP	500	1	Asbury Park, N. J.	Radio Industries Broadcast Co.
WDOD	1000	+C	Chattanooga, Tenn.	Chattanooga Radio Co., Inc.
WIBA	500	---	Madison, Wis.	The Capital Times Co.
WOAX	500	1	Trenton, N. J.	Franklyn J. Wolff
WRR	500	---	Dallas, Texas	City of Dallas

1290 kilocycles 232.4 meters

KDYL	1000	C	Salt Lake City	Intermountain Broadcasting Corp.
KFUL	500	1	Galveston, Texas	Will H. Ford
KLCN	50	D	Blytheville, Ark.	C. L. Lintzenich
KTSA	1000	1+C	San Antonio, Texas	Lone Star Broadcast Co.
WEBC	1000	+N	Superior, Wis.	Head of Lake Broadcasting Co.
WJAS	1000	C	Pittsburgh, Pa.	Pittsburgh Radio Supply House
WNBZ	50	D	Saranac Lake, N. Y.	Smith & Mace

1300 kilocycles 230.6 meters

KFH	1000	2C	Wichita, Kansas	Radio Station KFH Co.
KFJR	500	3	Portland, Ore.	Ashley C. Dixon & Son
KGEF	1000	4	Los Angeles, Cal.	Trinity Methodist Church
KTBI	1000	4	Los Angeles, Cal.	Bible Institute of Los Angeles
KTBR	500	3	Portland, Ore.	M. E. Brown
WBBR	1000	1	Rossville, N. Y.	People's Pulpit Association
WEVD	500	1	New York City	Debs Memorial Radio Fund, Inc.
WHAP	1000	1	New York City	Defenders of Truth Society, Inc.
WHAZ	500	1	Troy, N. Y.	Rensselaer Polytechnic Institute
WIOD	1000	N	Miami Beach, Fla.	Isle of Dreams Broadcasting Co.
WOQ	1000	2	Kansas City, Mo.	Unity School of Christianity

1310 kilocycles 228.9 meters

KCRJ	100	CP	Jerome, Ariz.	Chas. C. Robinson
KFBK	100	---	Sacramento, Cal.	Jas. McClatchy Co.
KFGQ	100	7	Boone, Iowa	Boone Biblical College
KFIU	10	---	Juneau, Alaska	Alaska Electric Light & Power Co.
KFJY	100	7	Ft. Dodge, Iowa	C. S. Tunwall
KFPL	100	---	Dublin, Texas	C. C. Baxter
KFPM	15	---	Greenville, Texas	The New Furniture Co.

KCYS.
1310
MTRS.
228.9
DIAL

KFUP	100	8	Denver, Colo.	Fitzsimmons General Hospital
KFXJ	50	8	Edgewater, Colo.	R. G. Howell
KFXR	100	+	Oklahoma City	Exchange Ave. Baptist Church
KGBX	100	---	St. Joseph, Mo.	Foster-Hall Tire Co.
KGCX	100	+	Wolf Point, Mont.	First State Bank of Vida
KGEZ	100	C	Kalispell, Mont.	Chamber of Commerce
KGFW	100	---	Ravenna, Neb.	Otto F. Sothman and Roy H. McConnell
KIT	50	---	Yakima, Wash.	Carl E. Haymond
KMED	50	---	Medford, Ore.	Mrs. W. J. Virgin
KRMD	50	9	Shreveport, La.	Robert M. Dean
KTSL	100	9	Shreveport, La.	Houseman Sheet Metal Works, Inc.
KTSM	100	2	El Paso, Texas	W. S. Bledsoe & W. T. Blackwell
KWCR	100	7	Cedar Rapids, Iowa	Harry F. Paar
KXRO	75	---	Aberdeen, Wash.	KXRO, Inc.
WAGM	50	---	Royal Oak, Mich.	Royal Oak Broadcasting Co.
WBOW	100	---	Terre Haute, Ind.	Banks of Wabash, Inc.
WBRE	100	---	Wilkes-Barre, Pa.	Louis G. Baltimore
WCLS	100	1	Joliet, Ill.	WCLS, Inc.
WCSC	100	CP+	Charleston, S. C.	Fred Jordon & Lewis Burk
WDAH	100	2	El Paso, Texas	Eagle Broadcasting Co.
WEBR	100	+	Buffalo, N. Y.	Howell Broadcasting Co., Inc.
WFBG	100	3	Altoona, Pa.	Wm. F. Gable Co.
WFDF	100	---	Flint, Mich.	Frank D. Fallain
WFKD	50	4	Philadelphia, Pa.	Foulkrod Radio Engineering Co.
WGAL	100	5	Lancaster, Pa.	WGAL, Inc.
WGH	100	C	Newport News, Va.	Hampton Roads Broadcasting Corp.
WHAT	100	4X	Philadelphia, Pa.	Albert A. Walker
WIBU	100	---	Poynette, Wis.	William C. Forrest
WJAC	100	3	Johnstown, Pa.	Johnstown Automobile Co.
WJAK	50	6	Marion, Ind.	Marion Broadcasting Co.
WKAV	100	---	Laconia, N. H.	Laconia Radio Club
WKBB	100	1	Joliet, Ill.	Sanders Bros. Radio Station
WKBC	100	---	Birmingham, Ala.	R. B. Broyles Furniture Co.
WKBS	100	---	Galesburg, Ill.	Permil N. Nelson
WLBC	50	6	Muncie, Ind.	Donald A. Burton
WMBO	100	---	Auburn, N. Y.	Radio Service Laboratories
WNBH	100	---	New Bedford, Mass.	New Bedford Broadcasting Co.
WNBJ	50	---	Knoxville, Tenn.	Stewart Broadcasting Co.
WOBT	100	+	Union City, Tenn.	Tittsworth's Radio & Music Shop
WOL	100	---	Washington, D. C.	American Broadcasting Co.
WRAW	100	5XZ	Reading, Pa.	Avenue Radio & Electric Shop
WRBI	20	---	Tifton, Ga.	Kent's Furniture and Music Store
WRK	100	---	Hamilton, Ohio	Hamilton Radio Service
WSAJ	100	---	Grove City, Pa.	Grove City College
WSJS	100	CP	Winston-Salem, N. C.	Winston-Salem Journal Co.

1320 kilocycles 227.1 meters

KGHF	250	X+	Pueblo, Colo.	C. P. Ritchie & J. E. Finch
KGIQ	250	1	Twin Falls, Idaho	Radio Broadcasting Corp.
KGMB	500	---	Honolulu, Hawaii	Honolulu Broadcasting Co., Ltd.
KID	500	1+	Idaho Falls, Idaho	KID Broadcasting Co.
WADC	1000	C	Akron, Ohio	Allen T. Simmons
WSMB	500	N	New Orleans, La.	Saenger Theatre & Maison Blanche Co.

1330 kilocycles 225.4 meters

KGB	250	---	San Diego, Cal.	Pickwick Broadcasting Corp.
KSCJ	1000	1+X	Sioux City, Iowa	Perkins Bros. Co.
WDRC	500	---	New Haven, Conn.	Doolittle Radio Corp.
WSAI	500	N	Cincinnati, Ohio	Crosley Radio Corp., Lessee
WTAQ	1000	1	Eau Claire, Wis.	Gillette Rubber Co.

1340 kilocycles 223.7 meters

KFPY	1000	CX	Spokane, Wash.	Symons Broadcasting Co.
WCOA	500	---	Pensacola, Fla.	City of Pensacola
WSPD	500	C+	Toledo, Ohio	Toledo Broadcasting Co.

1350 kilocycles 222.1 meters

KWK	1000	N	St. Louis, Mo.	Greater St. Louis Broadcasting Corp.
WBNY	250	1	New York City	Baruchrome Corp.
WCDA	250	1	New York City	Italian Educ. Broadcasting Co., Inc.
WKBQ	250	1	New York City	Standard Cahill Co., Inc.
WMSG	250	1	New York City	Madison Square Garden Brdcstg. Corp.

1360 kilocycles 220.4 meters

KGER	1000	4X	Long Beach, Cal.	C. Merwin Dobyns
KGIR	500	---	Butte, Mont.	KGIR, Inc.
KPSN	1000	4	Pasadena, Cal.	Pasadena Star-News
WFBL	1000	C	Syracuse, N. Y.	The Onondaga Co., Inc.
WGES	500	1+	Chicago, Ill.	Oak Leaves Broadcasting Station, Inc.
WJKS	1000	1+	Gary, Ind.	Johnson-Kennedy Radio Corp.
WQBC	300	---	Vicksburg, Miss.	Delta Broadcasting Co., Inc.

1370 kilocycles 218.7 meters

KCRC	100	2+	Enid, Okla.	Champlin Refining Co.
KFBL	50	3	Everett, Wash.	Leese Bros.
KFJI	100	---	Astoria, Ore.	KFJI Broadcasters, Inc.
KFJM	100	---	Grand Forks, N. D.	University of North Dakota
KFJZ	100	---	Ft. Worth, Texas	Estate of H. C. Meachem
KFLX	100	---	Galveston, Texas	George Roy Clough
KGAR	100	+	Tucson, Ariz.	Tucson Motor Service Co.
KGCI	100	5	San Antonio, Texas	Radio Sam Broadcast Co., Inc.
KGDA	100	---	Mitchell, S. D.	Mitchell Broadcasting Corp.
KGFG	100	2	Oklahoma City	Faith Tabernacle Assn.
KGFL	50	---	Raton, N. M.	W. E. Whitmore
KGKL	100	---	San Angelo, Texas	KGKL, Inc., Opr. by Ragsdale Auto
KOH	100	---	Reno, Nevada	Jay Peters
KONO	100	5	San Antonio, Texas	Mission Broadcasting Co.
KOOS	100	---	Marshfield, Ore.	H. H. Hanseth
KRE	100	6	Berkeley, Cal.	First Congregational Church
KVL	100	3	Seattle, Wash.	KVL Inc.
KWKC	100	---	Kansas City, Mo.	Wilson Duncan Broadcasting Co.
WBTM	100	CP7	Danville, Va.	Clarke Electric Co.
WCBM	100	+Z	Baltimore, Md.	Baltimore Broadcasting Corp.
WELK	250	---	Philadelphia, Pa.	Howard R. Miller
WFDV	100	---	Rome, Ga.	Dolies Goings
WGL	100	---	Fort Wayne, Ind.	Fred C. Zieg
WHBD	100	---	Mount Orab, Ohio	F. P. Moler
WHBQ	100	---	Memphis, Tenn.	Broadcasting Station WHBQ, Inc.
WHDF	100	+	Calumet, Mich.	Upper Michigan Broadcasting Co.
WIBM	100	1	Jackson, Mich.	C. L. Carrell
WJBK	50	1	Ypsilanti, Mich.	James F. Hopkins Inc.
WLEY	100	+	Lexington, Mass.	Lexington Air Stations
WLVA	100	7	Lynchburg, Va.	Ed. A. & Philip P. Allen
WMBR	100	---	Tampa, Fla.	F. J. Reynolds
WPOE	100	---	Patchogue, N. Y.	Nassau Broadcasting Corp.
WQDM	5	D	St. Albans, Vt.	A. J. St. Antoine
WRAK	50	---	Williamsport, Pa.	C. R. Cummins
WRBJ	10	---	Hattiesburg, Miss.	Woodruff Furniture Co., Inc.
WRBT	100	---	Wilmington, N. C.	Wilmington Radio Association
WRJN	100	---	Racine, Wis.	Racine Broadcasting Corp.
WSVS	50	---	Buffalo. N. Y.	Seneca Vocational School
-----	50	---	Glens Falls, N. Y.	W. N. Parker & H. H. Metcalfe
-----	100		Augusta, Me.	Albert S. Woodman

KCYS.
1390
MTRS.
215.7
DIAL

1380 kilocycles 217.3 meters

KQV	500	2	Pittsburgh, Pa.	Doubleday-Hill Electric Co.
KSO	500	1	Clarinda, Iowa	Berry Seed Co.
WKBH	1000	1	La Crosse, Wis.	Callaway Music Co.
WSMK	200	2	Dayton, Ohio	Stanley M. Krohn, Jr.

1390 kilocycles 215.7 meters

KLRA	1000	1C	Little Rock, Ark.	Arkansas Broadcasting Co.
KOY	500	---	Phoenix, Ariz.	Nielson Radio & Sporting Goods Co.
KUOA	1000	1	Fayetteville, Ark.	University of Arkansas
WHK	1000	CX	Cleveland, Ohio	Radio Air Service Corp.

1400 kilocycles 214.2 meters

KLO	500	X	Ogden, Utah	Peery Building Co.
KOCW	250	+	Chickasha, Okla.	College for Women
WBAA	500	1	Lafayette, Ind.	Purdue University
WBBC	500	2	Brooklyn, N. Y.	Brooklyn Broadcasting Corp.
WCGU	500	2	Brooklyn, N. Y.	U. S. Broadcasting Corp.
WCMA	500	1	Culver, Ind.	Culver Military Academy
WKBF	500	1	Indianapolis, Ind.	Indianapolis Broadcasting, Inc.
WLTH	500	2	Brooklyn, N. Y.	The Voice of Brooklyn, Inc.
WSGH	500	2	Brooklyn, N. Y.	Paramount Broadcasting Co.

1410 kilocycles 212.6 meters

KFLV	500	4	Rockford, Ill.	Rockford Broadcasters, Inc.
KGRS	1000	1	Amarillo, Texas	Gish Radio Service
WBCM	500	C	Bay City, Mich.	James E. Davidson
WDAG	250	1	Amarillo, Texas	National Radio & Broadcasting Corp.
WHBL	500	4	Sheboygan, Wis.	Press Pub. Co. & C. L. Carrell
WLEX	1000	2	Lexington, Mass.	Lexington Air Stations
WMAF	500	2	S. Dartmouth, Mass.	Round Hills Radio Corp.
WODX	500	3	Mobile, Ala.	Mobile Broadcasting Corp.
WRBX	250	---	Roanoke, Va.	Richmond Development Corp.
WSFA	500	3	Montgomery, Ala.	Montgomery Broadcasting Corp.
WSSH	500	2	Boston, Mass.	Tremont Temple Baptist Church

1420 kilocycles 211.1 meters

KBPS	100	4	Portland, Ore.	Benson Polytechnic Institute
KFIZ	100	---	Fond du Lac, Wis.	Reporter Printing Co.
KFQU	100	5	Holy City, Cal.	W. E. Riker
KFQW	100	---	Seattle, Wash.	KFQW, Inc.
KFXD	100	XY	Jerome, Idaho	Service Radio Co.
KFXY	100	---	Flagstaff, Ariz.	Mary M. Costigan
KFYO	100	+	Abilene, Texas	T. E. Kirksey
KGFF	100	---	Alva, Okla.	KGFF Broadcasting Co.
KGGC	100	5	San Francisco, Cal.	Golden Gate Broadcasting Co.
KGIW	100	---	Trinidad, Colo.	Leonard E. Wilson
KGIX	100	CP	Las Vegas, Nevada	Las Vegas, Nevada, Radio Corp.
KGKX	100	---	Sand Point, Idaho	C. E. Twiss and F. H. McCann
KICK	100	---	Red Oak, Iowa	Red Oak Radio Corp.
KLPM	100	---	Minot, North Dakota	John B. Cooley
KORE	100	---	Eugene, Ore.	Eugene Broadcasting Station
KTAP	100	---	San Antonio, Texas	Alamo Broadcasting Co.
KTUE	100	X	Houston, Texas	Uhalt Electric
KXL	100	4	Portland, Ore.	KXL Broadcasters, Inc.
WEDH	30	---	Erie, Pa.	Erie Dispatch-Herald
WEHS	100	2	Evanston, Ill.	WEHS, Inc.
WELL	50	X	Battle Creek, Mich.	Enquirer-News Co.
WFDW	100	---	Talladega, Ala.	Raymond G. Hammett
WHDL	10	---	Tupper Lake, N. Y.	George Franklin Bissell
WHFC	100	2	Cicero, Ill.	Triangle Broadcasters
WHIS	100	---	Bluefield, W. Va.	Daily Telegraph
WIAS	100	---	Ottumwa, Iowa	Poling Electric Co.
WIBR	50	---	Steubenville, Ohio	George W. Robinson
WILM	100	---	Wilmington, Del.	Delaware Broadcasting Co., Inc.
WJBO	100	---	New Orleans, La.	Valdemar Jensen
WKBI	50	2X	Chicago, Ill.	Fred L. Schoenwolf
WLBF	100	---	Kansas City, Kas.	WLBF Broadcasting Co.
WMBC	100	X+	Detroit, Mich.	Michigan Broadcasting Co., Inc.
WMBH	100	+	Joplin, Mo.	Edwin Dudley Aber
WSPA	100	+	Spartanburg, S. C.	Voice of South Carolina
WTBO	50	X	Cumberland, Md.	Associated Broadcasting Corp.

1430 kilocycles 209.7 meters

KECA	1000	N	Los Angeles, Calif.	Pacific Development Radio Co.
KGNF	500	CPD	North Platte, Neb.	Herbert Logan Spencer
WBAK	500	1X+	Harrisburg, Pa.	Penna. State Police
WCAH	500	1C	Columbus, Ohio	Commercial Radio Service Co.
WGBC	500	2	Memphis, Tenn.	Memphis Broadcasting Co.
WHP	500	1C	Harrisburg, Pa.	Pennsylvania Broadcasting Co.
WNBR	500	2	Memphis, Tenn.	Memphis Broadcasting Co.

1440 kilocycles 208.2 meters

KLS	250	D	Oakland, Cal.	Warner Bros.
WABO	500	2	Rochester, N. Y.	Hickson Electric & Radio Corp.
WCBA	250	1	Allentown, Pa.	B. B. Musselman
WHEC	500	2C	Rochester, N. Y.	Hickson Electric & Radio Corp.

WMBD	500	3+	Peoria Heights, Ill.	Peoria Heights Radio Laboratory
WNRC	500	---	Greensboro, N. C.	Wayne M. Nelson
WOKO	500	2	Poughkeepsie, N. Y.	Hudson Valley Broadcasting Co.
WSAN	250	1	Allentown, Pa.	Allentown Call Publishing Co., Inc.
WTAD	500	3	Quincy, Ill.	Ills. Stock Medicine Broadcasting Co.

1450 kilocycles 206.8 meters

6 1/4

KTBS	1000	---	Shreveport, La.	Tri-State Broadcasting System Inc.
WBMS	250	1	Hackensack, N. J.	WBMS Broadcasting Corp.
WCSO	500	2	Springfield, Ohio	Wittenberg, College
WFJC	500	2N	Akron, Ohio	W. F. Jones Broadcast, Inc.
WHOM	250	1	Jersey City, N. J.	New Jersey Broadcasting Corp.
WKBO	250	1	Jersey City, N. J.	Camith Corp.
WNJ	250	1	Newark, N. J.	Radio Investment Co.
WSAR	250	---	Fall River, Mass.	Doughty & Welch Electric Co., Inc.
WTFI	500	---	Toccoa, Ga.	Toccoa Falls Institute

1460 kilocycles 205.4 meters

6

KSTP	10000	NX	St. Paul, Minn.	National Battery Broadcasting Co.
WJSV	10000	---	Alexandria, Va.	Independent Publishing Co.

1470 kilocycles 204.0 meters

5 3/4

KGA	5000	---	Spokane, Wash.	Northwest Broadcasting System, Inc.
WLAC	5000	1C	Nashville, Tenn.	Life & Casualty Insurance Co.
WTNT	5000	1	Nashville, Tenn.	Tennessee Publishing Co.

1480 kilocycles 202.6 meters

5 1/2

KFJF	5000	C	Oklahoma City	National Radio Mfg. Co.
WKBW	5000	C	Buffalo, N. Y.	Churchill Evangelistic Assn., Inc.

1490 kilocycles 201.2 meters

5 1/4

WCHI	5000	1	Chicago, Ill.	Radiophone Broadcasting Corp.
WCKY	5000	1N	Covington, Ky.	L. B. Wilson, Inc.
WJAZ	5000	1	Chicago, Ill.	Zenith Radio Corp.
WORD	5000	1	Chicago, Ill.	People's Pulpit Association

1500 kilocycles 199.9 meters

5

KDB	100	---	Santa Barbara, Cal.	Dwight Faulding
KGFI	100	X+	Corpus Christi, Texas	Eagle Broadcasting Co., Inc.
KGIZ	50	---	Grant City, Mo.	Grant City Park Corp.
KGKB	100	---	Brownwood, Texas	Eagle Publishing Co.
KGKY	100	---	Scottsbluff, Nebr.	Hilliard Co., Inc.
KGMD	100	CP	Roswell, N. M.	Dispatch Publishing Co.
KPJM	100	---	Prescott, Ariz.	Miller & Klahn
KPQ	50	---	Wenatchee, Wash.	Wescoast Broadcasting Co.
KREG	100	---	Santa Ana, Calif.	Pacific Western Broadcasting
KTLC	100	X	Houston, Texas	Houston Broadcasting Co.
KUJ	100	3	Longview, Wash.	Columbia Broadcasting Co., Inc.
KUT	100	---	Austin, Texas	Rice Hotel
KVEP	15	3	Portland, Ore.	Schaeffer Radio Co.
WBBS	50	2	Boston, Mass.	Boston Broadcasting Co.
WKBV	100	+	Connersville, Ind.	Knox Battery & Electric Co.
WKBZ	50	---	Ludington, Mich.	K. L. Ashbacker
WLBX	100	1	Long Island City, N. Y.	John N. Brahy
WLOE	100	2+	Boston, Mass.	Boston Broadcasting Co.
WMBA	100	---	Newport, R. I.	LeRoy Joseph Beebe
WMBJ	100	---	Wilkinsburg, Pa.	Rev. J. W. Sproul
WMBQ	100	1	Brooklyn, N. Y.	Paul J. Gollhofer
WMIL	100	1	Long Beach, N. Y.	Arthur Faske
WMPC	100	---	Lapeer, Mich.	First M. E. Church
WNBF	100	---	Binghamton, N. Y.	Hewitt-Wood Radio Co., Inc.
WOPI	100	---	Bristol, Tenn.	Radiophone Brdcstg. Station, Inc.
WPEN	100	+	Philadelphia, Pa.	Wm. Penn Broadcasting Co.
WWRL	100	1	Woodside, N. Y.	Long Island Broadcasting Corp.
------	100	---	Tupelo, Miss.	Blair & Anderson
------	100		Augusta, Ga.	Warren C. Davenport's Musicove, Inc.

KCYS.
1500
MTRS.
199.9
DIAL
5

13 8
13
6

INDEX BY LOCATIONS WITH MAP KEY

ALABAMA

Birmingham K-19-a	5000	WAPI	1140
	500	WBRC	930
	100	WKBC	1310
Gadsden K-20-a	50	WJBY	1210
Mobile L-19	500	WODX	1410
Montgomery K-19	500	WSFA	1410
Talladega K-20	100	WFDW	1420

ALASKA

Anchorage	100	KFQD	1230
Juneau	10	KFIU	1310
Ketchikan	500	KGBU	900

ARIZONA

Flagstaff J-7	100	KFXY	1420
Jerome J-7	100	KCRJ	1310
Phoenix K-7	500	KOY	1390
	500	KTAR	620
Prescott J-6	100	KPJM	1500
Tucson L-7	100	KGAR	1370
	500	KVOA	1260

ARKANSAS

Blytheville I-18	50	KLCN	1290
Fayetteville I-16	1000	KUOA	1390
Hot Springs J-16	10000	KTHS	1040
Little Rock J-17	100	KGHI	1200
	250	KGJF	890
	1000	KLRA	1390
	500		1250
Paragould I-17	100	KBTM	1200

CALIFORNIA

Berkeley H-1-a	100	KRE	1370
Burbank J-4	500	KELW	780
Culver City K-3	250	KFVD	1000
El Centro K-5	100	KXO	1200
Fresno I-3	100	KMJ	1210
Hollywood K-3	1000	KFWB	950
	500	KMTR	570
	5000	KNX	1050
Holy City I-2	100	KFQU	1420
Inglewood K-4	500	KMIC	1120
Long Beach K-4-a	1000	KFOX	1250
	1000	KGER	1360
Los Angeles K-3-b	1000	KECA	1430
	5000	KFI	640
	250	KFQZ	860
	500	KFSG	1120
	1000	KGEF	1300
	100	KGFJ	1200
	1000	KHJ	900
	500	KMPC	710
	500	KTM	780
	1000	KTBI	1300
Oakland H-1-b	500	KFWM	930
	7500	KGO	790
	250	KLS	1440
	500	KLX	880
	1000	KTAB	560
Pasadena J-4	50	KPPC	1210
	1000	KPSN	1360
Sacramento H-2-a	100	KFBK	1310
San Bernardino J-3	100	KFXM	1210
San Diego K-4-b	500	KFSD	600
	250	KGB	1330
San Francisco H-1-c	1000	KFRC	610
	500	KFWI	930
	100	KGGC	1420
	100	KJBS	1070
	5000	KPO	680
	1000	KYA	1230
San Jose I-2	500	KQW	1010
Santa Ana K-4	100	KREG	1500
Santa Barbara J-3	100	KDB	1500
Santa Maria J-2-b	100	KSMR	1200
Stockton H-2-b	250	KGDM	1100
	100	KWG	1200
Westminster	5000	KPWF	1490

CANAL ZONE

Balboa	750	NBA	850

COLORADO

Colo. Springs H-10	1000	KFUM	1270
Denver G-10-b	500	KFEL	920
	100	KFUP	1310
	500	KFXF	920
	1000	KLZ	560
	12500	KOA	830
	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	50000	WTIC	1060
New Haven F-26-b	500	WDRC	1330
Storrs	250	WCAC	600

DELAWARE

Wilmington G-25	250	WDEL	1120
	100	WILM	1420

DISTRICT OF COLUMBIA

Washington G-24-c	250	WMAL	630
	500	WRC	950
	100	WOL	1310

FLORIDA

Clearwater N-21	1000	WFLA	620
Gainesville M-21	5000	WRUF	830
Jacksonville M-22	1000	WJAX	900
Miami O-23	1000	WQAM	560
Miami Beach O-23	1000	WIOD	1300
Orlando N-22	500	WDBO	1120
Pensacola L-19	500	WCOA	1340
St. Petersburg N-21	1000	WSUN	620
Tampa N-22-b	1000	WDAE	1220
	100	WMBR	1370

GEORGIA

Atlanta K-20-a	250	WGST	890
	5000	WSB	740
Augusta K-22	100		1500
Columbus K-20	50	WRBL	1200
Macon K-21	250	WMAZ	890
Rome J-20	100	WFDV	1370
Savannah K-22	500	WTOC	1260
Thomasville L-20	50		1210
Tifton L-21	20	WRBI	1310
Toccoa J-21	500	WTFI	1450

HAWAII

Honolulu	500	KGMB	1320
	500	KGU	940

IDAHO

Boise D-4	1000	KIDO	1250
Idaho Falls D-7	500	KID	1320
Jerome E-5	50	KFXD	1420
Pocatello E-7	250	KSEI	900
Sand Point A-4	100	KGKX	1420
Twin Falls E-5	250	KGIQ	1320

ILLINOIS

Carthage F-17-e	50	WCAZ	1070
Chicago E-19-g	10000	KFKX	1020
	10000	KYW	1020
	500	WAAF	920
	25000	WBBM	770
	1000	WCFL	970
	5000	WCHI	1490
	100	WCRW	1210
	100	WEDC	1210
	50000	WENR	870
	500	WGES	1360
	25000	WGN	720
	1000	WIBO	560
	5000	WJAZ	1490
	25000	WJBT	770
	50	WKBI	1420
	25000	WLIB	720
	5000	WLS	870
	5000	WMAQ	670
	5000	WMBI	1080
	5000	WORD	1490
	500	WPCC	560
	100	WSBC	1210
Cicero E-19	100	WHFC	1420
Decatur G-18	100	WJBL	1200
Evanston E-19	100	WEHS	1420
Galesburg F-18-a	100	WKBS	1310
Harrisburg H-18-b	100	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-c	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
Connersville 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	1000	WJKS	1360
Hammond F-19	100	WWAE	1200
Indianapolis G-19-c	1000	WFBM	1230
	500	WKBF	1400
Lafayette G-19	500	WBAA	1400
La Porte F-19-c	100	WRAF	1200
Marion F-20	50	WJAK	1310
Muncie G-20	50	WLBC	1310
South Bend F-20-a	500	WSBT	1230
Terre Haute G-19	100	WBOW	1310

IOWA

Ames E-16-c	5000	WOI	640
Boone E-16	100	KFGQ	1310
Cedar Rapids E-17-a	100	KWCR	1310
Clarinda E-15-c	500	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	880
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
Shenanhoah F-15-c	500	KFNF	890
	500	KMA	930
Sioux City E-15	1000	KSCJ	1330
Waterloo F-17	500	WMT	600

KANSAS

Dodge City H-13	100	KGNO	1210
Gueda Springs	250		680
Kansas City G-15	100	WLBF	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	500	WIBW	580
Wichita H-14-a	1000	KFH	1300

KENTUCKY

Covington G-20	5000	WCKY	1490
Hopkinsville I-19	1000	WFIW	940
Louisville H-20	10000	WHAS	820
	30	WLAP	1200

LOUISIANA

Monroe K-17	50		1200
New Orleans M-17	100	WABZ	1200
	1000	WDSU	1250
	100	WJBO	1420
	30	WJBW	1200
	500	WSMB	1320
	5000	WWL	850
Rayne M-17	150		1120
Shreveport K-16	50	KRMD	1310
	1000	KTBS	1450
	100	KTSL	1310
	100	KWEA	1210
	10000	KWKH	850

MAINE

Augusta D-28	100		1370
Bangor C-28-b	100	WABI	1200
	500	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

MASSACHUSETTS

Boston E-27-c	1000	WBIS	1230
	500	WBZA	990
	1000	WEEI	590
	100	WLOE	1500
	50	WBBS	1500
	1000	WNAC	1230
	500	WSSH	1410
Fall River E-27	250	WSAR	1450
Gloucester E-27	1000	WHDH	830
Lexington E-27	1000	WLEX	1410
	100	WLEY	1370
New Bedford E-27	100	WNBH	1310
S. Dartmouth E-27	500	WMAF	1410
Springfield E-26-b	15000	WBZ	990
Wellesley Hills E-27	250	WBSO	920
Worcester E-27-b	100	WORC	1200
	250	WTAG	580

MICHIGAN

Battle Creek E-20	50	WELL	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	1000	WGHP	1240
	5000	WJR	750
	100	WMBC	1420
	1000	WWJ	920
East Lansing E-20-b	1000	WKAR	1040
Flint E-21-a	100	WFDF	1310
	100	WPDF	1200
Grand Rapids E-20-a	500	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

Fergus Falls B-15	100	KGDE	1200
Hallock A-14	50	KGFK	1200
Minneapolis C-16-b	7500	WCCO	810
	1000	WDGY	1180
	1000	WGMS	1250
	500	WHDI	1180
	1000	WLB	1250
	1000	WRHM	1250
Northfield D-16	1000	KFMX	1250
	1000	WCAL	1250
St. Paul C-16-c	10000	KSTP	1460

MISSISSIPPI

Greenville K-17	100	WRBQ	1210
Gulfport M-18	100	WGCM	1210
Hattiesburg L-18	10	WRBJ	1370
Jackson L-18	500	WJDX	1270
Meridian L-18	500	WCOC	880
Tupelo J-18	100		1500
Vicksburg K-17	300	WQBC	1360

MISSOURI

Cp. Girardeau H-18-c	100	KFVS	1210
Columbia G-16-b	500	KFRU	630
Grant City F-15	50	KGIZ	1500
Jefferson City H-16-a	500	WOS	630
Joplin H-16	100	WMBH	1420
Kansas City G-15-b	1000	KMBC	950
	100	KWKC	1370
	1000	WDAF	610
	500	WHB	860
	1000	WOQ	1300
St. Joseph G-15	2500	KFEQ	680
	100	KGBX	1310
St. Louis H-18-a	5000	KFQA	1090
	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	500	KGIR	1360
Great Falls A-8	1000	KFBB	1280
Kalispell A-5	100	KGEZ	1310
Wolf Point A-10	100	KGCX	1310

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	1000	WJAG	1060
North Platte F-13	500	KGNF	1430
Omaha F-15-a	500	WAAW	660
	1000	WOW	590
Ravenna F-13	100	KGFW	1310
Scottsbluff F-11	100	KGKY	1500
York F-13	500	KGBZ	930

NEVADA

Las Vegas I-5	100	KGIX	1420
Reno G-3	100	KOH	1370

NEW HAMPSHIRE

Laconia D-27	100	WKAV	1310

NEW JERSEY

Asbury Park G-26	500	WCAP	1280
Atlantic City G-25	5000	WPG	1100
Camden F-25-f	500	WCAM	1280
Hackensack F-26	250	WBMS	1450
Jersey City F-26-d	300	WAAT	940
	250	WHOM	1450
	250	WKBO	1450
Newark F-25-h	1000	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

NEW MEXICO

Albuquerque J-9	250	KGGM	1230
Raton I-11	50	KGFL	1370
Roswell K-10	100	KGMD	1500
State College K-9	20000	KOB	1170

NEW YORK

Auburn E-24	100	WMBO	1310
Binghamton E-25	100	WNBF	1500
Brooklyn F-26-f	500	WBBC	1400
	500	WCGU	1400
	500	WLTH	1400
	100	WMBQ	1500
	500	WSGH	1400
Buffalo E-23-a	100	WEBR	1310
	1000	WGR	550
	5000	WKBW	1480
	1000	WKEN	1040
	750	WMAK	900
	1000	WRDA	900
	50	WSVS	1370
Canton D-25	500	WCAD	1220
Cazenovia E-25-b	250	WMAC	570
Freeport F-26-1	1000	WGBB	1210
Glens FallsE-26	50		1370
Ithaca E-24-d	1000	WEAI	1270
	1000	WLCI	1210
Jamaica F-26-f	10	WMRJ	1210
Jamestown E-23-b	25	WOCL	1210
Long Island City F-26	100	WLBX	1500
Long Beach F-26	100	WMIL	1500

New York City F-26	5000	WABC	860
	250	WBNY	1350
	5000	WBOQ	860
	250	WCDA	1350
	50000	WEAF	660
	500	WEVD	1300
	600	WGBS	600
	1000	WHAP	1300
	250	WHN	1010
	30000	WJZ	760
	250	WKBQ	1350
	5000	WLWL	1100
	500	WMCA	570
	250	WMSG	1350
	500	WNYC	570
	1000	WOV	1130
	250	WPAP	1010
	500	WPCH	810
	250	WQAO	1010
	250	WRNY	1010
Patchogue F-26	100	WPOE	1370
Poughkeepsie 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	50	WNBZ	1290
Schenectady E-25-c	50000	WGY	790
Syracuse E-24-c	1000	WFBL	1360
	250	WSYR	570
Troy E-21-a	500	WHAZ	1300
Tupper Lake D-25	10	WHDL	1420
Utica E-25-a	100	WIBX	1200
Woodside F-26	100	WWRL	1500
Yonkers E-26	100	WCOH	1210

NORTH CAROLINA

Asheville J-21	1000	WWNC	570
Charlotte J-22	5000	WBT	1180
Gastonia J-22	100	WRBU	1210
Greensboro I-22	500	WNRC	1440
Raleigh I-23	1000	WPTF	680
Wilmington J-24	100	WRBT	1370
Winston-Salem I-22	100	WSJS	1310

NORTH DAKOTA

Bismarck B-12	1000	KFYR	550
Devils Lake A-13	100	KDLR	1210
Fargo B-14	1000	WDAY	940
Grand Forks A-14	100	KFJM	1370
Mandan B-12	100	KGCU	1200
Minot A-12	100	KLPM	1420

OHIO

Akron F-22-b	1000	WADC	1320
	500	WFJC	1450
Cambridge F-22	100	WEBE	1210
Canton F-22-d	10	WHBC	1200
Cincinnati G-20-e	100	WFBE	1200
	1000	WKRC	550
	50000	WLW	700
	500	WSAI	1330
Cleveland F-22-a	1000	WHK	1390
	500	WJAY	610
	50000	WTAM	1070
Columbus G-21-b	500	WAIU	640
	500	WCAH	1430
	750	WEAO	570
	50	WMAN	1210
Dayton G-21-e	200	WSMK	1380
Hamilton G-20-d	100	WRK	1310
Mansfield F-21	100	WJW	1210
Mount Orab	100	WHBD	1370
Springfield G-21-c	500	WCSO	1450
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	250	KOCW	1400
Elk City J-13	100	KGMP	1210
Enid I-14	100	KCRC	1370
Norman J-14-a	500	WNAD	1010
Oklahoma I-14-b	5000	KFJF	1480
	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	100	KFJI	1370
Corvallis D-1	1000	KOAC	550
Eugene D-1	100	KORE	1420
Marshfield E-1	100	KOOS	1370
Medford E-1	50	KMED	1310
Portland C-1-b	5000	KEX	1170
	100	KBPS	1420
	500	KFJR	1300
	1000	KGW	620
	1000	KOIN	940
	500	KTBR	1300
	15	KVEP	1500
	500	KWJJ	1060
	100	KXL	1420

PENNSYLVANIA

Adamsburg	100	WGM	940
Allentown F-25-c	250	WCBA	1440
	250	WSAN	1440
Altoona F-24-c	100	WFBG	1310
Carbondale F-25	10	WNBW	1200
Elkins Park G-25-c	50	WIBG	930
Erie E-23	30	WEDH	1420
Grove City F-23-b	100	WSAJ	1310
Harrisburg F-24-d	500	WBAK	1430
	100	WCOD	1200
	500	WHP	1430
Jeannette G-23	100	WOOP	840
Johnstown F-23-d	100	WJAC	1310
Lancaster G-24-a	100	WGAL	1310
	100	WKJC	1200
Lewisburg F-24-b	100	WJBU	1210
Oil City F-23-a	500	WLBW	1260
Philadelphia G-25-d	10000	WCAU	1170
	250	WELK	1370
	500	WFAN	610
	500	WFI	560
	50	WFKD	1310
	100	WHAT	1310
	500	WIP	610
	500	WLIT	560
	100	WPEN	1500
	250	WRAX	1020
Pittsburgh F-23-c	50000	KDKA	980
	500	KQV	1380
	1000	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	100	WNBO	1200
Wilkes-Barre F-25-b	100	WBAX	1210
	100	WBRE	1310
Wilkinsburg F-23	100	WMBJ	1500
Williamsport F-24	50	WRAK	1370

PORTO RICO			
San Juan	500	WKAQ	890
RHODE ISLAND			
Newport F-27	100	WMBA	1500
Pawtucket E-27	100	WPAW	1210
Providence E-27-h	100	WDWF	1210
	250	WEAN	780
	250	WJAR	890
	100	WLSI	1210
SOUTH CAROLINA			
Charleston K-23	75	WBBY	1200
	100	WCSC	1310
Columbia K-22	500	WIS	1010
Spartanburg J-22	100	WSPA	1420
SOUTH DAKOTA			
Brookings D-14	500	KFDY	550
Mitchell 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	1110
Vermillion E-14-b	500	KUSD	890
Watertown	100	KGCR	1210
Yankton E-14-a	1000	WNAX	570
TENNESSEE			
Bristol I-22	100	WOPI	1500
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	WLAC	1470
	5000	WSM	650
	5000	WTNT	1470
Springfield I-19	100	WSIX	1210
Union City I-18	100	WOBT	1310
TEXAS			
Abilene K-13	100	KFYO	1420
Amarillo J-12	1000	KGRS	1410
	250	WDAG	1410
Austin L-14-b	100	KUT	1500
Beaumont M-16	500	KFDM	560
Brownsville O-14-b	500	KWWG	1260
Brownwood L-13	100	KGKB	1500
College Sta. M-13	500	WTAW	1120
Corpus Christi N-14	100	KGFI	1500
Dallas L-15-a	10000	KRLD	1040
	50000	WFAA	800
	500	WRR	1280
Dublin K-14	100	KFPL	1310
El Paso L-10	100	KTSM	1310
	100	WDAH	1310
Fort Worth L-14-a	100	KFJZ	1370
	1000	KSAT	1240
	5000	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
	500	KTRH	1120
	100	KTUE	1420
	100	KTLC	1500
San Angelo M-12	100	KGKL	1370
San Antonio M-14-a	100	KGCI	1370
	100	KONO	1370
	100	KTAP	1420
	1000	KTSA	1290
	5000	WOAI	1190
Waco L-15-b	1000	WACO	1240
Wichita Falls K-14	250	KGKO	570
UTAH			
Ogden F-7-b	500	KLO	1400
Salt Lake City F-7-c	1000	KDYL	1290
	5000	KSL	1130
VERMONT			
Burlington D-26-a	100	WCAX	1200
St. Albans D-26	5	WQDM	1370
Springfield D-26-b	10	WNBX	1200
VIRGINIA			
Alexandria G-24	10000	WJSV	1460
Arlington G-24-d	1000	NAA	690
Danville I-23	100	WBTM	1370
Emory	100	WEHC	1200
Lynchburg H-23	100	WLVA	1370
	500		590
Newport News I-24	100	WGH	1310
Norfolk I-24	500	WPOR	780
	500	WTAR	780
Petersburg H-24	100	WLBG	1200
Richmond H-24	100	WBBL	1210
	100	WMBG	1210
	5000	WRVA	1110
Roanoke H-23	250	WDBJ	930
	250	WRBX	1410
WASHINGTON			
Aberdeen B-1	75	KXRO	1310
Bellingham A-1	100	KVOS	1200
Everett A-2	50	KFBL	1370
Lacey B-2-b	10	KGY	1200
Longview B-1	100	KUJ	1500
Pullman B-4	500	KWSC	1220
Seattle B-2-a	100	KFQW	1420
	5000	KJR	970
	1000	KOL	1270
	1000	KOMO	920
	100	KPCB	650
	50	KRSC	1120
	1000	KTW	1270
	100	KVL	1370
	500	KXA	570
Spokane A-4	100	KFIO	1120
	1000	KFPY	1340
	5000	KGA	1470
	1000	KHQ	590
Tacoma B-1-a	500	KMO	860
	1000	KVI	760
Wenatchee B-3	50	KPQ	1500
Yakima B-3	50	KIT	1310
WEST VIRGINIA			
Bluefield H-22	100	WHIS	1420
Charleston H-22	250	WOBU	580
Fairmont G-23	250	WMMN	890
Huntington G-22	250	WSAZ	580
Wheeling G-22	5000	WWVA	1160
WISCONSIN			
Beloit E-18-b	500	WEBW	560
Eau Claire D-17	1000	WTAQ	1330
Fond du Lac D-18-d	100	KFIZ	1420
Green Bay D-19	100	WHBY	1200
Kenosha E-19	100	WCLO	1200
La Crosse E-17	1000	WKBH	1380
Madison E-18-2	750	WHA	940
	100	WIBA	1280
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	1290
WYOMING			
Casper	100	KDFN	1210

CANADA

ALBERTA			
Calgary	500	CFAC	690
	500	CFCN	690
	500	CHCA	690
	500	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
	1000	CNRD	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
	5000	CNRW	780
NEW BRUNSWICK			
Fredericton	50	CFNB	1210
Moncton	500	CNRA	630
St. John	50	CFBO	890
NOVA SCOTIA			
Halifax	500	CHNS	930
Louisburg	500	VAS	690
Sydney	50	CJCB	880
Wolfville	50	CKIC	930
ONTARIO			
Chatham	100	CFCO	1210
Cobalt	15	CKMC	1210
Hamilton	10	CHCS	880
	50	CHML	880
	50	CKOC	880
Iroquois Falls	250	CFCH	600
Kingston	500	CFRC	930
London	500	CJGC	910
	500	CNRL	910
Midland	50	CKPR	930
Ottawa	100	CKCO	890
	500	CNRO	600
Prescott	50	CFLC	1010
Preston	25	CKPC	1210
Toronto	500	CFCA	840
	500	CFCL	580
	4000	CFRB	960
	5000	CHRY	690
	500	CJSC	580
	500	CKCL	580
	5000	CKGW	690
	500	CKNC	580
	500	CNRT	840
	5000	CNRX	690
Waterloo	50	CKCR	1010
Wingham	25	10-BP	1200
PRINCE EDWARD ISLAND			
Charlottetown	250	CFCY	960
	30	CHCK	960
Summerside	25	CHGS	1120
QUEBEC			
Montreal	1650	CFCF	1030
	5000	CHYC	730
	5000	CKAC	730
	5000	CNRM	730
Quebec	100	CHRC	880
	22	CKCI	880
	50	CKCV	880
	50	CNRQ	880
St. Hyacinthe	50	CKSH	1010
SASKATCHEWAN			
Fleming	500	CJRW	600
Moose Jaw	500	CJRM	600
Pilot Butte	500	CHWC	960
Regina	500	CFCR	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	920
MEXICO			
Chihuahua	250	XFF	960
C. Lerdo, Dgo.	250	XES	1200
Guadalajara, Jal.	101	XEA	1200
Jalapa, Ver.	350	XFC	630
Merida, Yucatan	105	XEY	550
Mexico City	1000	XEB	670
	1000	XEN	730
	500	XEX	950
	50	XFA	540
	2000	XFG	640
	1000	XFI	590
	1000	XFX	910
Monterrey, N. L	1000	XEH	970
Morelia, Mich.	101	XEI	1000
Oaxaca, Oax.	105	XEF	1130
Pueblo, Pue.	101	XEE	960
CUBA			
Caibarien	250	CMHD	920
Cienfuegos	200	CMHA	1150
Colon	300	CMGA	830
Havana	200	CMBY	610
	100	CMBZ	1030
	500	CMC	840
	150	CMCB	950
	100	CMCE	1100
	250	CMCF	640
	500	CMI	820
	2000	CMK	1100
	100	CMQ	1240
	1000	CMW	600
	500	CMX	900
Marianao	50	CMBW	1030
Tuinucu	500	CMHC	790
COSTA RICA			
San Jose	50	TIX	750

CFAC 690 Calgary, Alta.
CFBO 890 St. John, N. B.
CFCA 840 Toronto, Ont.
CFCF 1030 Montreal, Que.
CFCH 600 Iroq's Falls, Ont.
CFCL 580 Toronto, Ont.
CFCN 690 Calgary, Alta.
CFCO 1210 Chatham, Ont.
CFCR 960 Regina, Sask.
CFCT 630 Victoria, B. C.
CFCY 960 Ch'lottet'n,P.E.I.
CFJC 1120 Kamloops, B. C.
CFLC 1010 Prescott, Ont.
CFNB 1210 Fredericton, N.B.
CFQC 910 Saskatoon, Sask.
CFRB 960 Toronto, Ont.
CFRC 930 Kingston, Ont.
CHCA 690 Calgary, Alta.
CHCK 960 Ch'lottet'n,P.E.I.
CHCS 880 Hamilton, Ont.
CHCT 840 Red Deer, Alta.
CHGS 1120 Sum'rside, P.E.I.
CHLS 730 Vancouver, B.C.
CHMA 580 Edmonton, Alta.
CHML 880 Hamilton, Ont.
CHNS 930 Halifax, N.S.
CHRC 880 Quebec, Que.
CHRY 690 Toronto, Ont.
CHWC 960 Pilot Butte, Sask.
CHWK 1210 Chilliwack, B.C.
CHYC 730 Montreal, Que.
CJBR 960 Regina, Sask.
CJCA 580 Edmonton, Alta.
CJCB 880 Syndey, 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 880 Quebec, Que.
CKCK 960 Regina, Sask.
CKCL 580 Toronto, Ont.
CKCO 890 Ottawa, Ont.
CKCR 1010 Waterloo, Ont.
CKCV 880 Quebec, Que.
CKFC 730 Vancouver, B.C.
CKGW 690 Toronto, 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.
CKPC 1210 Preston, Ont.
CKPR 930 Midland, Ont.
CKSH 1010 St. H'cinthe, Que.
CKUA 580 Edmonton, Alta.
CKWX 730 Vancouver, B.C.
CKX 540 Brandon, Man.
CKY 780 Winnipeg, Man.
CMBW 1030 Marianao, Cuba
CMBY 610 Havana, Cuba
CMBZ 1030 Havana, Cuba
CMC 840 Havana, Cuba
CMCB 950 Havana, Cuba
CMCE 1100 Havana, Cuba
CMCF 640 Havana, Cuba
CMGA 830 Colon, Cuba
CMHA 1150 Cienfuegos, Cuba
CMHC 790 Tuinucu, Cuba
CMHD 920 Caiharien, Cuba
CMI 820 Havana, Cuba
CMK 1100 Havana, Cuba
CMQ 1240 Havana, Cuba
CMW 600 Havana, Cuba
CMX 920 Havana, Cuba
CNRA 630 Moncton, N.B.
CNRC 690 Calgary, Alta.
CNRD 840 Red Deer, Alta.
CNRE 580 Edmonton, Alta.
CNRL 910 London, Ont.
CNRM 730 Montreal, Que.
CNRO 600 Ottawa, Ont.
CNRQ 880 Quebec, Que.
CNRR 960 Regina, Sask.
CNRS 910 Saskatoon, Sask.
CNRT 840 Toronto, Ont.
CNRV 1030 Vancouver, B.C.
CNRW 780 Winnipeg, Man.
CNRX 690 Toronto, Ont.
HHK 920 Port au Prince,H.
KBPS 1420 Portland, Ore.
KBTM 1200 Paragould, Ark.
KCRC 1370 Enid, Okla.
KCRJ 1310 Jerome, Ariz.
KDB 1500 S. Barbara, Cal.
KDFN 1210 Casper, Wyo.
KDKA 980 Pittsburgh, Pa.
KDLR 1210 Devils Lake,N.D.
KDYL 1290 Salt Lake City
KECA 1430 Los Angeles, Cal.
KELW 780 Burbank, Cal.
KEX 1170 Portland, Ore.
KFAB 770 Lincoln, Nebr.
KFBB 1280 Great Fls., Mont.
KFBK 1310 Sacramento, Cal.
KFBL 1370 Everett, Wash.
KFDM 560 Beaumont, Tex.
KFDY 550 Brookings, S.D.
KFEL 920 Denver, Colo.
KFEQ 680 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 1120 Spokane, Wash.
KFIU 1310 Juneau, Alaska
KFIZ 1420 Fond du Lac, Wis.
KFJB 1200 Marshalltown, Ia.
KFJF 1480 Oklahoma City
KFJI 1370 Astoria, Ore.
KFJM 1370 Grd. Forks, N.D.
KFJR 1300 Portland, Ore.
KFJY 1310 Fort Dodge, Ia.
KFJZ 1370 Ft. Worth, Tex.
KFKA 880 Greeley, Colo.
KFKB 1050 Milford, Kansas
KFKU 1220 Lawrence, Kans.
KFKX 1020 Chicago, Ill.
KFLV 1410 Rockford, Ill.
KFLX 1370 Galveston, Tex.
KFMX 1250 N'thfield, Minn.
KFNF 890 Shenandoah, Ia.
KFOR 1210 Lincoln, Nebr.
KFOX 1250 Long Beach, Cal.
KFPL 1310 Dublin, Texas
KFPM 1310 Greenville, Tex.
KFPY 1340 Spokane, Wash.
KFQA 1090 St. Louis, Mo.
KFQD 1230 Anchorage, Alas.
KFQU 1420 Holy City, Cal.
KFQW 1420 Seattle, Wash.
KFQZ 860 Los Angeles, Cal.
KFRC 610 San F'ncisco, Cal.
KFRU 630 Columbia, Mo.
KFSD 600 San Diego, Cal.
KFSG 1120 Los Angeles, Cal.
KFUL 1290 Galveston, Tex.
KFUM 1270 Col. Spgs., Colo.

KFUO 550 St. Louis, Mo.
KFUP 1310 Denver, Colo.
KFVD 1000 Culver City, Cal.
KFVS 1210 Cape Gir'rd'u, Mo
KFWB 950 Hollywood, Cal.
KFWF 1200 St. Louis, Mo.
KFWI 930 San F'ncisco, Cal.
KFWM 930 Oakland, Cal.
KFXD 1420 Jerome, Idaho
KFXF 920 Denver, Colo.
KFXJ 1310 Edgewater, Colo.
KFXM 1210 San Ber'd'no, Cal.
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 1330 San Diego, Cal.
KGBU 900 Ketchikan, Al'ka.
KGBX 1310 St. Joseph, Mo.
KGBZ 930 York, Nebr.
KGCA 1270 Decorah, Iowa
KGCI 1370 San Ant'nio, Tex.
KGCR 1210 Watertown, S.D.
KGCU 1200 Mandan, N.D.
KGCX 1310 Wolf P't, Mont.
KGDA 1370 Mitchell, S. D.
KGDE 1200 Ferg's F'lls, Minn
KGDM 1100 Stockton, Cal.
KGDY 1200 Oldham, S.D.
KGEF 1300 Los Angeles, Cal.
KGEK 1200 Yuma, Colo.
KGER 1360 Long Beach, Cal.
KGEW 1200 Ft. Morgan, Colo.
KGEZ 1310 Kalispell, Mont.
KGFG 1370 Oklahoma City
KGFI 1500 C'pus Ch'sti, Tex.

KGFJ 1200 Los Angeles, Cal.
KGFK 1200 Hallock, Minn.
KGFL 1370 Raton, N.M.
KGFW 1310 Ravenna, Nebr.
KGFX 580 Pierre, S.D.
KGGC 1420 San F'ncisco, Cal.
KGGF 1010 Picher, Okla.
KGGM 1230 Alb'q'rque, N.M.
KGHF 1320 Pueblo, Colo.
KGHI 1200 Little Rock, Ark.
KGHL 950 Billings, Mont.
KGIQ 1320 Twin Falls, Ida.
KGIR 1360 Butte, Mont.
KGIW 1420 Trinidad, Colo.
KGIX 1420 Las Vegas, Nev.
KGIZ 1500 Grant City, Mo.
KGJF 890 Little Rock, Ark.
KGKB 1500 Brownwood, Tex.
KGKL 1370 San Angelo, Tex.
KGKO 570 Wichita Flls., Tex
KGKX 1420 Sand Point, Ida.
KGKY 1500 Scottsbluff, Nebr.
KGMB 1320 Honolulu, T. H.
KGMD 1500 Roswell, N. M.
KGMP 1210 Elk City, Okla.
KGNF 1430 No. Platte, Neb.
KGNO 1210 DodgeCity, Kans.
KGO 790 Oakland, Cal.
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, Ida.
KIDO 1250
Boise, Idaho
KIT 1310
Yakima, Wash.
KJBS 1070
San F'ncisco, Cal.
KJR 970
Seattle, Wash.
KLCN 1290
Blytheville, Ark.
KLO 1400
Ogden, Utah
KLPM 1420
Minot, N. Dak.
KLRA 1390
Little Rock, Ark.
KLS 1440
Oakland, Cal.
KLX 880
Oakland, Cal.
KLZ 560
Denver, Colo.
KMA 930
Shenandoah, Ia.
KMBC 950
Kan. City, Mo.
KMED 1310
Medford, Ore.
KMIC 1120
Inglewood, Cal.
KMJ 1210
Fresno, Cal.
KMMJ 740
Clay Ctr., Nebr.
KMO 860
Tacoma, Wash.
KMOX 1090
St. Louis, Mo.
KMPC 710
Los Angles, Cal.
KMTR 570
Hollywood, Cal.
KNX 1050
Los Angeles, Cal.
KOA 830
Denver, Colo.
KOAC 550
Corvallis, Ore.
KOB 1170
State Coll., N.M.
KOCW 1400
Chickasha, Okla.
KOH 1370
Reno, Nevada
KOIL 1260
Council Bluffs, Ia.
KOIN 940
Portland, Ore.
KOL 1270
Seattle, Wash.
KOMO 920
Seattle, Wash.
KONO 1370
San Antonio, Tex.
KOOS 1370
Marshfield, Ore.
KORE 1420
Eugene, Ore.
KOY 1390
Phoenix, Ariz.
KPCB 650
Seattle, Wash.
KPJM 1500
Prescott, Ariz.
KPO 680
San F'ncisco, Cal.
KPOF 880
Denver, Colo.

KPPC 1210
Pasadena, Cal.
KPQ 1500
Wenatchee, Wash
KPRC 920
Houston, Texas
KPSN 1360
Pasadena, Cal.
KQV 1380
Pittsburgh, Pa.
KQW 1010
San Jose, Cal.
KRE 1370
Berkeley, Cal.
KREG 1500
Santa Ana, Cal.
KRGV 1260
Harlingen, Texas
KRLD 1040
Dallas, Texas
KRMD 1310
Shreveport, La.
KRSC 1120
Seattle, Wash.
KSAC 580
Manh'tt'n, Kans.
KSAT 1240
Ft. Worth, Tex.
KSCJ 1330
Sioux City, Ia.
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 560
Oakland, Cal.
KTAP 1420
San Antonio, Tex.
KTAR 620
Phoenix, Ariz.
KTBI 1300
Los Angeles, Cal.
KTBR 1300
Portland, Ore.
KTBS 1450
Shreveport, La.
KTHS 1040
Hot Spgs., Ark.
KTLC 1500
Houston, Texas
KTM 780
Los Angeles, Cal.
KTNT 1170
Muscatine, Iowa
KTRH 1120
Houston, Texas
KTSA 1290
San Antonio, Tex.
KTSL 1310
Shreveport, La.
KTSM 1310
El Paso, Texas
KTUE 1420
Houston, Texas
KTW 1270
Seattle, Wash.

KUJ 1500
Longview, Wash.
KUOA 1390
Fayetteville, Ark.
KUSD 890
Vermillion, S.D.
KUT 1500
Austin, Texas
KVEP 1500
Portland, Ore.
KVI 760
Tacoma, Wash.
KVL 1370
Seattle, Wash.
KVOA 1260
Tucson, Arizona
KVOO 1140
Tulsa, Okla.
KVOS 1200
Bellingh'm, Wash.
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 1220
Pullman, Wash.
KWWG 1260
Brownsville, Tex.
KXA 570
Seattle, Wash.
KXL 1420
Portland, Ore.
KXO 1200
El Centro, Cal.
KXRO 1310
Aberdeen, Wash.
KYA 1230
San F'ncisco, Cal.
KYW 1020
Chicago, Ill.
NAA 690
Arlington, Va.
NBA 850
Balboa, C. Z.
TIX 750
San Jose, C. R.
VAS 690
Louisburg, N. S.
WAAF 920
Chicago, Ill.
WAAM 1250
Newark, N. J.
WAAT 940
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.

WACO 1240
Waco, Texas
WADC 1320
Akron, Ohio
WAGM 1310
Royal Oak, Mich.
WAIU 640
Columbus, Ohio
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, Tex.
WBAX 1210
Wilkes-Barre, Pa.
WBBC 1400
Brooklyn, N.Y.
WBBL 1210
Richmond, Va.
WBBM 770
Chicago, Ill.
WBBR 1300
Rossville, N.Y.
WBBS 1500
Boston, Mass.
WBBY 1200
Charleston, S.C.
WBBZ 1200
Ponca City, Okla.
WBCM 1410
Bay City, Mic
WBIS 1230
Boston, Mass.
WBMS 1450
Hackensack, 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.
WBSO 920
Well'l'yH'ls, Mass
WBT 1080
Charlotte, N.C.
WBTM 1370
Danville, Va.
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 Pk., 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., Minn.
WCDA 1350
New York City
WCFL 970
Chicago, Ill.
WCGU 1400
Brooklyn, N.Y.
WCHI 1490
Chicago, Ill.
WCKY 1490
Covington, Ky.
WCLO 1200
Kenosha, Wis.
WCLS 1310
Joliet, Ill.
WCMA 1400
Culver, Ind.
WCOA 1340
Pensacola, Fla.
WCOC 880
Meridian, Miss.
WCOD 1200
Harrisburg, Pa.
WCOH 1210
Yonkers, N.Y.
WCRW 1210
Chicago, Ill.
WCSC 1310
Charleston, S.C.
WCSH 940
Portland, Maine
WCSO 1450
Springfield, Ohio
WDAE 1220
Tampa, Fla.
WDAF 610
Kansas City, Mo.
WDAG 1410
Amarillo, Texas
WDAH 1310
El Paso, Texas
WDAY 940
Fargo, N.D.
WDBJ 930
Roanoke, Va.
WDBO 1120
Orlando, Fla.
WDEL 1120
Wilmington, Del.
WDGY 1180
Minneap., Minn.
WDOD 1280
Chattan'ga, Tenn
WDRC 1330
N. Haven, Conn.
WDSU 1250
New Orleans, La.
WBEN
BUFFALO

WDWF 1210
Providence, R.I.
WDZ 1070
Tuscola, Ill.
WEAF 660
New York City
WEAI 1270
Ithaca, N.Y.
WEAN 780
Providence, R.I.
WEAO 570
Columbus, Ohio
WEBC 1290
Superior, Wis.
WEBE 1210
Cambridge, Ohio
WEBQ 1210
Harrisburg, Ill.
WEBR 1310
Buffalo, N.Y.
WEBW 560
Beloit, Wis.
WEDC 1210
Chicago, Ill.
WEDH 1420
Erie, Pa.
WEEI 590
Boston, Mass.
WEHC 1200
Emory, Va.
WEHS 1420
Evanston, Ill.
WELK 1370
Philadelphia, Pa.
WELL 1420
BattleCreek, Mich
WEMC 590
Ber'n Spgs., Mich
WENR 870
Chicago, Ill.
WEVD 1300
New York City
WEW 760
St. Louis, Mo.
WFAA 800
Dallas, Texas
WFAN 610
Philadelphia, Pa.
WFBC 1200
Knoxville, Tenn.
WFBE 1200
Cincinnati, Ohio
WFBG 1310
Altoona, Pa.
WFBL 1360
Syracuse, N.Y.
WFBM 1230
Indianapolis, Ind.
WFBR 1270
Baltimore, Md.
WFDF 1310
Flint, Mich.
WFDV 1370
Rome, Ga.
WFDW 1420
Talladega, Ala.
WFI 560
Philadelphia, Pa.
WFIW 940
Hopkinsville, Ky.
WFJC 1450
Akron, Ohio
WFKD 1310
Philadelphia, Pa.
WFLA 620
Clearwater, Fla.

WGAL 1310 Lancaster, Pa.
WGBB 1210 Freeport, N.Y.
WGBC 1430 Memphis, Tenn.
WGBF 630 Evansville, Ind.
WGBI 880 Scranton, Pa.
WGBS 600 New York City
WGCM 1210 Gulfport, Miss.
WGCP 1250 Newark, N.J.
WGES 1360 Chicago, Ill.
WGH 1310 Newp't News,Va.
WGHP 1240 Detroit, Mich.
WGL 1370 Ft. Wayne, Ind.
WGM 840 Adamsburg, Pa.
WGMS 1250 Minneap., Minn.
WGN 720 Chicago, Ill.
WGR 550 Buffalo, N.Y.
WGST 890 Atlanta, Ga.
WGY 790 Schnec'd'y, N.Y.
WHA 940 Madison, Wis.
WHAD 1120 Milwaukee, Wis.
WHAM 1150 Rochester, N.Y.
WHAP 1300 New York City
WHAS 820 Louisville, Ky.
WHAT 1310 Philadelphia, Pa.
WHAZ 1300 Troy, N.Y.
WHB 860 Kansas City,Mo.
WHBC 1200 Canton, Ohio
WHBD 1370 Mt. Orab, O.
WHBF 1210 Rock Island, Ill.
WHBL 1410 Sheboygan, Wis.
WHBQ 1370 Memphis, Tenn.
WHBU 1210 Anderson, Ind.
WHBY 1200 Green Bay, Wis.
WHDF 1370 Calumet, Mich.
WHDH 830 Gloucester, Mass.
WHDI 1180 Minneap., Minn.
WHDL 1420 TupperLake,N.Y.
WHEC 1440 Rochester, N.Y.
WHFC 1420 Cicero, Ill.

WHIS 1420 Bluefield, W.Va.
WHK 1390 Cleveland, Ohio
WHN 1010 New York City
WHO 1000 Des Moines, Ia.
WHOM 1450 Jersey City, N.J.
WHP 1430 Harrisburg, Pa.
WIAS 1420 Ottumwa, Iowa
WIBA 1280 Madison, Wis.
WIBG 930 Elkins Park, Pa.
WIBM 1370 Jackson, Mich.
WIBO 560 Chicago, Ill.
WIBR 1420 Steubenville, O.
WIBU 1310 Poynette, Wis.
WIBW 580 Topeka, Kansas
WIBX 1200 Utica, N.Y.
WICC 1190 Bridgeport, Conn.
WIL 1200 St. Louis, Mo.
WILL 890 Urbana, Ill.
WILM 1420 Wilmington, Del.
WIOD 1300 Miami Bch., Fla.
WIP 610 Philadelphia. Pa.
WIS 1010 Columbia, S. C.
WISN 1120 Milwaukee, Wis.
WJAC 1310 Johnstown, Pa.
WJAG 1060 Norfolk, Nebr.
WJAK 1310 Marion, Ind.
WJAR 890 Providence, R.I.
WJAS 1290 Pittsburgh, Pa.
WJAX 900 Jacksonville, Fla.
WJAY 610 Cleveland Ohio
WJAZ 1490 Chicago, Ill.
WJBC 1200 La Salle, Ill.
WJBI 1210 Red Bank, N. J.
WJBK 1370 Ypsilanti, Mich.
WJBL 1200 Decatur, Ill.
WJBO 1420 New Orleans, La.
WJBT 770 Chicago, Ill.
WJBU 1210 Lewisburg, Pa.

WJBW 1200 New Orleans, La.
WJBY 1210 Gadsden, Ala.
WJDX 1270 Jackson, Miss.
WJJD 1130 Mooseheart, Ill.
WJKS 1360 Gary, Ind.
WJR 750 Detroit, Mich.
WJSV 1460 Alexandria, Va.
WJW 1210 Mansfield, Ohio
WJZ 760 New York City
WKAQ 890 San Juan, P.R.
WKAR 1040 E. Lansing, Mich.
WKAV 1310 Laconia, N.H.
WKBB 1310 Joliet, Ill.
WKBC 1310 Birmingham, Ala.
WKBF 1400 Indianapolis, Ind.
WKBH 1380 La Crosse, Wis.
WKBI 1420 Chicago, Ill.
WKBN 570 Youngstown, O.
WKBO 1450 Jersey City, N.J.
WKBQ 1350 New York City
WKBS 1310 Galesburg, Ill.
WKBV 1500 Connersville, Ind.
WKBW 1480 Buffalo, N.Y.
WKBZ 1500 Ludington, Mich.
WKEN 1040 Buffalo, N.Y.
WKJC 1200 Lancaster, Pa.
WKRC 550 Cincinnati, O.
WKY 900 Oklahoma City
WLAC 1470 Nashville, Tenn.
WLAP 1200 Louisville, Ky.
WLB 1250 Minneap., Minn.
WLBC 1310 Muncie, Ind.
WLBF 1420 Kansas City, Ks.
WLBG 1200 Ettrick, Va.
WLBL 900 Stevens Pt., Wis.
WLBW 1260 Oil City, Pa.
WLBX 1500 L.I.City, N.Y.

WLBZ 620
Bangor, Me.
WLCI 1210
Ithaca, N.Y.
WLEX 1410
Lexington, Mass.
WLEY 1370
Lexington, Mass.
WLIB 720
Chicago, Ill.
WLIT 560
Philadelphia, Pa.
WLOE 1500
Boston, Mass.
WLS 870
Chicago, Ill.
WLSI 1210
Providence, R.I.
WLTH 1400
Brooklyn, N.Y.
WLVA 1370
Lynchburg, Va.
WLW 700
Cincinnati, Ohio
WLWL 1100
New York City
WMAC 570
Cazenovia, N.Y.
WMAF 1410
S.D'rtm'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 Hghts., Ill.
WMBG 1210
Richmond, Va.
WMBH 1420
Joplin, Mo.
WMBI 1080
Chicago, Ill.
WMBJ 1500
Wilkinsburg, Pa.
WMBO 1310
Auburn, N.Y.
WMBQ 1500
Brooklyn, N.Y.
WMBR 1370
Tampa, Fla.
WMC 780
Memphis, Tenn.
WMCA 570
New York City
WMIL 1500
Long Beach, N.Y.
WMMN 890
Fairmont, W.Va.
WMPC 1500
Lapeer, Mich
WMRJ 1210
Jamaica, N.Y.
WMSG 1350
New York City

WMT 600
Waterloo, Iowa
WNAC 1230
Boston, Mass.
WNAD 1010
Norman, Okla
WNAX 570
Yankton, S.D.
WNBF 1500
Bingh'mt'n, N.Y.
WNBH 1310
New B'df'd, Mass.
WNBJ 1310
Knoxville, Tenn.
WNBO 1200
Washington, Pa.
WNBR 1430
Memphis, Tenn.
WNBW 1200
Carbondale, Pa.
WNBX 1200
Springfield, Vt.
WNBZ 1290
SaranacL'ke, 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, Tex.
WOAN 600
Law'nceb'g, Tenn
WOAX 1280
Trenton, N.J.
WOBT 1310
Union City, Tenn
WOBU 580
Charlest'n, W.Va.
WOC 1000
Davenport, Iowa
WOCL 1210
Jamestown, N.Y.
WODA 1250
Paterson, N.J.
WODX 1410
Mobile, Ala.
WOI 640
Ames, Iowa
WOKO 1440
P'ghkeepsie, N.Y.
WOL 1310
Washington, D.C.
WOMT 1210
Manitowoc, Wis.
WOOD 1270
Gr. Rapids, Mich.
WOOP 840
Jeannette, Pa.
WOPI 1500
Bristol, Tenn.
WOQ 1300
Kansas City, Mo.
WOR 710
Newark, N.J.
WORC 1200
Worcester, Mass.
WORD 1490
Chicago, Ill.
WOS 630
Jeff's'n City, Mo.
WOV 1130
New York City
WOW 590
Omaha, Nebr.

WOWO 1160
Ft. Wayne, Ind.
WPAP 1010
New York City
WPAW 1210
Pawtucket, R.I.
WPCC 560
Chicago, Ill.
WPCH 810
New York City
WPDF 1200
Flint, Mich.
WPEN 1500
Pbiladelphia, Pa.
WPG 1100
Atl'ntic City, N.J.
WPOE 1370
Patchogue, N.Y.
WPOR 780
Norfolk, Va.
WPSC 1230
State College, Pa.
WPTF 680
Raleigh, N.C.
WQAM 560
Miami, Fla.
WQAN 880
Scranton, Pa.
WQAO 1010
New York City
WQBC 1360
Vicksburg, Miss.
WQDM 1370
St. Albans, Vt.
WRAF 1200
La Porte, Ind.
WRAK 1370
Williamsport, Pa.
WRAW 1310
Reading, Pa.
WRAX 1020
Philadelphia, Pa.
WRBI 1310
Tifton, Ga.
WRBJ 1370
Hattiesburg, Miss.
WRBL 1200
Columbus, Ga.
WRBQ 1210
Greenville, Miss.
WRBT 1370
Wilmington, N.C.
WRBU 1210
Gastonia, N.C.
WRBX 1410
Roanoke, Va.
WRC 950
Washington, D.C.
WRDA 900
Buffalo, N.Y.
WREC 600
Memphis, Tenn.
WREN 1220
Lawrence, Kans.
WRHM 1250
Minneap., Minn.
WRJN 1370
Racine, Wis.
WRK 1310
Hamilton, Ohio
WRNY 1010
New York City
WRR 1280
Dallas, Texas
WRUF 830
Gainesville, Fla.
WRVA 1110
Richmond, Va.

WSAI 1330 Cincinnati, Ohio
WSAJ 1310 Grove City, Pa.
WSAN 1440 Allentown, Pa.
WSAR 1450 Fall River, Mass.
WSAZ 580 Hunt'gton, W.Va.
WSB 740 Atlanta, Ga.
WSBC 1210 Chicago, Ill.
WSBT 1230 South Bend, Ind.
WSFA 1410 Montgomery, Ala
WSGH 1400 Brooklyn, N.Y.
WSIX 1210 Springfield, Tenn.
WSJS 1310 Winst.-Sal., N.C.
WSM 650 Nashville, Tenn.
WSMB 1320 New Orleans, La.
WSMK 1380 Dayton, Ohio
WSPA 1420 Spartanburg, S.C.
WSPD 1340 Toledo, Ohio
WSSH 1410 Boston, Mass.
WSUI 880 Iowa City, Ia.
WSUN 620 St. Petersb'g, Fla.

WSVS 1370 Buffalo, N.Y.
WSYR 570 Syracuse, N.Y.
WTAD 1440 Quincy, Ill.
WTAG 580 Worcester, Mass.
WTAM 1070 Cleveland, Ohio
WTAQ 1330 Eau Claire, Wis.
WTAR 780 Norfolk, Va.
WTAW 1120 College Sta., Tex.
WTAX 1210 Streator, Ill.
WTBO 1420 Cumberland, Md.
WTFI 1450 Toccoa, Ga.
WTIC 1060 Hartford, Conn.
WTMJ 620 Milwaukee, Wis.
WTNT 1470 Nashville, Tenn.
WTOC 1260 Savannah, Ga.
WWAE 1200 Hammond, Ind.
WWJ 920 Detroit, Mich.
WWL 850 New Orleans, La.
WWNC 570 Asheville, N.C.
WWRL 1500 Woodside, N.Y.

WWVA 1160 Wheeling, W.Va.
XEA 1200 Guadalajara, Jal.
XEB 670 Mexico City
XEE 960 Pueblo, Pue.
XEF 1130 Oaxaca, Oax.
XEH 970 Monterey, N.L.
XEI 1000 Morelia, Mich.
XEN 730 Mexico City
XES 1200 C. Lerdo, Dgo.
XEX 950 Mexico City
XEY 550 Merida, Yucatan
XFA 540 Mexico City
XFC 630 Jalapa, Ver.
XFF 960 Chihuahua, Chih.
XFG 640 Mexico City
XFI 590 Mexico City
XFX 910 Mexico City
10-BP 1200 Wingham, Ont.

The Short Wave Stations

Call	*Station*	*Owner*	*City and State*	*Meters*	*Watts*
W1XAA	WRAH	Stanley N. Read	Providence, R. I.		75
W1XAB	WCSH	Congress Square Hotel Co.	Portland, Maine	63.79	250
W1XAE	WBZ	Westinghouse Elec. & Mfg. Co.	Springfield, Mass.	70.0	
W1XAF	WEEI	Edison Elec. Illuminating Co.	Boston, Mass.		
W1XAG		Edison Elec. Illuminating Co.	Boston, Mass.		
W1XY	WBRL	Booth Radio Laboratories	Tilton, N. H.	105-109	250
W2XAC	WGY	General Electric Co.	Schenectady, N. Y.		
W2XAD	WGY	General Electric Co.	Schenectady, N. Y.	19.56	
W2XAE	WGY	General Electric Co.	Schenectady, N. Y.		
W2XAF	WGY	General Electric Co.	Schenectady, N. Y.	31.48	
W2XAG	WGY	General Electric Co.	Schenectady, N. Y.		
W2XAH	WGY	General Electric Co.	Schenectady, N. Y.		
W2XAK	WGY	General Electric Co.	Schenectady, N. Y.		
W2XAL	WRNY	Aviation Radio Station, Inc.	New York	49.67	500
W2XAO		Atlantic Broadcasting Co.	New York	105.9	100
W2XAQ	WOR	L. Bamberger Co.	Newark, N. J.	65.4	50
W2XAW	WGY	General Electric Co.	Schenectady, N. Y.		
W2XBA	WAAM	WAAM, Inc.	Newark, N. J.	65.18	50
W2XBH	WCGU	Chas. G. Ungar	Coney Island, N. Y.	54.02	150
W2XBR	WBNY	Baruchrome Corp.	New York City	49.83	
W2XCD		DeForest Radio Co.	Passiac, N. J.	187.30	
W2XE	WABC	Atlantic Broadcasting Co.	Richmond Hill, N. Y.	49.02	50
W2XZ		National Broadcasting Co.	Bellmore, L. I.	49.15	50000
W3XAU	WCAU	Universal Broadcasting Co.	Philadelphia, Pa.	49.50	
W3XK		C. Francis Jenkins Labs.	Washington, D. C.		
W3XL	WJZ	Radio Corp. of America	Bound Brook, N. J.	59.96	30000
W3XN		Bell Telephone Laboratory	Whippany, N. J.		
W4XD	WSM	Nat'l Life & Accident Ins. Co.	Memphis, Tenn.	31.43	
W4XE		William Justice Lee	Winter Park, Fla.	200.	250
W6XA	KNX	Los Angeles Express	Los Angeles, Cal.	107.1	100
W6XAD	KFWO	Lawrence Mott	Avalon, Cal.	53.07	100
W6XAF	KNRC	Clarence B. Juneau	Santa Monica, Cal.	108.2	100
W6XAI	KGGM	Los Angeles Radio Club	Los Angeles, Cal.	66.04	50
W6XAK	KFWH	F. W. Morse	Chico, Cal.	108.2	50

Call	Station	Owner	City and State	Meters	Watts
W6XAL	KFQZ	L. E. Taft	Hollywood, Cal.	66.04	50
W6XAN	KRLO	Freeman Lang	Los Angeles, Cal.	105.9	250
W6XAR	KJBS	J. Brunton & Sons	San Francisco, Cal.	32.	50
W6XAU	KHJ	Times-Mirror Co.	Los Angeles, Cal.	104.1	50
W6XAX	KGO	General Electric Co.	Oakland, Cal.	10-40	10000
W6XAZ		Nelson Radio Co.	San Diego, Cal.	106.	50
W6XBA	KFSG	Air-Fan Radio Corp.	Los Angeles, Cal.	108.2	250
W6XBE	KFBC	W. K. Azbill	San Diego, Cal.		
W6XBH	KFQU	W. E. Riker	Holy City, Cal.	31-106	50
W6XBR	KFWB	Warner Bros. Picture Studio	Los Angeles, Cal.	40-105	50
W6XBV	KGER	C. Merwin Dobyns	Long Beach, Cal.	48.86	
W6XBX	KFVD	McWhinnie Electric Co.	Venice, Cal.	105.	50
W6XN	KGO	General Electric Co.	Oakland, Cal.	23.35	10000
W7XAB	KFPY	Symons Investment Co.	Spokane, Wash.	105.9	
W7XAO	KWJJ	Wilbur Jerman, Inc.	Portland, Ore.	53-54	100
W7XC	KJR	Northwest Radio Service	Seattle, Wash.	105.2	
W7XO	KJR	Northwest Radio Service	Seattle, Wash.		
W8XAC	WHAM	Stromberg-Carlson Tel. Mfg. Co.	Rochester, N. Y.		
W8XAL	WLW	Crosley Radio Corp.	Cincinnati, Ohio	49.50	500
W8XOA	WJR	WJR, Inc.	Detroit, Mich.	32.	75
W8XF	WHK	Radio Air Service Corp.	Cleveland, Ohio	66.04	500
W8XJ	WEAO	Ohio State University	Columbus, Ohio	54.02	250
W8XK	KDKA	Westinghouse Elec. & Mfg. Co.	Pittsburgh, Pa.	25.25	40000
W8XP	KDKA	Westinghouse Elec. & Mfg. Co.	Pittsburgh, Pa.	10-150	500
W8XS	KDKA	Westinghouse Elec. & Mfg. Co.	Pittsburgh, Pa.	62.57	
W9YA	KOA	General Electric Co.	Denver, Colo.	31.48	
W9XAA	WCFL	Federation of Labor	Chicago, Ill.	49.34	
W9XAB	WNAL	R. J. Rockwell	Omaha, Nebr.	105.	50
W9XF	WENR	Great Lakes Broadcasting Co.	Chicago, Ill.	49.83	
W9XU	KOIL	Mona Motor Oil Co.	Council Bluffs, Iowa	61.06	500

Photo-electric apparatus for use in timed sporting events have been developed by George Lewis, vacuum tube engineer. A light ray is focused across the track at the finish point on a photo-electric device. The impulse caused by the fleeting shadow is amplified and actuates a camera which takes a picture of the scene, including the dial of a stop watch.

Embryo glider pilots at Roosevelt field receive radioed instructions while in the air.

One of the motorless craft has been equipped with a radio receiver as an experiment. Through a small transmitter, the instructor on the ground directs students in handling the glider.

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Time	Station	Dials	Feature

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TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

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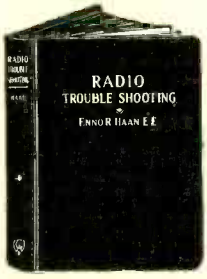

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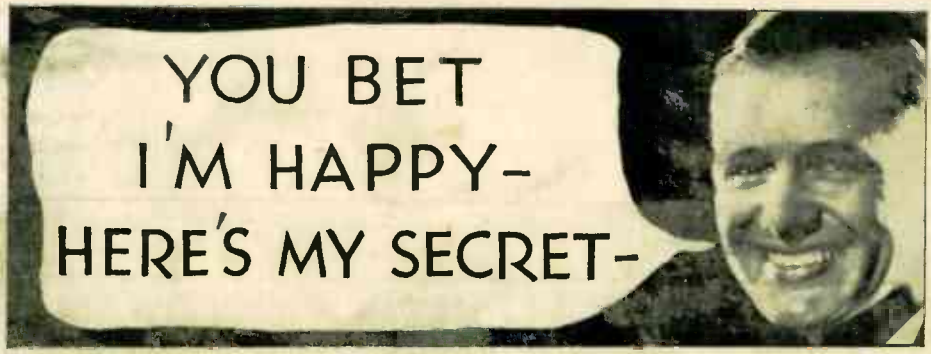

~How I jumped from $35 to $100 a week in less than a year.

I WAS beginning to think that $35 a week was my limit. I had tried many so-called "opportunities." They all offered a chance—but a slim one. Usually it was a case of sticking around ten, fifteen or twenty years with an outside chance of making $3,000 to $4,000 a year by the time I reached the age of 50. No fellow with push and ambition wants to wait that long.

I had just about given up hope of finding the right proposition. One day I opened a magazine and saw an ad which told of the opportunities in Radio—how Radio's amazing growth was opening hundreds of $50, $60, $75 and $100 a week jobs every year. My hopes and ambitions had been blasted so many times that it sounded too good to be true. But I said: "I am not getting anywhere here—it only costs two cents to find out if that's true—I'll send the coupon."

In a few days I received "Rich Rewards in Radio." That book opened my eyes. For the first time I realized that if a man wants to make good money and doesn't want to wait a lifetime to start doing it, he has to get into a fast growing field—because it's rapid growth that makes a lot of good jobs. Within a month after I started training for the Radio field I was making extra money on the side fixing my neighbors' and friends' sets. I made $400 in the first six months. In less than a year I was pulling down $75 to $100 a week regularly in a Radio store. And I was doing work that was fun. Some weeks I ran my earnings up to as high as $120.

The outfit that gave me my training certainly are square shooters. They just can't do enough for you. Mr. Smith, the President, and his large staff, never let down for a minute.

Although I went to work for a Radio store and am now in business for myself, they would have done just as much for me if I had wanted to be an Operator in a Broadcasting Station, Commercial Land Station, Operator on Board Ship, or if I had wanted to enter any of the many other opportunities in the Radio industry.

Take my tip. Find out what Radio offers and what N. R. I. offers. They will deal with you the same as they did with me—send their book and then let you decide one way or another.

J. E. SMITH, President,
National Radio Institute, Dept. OF52,
Washington, D. C.

Dear Mr. Smith:—Send me "Rich Rewards in Radio." I want proof of what Radio offers and that your training is raising men's pay. I understand this request does not obligate me in the least and that no agent will call.

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