THE MARCH 1931

RADIO INDEX

The Magazine that Doubles the Pleasure of Radio

25c

Elements of Radio in A-B-C

Neutralizing the Neutrodyne

Stopping Leaks in Aerial and Ground

Complete List of Cuban and Mexican Stations

No. 47

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 in 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 they are close to our home city.

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

The 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

KHQ	1000	Spokane, Wash.
WCAJ	500	Lincoln, Nebr.
WEEI	500	Boston, Mass.
WOW	1000	Omaha, Nebr.
WFMC	1000	Battle Springs, Mich.

600 kilocycles 499.7 meters

CFCH	250	Iroquois Falls, Ont.
KFUU	500	Laramie, Wyo.
KSD	500	San Diego, Calif.
WCAO	250	Baltimore, Md.
WBBW	250	Beloit, Wis.
WJAN	500	Lawrenceburg, Tenn.
WMAC	500	Memphis, Tenn.
WTIC	250	Hartford, Conn.

610 kilocycles 491.5 meters

KPRC	1000	San Francisco, Calif.
WDAF	1000	Kansas City, Mo.
WFAN	500	Philadelphia, Pa.
WIP	500	Philadelphia, Pa.
WOQ	1000	Kansas City, Mo.

620 kilocycles 483.6 meters

KFAD	500	Phoenix, Ariz.
KGW	1000	Portland, Ore.
WIAR	1000	Tampa, Fla.
WDBD	500	Orlando, Fla.
WLBZ	500	Dover-Foxcroft, Me.
WTMJ	1000	Milwaukee, Wis.

630 kilocycles 475.9 meters

CFCT	500	Victoria, B. C.
CJGX	500	Yorkton, Sask.
CNRA	500	Moncton, N. B.
CYX	250	Magallan, Mex.
KFKU	500	Columbia, Mo.
WGBF	500	Evansville, Ind.
WMAL	250	Washington, D. C.
WOS	500	Jefferson City, Mo.

640 kilocycles 468.5 meters

KFI	5000	Los Angeles, Calif.
WAIU	5000	Columbus, Ohio

650 kilocycles 461.3 meters

WSM	5000	Nashville, Tenn.

660 kilocycles 454.3 meters

WAAW	500	Omaha, Nebr.
WEAF	50000	New York City

670 kilocycles 447.5 meters

WMAQ	5000	Chicago, Ill.

680 kilocycles 440.9 meters

KPO	5000	San Francisco, Cal.
WPTF	5000	Raleigh, N. C.

76	74
	Louis Wasmer, Inc. Nebraska Wesleyan University Edison Elec. Illuminating Co. Woodmen of the World Emmanuel Missionary College
75	73
	Abitibi Power & Paper Co. Bishop N. S. Thomas Airfan Radio Corp. Monumental Radio Co., Inc. Beloit College Vaughan School of Music WHAS, Inc. Travelers Insurance Co.
74	72
	Don Lee, Inc. Kansas City Star Co. Keystone Broadcasting Co., Inc. Cincinnati Times-Star Co. Unity School of Christianity
73	71
	Electrical Equipment Co. Oregonian Publishing Co. Tampa Publishing Co. Bulldog College, Ltd. Thompson L. Guernsey Milwaukee Journal
72	70
	Victoria Broadcasting Ass'n. Winnipeg Grain Exchange Canadian National Railways Carmelo Llamas Stephens College Evansville on the Air, Inc. M. A. Leese Co. State Marketing Bureau
	Earle C. Anthony, Inc. American Insurance Union
70	68
	National Life & Accident Ins. Co.
69	67
	Omaha Grain Exchange National Broadcasting Co., Inc.
68	66
	Chicago Daily News, Inc.
67	65
	Hale Bros. & The Chronicle Durham Life Insurance Co.

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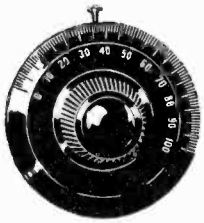

RADIO INDEX

REG. U. S. PATENT OFFICE

FRED CLAYTON BUTLER
Editor and Publisher

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Contents

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See Subscription Blank on page 26

THE RADEX PRESS
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THEORY of Radio in a NUT SHELL

Written in A-B-C Terms

WE sometimes forget that this magazine is constantly attracting new readers who are unfamiliar with the many articles on radio that have gone before. People are buying radio sets who have never had one before and consequently are almost as unfamiliar with the rudiments of radio as we ourselves were back in the early "twenties." All this is indicated in the following letter from Fred Rouse, 320 Delaware Ave., Albany, N. Y.

"Will you please answer these questions in the next issue of RADEX:

"What are frequencies or kilocycles and wave lengths? What relation have they to each other? Why the lower the kilocycle the higher the wave length and vice versa? Why do all meters have a fraction? Why use the French unit of measure instead of the English?

"What is meant by a DX station, DX program, or DX listeners?

"Why are electric radios not equipped to use ear phones?

"What can I do to cut out interference, especially above 1200?

"Why are some radio dials set for kilocycles and other for numerical readings?"

Now that's a rather large order but we realize that Mr. Rouse is representative in his desire for rudimentary information of thousands of other novices. We shall therefore try to explain in very simple terms enough of the elements of radio to give him and the others a fair insight into its workings. Those who are already familiar with the technic of radio may as well stop right here.

To begin with every note or noise that is picked up by the human ear is caused by vibrations. The frequency of these vibrations determines its pitch and a combination of these pitches produces musical notes or the sounds of the human voice. The telephone of course does not actually carry sound. The voice strikes the diaphragm and vibrates it in accordance with the frequency of the different sounds. An electrical disturbance is set up in the line which likewise vibrates the other diaphragm with which it happens to be connected. This in turn sends out air waves which strike the ear.

Exactly the same thing happens in radio. The pianist in the studio strikes a certain key. This string vibrates at a certain frequency per second. The air waves set in motion travel to the microphone which vibrates in turn at exactly the same frequency. This sets up the electrical disturbance already referred to which travels to the transmitter and thence out into the air. First, however, the mechanism of the broadcasting station converts these frequencies into high-frequency. Let us digress a moment to explain this.

The human ear, marvelous as it is, has a very limited range. There are thousands of frequencies too low for it to "hear" and other thousands too high. The vibrations on a telephone wire are all within the audio frequencies, that is within the range of the human ear, so that if we were to tap the telephone line at any point and attach a receiver, we could "hear," that is understand the sounds. This is not true with the broadcast waves. Why not transmit audio waves? Because they do not carry far enough. The higher the frequency the greater the distance it will travel; the short waves (high frequencies) can be heard much farther than can those in the broadcast band.

The broadcasting station therefore converts the audio frequencies of say 600 vibrations per second into radio frequencies of say one million vibrations. These vibrations travel through the air or ether, just how no one can say definitely, until they reach a receiving set. They strike the antenna of this set and pass through it into the ground. The set is equipped with a mechanism somewhat the reverse of the broadcasting station. That is it can receive the radio frequencies and convert them back

(*Continued on Page 18*)

INTRIGUING PUZZLES in RADIO CALLS

ONE hundred and seventy-one correct solutions of the January puzzle — and we thought they would be hard! We are beginning to think that our readers know their calls, locations, frequencies and owners by heart so that when KLPM is called for, for instance, they can recite glibly, "On 1420 kilocycles, with 100 watts power, located in Minot, North Dakota, and owned by John B. Cooley." Just like that.

Well, it's our wit against yours and if we can't concoct something you can't solve, we'll just have to pay the piper. After many sleepless nights, we are bringing forth a new one this month.

As for February, well, the printer made Puzzle No. 1 harder than we had planned by leaving off a square at the end of each line and we were sound asleep at the switch and never caught it. Even this didn't stop our puzzlers for no end of them are right now firing in their answers and most of them have put in these squares where we inadvertently left them out. Just no stumping them.

Here are the answers for February:

No. 1: KTRH - KELW - WMCA - KGW - WABZ - WISN - WEAN - KTW - WHN - NAA - WMT - WDBO - KOB - KUT - WBT - WLOE - WSB - KTRH - KEX - KPO - KLO - KECA - WSUN - WEBR - WBOW - WDFW - WRVA - VAS - WIOD - WOC.

No. 2: KCYS - KTBS - MTRS.

No. 3: WISH - WEDH - WEEI - DEED.

No. 4: SLOW - WLOE - WLSI - WASH - FAST.

No. 5: PATH - WASH - WABI - WOAI - ROAD.

No. 6: LONG - KONO - WOKO - WOAN - WSAI - WSGH - HIGH.

Of course, in Nos. 2 to 6, many other combinations were equally correct.

No. 7:

```
WXYZ KYW OBTW
OEX  R O  KID
KGFF ELW KFXR
O KWWG OKGK C
   FJGKGGF
CLWKROPWOKLRA
O F MBQHK I H
WFIWWJRATWWOW
   SOWKTSM
W KMPC WAAW H
AKFK HHK KMCS
WOV  C B  CMC
ZASW KDB SAIW
```

For March, as we have said, we have a new type of puzzle which we feel sure will be worthy the efforts of the most sophisticated solver. We think it is a sticker but then we've been fooled before.

Here it is:

	Down	Up	
1	WUNCE	BLEWC	20
2	KRIBB	WASCO	19
3	DRASK	WOBOK	18
4	WALOW	CMAKM	17
5	WROOC	KECAA	16
6	JACKS	DIFTW	15
7	WACID	PICAW	14
8	SMOCK	AWAYA	13
9	WHARF	WROJK	12
10	WRCKD	WBCTL	11

Key

The first station.
On 1490.
50,000 watts.
In Utah.
On 1060.
In Pittsburgh.
In Mississippi.
On 1320.
In K-11 on the map.
5000 watts in Illinois.
NBC station in Texas
In B. C.
In Alabama.
A CBS station in Missouri.
A Canadian National Railway station.
On 950.
On 920.
In San Antonio.
In Columbus.
In Boston.
In Boston.
In Oregon.
In Newark.
In Little Rock.
On 690.
In West Virginia.
On 580.

In compiling this list of station calls in the order named we take one letter from one line, one from the next, and so on. In the first column we go downwards and in the second column upwards in the order the lines are numbered. No letter in any one line can be used twice. Now where to start — ah, that's the puzzle. It looks hard, doesn't it? But it's like unsnarling a string, when you find the end of it, the rest is easy.

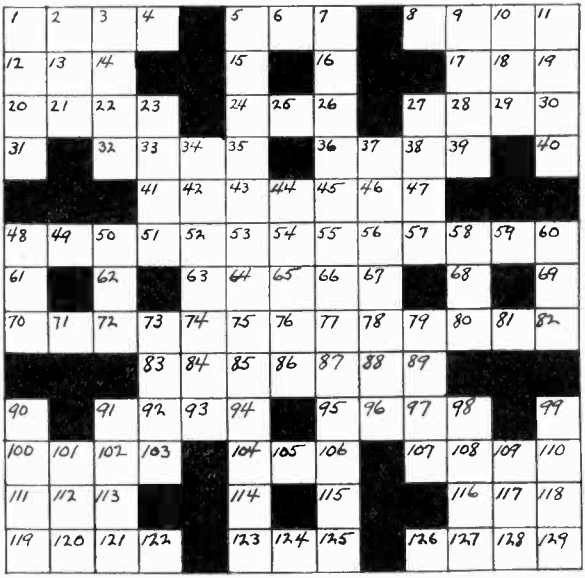
We are running very low on those new radio maps so we will have to confine the premiums for March either to a copy of the April RADEX or an additional number on unexpired subscriptions. For the February puzzle, premiums were mailed on the 20th or subscriptions extended where this was requested.

In the build-your-own contest, more than eighty puzzles have been submitted so far and the Editor is still working nights trying to decide which one is best. If all were used, they would last for more than seven years. Many of them were very good and we only regret that we cannot give a subscription to all. They are being classified according to neatness and legibility, originality, non-use of deleted and foreign stations, and other factors. We will try to announce the awards in April.

The one printed this month was submitted by Ivan D. Ide, Box 312, Geneo, Ill. Here is the key:

Horizontal

1- 4 "Now don't go 'way."
5- 7 "The Nation's Station."
8- 11 Last two letters stand for city.
12- 14 In a state capital.
15- 16 First and last of two Ohio stations.
17- 19 Reverse. 20 k.w.
20- 23 On 1370.
24- 26 In Virginia.
27- 30 500-watt daylight.
31- 40 Second and last letter of station on 1310.
32- 35 In Santiago.
36- 39 50-k.w. NBC.
41- 44 Reverse. On 1310.
44- 47 Shares time with Peoria.
48- 51 Shares time with two other Iowa stations.
51- 54 Reverse. All four letters are owner's initials.
54- 57 First in one list.
57- 60 Littlest Canadian.
61- 62 Last letters of two Minneapolis stations.
63-66 A Crosley station.
64- 67 Reverse. On 1420.
68- 69 Middle letters of stations on 1440.
70- 73 In Kentucky.
73- 76 10-k.w. Columbia.
75- 77 A synchronized station.
76- 79 Reverse. In Ontario.
79- 82 On 730.
83- 86 Reverse. In Enid.
86- 89 On 1310.
90- 99 Middle letters of station on 880.
91- 94 Charles W. Greenley.
95- 98 In Colon.
100-103 CBS outlet in far south.
104-106 Reverse. Three stations and three nations.
107-110 50-watts on 1310.
111-113 Ditto.
114-115 Last letters of two Florida stations.
116-118 500-watt NBC.
119-122 Metal Shingle and Siding.



123-125 5000-watt Mexican.
126-129 Reverse. Shares time with two Chicago stations.

Vertical

1- 31 U.S. farthest south.
2- 21 In New Jersey.
3- 32 Shares time with CBS station.
4-122 Middle letters of four Canadian stations.
5- 35 In Asheville.
6- 25 Middle letters of Louisville station.
7- 36 Shares time with Lancaster.
8-126 Last letters of Manitoba station.
9- 39 Shares time with two other Indiana stations.
10- 29 12,500-watts.
11- 40 In Vancouver.
23- 51 In Los Angeles.
27- 57 Columbia in Ohio.
34- 63 Reverse. C. R. Cummins.
35- 64 In Nova Scotia.
36- 66 On 1450.
37- 67 Reverse. In Chicago.
44- 76 On 600.
48- 70 In Illinois.
49- 71 First and last letters of key station.
50- 72 In January RADEX but not in February.
54- 86 Reverse. State agricultural college.
58- 80 Four nations on this wave.
59- 81 First and last of station on 590.
60- 82 Shares time with 17-19 horizontal.
63- 93 100-watt CBS.
67- 96 Shares time with South Bend.
73-103 Five stations in same city on this wave.
75-104 In Connecticut.
77-106 On 630.
79-107 In Toronto.
90-119 On 1370.
91-121 Two 10 k.w. stations on this wave.
98-127 Reverse. On 1210.
99-129 Reverse. In Wisconsin.
101-120 Reverse. Six stations in this state.
104-123 In Toluca (Reverse).
105-124 Last letters of Two Boston stations.
106-125 Reverse. In Waterloo.
109-128 Reverse. On 910.

No. 3

This is the smallest, and we think the hardest, puzzle we have ever published in cross-call form. So far as we have been able to find there are only eight calls in this issue of RADEX which can be used in these squares so as to fill them perfectly both horizontally and vertically. None of these calls is to be reversed and no call can be used twice. Can you find these eight calls or any eight that will fill these blanks correctly?

All calls are in North America.

Send in your answers to these three puzzles and be sure to have them reach us by March 20th, as the April issue will be mailed to subscribers on that date.

Attaching Head Phones to a Majestic Set

A. R. Van Compernolle, 618 North Baker St., Santa Ana, Calif., has discovered a most effective method of attaching head-phones to his "Majestic" set. He stresses the warning, however, that this is not to be undertaken by anyone who has not had experience in soldering a radio set. His description of his method follows:

It is a simple matter to attach head phones to your Majestic and silence its speaker without causing any harm to the set or decreasing its efficiency if you are "nifty" with a soldering iron and if you know how. Here's how.

To attach the phones, solder a lead to each of the G-45 tubes using the plate prong and run these two leads to your phone plug-in jack. Use a small rubber insulated wire and solder it up against the base of the tube prong. If you attempt to wrap the wire around the prong it will make a bulky job and you will be unable to put the tube back in far enough. To ascertain which is the plate prong, stand behind your set and then the plate prong of the G-45 tubes is in the "upper right-hand corner." Be sure that the insulation on the wire is not peeled off beyond the base of the tube or it will short against the metal shield.

To silence the speaker, place a small snap switch in one of the voice coil leads. This will deprive the speaker of the voice output from the set but it will still be using its proper share of power from the rectifier. There is a terminal plate at the base of the speaker and the two little white wires running from the top of this terminal plate are the voice coil leads. Melt one of them loose with a soldering iron, solder on another lead and run it to one side of your switch then run a lead from the other side of the switch and solder it on to the lead which you unsoldered from the terminal plate and the job is complete. Then you can plug in your phones, switch off the speaker and DX all night without bothering anybody.

LETTERS FROM OUR READERS

Radio Chat and Comment

A REVISED list of the Canadian stations just received from the Dominion Government enables us to bring our northern neighbors up to date. Readers report hearing stations on other frequencies than those assigned by the Canadian Government. In most instances these stations are testing or experimenting with different frequencies. In regard to this the Director of Radio Service at Ottawa says: "It is not our practice to show these temporary assignments in official lists of Canadian broadcasting stations. In most cases the test periods last only a month or two and consequently by the time it got into print the information would be obsolete."

Through the kindness of Difusora Portena Station XES, Tampico Mexico, we are enabled to correct our Mexican list in this issue, with the frequencies licensed by the Mexican government effective until April 3rd.

We have received a large number of inquiries from readers in regard to certain Cuban and Mexican stations, but as our lists for both of these countries are completely revised in this issue, we are not attempting to answer these inquiries. With the up-to-date information on the stations in these two countries our readers can undoubtedly answer their own inquiries by referring to the proper index.

Foreign Reception

Hugo L. Markaland, Box 232, Steamboat Springs, Colo., receives the Japanese stations regularly. He believes that a number of them must broadcast a chain program as, in a number of instances, the program seems to be identical on 750, 769, 789, 810, 831, and 849 kilocycles. With his set, a Sentinel 7-tube, he finds that the aerial seems to make but little difference. He can reverse the aerial and ground and even connect them together and still get WEAF at 9 p.m. He reports CKMO, Vancouver, on the air every weekday night until 4 a.m. EST.

Medford, Oregon, is evidently a good location for receiving the Japanese stations. Louis L. Richardson, 522 So. Oakdale Ave., says: "From 3-4 a.m. every morning a little patience will reward a listener with any good receiver with five or six of the Oriental stations. In addition there are three Australian and one Chinese, which may be logged when the weather is favorable." Mr. Richardson reports a strong carrier-wave signal on 660 kcys., on which he never hears any music.

"Radio Enthusiast," San Francisco, whose wife calls him a "radio nut," heard a station on 869 kcys. to which he listened patiently for an hour, all of which time was taken up with Oriental speech, music and wails. He feels sure it was JOAK, but he asks: "Do these fans who receive Japanese stations understand that language, or do they just use their imagination, or do the stations really announce once in a while in English?"

Don Turner reports two new Japanese stations, but does not indicate that he has received them — JOKK, Okayama, 429 meters, 500 watts, and JOLK, Fukuoha, 441 meters, 500 watts — and reports three new ones coming later — JOOK, Kyoto, JOPK, Shezuoka, and JONK, Nagano. Mr. Turner tunes in Japanese stations frequently. He also heard 2YA, Wellington, New Zealand, signing off at 3 a.m. PST. He has now received 371 stations on his General Electric Model 31-H. He can use either of two 300-foot aerials, both 120 feet high at the far end, but finds the east-west one best for distance any direction. For a ground he uses an old fire extinguisher full of copper wire well soldered, buried six feet deep, with the lead insulated to the set. He keeps this moist through a 2-inch pipe leading to it.

DX Targets

"I believe that readers who have never picked up Hawaii would like to know what time they are on the air," writes Frederick Heinzel, 5th and Sherman Ave., So. Milwaukee, Wis. "KGMB, in Honolulu, is on the air every day except Sunday. From Monday to Friday their

hours are 10 a.m. to 9:30 p.m. their time, and on Saturday from 10 a.m. to 12 midnight." Mr. Heinzel says that KGMB picks up the NBC programs at 5 a.m., Hawaiian time. He also reports that HHK, Haiti, is on the air every day except Sundays and holidays, 12:15 to 12:45 EST., with a musical program and each Friday from 8 to 9 p.m., EST. Each Saturday from 6:45 to 7:15 a.m. EST., and each Wednesday from 8 to 9 p.m.

Stuart Walmsley, 1641 W. 60th St., Los Angeles, lists the following western stations which are on the air after midnight Saturdays PST.: KGIR, WDAG, KGRS, KRLD, KOY, KVI, KGA, KMCS, KGFJ. XEJ, Juarez, has a new 500-watt transmitter and broadcasts until 10 p.m., PST., every night. Mr. Walmsley says he has received some very good information on Australian and New Zealand stations due to the kindness of two New Zealand DXers, which he will be glad to pass on to anyone writing him.

L. E. Wallace, 110 N. Duval St., Tallahassee, Fla., picked up CMGF, Matanzas, Cuba, on 977 kcys., in the early morning of January 24th. He writes that in verifying reception the manager of the station promised to make a special broadcast for him whenever he named the date and time. Mr. Wallace would like to cooperate with DX clubs and DXers in deciding upon a date for this broadcast and will welcome and answer all letters. He also would like to know of any DX clubs in the south.

In answer to John W. Christy who heard a program in the background of WEAF, Ivan D. Ide, Box 312, Genoa, Ill., thinks that this was cross-modulation and that Mr. Christy was hearing his local Montreal station on 730 kcys. Mr. Ide proffers the information that KOI on 1390 puts on a program after midnight Saturday which enables many DXers to add Arizona to their list.

Those DXers who have not been able to add New Hampshire to their list will be interested in the information given by Jackson W. Thompson, 535 Hess St., Bethlehem, Pa., that WKAD at Laconia will broadcast a test program commencing at 3 a.m., EST., Sunday, March 15th.

The time schedule for the new Rutland, Vt., station WSYB is given by R. W. Raustron, 15 Edgewood St., Claremont, N. H., as follows: "Daily, 10-11 a.m., 12-1 p.m., and 6-9 p.m., EST."

W. G. Downey, 419-A St. Clarens Ave., Toronto, advises us that CFCA broadcasts its Weasel Night Club frolic from the Silver Slipper Wednesday nights until 1:30 EST.

Station Notes and Queries

From a verification by CNRX Mrs. L. R. Ledbetter, 1004 Belmont St., Vicksburg, Miss., quotes, "CNRX is what we call a phantom for CFRB, that is, it is one and the same station operating under different call letters at different times. The reason you have not received our call letters before is because we use the station only twice a week from 4 to 5 Sunday afternoons and 9 to 10 Thursday evenings, CST." Mrs. Ledbetter sug-

(*Continued on Page 20*)

SET Operation and ADJUSTMENT

Please advise me what attachment I can add to my Sonora Melodon A-40, which will enable it to produce more volume. The phonograph side of the machine is very weak in comparison with other sets of its type. It has been checked over at the factory and found mechanically perfect. In other words, I want something that will step up the volume.

If your receiver has been checked and found to be in good condition at the factory, I would first check the aerial and ground. A long aerial and ground will give you more volume than a short one. An outside aerial is preferable. Also, the ground should be run to a cold-water pipe. Be sure to get a good electrical joint. Then have the tubes tested. One poor tube may be the cause of your entire trouble. If the volume is weak on outside stations, an extra stage of r.f. amplification might be added. If local stations do not come in with sufficient volume, an extra a.f. stage or perhaps a power amplifier will do the trick. There is one more thing that you can do, which might improve the volume on outside stations, and that is balancing of the tuning condensers as described in the May, 1930, No. 39, issue of RADEX. The work of adding an extra stage of r.f. amplification can best be done by a radio expert. Although we can give you instructions on wiring such as extra stage, the method of installation varies in each case and you would run into difficulties that could not be foreseen. Therefore, it is advisable to have the work done by a competent radio service man.

It Grumbles

I have a Brandes 8-tube a.c. receiver. When I turn the dial from 60 to 90 there is an awful grumbling sound, especially at 620 kilocycles. This makes it difficult to get any station. Would it help to adjust the regeneration control with which this set is equipped? There are also a pair of phonograph pick-up jacks, and I found that reception can be received at these points by plugging in a pair of headphones. Will this injure the set?

Answers by the Technical Editor

Your set either regenerates, which should be corrected by properly adjusting the regeneration control, or there is a a point on your condensers where the stators and rotors are short-circuited. The symptoms point to the latter. Perhaps there is a hairlike burr on one of the condenser plates that projects or the rotor plates may be out of alignment.

Dial Readings Vary

I use a Webster B-eliminator and I can probably attribute the variations in dial readings to it. It has almost outlived its usefulness. Can you furnish me the type of eliminator to get that is not subject to line fluctuations? I have a 14-tube super, employing seven 199s and a 222 for the r.f., a 201-A in the first detector stage, a 200-A in the second, a 201-A as oscillator and two 201-A's and one 171-A as audios. I have a Kolster K-5 combination speaker and amplifier connected to the output of the second audio in the set, which gives me enormous volume and the quality of tone cannot be beaten. Is it possible to rewire the oscillator so that the plate-voltage fluctuation will not disturb the dial readings? I live in a metal-lath enclosed apartment. Does this cut down by distant reception?

You need two devices to make your set operate satisfactorily. One is a voltage regulator to keep the input voltage stable, and the other is a B-eliminator which is large enough to provide the necessary plate current without being overloaded. According to your data on the tubes, your receiver draws about 200 milliamperes. The B-eliminator should be able to provide a maximum of 300 milliamperes, which will prevent it from being overloaded. There are a number of good eliminators that will be satisfactory, and it should be possible for you to obtain one in your locality. If your radio dealer has none on hand he will be glad to order one for you. You should be able to obtain better reception on a loop-operated receiver in a place not enclosed

in metal lath. This material acts as a shield that grounds the incoming waves before they reach the receiver.

Super Oscillates

I have a Victoreen Superheterodyne 1930 model. It has eight 227, one 250, two 874, two 281 and one 201-A tubes. This set oscillates when the volume is turned on. All new tubes have been supplied. I would like to know how to adjust the variable condensers at the four tuned circuits in the tuning section in order to stop the oscillation. Also let me know how to make a suitable earphone adapter for the electric set so that I will be able to hear distant stations without annoyance to others in the house. I would like to have an adapter that can be plugged into the power-tube socket without causing any harm to the set.

Your r.f. stages are undoubtedly out of adjustment. The proper method of balancing them was thoroughly explained in the May, 1930, issue of RADEX, No. 39. Socket adaptors for earphone reception are on the market and can be obtained from many radio dealers. They are manufactured by the Insuline Co. of America, 78 Cortland St., New York City.

Changing Power Tubes

I have a Western Electric tube model 205D and would like to know its characteristics and properties of receiving and transmission. Also, where it can best be used and how. I would like to replace three 201-A tubes in my Atwater Kent model 20 with three 101-F of the Western Electric make. I have tried them and they seem to give a better tone quality to the set. Is it advisable to do this or not?

The Western Electric 205D is classed as a power tube for receiving sets. The characteristics are as follows: Fil. voltage, 4.4; fil. current, 1.6 amps.; amplifier plate voltage, 350; C-biasing voltage, 30; amplifier plate current, 30 milliamperes; plate impedance 4,000; amplification constant, 7. No injury will result to your receiver by substituting other tubes for those previously used. However, the efficiency of your set might suffer if the new tubes have different characteristics.

Combining Adaptor

In following the article on "Building a Short-Wave Adapter" in your January issue, I would like to build the r.f., detector and a.f. stage in one set as a single unit. Is any additional information needed besides that given in the article?

The two diagrams on the short-wave adapter published in the January issue of RADEX, form, when hooked up together, really a three-tube short-wave set complete in itself. The first diagram

Lawrence Tibbett, recently guest artist on Atwater Kent Hour, who achieved the heights in both opera and talking pictures.

shows the r.f. stage and detector while the second shows the a.f. stage. There is no reason why all three tubes and associated instruments cannot be housed in a single cabinet. If desired, an additional a.f. stage can also be added to the first a.f. stage, following the same wiring diagram.

Frequency of Transformer

In the December issue of RADEX, in an article covering tone control, high and low frequency transformers were mentioned. I have been unable to obtain such transformers. Kindly state the difference between the construction of these two types. Is it the ratio of windings, size of

(Continued on Page 22)

NEW RADIO AIDS and DEVICES

Some Recent Developments

A NUMBER of new devices are being manufactured which have a distinct appeal to the experimenter in radio. A "filtered aerial wire" is described as giving revolutionary results. It is composed of a solid straight insulated wire around which is spirally wound enameled wire over the entire length. The straight inside wire is connected to a ground at each end while one end of the spiral wire is connected to the aerial post of the radio set. This arrangement is said to pick up very weak signals and, due to the transformer principle, the signal is amplified thus giving an excellent aerial for clear, distant reception. The price per coil (length not stated) is $1.50.

A Tone Control comes ready to screw to the cabinet with two wires at the end of which are adaptors to be placed under the power tubes. A single knob furnishes complete control of the tonal quality of the receiver. When the pointer is turned toward "Bass," the full, resonant lower frequencies are brought out. When turned toward "Treble," the high, brilliant frequencies are accentuated and the lower frequencies held down. This device is said by the makers to enable one actually to choose any instrument in an orchestra and bring it out where it is ordinarily hidden in the background of volume. It is claimed that crackling noises and other interference due to electrical apparatus in the vicinity may be minimized. No tools are required to install and no change in the wiring of the set is necessary. This device lists at $3.75, while a similar one for mounting on panel lists at $2.75.

What is called an "Accuratuner" lists at $2.50. Regarding this instrument, the manufacturers say: "With only ten kilocycle separation between stations, even many of the finest radio sets require an interference eliminator for close separation of stations. By simple adjustments, the Accuratuner will shut out any unwanted station interfering and in most cases will enable the user to get through the locals and bring in the distant station he wants."

A new Electro-static Arrester uses the silicate of carbide principle in place of the gap. This is said to offer very high resistance to powerful lightning discharges. The shield over the ground terminal is so constructed that it shields the set connection from the usual electro-static field set up between the aerial and ground connections. This acts as a static noise reducer. In addition a choke coil and condenser are mounted in the arrester and connected between aerial and set terminals to aid in filtering static noises which are being inducted into the set through the aerial. The choke coil is wound with wire that will act as a fuse and break circuit before any harm can be done to the set in case the aerial should come in contact with light or power lines. This Arrester lists at $1.00.

A Multi-Speaker Relay listing at $2.75 permits a number of loud speakers to be used at will. A turn of the knob switches from one speaker to the other. The capacity is four speakers or two may be played at one time.

An Ear Phone Adapter provides a simple way to attach head-phones to modern sets without making any change in wiring. An adaptor is provided with a connector attached. The adaptor is placed in the socket of the power tube and the tips of the phones are inserted in the connector and then the family may sleep in peace while the DXer circumnavigates the air. Where there are two power tubes in push-pull, both tubes are removed and the adaptor is placed in either socket. With this device the signal is taken from the set at headphone volume before it has been amplified by the power tube. The adaptor lists at $1.50.

RADEX has had no opportunity to test the above devices and merely publishes the information regarding them as a service to its readers in keeping them informed of the progress of the industry.

A RADIO PANDORA'S CHEST

THERE has recently been put upon the market a whole radio laboratory in one little unit. It consists of an aluminum case about the size of a shoe box which contains coils, condensers, resistances and sockets connected to eight binding posts in such a way that merely taking off leads from these posts in various combinations changes the unit into as many devices as a magician can take from a hat. No tools are necessary and no change in the wiring of any set. In fact a knowledge of radio is not essential as the directions for forming various devices are full and plain.

Some of the devices which can be made up from the ingenious "Magic Box" are the following:

A short-wave receiver for use with batteries and a 199 or 201 tube and head phones. Four coils are provided giving a full range of the short waves.

A regular portable broadcast receiver for camp or auto use. One of the four coils tunes from 200 to 550 meters thus covering the broadcast band.

A short-wave adapter for either a battery or all-electric set. For this purpose the detector tube is removed from the set and placed in the socket of the unit. A plug with cord from the adapter is then put in the socket of the set and there you are.

A crystal receiver for use without batteries or tubes.

A wave trap of the most modern design.

A wave meter for checking the dial markings on a regular broadcast receiver.

An oscillator for neutralizing a neutrodyne.

A booster unit for putting ahead of a regular receiver thus adding an additional stage of radio frequency.

A code sender for the home to be used in learning the letters by sound.

That's quite an order to get out of one little box, isn't it? If it is what its makers claim, this should be a most desirable device for any radio owner as no changes need be made in the regular set in any of the experimenting. The unit lists at $16.00, with an extra charge of two to three dollars for the plug-in with cord, depending upon the particular tube used in the regular set.

If our readers desire to try any of the devices described above, they may order through this magazine. As stated above, we have not tested any of them and cannot vouch for them but they are all made by reputable manufacturers.

Uncle Abe and David, two popular characters of the dials. Phillips Lord (R) and Arthur Allen (L)

Middle or Center?

Several readers take exception to our definition of WOC as being "in the middle of the dial" in last month's puzzle. They would have been quite correct in their criticisms if we had said the "center of the dial." The Standard Dictionary says: "We speak of the center of a circle but the middle of a room or the middle of a street. The center is equi-distant from the opposite boundaries; the middle is more general and less definite."

WOC on 1000 kilocycles is 50 channels from one end of the broadcast band and 46 from the other and it should come in on the middle of the dial but, of course, not in the center. Class dismissed.

TURNING Our FRIENDS' DIALS

What Our Readers Are Hearing

EUGENE MARTIN, 5446 McComas Lane, Dallas, Texas, sends a newspaper clipping regarding the new station XEP on 1430 kcys. with 2500 watts, which is to have its studio in Laredo, Texas, and its transmitting tower across the river in Laredo, Mexico, thus coming under the jurisdiction of the Mexican rather than the American authorities. The new station which will be known as "La Vos Latino" is one of a chain organization which will place four other stations in Mexico immediately. Several American stations which are concerned in a dispute with the Federal Radio Commission threaten to move to the Rio Grande, choosing their own frequency and subjecting themselves to the authority of the Mexican government rather than their own. Mr. Martin wonders if this is the beginning of a series of stations clear across Texas from El Paso to Brownsville. Mr. Martin states that the people of Texas are extremely proud of station WFAA and he would appreciate hearing from Northern listeners as to the reception of that station.

Richard Bogert, 1416 Linden St., Allentown, Pa., is sure he heard a German station broadcasting about 833 kcys. on the morning of January 13th and 15th, about 12:30 a.m., EST. Their announcements were clearly in German and they played many short sacred selections. He heard the time given in German as 36 minutes past six. Mr. Bogert is anxious to know if any others heard this station, as it is his first foreign catch. Mr. Bogert has discovered that the most successful DXers seem to live near a large body of water, either the Atlantic, the Pacific, or the Great Lakes, and that there are very few foreign reception records coming from inland states announced in RADEX. Is this just a coincidence or is there something in it?

The mystery of the Balboa station seems to be solved. Edward Heyworth, 55 No. 11th St., San Jose, Calif., and several others write us that station KGER, Long Beach, Calif., broadcast frequently by remote control from Balboa, Calif., which is near Los Angeles, and is no relation of the Canal Zone Balboa. Evidently the information from the Navy authorities that there are no broadcasting stations in the Canal Zone is correct and we are deleting NBA.

Howard F. Gerge, 2684 Clermont St., Denver, Colo., has received Costa Rica, Newfoundland, and Hawaii. On January 13th he heard a station on several different channels with a speaker talking in what Mr. Gerge believes was Japanese. Mr. Gerge is certain the language was not Spanish, French or German, and is very curious to know what station he was hearing.

Harry R. Elkins, Jr., 27 Allison St., Pontiac, Mich., logged 165 stations in the first six days with his new Philco 11-tube Super-heterodyne. He reports the power and selectivity of this set as amazing and states that although he is located only a mile and a half from the 5000-watt WJR, he can bring in WJZ and WSB every night on adjoining frequencies. He is using Dr. Brokaw's grounded aerial.

Since October 1, 1930, Charles Bonneville, 1905 Minnesota Ave., S. E., Washington, D. C., has logged 260 stations, his best record being KGB, San Diego, and KTFI, Twin Falls, Idaho. Mr. Bonneville would like to hear from any readers who have invested in one of WFIW's much advertised Varituners.

K. Wishart, 231 Montrose Ave., Winnipeg, happened to get a copy of RADEX by mistake and considers it a very lucky mistake. In the less than three months he has had his General Electric 9-tube super, he has logged 152 stations. Naturally he must get his stations all from the south. He has received stations on every frequency.

Fred Banzhof, 521 No. 1st St., Marshalltown, Iowa, is very much pleased with his Midget set which cost him only $49.50. In tests with his $150.00 console model he has brought in clearly 23 sta-

tions in an afternoon, with the Midget, as against nine on the Console.

B. L. Presnell, Scranton, Iowa, has four Australian stations to his credit, two from New Zealand, and six of the big seven in Japan. He has not yet brought in Hawaii or Alaska. He wonders if any other Iowans have heard any of these countries.

Thomas Kelley, 21 Monumental Road, Dundalk, Md., has 331 stations bagged on his Philco, Model 92. He has heard nine Mexican, 11 Cuban, and 18 west coast stations. He considers his best catch the 25-watt 10-BP at Wingham, Ont.

Some Experiments

Carroll C. Foltz writes that he was bothered with WLW coming in at several places on his dial. He discovered that his rectifier tube was supplying only half as much current as needed. When he replaced the defective tube it immediately ended the spread on WLW in harmonics.

Herbert Van Duyne, P.O. Box 88, Towaco, N. J., always had trouble bringing in stations between 540 and 760 kcys. He put up a 250-foot aerial "L" shaped, and now they come in beautifully and he says the selectivity is still good. He uses an Atwater Kent No. 60.

G. B. Bingham, 134 Ferrie St., East, Hamilton, Ont., has arranged an aerial in his attic composed of a number of wires which spread out like a fan toward the south. He gets much better results with this than with his 50-foot outside aerial.

Chas. J. West, 4100 Jacob St., Wheeling, W. Va., complains that many stations "stutter" on his set until very late at night. This is undoubtedly due to interference, which is not relieved until many stations sign off late in the evening.

C. E. Roach, Loudonville, Ohio, states that he picks up short-wave stations as high as 1604 kcys. on his Silver Marshall Super-heterodyne and wants to know if that is usual. Most receiving sets tune to 1500, although many of them will tune almost to 1700 kcys., thus bringing in many of the short-wave stations.

A. Hayter, 28 Millbrook Crescent, Toronto, Ont., has become interested in short-wave reception and would like to hear from short-wave fans.

"Daddy and Rollo," a new series of La Palina programs by J. P. McEvoy. Columbia, Tuesday, Wednesday and Thursday, 7:45 to 8:00, E.S.T.

Radio Gossip

"I have heard of a device being perfected for transmitting scrambled broadcasts with another device to be attached to the radio receiver which will unscramble the program. The rumor is that this device is owned by the National Broadcasting Company and is being held in reserve for the time when it can be used to make the public pay for their broadcasts, probably on a rental basis. I would like to know if there is any truth to this story," writes H. D. Spangler, Shirley, Ind. We do not know as to the facts in the case, but we do not believe it would be at all difficult to make such a device, in fact, the American Telephone Company now has a device which will turn an ordinary conversation into a gibberish which cannot be understood, but when this gibberish is run back through the same device it comes out good English at the other end. Also it would perhaps be feasible to broadcast a program in two parts, something on the order of a push-pull. One of these programs could then go on to the air on one frequency and the other on another frequency. A sort of duplex

(*Continued on Page 24*)

NEUTRALIZING Oscillation of R. F. Tubes

Balancing the Neutrodyne

THE purpose of the small neutralizing condensers or "neutrodons" of a neutrodyne receiver is to eliminate oscillation caused by the internal capacity of the r.f. tubes. These small condensers are connected between the plate and grid circuits of successive tubes, the grid connection being made to a tap in the secondary winding of the coil, which is also connected to the grid terminal of the following tube.

To properly neutralize a neutrodyne receiver one must be able to tune in strong signals, either from a local broadcasting station, or produced by a vibrator that can be tuned to a definite wavelength. The latter can be made from a .0005-mfd. variable condenser, a coil consisting of 60 turns of No. 26 insulated wire wound on a 3-inch tube, a doorbell or buzzer, a switch and two dry cells. The two terminals of the condenser are connected to the ends of the coil. One of the coil ends connects to the switch and the other side of the switch goes to one terminal of the buzzer. The second coil end is connected to one side of the dry cells, wired in series, while the other side of the dry cells goes to the second terminal of the buzzer. By turning on the switch and rotating the condenser, signals of various wavelengths can be obtained.

In use, the oscillator is located about 20 feet from the receiver, no connection being made between the two as enough energy will be picked up by the receiver to permit neutralizing it. The buzzer is adjusted so that it produces a high-pitched sound and the condenser is then set about 10 degrees, which will cause the buzzer to oscillate at a wavelength of approximately 225 meters or 1330 kilocycles. The dials of the receiver are then set at the point where the signals come the loudest. When no buzzer is used the same procedure is followed to tune in a strong station at about the same wavelength.

After the signals have been tuned in as loud as possible remove the first r.f. tube from its socket. The signal will then become fainter but the tuning dials are carefully readjusted to the point of maximum volume with the tube removed. The first r.f. tube is the one closest to the tuning coil to which the aerial connects. Slip a piece of paper over one of the filament tips of the removed tube and reinsert it into the socket. It will not light up. The tuning dials should not be touched, but the small neutralizing condenser between the first and second stage is adjusted to a point where the signal is nearly or entirely inaudible, and it is left at this point. Do not attempt to make this adjustment by hand or with a metal tool, as body capacity, and capacity of the tool will interfere. After the adjustment is made, remove the paper insulation from the tube and reinsert it into its socket. The first stage is now completely neutralized. Then remove the next r.f. tube, insulate one of the filament tips, and proceed in exactly the same way. After both stages have been neutralized, care must be taken not to alter the adjustment of the small condensers. Sometimes they can be screwed down securely so that there will be little or no danger of their being changed. When it is necessary to replace the r.f. tubes, be sure to substitute tubes of the same type, which have the same characteristics. If the tubes are changed about or new ones inserted, the neutralizing process will have to be repeated.

Gets Hot Signals

"I have read the many suggestions about aerials," writes R. N. M., Corning, N. Y., "and hope you will let the other readers in on this one. Solder a wire to a hot water tank and run it to the antenna post of the radio set. This has given me more volume on my set than any other indoor or outdoor aerial I have ever had." This one would be easy to try anyway.

THIS MONTH'S CHANGES

New Stations

550	CMCJ	250	Havana Cuba.
856	CMJE	5	Camaguey, Cuba.
977	CMGF	50	Matanzas, Cuba.
1000	XEE	10	Linares, Mex.
	XEFE	101	Laredo, Mex.
1010	CMCX	250	Havana, Cuba.
1070	CMBG	150	Havana, Cuba.
1090	CMAA	30	Guanajay, Cuba.
1094	CMGI	30	Matanzas, Cuba.
1110	CMHI	15	Santa Clara, Cuba.
1154	CMHA	200	Cienfuegos, Cuba.
1176	CMKG	30	Santiago de Cuba.
1185	CMGB	7.5	Matanzas, Cuba.
1200	CMKB	15	Santiago de Cuba.
1225	CMCN	250	Havana, Cuba.
1249	CMAB	20	Pinar del Rio, Cuba.
	CMGH	60	Matanzas, Cuba.
1250	XEFA	250	Mexico City.
1276	CMJB	20	Ciego de Avila, Cuba.
1285	CMBJ	15	Havana, Cuba.
	CMBM	15	Havana, Cuba.
	CMCG	30	Havana, Cuba.
	CMCR	20	Havana, Cuba.
1310	WBEO	100	Marquette, Mich.
	XETN	30	Toluca, Mex.
1315	CMGC	30	Matanzas, Cuba.
1327	CMKH	250	Santiago de Cuba.
1332	CMJA	10	Camaguey, Cuba.
1345	CMBA	50	Havana, Cuba.
	CMBF	7.5	Havana, Cuba.
	CMCD	15	Havana, Cuba.
	CMCU	50	Havana, Cuba.
	CMCY	15	Havana, Cuba.
1363	CMKF	30	Holguin, Cuba.
1375	CMGE	30	Cardenas, Cuba.
1405	CMBI	30	Havana, Cuba.
	CMBK	15	Havana, Cuba.
	CMBN	30	Havana, Cuba.
	CMBQ	50	Havana, Cuba.
	CMBX	30	Havana, Cuba.
1429	CMHE	20	Santa Clara, Cuba.
1430	XEP	2500	Laredo, Mex.
1450	CMKA	20	Santiago de Cuba.
1500	CMBH	30	Havana, Cuba.
	CMBL	15	Havana, Cuba.
	CMBP	15	Havana, Cuba.
	CMBR	15	Havana, Cuba.
	CMCM	15	Havana, Cuba.
	CMCT	5	Havana, Cuba.
	CMHB	10	Sagua la Grande, Cuba.

Power

590	CMW	Havana, Cuba.	1000 to 700
730	CMK	Havana, Cuba.	5000 to 3000
830	CMGA	Colon, Cuba.	300 to 100
890	CFBO	St. John, N. B.	50 to 500
910	CJGC	London, Ont.	1000 to 500
960	CHCK	Charlottet'n,P.E.I.	30 to 100
1120	CFJC	Kamloops, B. C.	15 to 100
1210	CFNB	Chilliwack, B. C.	5 to 100
	CKPC	Preston, Ont.	50 to 25
1220	CMCA	Havana, Cuba.	100 to 150
1310	WRBI	Tifton, Ga.	20 to 100
1400	CMBY	Havana, Cuba.	200 to 100
1450	WHOM	Jersey City, N. J.	250 to 500

Deleted

632	XFE	Villahermosa, Mex.
846	NBA	Balboa, C. Z.
859	XFZ	Mexico City.
1240	CMKX	Holguin, Cuba.
1400	WSDA	Brooklyn, N. Y.
1500	WMBJ	Pittsburgh, Pa.

Calls

1120	KMIC	Inglewood, Cal., to KMCS.
1320	KGIQ	Twin Falls, Idaho, to KTFI.
1350	WKBQ	New York City, to WBNX.

Frequencies

				From
630	XET	500	Monterrey, Mex.	890
645	CMHJ	40	Cienfuegos, Cuba.	1154
650	XER	101	Mexico City.	984
719	XEN	1000	Mexico City	732
730	XEM	500	Tampico, Mex.	841
840	XEG	2000	Mexico City.	829
845	CMC	500	Havana, Cuba.	840
870	CMHH	10	Cifuentes, Cuba.	1285
890	CMX	500	Havana, Cuba.	910
940	XEO	5000	Mexico City.	674
955	CMBC	150	Havana, Cuba.	1130
	CMBD	150	Havana, Cuba.	995
977	XED	10000	Reynosa, Mex.	961
1000	XEA	101	Guadalajara, Mex.	1200
	XEC	50	Toluca, Mex.	1133
	XEF	105	Oaxaca, Mex.	1132
	XEH	101	Monterrey, Mex.	1132
	XEJ	101	Juarez, Mex.	857
	XEL	10	Saltillo, Mex.	1091
	XEU	101	Veracruz, Mex.	800
	XEV	101	Puebla, Mex.	1035
	XEY	105	Merida, Mex.	547
1034	CMKC	150	Santiago de Cuba.	1045
1140	CMGD	5	Matanzas, Cuba.	920
	XETA	500	Mexico City.	1100
1150	CMCQ	600	Havana, Cuba.	955
	CMQ	250	Havana, Cuba.	1130
1210	XEX	500	Mexico City.	1190
1321	CMJC	15	Camaguey, Cuba.	1350

A DXer's Dxology

Dear WILL:

WAAT 'till I see you. I'm going to get real WRUF and make a WREC of you. Why? WRAK that WOOD head of yours? WHN are you ever going to K-T-H-S? It's not far as the KROW flies and right now I have a WLTH of good LKR. It's no JOAK, you old CNRR. Hop on your K-D-K-A, you big KID, or better call a CAB. But don't bring JOCK. WHAT do you say?

Have you seen INA again? WOW, she's some KIDO. Remember when you KSD her and she put up a KICK? Boy, how she KRLD up her fist and gave you a WHAM on the nose. Your beak was WRAW and KUT for a good while after. And, gee, how you KUSD.

WELL, W-E-N-R you coming? W-S-P-A to a little WREN who W-F-L-A to me.

Your friend,

KIT.

The above midwinter nightmare was submitted by John Francis Doherty, 693 East 42nd Street, Brooklyn, N. Y., as a puzzle but is so good we didn't want our friends to wait another month for the key to it.

LEAKS Must be Plugged in AERIAL

Set Gives Only What it Gets

As it is rather inconvenient in many cases to inspect the aerial thoroughly, the owner, who has trouble, can make a few simple tests, which will tell whether or not the trouble lies in the aerial and ground circuits. One method of doing this is to disconnect the aerial and ground wires from the receiver while it is in operation and if the trouble ceases it is presumably in the aerial or ground. If the trouble continues, it is most likely in the receiver or the accessories. However, there may also be some defect in the aerial system, in addition to trouble in the receiver.

A good method of testing the aerial and ground is to use a headset and a small battery. An old B-battery will do for this purpose and it is connected in series with the headset. Disconnect the aerial and ground wires from the binding posts on the receiver and place them in a position so that the bared ends of the wires will not touch each other, or touch any conductor such as metal, which is connected to the ground.

To test for a grounded condition of the aerial caused when it touches anything connected with the ground, hold one tip of the tester to the aerial and then touch the other to the ground wire or any metal, such as a radiator or faucet, the lead-in being disconnected from the set. If you hear a click, there is no doubt that the aerial is grounded. A high-voltage battery of 45 or 90 volts should be used for making this test. If a lightning arrestor is used the trouble may be found here. It must be remembered however, that a test of this kind does not always show a slightly grounded condition, which is nevertheless apt to interfere with reception.

In order to find whether there is a break or an open circuit in the aerial, it is necessary to connect the far end of the aerial to the ground and then make the same test as just explained. A click in the phones should be heard in this case, and the absence of a click indicates a break or open circuit. If this test is made on a windy day, when the aerial sways about considerably, and if crackling noises are then heard, you may be certain that there is a loose connection somewhere, probably where the lead-in connects to the aerial. The efficiency of the ground connection can be tested by touching the tips of the tester to the receiver ground and to a cold-water pipe. A distinct click heard in the headphones shows that the ground wire and connection are in good condition. Another method of testing the efficiency of a ground connection is to tune in the whistle of a broadcasting station, and then to touch the bare ground wire where it connects to the receiver, with a moistened finger. If the whistle varies in pitch when this is done the ground connection is inefficient.

Grounded Aerials

If the aerial touches any object or conductor, which is connected or partly connected with the ground, the aerial will be grounded and poor reception will result, evidenced by a loss of volume or total inaudibility. Radio currents, which pass through the medium of the air, pass over wet walls, carbon-covered insulators very readily, and still easier over metal such as conductor pipes. If an aerial is grounded or a grounded condition is suspected, make a careful examination of the whole system. The aerial should be taut and if it lies on the roof, it must be re-erected. It should be strung in such a position that it will not sway against a wall, roof gutter, chimney or any other object.

Where an aerial is stretched between two buildings or any other suitable supports, care must be taken to clear it from trees, which will ground the aerial, if they touch it. This is generally not taken into account when an aerial is erected during the winter months when trees are bare, with the result that the foliage often touches the aerial during summer. Trees may be used as supports for aerials provided the end wire from the

insulator to the tree is sufficiently long to permit the aerial proper to clear the branches and thus prevent a grounded condition.

Clean off the insulators thoroughly, as soot often collects on them. Soot is a form of carbon and permits the passage of electricity over the insulator, and some of the energy picked up by the aerial will then be lost. During winter, ice-covered insulators may also permit a loss of energy, but this trouble is usually periodic, and ceases as soon as the ice melts. In localities where there is quite a bit of rainfall, loss of volume may be caused by a grounded condition, due to wet insulators; it is well known that water is a good conductor of high-frequency currents. It is often stated that a receiver works better during a rainstorm than at any other time, but this assertion is erroneous. The source of trouble in grounded aerials can often be traced to some point in the lead-in, where it comes in contact with the building. Bare lead-in wires should of course, never be used, for their use greatly increases the possibility of grounding troubles. If a ground is found at a point where the lead-in touches a part of the building, and the insulation is frayed, provide a suitable support at this point, with an insulator on it to hold the aerial.

Faulty Lightning Arrestors

Sometimes faulty lightning arrestors will ground aerials. A lightning arrestor is really a spark gap having the two terminals set closely together. If the assembly becomes loose, the terminals may touch each other. The condition of the lightning arrestor can readily be checked with the headphones and a small C-battery. Disconnect the leads from the lightning arrestor and then proceed to test it. If it is in good condition, no click will be heard. On the other hand, a click indicates a short circuit. Besides short circuits inside of the lightning arrestor, it may have external losses through a film of soot. This condition is not really a short circuit but nevertheless decreases the efficiency of the receiver. It is an easy matter to clean off the lightning arrestor with gasoline occasionally to prevent this trouble.

Open-Circuited Aerials

Total inaudibility can sometimes be traced to an open-circuited aerial. The lead-in wire may be broken, or it may not have been soldered to the aerial. Corrosion at the joint may be responsible for the open-circuit. Look for it where the wire has been bent often, or where it has been mashed, as for instance, under a window sill. A broken wire can usually be felt, but an accurate test can be made

with the headset, a C-battery being connected in series with the headset, a small slice of insulation cut off the wire on each side of the point where a break is suspected. When the testing tips are touched to the bare wire at the places where the insulation has been sliced off, there should be a sharp click, which indicates continuity of the wire. However, handle the wire at the place where the break is suspected for the two ends may happen to touch each other while making the test, and this would of course, give the same effect as an unbroken conductor. In case the wire is broken, cut the insulation at the break and bare the ends. Scrape them clean to the copper and twist them together

(*Continued on Page 25*)

Theory of Radio

(Continued from Page 2)

into audio frequencies or those within range of the human ear.

In the receiving set is a variable condenser which is turned with the tuning dial. This condenser or series of condensers has the faculty of "tuning" the set to any frequency from 550 kilocycles to 1500, some more and some less. The receiving set must be tuned to exactly the frequency of the station it is desired to receive. When it is so tuned a signal of that particular frequency will be converted into audio waves which will vibrate the diaphragm of the loudspeaker which in turn sets up air waves to strike the diaphragm of the ear and we "hear" the program.

This is a rough and necessarily inaccurate description of the elements of radio. Now as to frequencies and wave lengths. If you were to drop a handful of pebbles into a pond of still water, one at a time, a series of circular rings or waves would be set up which would travel outwardly. The rate at which you dropped the pebbles, that is the number per second, would be your frequency. The distance from the crest of one of the tiny waves to the next would be the wave-length. The faster you dropped the pebbles the shorter would be the wave-length; in other words, the higher the frequency the less the wave-length and vice-versa. A cycle is one complete vibration that is one wave and one hollow. A thousand cycles is a kilocycle. We use the metric or decimal system because the English and American systems of measurement are antiquated and cumbersome. We could scarcely say a station had a wave-length of seven yards, two feet, nine inches and 17-64ths, could we?

Radio waves travel with the speed of light or roughly 300,000 meters per second. If we divide this by the frequency per second we get the distance from one wave to the next or if we divide by wave-length we get the frequency. If you divide 100 by ten you get a bigger quotient than if you divide by 25. Thus we see that the higher the frequency the less the wave-length. As a matter of fact the wave-length has nothing to do with it. It is a term that came into use in the early days before we had progressed and the radio user would do well to forget all about it.

The radio authorities have decided that stations will interfere with each other if they broadcast on frequencies closer together than ten kilocycles. Our channels are therefore laid out in "tens" which has the additional merit of being our decimal figure. When we divide a number by even numbers we will nearly always have a fraction thus dividing the speed of radio waves by our even frequencies will nearly always give us a fraction in our wave length. But as said before, let us forget wave-lengths entirely.

In the early days of radio wave-lengths were the unit of measurement and the first radio manufacturers numbered their dials so that the higher the wave-length the higher would be the number on the dial. Some later manufacturers have followed these pioneers as we have followed the calf that laid out the city street and still make their dials read opposite to the frequencies so that when you want a higher frequency you have to turn to a *lower* number on the dial. Such manufacturers are sound asleep; they are still living back in the old wave-length days. Buyers are avoiding such sets for the simple reason that if a manufacturer is so out of date with his dials, the chances are that he is also behind the times with the balance of his set.

Some manufacturers mark their dials with kilocycles which is a most convenient form if it is accurate, but unfortunately, it is not possible to make sets in quantities and have frequencies come in at exactly the same point on a standard dial. It is out of the question to mark an individual dial for each set made and the result is that on many dials calibrated in kilocycles, the stations do not come in just where they should. A station at the lower end of the dial which has a frequency of say 650 kcys. may come in at 670, while at the other end, a station of 1470 may come in at 1450. The result is most confusing.

The interference above 1200 of which Mr. Rouse speaks is caused by two factors. First we have altogether too many stations on the air for the ability of our condensers to separate them. Second, due to the construction of our condensers, the higher the frequency the smaller is the distance on the dial between them. Let us say that in the middle of the dial (from 900 to 1000 kcys.) the outside of the dial must be turned 1-16th of an inch between frequencies. Then in the upper frequencies of 1200 to 1500 the dial must be turned much less than 1-16th; this causes a congestion at this end with consequent interference from overlapping. Unfortunately nothing can be done about this until the number of stations is reduced, the separation of ten kcys. made greater or some genius brings out a condenser much more efficient than those we have today.

As to head-phones, the modern electric set is so powerful that they are not needed in order to receive even distant stations. The one who desires to listen by himself after the family has retired and the DXer can however attach phones to any set. The method was fully described in our April, 1930, issue (No. 38, a few copies of which are still available). In this issue you are reading you will find described a device for attaching phones by removing the power tube or tubes of a set and inserting instead a plug which leads to a telephone connector.

DX is the code abbreviation for distance, hence a DXer is a listener who likes to tune to distant stations. A DX program is a special program arranged for these DXers particularly by low-power stations which are ordinarily hard to receive. Collecting verifications from DX stations is a fascinating hobby as one can easily perceive by perusing some of the letters printed in RADEX.

DX stations of low-power are naturally the most difficult to receive. It is usually necessary to try for these late at night after a number of stations have signed off, thus lessening the interference on each wave. Some of these stations occasionally broadcast special after-midnight programs for DXers.

The Editor Listens In

To Phil Cook, the Quaker Man . . . A little of this goes a long ways, a very long ways.

Turn the Dial

To the Davey Hour . . . I think that I shall never see . . . a more enjoyable Sunday afternoon program. A little of everything, including, so they say, a fifteen minute speech to "Friends Everywhere."

Turn the Dial

To the Enna Jettick Melodies . . . Usually very good; the "Songbird" is an exceptionally sweet-voiced soprano.

Turn the Dial

To Major Bowes' Family . . . Let me leave this thought with you . . . a very nice way to spend half an hour Sunday evening. Thank you, Louise.

Turn the Dial

To the Tastyeast Jesters . . . Cut out the comedy and we will tune you in again.

Turn the Dial

To the Rise of the Goldbergs . . . A Fanny Hurst-ian symphony of Jewish family life. The clash between the

A Cuckoo Professor. Here is Professor Ambrose J. Weems, Director of NBC station "KUKU" nee Raymond Knight.

idealistic and the materialistic of the mother and father. Most enjoyable.

Turn the Dial

To Lowell Thomas . . . The news of the day presented in an easy-to-take form. An interesting evening summary of the world's doings.

Turn the Dial

To Detective Story Magazine . . . Crooks bumping each other and innocent bystanders off. Plenty of this in the daily papers. Enough is too much.

Turn the Dial

To the Pickard Family . . . Mountain songs and music. A glimpse of a phase of real American life that is fast disappearing.

Turn the Dial

To Dixies Circus . . . Calliope and everything. Daily life and incidents back of a circus tent. Fair.

Turn the Dial

To Cecil and Sally . . . Terrible. If they could talk so one could understand them it would probably be worse.

Turn the Dial

To Carborundum Hour . . . Give us just a little more of the band and a little less of the uses of carborundum.

Turn the Dial

To Louie's Hungry Five . . . The music is easy enough to listen to but the wit is awful. And the station pays money for it.

Turn the Dial

To Radiotron Varieties . . . Don't think I ever could care for a man who called himself "Bugs." Never was humor forced so hard. It actually labors.

Turn Off the Set

Available Back Issues

No. 35 — Electrifying Battery Sets.
No. 37 — Exploring the Short Waves.
No. 38 — Using Head Phones on Modern Sets.
No. 39 — Installing Radio in a Car.
No. 40 — Elimination of Radio Noises.
No. 41 — Noises Found in Your Home.
No. 42 — Interference by High-Frequency.
No. 43 — Multiple Speakers and Remote Control.
No. 44 — Wave Trap Increases Selectivity.
No. 45 — How to Build Short Wave Adapter.
No. 46 — Reducing Effect of Static.

Letters From Our Readers

(*Continued from Page 6*)

gests for a Saturday evening target CFCA, Toronto, on 840 kcys. She gets them every Saturday evening from 8:30 to 9 o'clock before Shreveport comes on.

Illustrating the uncertainty of the frequencies of Cuban stations, one reader sent us a notice from CMX that they were changing from 900 to 910. We corrected our list accordingly, but now in one mail readers send us verifications from CMX, one of which gives the frequency as 900, and the other as 890. The new Cuban Government list shows CMX on 900, but as several readers have heard them announce on 890, we are putting them, for a time at least, on the latter frequency.

Albert E. Cotes, Jr., 1007 So. Limestone St., Springfield, Ohio, reports a station giving the call letters WIBS which gave the correct time every hour and then signed off without announcing the city. Has any other reader heard this station? Mr. Cotes gets a peculiar reception on 880 kcys. of a steady tone which lasts for twenty seconds and then is repeated by five short sounds of the same tone. He states this is constant and is on all day every day. This is rather mysterious as we can think of no interference that would be so regular.

A new station, KMRS, giving its location as Gretna, Neb., was heard by Felix L. Schmitz, 4720 No. 31st Ave., Omaha, Neb. The announcement stated they were operating on a frequency of 1490 kcys. with 25 watts power. They are owned and operated by the Sun Theatre at Gretna and broadcasting five times each weekday and four times on Sunday. No notice regarding such a station has come from the Radio Commission, and it strikes us as odd that they would put a Nebraska station on 1490 which already has two powerful Chicago stations.

G. M. Rice, Belvidere, N. J., wants to identify WLY, College Station, which he picked up on January 16th at 3:45 p.m., below 550 kcys. They were broadcasting to an airplane at sea. Mr. Rice uses for a ground a 1½-inch galvanized iron pipe plugged at the bottom and driven into

the ground about eight feet. He keeps this filled with water and gets Mexican, Cuban and British Columbia stations without an antenna.

A reader sends us a newspaper clipping to the effect that WIP and WFAN are to be consolidated, and that programs will be continuous in operation without interruption. The new WIP-WFAN station broadcast for the first time on Sunday, February 1st. It will be on the air from 9 o'clock in the morning till midnight every day.

A station giving the call letters WNPA was picked up on 1170 kcys. by Harold C. Rockey, 50 Trinity St., Stratford, Ont., Sunday, January 18th, at 1:45 p.m., with a program from the International Bible Students' Association. He is anxious to identify this station.

George Tonnyson, 408 Seventh St., Oakland, Calif., gets station KFBD without an aerial. He reports the station as being in Los Angeles on 1240 kcys. with 100 watts power. No such station is listed by the Radio Commission and we would be glad to learn more about it.

W. Dyson, 72 Cambridge Ave., Hamilton, Ont., sends us a newspaper clipping indicating that CKOC is moving from 880 to 1120 kcys., and that it will increase its power to 5000 watts. The Dominion Government still lists this station at 50 watts on 880.

Miss Carrie Alice Brinkerhoff, 317 Clinton Ave., Oak Park, Ill., is anxious to identify a station which she heard January 3rd at 3:45 a.m. CST. She did not catch the call letters and does not give us their frequency, but she heard them say, "Way out in Washington."

In January we changed KMIC to KMCS, but as many readers report still hearing them give their call as KMIC we changed back in February. Now several readers send us verification cards stating that this station changed its call to KMCS on January 16th.

We receive so many complaints regarding WRHM spoiling reception everywhere all night long on 1250 kcys. that it seems to us the Radio Commission ought to check up on this station's power. It hardly seems possible that a station could do so much damage with only 1000 watts.

A. Murphy, 42 D'Aiguillon St., Quebec, heard a station between 730 and 750 kcys. whose initial letter was "K" that he could not identify. There was an announcement regarding blankets, Mackinac coats and Rogers silverware. He is anxious to hear from anyone who may have heard the same station.

A number of our readers have logged stations on all frequencies except 540, on which CKX, Brandon, Man., has a monopoly. They would greatly appreciate information as to the time on the air on this station in order that they may fill all their channel blanks.

Nelson Abercrombie, 3910 Tenth Ave. So., Birmingham, Ala., reports hearing WPTF sign off on 1100 kcys. and wonders how they came to be off their assigned frequency of 680. It is hardly possible that this could have been an harmonic.

A letter from the Jarvis St. Baptist Church, Toronto, Canada, states that while they still hold a license for CJBC no station has as yet been erected, and they use station CKGW for their Sunday evening services, 7 to 9 p.m., EST.

Station KTU, Fresno, Calif., is received frequently by Reginald Ogan, Carpinteria, Calif. As this station is not listed he would like to know if any others have received it.

Several readers report KUJ, which recently moved from Long View, Wash., to Walla Walla, on 1370 kcys., but we have no official notice of their change from 1500.

Don Turner, Box 655, Taft, Calif., states that he has received CJRW, Fleming, Sask., on 665 kcys. for three successive nights. Its official frequency is still 600.

A number of readers have reported CJGC, London, Ont., announcing the use of 5000 watts, but the Dominion Government still rates them at 500.

We are advised by the Nestle's Milk Products of Toronto that their station CKOW is still silent.

"KZM, Hayward, Calif., is still on the air," reports M. D. Wood, Pleasanton, Calif.

A Radio Mystery

"THIS is a letter describing a radio phenomenon," writes Norman C. Stines, Jr., from the Montezuma Mountain School, Los Gatos, Calif., "or at least I've never heard of such a thing before.

"I was listening to a radio in one of the rooms of the school. A record was being played. At the conclusion the same record was played over again and then a third time. I thought this very strange. I went down the hall and, passing another student's room heard that same record. He was playing it on a Carryola Porte Pick-Up which was connected to one of the first all-electric sets made, a Bosch. Down the hall I could still hear the radio I had just left. It was reproducing the record. I lifted the pick-up and the music down the hall ceased. Putting it back on, it started on the radio down the hall again. We then tried four other radios and it was found that all of them in this building would pick up the record. It came in at the same frequency on all of them.

"This is a still stranger part. Two hours later I tried the experiment again but with no result. In fact, all attempts to reproduce the phenomenon have been failures. Is there any possible explanation for such a strange occurrence?"

The explanation is that the Bosch was acting as a miniature broadcasting station and was rebroadcasting the record in just the same way that we used to get the whistles and squeals of our neighbors' regenerative sets. The failure to reproduce the results was undoubtedly because the Bosch set was not in just the proper stage of oscillation in the subsequent experiments. It would rebroadcast only when at a particular point of oscillation.

Operation and Adjustment

(*Continued from Page 9*)

wire or laminations which accounts for the difference?

The difference in high and low-frequency transformers is in their winding and core. Transformers on the market are not listed in this way. However, write to the Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill. This concern will be glad to quote prices on transformers of both classes.

More Data on S.W. Set

In respect to the recent article on short-wave receivers I would like to know if I can use a set of "Aero" coils which I have on hand. I would also like to know the function of the tapped 20-ohm resistor used in the filament circuit of the 222 tube. I presume it is simply tapped as shown to complete the return grid circuit.

The function of the 20-ohm resistor in the short-wave adaptor described in the January issued of RADEX, is to obtain the proper C-bias for the r.f. 222 tube, and at the same time to furnish the correct filament resistance in the line. I am quite sure that you can use the coils you have on hand, but do not vary the wiring from the diagram or the efficiency of the adapter may be impaired.

Lack of C Voltage

Will you please give me the following information? I have a Freshman 7-250 Polydyne receiver. On checking it over I noticed that it does not show any C-voltage on the 250 and 227 tubes. Should these register a C-voltage? I notice that all the resistors are of the wire-wound type but I don't know what their value is.

The resistor for the C-bias on the 250 tube usually ranges from 1000 to 1250 ohms, depending on the plate voltage of a particular set. This resistor is connected in series with the center point of the 7.5-volt winding of the power-unit, and the B-neg. and ground line of the set. Test for an open circuit on both the detector and power-tube biasing resistors. In case of an open circuit, replace the defective resistor by going to a radio dealer handling Freshman parts.

"Frying" Noises

I have a new Kennedy, model 32, chassis using three screen grid 224 tubes, two type 227 tubes, two 245 power tubes in push pull, and one 280 tube. The receiver does not get anything except a few high-powered stations without a frying noise in the speaker, which is of the dynamic type. When the tone control, which is also a power switch, is turned

entirely to the right, or bass, the frying noises almost disappear. They come in loudest near a station. What should this receiver be able of getting? It is not overly selective. We are using a 60 to 75-foot antenna, 20 feet above the ground. There is a power line about 100 feet away and at right angles to the aerial. The set is equipped with Cunningham tubes. Disconnecting the aerial does no good as it makes the signals weak and the noise in proportion.

One might be apt to blame the power transformer for the frying noises in your receiver, but it seems that the trouble is caused in the set itself as it continues in proportion to the signal even with the aerial disconnected. However, interference from the transformer might be the cause. It is best to decide this definitely by taking the receiver to another location if possible. If the trouble does not continue, the source is probably the transformer. If the trouble persists, there is a poor tube in the set, which should be replaced, most likely one of the 227 tubes. Under favorable conditions you should be able to receive quite a distance with this receiver, say, from 500 to 1000 miles.

Volume Falls

I have a Stromberg Carlson model No. 846. Last January when the set was four months old it began giving the following trouble: While performing normal it would suddenly click and the volume would drop down about one-half. After a few seconds it would click and come back. The set was checked for loose connections, poor tube seating and other possible causes, without results. The chassis and power pack for the speaker were sent to the factory, being returned with the information that everything was in good condition. After that I sent the entire set back again including the tubes. A new chassis was substituted for the old one but the trouble still persisted. I have used this set in three different cities on nine aerials and it is no better. I might add that it cuts off during the day and up until about 8 p.m. almost continually but after that there is not so much bother although it will cut off at any time. Other radio sets in the same apartment building in which I live perform perfectly.

As you have had the same trouble of diminishing volume on two distinct chassis, in many different locations, and as the absence of this trouble in other sets in the same apartment building precludes the idea of external interference, there is only one thing left to blame the trouble to, and that is the tubes. According to the information in your letter, the same set of tubes was used on both chassis and in the various locations. One or more of them is likely defective, which cannot always be detected by testing as they seem to work all right to a certain point. Purchase one r.f. tube and substitute it for the tubes in the r.f. stages. If this does not locate the source of the trouble get a detector and try the same method of substitution, going to the audio stage with the proper tubes, last.

Faulty By-Pass

I have an Airline A C eight. Recently I began to notice a decrease in the volume of this set. It uses five 226, one 227, and two 171A tubes. A complete set of new Radiotrons did not remedy the trouble. I built the simpler of the two wave traps described in the December RADEX and this brought the volume at the higher frequencies almost back to normal, but did not help much elsewhere. At the extremely high frequencies the set howls quite loudly if the wave trap is not tuned sharply, but howls only when the wave trap is connected. The last few days a poping noise has been heard in the speaker and the volume drops down to almost nothing. If the switch is turned off for perhaps 15 to 30 seconds, the program will come back again as before and may stay on for several hours without any trouble, or only for a few seconds. If a station at the extremely high frequencies is tuned in while the volume is low, and the set is allowed to howl, the volume immediately comes up and other stations can be brought in. This howl is severe enough to shake the entire cabinet and can be heard over the whole building. Producing the howl has never caused the volume to diminish. I failed to state that the phonograph pickup has showed no decrease in volume whatever and has never popped.

As your trouble is not evident when using the audio end with the phonograph

pickup, it is caused in one of the r.f. stages. The sudden stopping of the set is presumably due to a leaky by-pass condenser which discharges the moment the voltage becomes excessive. When the set is turned off the condenser loses its charge entirely so that it is practically empty when the set is turned on again. At first the condenser functions properly but as soon as the voltage builds up there will be another discharge through the dielectric of the condenser. A leaky condenser will not show a short circuit, but will be unable to hold a charge. When testing, this must be taken into consideration. Also, be sure to remove each condenser from the circuit when testing it. The howling in your set is of microphonic origin, and is most likely caused by the lack of constant plate voltage, due to the leaky condenser. If, after the faulty condenser has been replaced, the microphonic still continues, reduce the plate voltage on the detector or first audio tube, or both.

Our Friends' Dials

(Continued from Page 13)

receiving set could then pick up the two frequencies if the combination were known and bring them out of the loud speaker combined in their original form. Perhaps our readers can think of other ways in which such a stunt could be performed.

A number of readers report sending dimes for stamps to several stations listed in RADEX as verifying by stamp, only to have their communication either ignored or acknowledged merely by postal card. Among stations complained of are WKBF, Indianapolis, KVOO Tulsa, and WNBO, Washington, Pa. KVOO replies as follows: "We still issue Ekko stamps upon receipt of proof of reception and ten cents in cash or postage. If in any case the stamp was omitted where money was sent it was an oversight." WNBO state that they have run out of Ekko stamps and as soon as the new supply is received they will be sent to those who have paid for them. WKBF has so far failed to reply to our letter regarding this matter and we are changing their symbol to "Do not verify."

W. N. Rowe, 208 Chatham St., Brantford, Ont., was never able to get stations farther than Texas with his 100-foot high aerial. He tried Dr. Brokaw's experiment with a grounded aerial by driving five pipes in the ground and connecting to his aerial post, with his regular ground to a water pipe. This boosted his volume 25 per cent. He added one more pipe to the south and one to the north, all seven being connected to one lead. He now receives such stations as WTAM, KMOX, and KDKA, with his volume control turned completely down. He has a Majestic, No. 70.

A number of readers still write to ask for instructions as to using headphones on their all-electric sets. This was fully covered by an article in the April, 1930, RADEX, No. 38. A few copies are still available at 25c each. The advantage of the method described in this issue is that a switch can be installed to cut the phones in and out. In this issue of RADEX (March, 1931) is described an adapter for the same purpose. The advantage of this adapter is that no wiring is necessary; the disadvantage is that the power tubes have to be removed and the adapter placed in their socket.

Edward C. Weber, 193 Margaret St., Plattsburg, N. Y., wants to know how to address artists appearing on the programs so that they will be sure to receive his letter. He has written a number of them, but never received an answer. These artists can be addressed in care of the program on which they appear, either at the station from which it was received or, in case of chain programs, to the broadcasting system. We doubt, however, if many of these artists will reply to fan mail.

A number of RADEX readers have formed the Inter State Radio Club. The organizers are Joseph J. Becker, Joseph Stokes, Cyril Engelmeier and Bryan Hamilton. They get a lot of enjoyment out of writing to each other regarding their DX experiences. Mr. Becker reports from Hamilton, Ohio, bringing in CJCJ, Calgary, and CKWX, Vancouver,

the same morning, and the next day, hearing CKMO, a 50-watter from Vancouver, very clearly.

Gerald McGrath, 2211 So. Clinton St., Sioux City, Iowa, has also found that a Ford radiator makes an excellent ground, for with one he has picked up stations in Japan, Australia and New Zealand. He has received 112 100-watt stations and 11 50's. He reports CKMO comes in with an awful kick for a 50-watt station.

C. R. Swickard, 20 E. Broad St., Columbus, Ohio, wishes that set manufacturers would put a small drawer in their cabinets to hold the radio accessories and avoid encumbering the top of the set.

Leaks in Aerial

(*Continued from Page 17*)

to form a splice, taking care not to twist the separate turns of wire too close together. The splice thus made must be soldered and wrapped with tape. A film of corrosion between the lead-in wire and the aerial must be removed, which is done by untwisting the lead-in wire and scraping both wires clean. Always solder such connections. A poor connection between the lead-in wire and the aerial causes crackling noises in the loudspeaker, especially on windy days, when the connection is agitated.

Broken Aerials

A broken aerial can readily be seen and it is repaired by splicing the two ends together. When doing this it will be found convenient to untwist the aerial from one of the insulators. After the splice is made the aerial is re-erected. When aerials are attached to trees, allowance must be made for a certain amount of play, for, as the wind blows, the tree bends, and an aerial stretched tightly from a tree may be pulled taut and broken by the strain. The remedy is to provide a coil spring, such as an ordinary screen-door spring, between the insulator and the tree, which will keep the aerial taut and at the same time allow the necessary play. Another method is to suspend a pulley and provide a weight. If an aerial sways considerably, the end wires that hold it may become brittle and break at the point where they are attached to the supports. To prevent an aerial from swaying, support it at one or more points. Weight on the aerial, as is caused by ice during sleet storms, may also cause it to break, but this trouble is rare, except in cases of ribbon aerials.

Aerials and Power Lines

A.C. hum may be caused by the aerial being parallel to a power line. Alternating-current surge in power lines set up a magnetic field at right angle to the conductor through which this current is flowing. This magnetic field consists of a great number of lines of force, radiating around the power line for a considerable distance. When they intercept other conductors parallel to the power line, they induce a slight current to flow in these conductors, the fluctuations of this current being in synchronism with the fluctuations of current in the power line. If such conductors happen to be radio aerials, it is evident that undesired currents are picked up by the aerials, and sent through the tuning inductance of the receivers connected to them. Such currents may be slight but they are strong compared to radio-frequency currents, and when amplified by the tubes of the receiver, they are very noticeable as a constant hum.

Similar interference may also be experienced when an aerial is parallel to a telephone line, and a loud buzzing sound may sometimes be heard, caused by the bell-ringing apparatus used in telephone lines. When aerials are parallel to street-car lines, crackling noises will be heard when the street cars go past. It is also advisable to avoid erecting an aerial parallel to other aerials, for if any of such parallel aerials are used with regenerative receivers, considerable trouble may be experienced from reradiation. Interference from parallel power lines, telephone lines, street-car lines, etc., is less noticeable when the aerial is quite a distance away from them, but in some locations proximity to these lines is unavoidable. The best remedy for this trouble is to erect an aerial at right angles to the line causing the trouble, or to use an underground antenna.

BROADCASTING RELAY STATIONS

A List of the Short Wave Transmitters

Location of Transmitter	*Call Signal*	*Frequency in Kilocycles (Meters in Parenthesis)*	*Power (Watts in Antenna)*	*Licensee and Address*
California				
Sacramento	W6XAF	2,938 (112.1), 5,870 (51.11)	500	State Dept. of Agriculture (Calif.)
Colorado				
Denver	W9XA	830 (361)	12,500	General Electric Co.
Illinois				
Addison	W9XAQ	6,040 (49.67)	1,000	Chicago Daily News
Chicago	W9XAA	6,080 (49.34), 11,840 (25.34), 17,780 (16.873)	500	Chicago Fed. of Labor
Downers Grove	W9XF	6,020 (49.83), 11,800 (25.42), 21,500 (13.953)	5,000	Gt. Lakes Radio Bdct. Co., 72 W. Adams St., Chicago, Ill.
Iowa				
Council Bluffs	W9XU	6,060 (49.5)	500	Mona Motor Oil Co.
Massachusetts				
East Springfield	W1XAZ	9,570 (31.35), 2,398 (125.1)	10,000	West'g'e Elec&Mfg.Co.
New Jersey				
Bound Brook	W3XAL	6,100 (49.18)	20,000	Nat'l Broadcasting Co
Coytesville	W2XAL	6,040 (49.67), 11,800 (25.42), 15,250 (19.672), 21,460 (13.979)	500	Aviation Radio Sta.
Kearny	W2XCX	6,080 (49.34)	500	L. Bamberger & Co.
New York				
Bellmore	W2XZ	610 (491.5)	50,000	Nat'l Broadcasting Co.
Cross Hassock Bay	W2XE	11,840 (25.34), 15,280 (19.634)	20,000	Atlantic Bdct. Corp.
New York (Portable)	W2XBR	6,020 (49.83)	1,000	Baruchrome Corp.
	W2XDA	1,544 (194.30)	50	Atlantic Bdct. Co.
South Schenectady	W2XAD	15,340 (19.557)	25,000	Gen. Electric Co.
South Schenectady	W2XAF	9,530 (31.48)	40,000	Gen. Electric Co.
South Schenectady	W2XAG	550 (545), 660 (455), 790 (380), 1,150 (260.9), 1,500 (200)	200,000	Gen. Electric Co.
Ohio				
Mason	W8XAL	6,060 (49.5)	250	Crosley Radio Corp., 1325 Arlington St., Cincinnati, Ohio
Pennsylvania				
East Pittsburgh	W8XK	6,140 (48.86), 9,570 (31.35), 11,880 (25.25), 15,210 (19.724), 17,780 (16.873), 21,540 (13.928)	40,000	Westinghouse Elec. & Mfg. Co.
Philadelphia	W3XAU	6,060 (49.5), 9,590 (31.28)	500	Universal Brdc. Co., 1940 Market St.
Canada				
Middlechurch, Man.	CJRX	11,720 (25.6)	2000	James Richardson & Sons, Ltd.

N — National

KEY TO CHAIN STATIONS

C — Columbia

CFCF 1030 N
CFRB 960 C
CKAC 730 C
CKGW 690 N
KDKA 980 N
KDYL 1290 C
KECA 1430 N
KFAB 770 N
KFAP 770 N
KFH 1300 C
KFI 640 N
KFJF 1480 C
KFKX 1020 N
KFPY 1340 C
KFRC 610 C
KFSD 600 N
KGO 790 N
KGW 620 N
KHJ 900 C
KHQ 590 N
KLRA 1390 C
KLZ 560 C
KMBC 950 C
KMOX 1090 C
KOA 830 N
KOIL 1260 C
KOIN 940 C
KOL 1270 C
KOMO 920 N
KPO 680 N
KPRC 920 N
KRLD 1040 C
KSCJ 1330 C
KSD 550 N
KSL 1130 N
KSTP 1460 N
KTAR 620 N
KTHS 1040 N
KTRH 1120 C
KTSA 1290 C
KVI 760 C
KVOO 1140 N
KWK 1350 N
KYW 1020 N
WABC 860 C
WACO 1240 C
WADC 1320 C
WAIU 640 C
WAPI 1140 N
WBAL 1060 N
WBAP 800 N
WBBM 770 C
WBCM 1410 C
WBEN 900 N
WBRC 930 C
WBT 1080 C
WBZ-A 990 N
WCAE 1220 N
WCAH 1430 C
WCAO 600 C
WCAU 1170 C
WCCO 810 C
WCFL 970 N
WCKY 1490 N
WCSH 940 N
WDAE 1220 C
WDAF 610 N
WDAY 940 C
WDBJ 930 C
WDBO 1120 C
WDOD 1280 C
WDRC 1330 C
WDSU 1250 C
WEAF 660 N
WEAN 780 C
WEBC 1290 N
WEEI 590 N
WENR 870 N
WFAA 800 N
WFAN 610 C
WFBL 1360 C
WFBM 1230 C
WFI 560 N
WFLA 620 N
WGAR 1450 N
WGN 720 N
WGR 550 C
WGST 890 C
WGY 790 N
WHAM 1150 N
WHAS 820 N
WHEC 1440 C
WHK 1390 C
WHO 1000 N
WHP 1430 C
WIBO 560 N
WIBW 580 C
WIOD 1300 N
WISN 1120 C
WJAR 890 N
WJAS 1290 C
WJAX 900 N
WJDX 1270 N
WJJD 1130 C
WJR 750 N
WJZ 760 N
WKBN 570 C
WKBW 1480 C
WKRC 550 C
WKY 900 N
WLAC 1470 C
WLBW 1260 C
WLBZ 620 C
WLIT 560 N
WLS 870 N
WLW 700 N
WMAL 630 C
WMAQ 670 C
WMC 780 N
WMT 600 C
WNAC 1230 C
WNAX 570 C
WOAI 1190 N
WOC 1000 N
WORC 1200 C
WOW 590 N
WOWO 1160 C
WPG 1100 C
WPTF 680 N
WQAM 560 C
WRC 950 N
WREC 600 C
WREN 1220 N
WRR 1280 C
WRVA 1110 N
WSAI 1330 N
WSB 740 N
WSM 650 N
WSMB 1320 N
WSPD 1340 C
WSUN 620 N
WTAG 580 N
WTAM 1070 N
WTAQ 1330 C
WTAR 780 C
WTIC 1060 N
WTMJ 620 N
WTOC 1260 C
WWJ 920 N
WWNC 570 C
WXYZ 1240 C

WHAT'S ON THE AIR TONIGHT?

A WEEKLY CALENDAR

Leading Features of the Network Program

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

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

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 WFI WGY WCAE WRC
WBEN CKGW

8:00-8:15 Gene and Glenn — Quaker Early Birds

WEAF WJAR WEEI WTAG WCSH WFI
WRC WGY WCAE WTAM WWJ WSAI
CKGW WRVA WPTF WJAX WIOD WFLA
WSUN

8:15-8:30 Morning Devotions

WEAF WRC WCAE WGY WHAS WOW
WFI WCSH WJAR WWJ WPTF WIOD
WAPI WFLA WSUN WTAG WGN WJAX
WJDX WRVA WBEN WSMB WFI

8:30-9:00 Cheerio

WEAF WEEI WCKY WRC WCSH WWJ
WHO WOC WDAF WAPI KPRC WFI
WSB WSM WJAX WPTF WTAG WOAI
WBEN WRVA CKGW WIOD WHAS WFLA
WSUN WTAM WMC WJDX WJAR WGY
WOW WCAE WIBO

9:00-9:15 Something for Everyone

WABC WHEC WPG WCAU WHP WJAS
WDBJ WWNC WXYZ WBCM WDOD WREC
WLAC WBRC KSCJ WMT KMOX KMBC
KOIL KFH KFJF KTRH CFRB

9:15-9:45 Campbell's Orchestra

WEAF WJAR WLIT WTAG WCSH WRC
WDAF WBEN WCAE WHO WTAM WSAI
KSD WOW WOC WWJ CKGW (WLS on 9:30)

9:45-10:00 A. & P. Program

WEAF WJAR WTAG WCSH WRC WGY
WCAE WTAM WWJ WOC KSD WHO
WDAF WTMJ WEBC WRVA WPTF WIOD
WFLA WSUN WHAS WSM WMC WSB
WAPI WSMB WJDX KVOO WBAP KPRC
WOAI WKY WBEN WOW WFI KSTP
WIBO

11:15-11:30 Radio Household Institute

WEAF WJAR WTAG WCSH WLIT WRC
WHAS WSM WSB WCAE WWJ WSAI
KFKX WTAM KSD WTMJ KSTP WEBC
WAPI WSMB WOAI KTHS KVOO KPRC
WKY WEEI WGY WMC WBEN

12:00-12:30 Paul Tremaine and His Orchestra

WABC WHEC WLBZ WORC WPG WCAU
WHP WJAS WLBW WMAL WCAO WTAR
WDBJ WHK WKRC WAIU WWNC WDOD
WREC WLAC WBRC KSCJ WMT KMBC
WDAY KOIL WIBW KFJF KLZ

12:30-1:00 Columbia Revue

WABC WLBZ WORC WPG WCAU WHP
WJAS WLBW WMAL WCAO WTAR WXYZ
WBCM WDOD WREC WLAC WBRC KSCJ
WMT KMBC WDAY WIBW KFJF KLZ

12:30-1:30 National Farm and Home Hour

WJZ WHAM WJR KSTP WRVA WHAS
WREN WFAA WEBC WIOD WAPI WOW
WMC WSB WGAR KVOO WKY WOAI
WRC WHO WDAF WJDX WBAL WSMB
KWK KOA WBZ WBZA WOC KTHS
WFLA WSUN WJAX KFAB KPRC KDKA
WLW KFKX WPTF WSM

1:30-2:00 Ambassador Hotel Orchestra

WABC WHEC WLBZ WEAN WPG WFAN
WJAS WLBW WMAL WCAO WTAR WDBJ
WKRC WAIU WWNC WXYZ WBCM WDOD
WLAC WBRC

2:30-3:00 American School of the Air

WABC WFBL WKBW WEAN WNAC WCAU
WJAS WLBW WMAL WCAO WTAR WDBJ
WADC WHK WKRC WWNC WGST WXYZ
WSPD WDOD WREC WLAC WBRC WDSU
WOWO WFBM WMAQ WCCO KMOX KMBC
KOIL KFJF KRLD KTSA KLZ KDYL
KVI KOL KFPY KOIN KHJ KFRC

3:00-3:30 Columbia Salon Orchestra

WABC WHEC WLBZ WEAN WNAC WORC
WPG WHP WLBW WMAL WCAO WTAR
WDBJ WHK WKRC WAIU WWNC WXYZ
WBCM WSPD WDOD WREC WLAC WBRC
KSCJ WMT KMBC WDAY KOIL WIBW
KFJF KRLD KTRH KLZ CFRB

5:00-5:30 The Lady Next Door

WEAF WRC KSD WTAG WSM WHAS
WKY KPRC WTAM

6:05-6:30 Black and Gold Room Orchestra

WEAF WCAE WCSH WWJ WJAR WBEN

6:45-7:00 Uncle Abe and David

WEAF WEEI WJAR WCSH WFI WRC
WTMJ WSM WEBC WCAE WGY WTAG
WTAM WWJ WSAI KSD WOC WHO
WOW WDAF WSB WAPI WSMB WJDX
WENR WHAS

6:45-7:00 Literary Digest Topics

WJZ WBZ WBZA WHAM WBAL KDKA
WRVA WPTF WJAX WIOD WLW WFLA
WSUN

7:00-7:15 Amos 'n' Andy

WJZ WHAM KDKA WBZ WBZA WRC
CKGW WRVA WPTF WJAX WIOD WCKY
WFLA WSUN WLW WJR WGAR CFCF

7:30-7:45 Phil Cook — Quaker Man

WJZ WBZ WBZA WHAM KDKA WREN
KWK WTMJ WEBC KOA KSL KGO
KECA KGW WRC KOMO KHQ KFSD
KTAR WGAR WSMB WSB WPTF WJAX
WIOD WFLA WHAS WSM WMC WJDX
KTHS KPRC WOAI

8:00-8:15 Literary Digest Topics

WFBL WGR WJAS WADC WHK WGST
WXYZ WSPD WREC WBRC WDSU WFBM
WGL WMAQ WCCO WMOX KMBC KOIL
KFJF WRR KTSA

11:00-11:15 Amos 'n' Andy

WMAQ WREN KWK WDAF WTMJ WHAS
WSM WSB WKY WENR KSTP WSMB
WJDX KTHS KPRC WEBC WOAI WMC
KOA KFAB WBAP

Sunday

1:00-2:00 National Oratorio Society

WEAF WJAR WCSH WRC WGY WCAE
WTAM WWJ KSD WOW WOC WHO
WDAF CKGW WTMJ KSTP WEBC WHAS
KPO KOA KGW KFSD KOMO KECA
WBEN KGO CFCF

1:30-2:00 Conclave of Nations

WABC WHEC WPG WHP WMAL WCAO
WTAR WDBJ WAIU WWNC WXYZ WBCM
WDOD WREC WLAC WBRC WBBM WCCO
KSCJ WMT KMOX KMBC WDAY KOIL
WIBW KFJF KTSA KLZ

2:00-2:30 Library of Congress Musicale

WJZ WJR KWK KSTP WRVA WIOD
WSB WJDX WGN WREN

2:00-3:00 Cathedral Hour

WABC WHEC WLBZ WEAN WNAC WORC
WPG WCAU WHP WMAL WCAO WTAR
WDBJ WKRC WWNC WXYZ WBCM WDOD
WREC WLAC WBRC WFBM WMAQ WBBM
KSCJ WMT KMBC WDAY KOIL WIBW
KFH KFJF KRLD KTRH KTSA KLZ
CFRB

2:30-3:00 NBC Artists Program

WEAF WOW WWJ KSD WDAF KOA
WGY

3:00-4:00 National Youth Conference

WJZ WBAL KDKA KWK WREN KFAB
WRVA WJAX WIOD KVOO WFAA WOAI
WFLA WSUN KGW WPTF KGO KOA
KSTP WEBC WMC WSMB KPRC WKY
KPO KOMO KHQ WSB WAPI WGAR
WTMJ KSL

3:00-5:00 New York Philharmonic Orchestra

WABC WHEC WLBZ WEAN WNAC WORC
WCAU WHP WJAS WLBW WMAL WCAO
WTAR WDBJ WKRC WAIU WWNC WXYZ
WBCM WSPD WDOD WREC WLAC WBRC
WFBM WMAQ WCCO KSCJ WMT KMOX
KMBC WDAY KOIL WIBW KFH KFJF
KRLD KTRH KLZ KFRC

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

WEAF WEEI WJAR WCSH WTAG KOA
WOW WKY WOAI WSAI WJAX WHAS
WJDX KVOO KPRC WEBC WDAF WWJ
WFLA WSUN KHQ WHO WOC KGO
KOMO WCAE WFJC WRC KGW WPTF
WMC WGY WSM KTHS WBAP WSB
WSMB WAPI WBEN WRVA WIOD

4:15-4:45 Canadian Pacific Musical Crusaders

WJZ WBAL WHAM KDKA WJR WLW
KYW KWK WREN KFAB WBZ WBZA
WGAR

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

WABC WFBL WGR WEAN WDRC WNAC
WCAU WJAS WMAL WADC WKRC WXYZ
WSPD WOWO WMAQ KOIL KRLD WRR

5:00-6:00 Davey Hour

WEAF WJAR WTAG WCSH WFI WRC
WGY WCAE WTAM KSD WSAI WENR
WOC WHO WOW WDAF CKGW WBEN
WEEI WWJ

5:00-6:00 National Vespers

WJZ WBAL WHAM KWK WREN WCKY
KSTP WEBC WIOD WMC KOMO WJDX
WPTF KVOO KPRC WFLA WSUN KOA
KTAR KGO KGW KHQ WSM WKY
WSB WOAI WAPI WSMB WBZ WBZA
WGAR (KFAB on 5:15) (WIBO on 5:30)

5:30-6:00 Sweethearts of the Air

WABC WFBL WKBW WEAN WDRC WNAC
WFAN WCAU WJAS WMAL WADC WKRC
WXYZ WSPD WOWO WBBM KMBC KOIL

6:00-7:00 Catholic Hour

WEAF WEEI WJAR WTAG WCSH WRC
WGY WWJ WEBC WIOD WKY WJDX
KGO KSTP WSMB KOMO KSD KGW
WCAE KECA KTAR WFJC WOC WHO
WDAF WJAX WFLA WSUN WHAS WMC
WSB WBAP KPRC WOAI WRVA KOA
KVOO WSAI WSM WFI WIBO WLIT

7:00-7:30 Iodent Big Brother Club

WEAF WEEI WJAR WTAG WCSH WRC
WCAE WWJ WSAI WLS KSD WOC
WHO WOW WEBC WTMJ WBEN WLIT

7:30-8:00 RCA Victor Program

WEAF WJAR WTAG WCSH WWJ KPRC
WBEN WRC WGY WCAE WTAM WSAI
KYW WRVA WIOD WFLA WSUN WHAS
KSD WDAF WTMJ WEBC WMC WSB
WSMB WJDX KTHS KVOO WOAI WKY
KOA KSL KGO KFI KTAR KFSD
KGW KOMO KHQ

7:30-8:00 Williams Oilomatics

WJZ WBZ WBZA WHAM KWK WLW
WREN KDKA WGN WJR

8:00-8:15 Enna Jettick Melodies

WJZ WBZ WBZA WHAM KWK KYW
WKY WJR WREN WFAA KPRC WOAI
WHAS WSM WTMJ KSTP KDKA WMC
KOA WENR WIOD KTHS WSMB KOMO
KFI KGW KSL KHQ WLW WCKY
WSB WPTF WRVA WFLA WSUN KFAB
KFSD KTAR WJDX KPO KVOO KHQ

8:00-8:15 "Devils, Drugs and Doctors"

WABC WFBL WHEC WGR WEAN WDRC
WNAC WCAU WJAS WMAL WCAO WADC
WHK WKRC WGST WXYZ WSPD WREC
WLAC WBRC WDSU WISN WOWO WFBM
WMAQ WCCO KSCJ KMOX KMBC KOIL
WIBW WRR KTSA KLZ KDYL KVI
KOL KFPY KOIN KHJ KFRC

8:00-8:30 Major Bowes' Family

WEAF WSMB KSTP WCSH WDAF WIOD
WSB WMC WJDX WKY WJAR WCAE
WRC WGY WWJ WSAI KSD WFJC
WHAS WFLA WSUN WTAG WLS WEBC
WOW WHO WTAM

8:15-9:15 Colliers Radio Hour

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

8:30-9:00 Chase and Sanborn Choral Orchestra

WEAF WJAR WTAG WCSH WRC WGY
WCAE WWJ WSAI KSD WOW WIOD
WIBO KSTP WHO WOC WHAS WLIT
WEBC WMC WSB WSMB WKY KTHS
KPRC WOAI WTMJ WTAM WJDX WIOD
WFLA WSUN WDAF WTIC KVOO WBEN

8:45-9:00 The Gauchos

WABC WEAN WDRC WNAC WORC WHP
WJAS WLBW WMAL WCAO WTAR WDBJ
WADC WKBN WBT WXYZ WBCM WSPD
WREC WISN WFBM KSCJ KMOX KLRA
WNAX KOIL KFJF KTRH KTSA KLZ
KOL KFPY

9:00-9:15 "Our Government," David Lawrence

WEAF WTAG WCSH WEBC WGY WHAS
KSD WKY WSAI WFJC WSB WMC
WSM WFAA WOW WOAI WSMB WJDX
WIOD WFLA WSUN WOC WHO WRC
WWJ KVOO WLIT WBEN WJAR

9:00-9:30 Arabesque — Desert Play

WABC WGR WEAN WDRC WNAC WORC
WFAN WHP WJAS WLBW WMAL WDBJ
WADC WKBN WBT WDAE WXYZ WBCM
WSPD WREC WISN WOWO WCCO KSCJ
WMT KMBC KLRA WDAY WNAX KOIL
WIBW KFJF KRLD KTRH KTSA KLZ
KOL KFPY KFRC

9:15-10:15 Atwater Kent Hour

WEAF WEEI WRC WFI WGY WCAE
WTAM WWJ WSAI KSD WOW WSM
WFAA KOA WOAI WSMB KFI KGW
KOMO KPO KHQ KPRC WKY WHAS
WGN WSB WOC WHO WMC WDAF
KSL CKGW WAPI WBEN KSTP

9:30-10:00 Graham-Paige Hour

WABC WFBL WKBW WEAN WDRC WNAC
WCAU WJAS WMAL WCAO WADC WHK
WKRC WBT WGST WTOC WQAM WDBO
WDAE WXYZ WSPD WREC WDSU WOWO
WBBM WCCO KMOX KMBC KOIL KFJF
KRLD KTRH KTSA KLZ KDYL KOL
KFPY KOIN KHJ KFRC

10:00-10:30 Royal's Poet of the Organ

WABC WFBL WKBW WEAN WNAC WCAU
WJAS WLBW WMAL WCAO WADC WHK
WKRC WGST WXYZ WSPD WLAC WOWO
WBBM KMOX KMBC KOIL KLZ KDYL
KOL KFPY KOIN KHJ KFRC

10:15-10:30 Pennzoil Pete

WJZ WBZ WBZA KDKA WJR WLW
KWK WREN WRVA WJAX WIOD WAPI
WSB WMC WHAS WFLA WSUN WSMB
WJDX WOAI WKY WHAM

10:15-10:30 Earth Incorporated
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WBEN WCAE WTAM WTIC
WOW KOA

10:30-11:00 Kaffee Hag Slumber Music
WJZ WBZ WBZA WHAM KDKA WJR
WLW KWK WREN

10:30-11:00 Around the Samovar
WABC WKBW WEAN WNAC WORC WPG
WFAN WJAS WLBW WMAL WCAO WTAR
WDBJ WKBN WBT

10:45-11:15 Sunday at Seth Parker's
WEAF WEEI WCSH WRC WGY WOW
WDAF CKGW WTMJ KSTP WCAE WTAM
WFJC WWJ KYW WOW WHO WEBC
WJAX WIOD WHAS WSM WJDX KPRC
WKY KOA KGO KGW WSB KTAR
KFSD WRVA WBEN WLIT

11:00-12:00 Back Home Hour
WABC WHEC WLBZ WPG WHP WMAL
WTAR WDBJ WXYZ WBCM WSPD WDOD
WREC WLAC WFBM WCCO WMT WDAY
WNAX WIBW KFH KFJF KRLD KTRH
KTSA

11:30-12:00 Russian Cathedral Choir
WEAF WRC WFJC WWJ WBAP KOA
WOW WSB WGY WTAM KSTP WEBC
WIOD WHAS WBEN

Monday

3:30-4:00 Sixteen Singers
WEAF WRC WOC WHO KSD KSTP
WTAM WGY WWJ

3:30-4:00 Chicago Serenade
WJZ WHAM WJR WLW WLS KDKA
WFLA WSUN WMC WAPI WJAX WGAR

4:00-4:30 Dance Orchestra
WJZ WBAL KSTP KTAR KOA KGO
KWK KFSD WHAM WSM WSB WSMB
WMC WBZ WBZA WGAR KYW

4:15-4:30 U.S. Army Band
WABC WLBZ WEAN WNAC WORC WPG
WCAU WLBW WMAL WCAO WTAR WDBJ
WAIU WWNC WXYZ WBCM WSPD WDOD
WREC WLAC WBBM WCCO KSCJ WMT
KMOX KMBC WDAY KOIL KFJF KRLD
KTRH KLZ KOL KFRC CFRB

4:30-5:00 Wardman Park Hotel Orchestra
WABC WLBZ WEAN WNAC WORC WPG
WFAN WHP WLBW WMAL WCAO WTAR
WDBJ WKRC WAIU WWNC WXYZ WBCM
WSPD WDOD WREC WLAC WBRC WCCO
KSCJ KMOX KMBC WDAY KOIL WIBW
KFJF KRLD KTRH KTSA KLZ KOL
KFRC CFRB

6:00-6:30 Gordon Kibbler's Orchestra
WABC WFBL WDRC WFAN WHP WLBW
WMAL WCAO WTAR WDBJ WADC WKBN
WBT WXYZ WBCM WREC WLAC WBRC
WISN WFBM WGL WBBM WCCO KSCJ
KLRA WDAY KFJF KRLD KTRH KLZ
KVI KOL KFPY KHJ KFRC CFRB

6:15-6:45 Mormon Tabernacle Choir
WJZ WBAL WSM KWK KOA KSL
KGO KOMO KFAB KGW CKGW KSTP
KTAR KPO WHAS WAPI KFSD WRC
WSMB

7:00-7:15 Current Events
WDBJ WKRC WWNC WXYZ WBCM WDOD
WBRC KSCJ WMT WDAY KOIL WABC
WHEC WLBZ WORC WHP WJAS WLBW
WMAL WCAO WTAR WIBW KFH KFJF
KTRH KOL KFRC

7:15-7:30 Tastyeast Jesters
WJZ WCKY WHAM WBZ WBZA WREN
KDKA WRC WGAR

7:45-8:30 Roxy's Gang Program
WJZ WHAM KWK WSB WSM KFAB
CKGW WIBO WGAR

8:00-8:15 "How's Business?"
WEAF WJAX WJAR WRC KSD WCAE
WWJ KOMO WSAI WDAF WJDX KGO
KVOO KECA KHQ WFLA WSUN WHAS
WEBC WSMB KGW KTAR KFSD KSL
WMC

8:15-8:30 Fifteen Minutes in Nation's Capital
WEAF WJAR WTAG WRC KSD WCAE
KFSD KOMO WWJ WSAI WOC WHO
WOW KYW WDAF WBEN WJDX WSMB
KGO KVOO KPRC KOA KECA WFLA
WSUN WTIC WKY WHAS KHQ WJAX

8:15-8:30 Barbasol Program
WABC WFBL WKBW WEAN WDRC WNAC
WCAU WJAS WMAL WCAO WADC WHK
WKRC WXYZ WSPD WISN WFBM WCCO
KMOX KMBC KOIL

8:30-9:00 A. & P. Gypsies
WEAF WEEI WTAG WJAR WTIC WCSH
WLIT WRC WGY WCAE WWJ WSAI
WGN KSD WOC WDAF WTAM WOW
WHO WBEN

8:30-9:00 Luden's Novelty Orchestra
WJZ WBZ WBZA WJR KDKA WLW
KYW KWK WREN KFAB CKGW

8:30-9:00 Savino Tone Pictures
WABC WGR WEAN WDRC WNAC WORC
WPG WFAN WJAS WLBW WMAL WCAO
WTAR WDBJ WADC WHK WAIU WBT
WDAE WXYZ WBCM WSPD WLAC WBRC
WFBM WCCO KSCJ WMT KMBC KLRA
WDAY WNAX KOIL WIBW KFJF KRLD
KTRH KTSA KFPY

9:00-9:30 Maytag Orchestra
WJZ WBZ WBZA WHAM KDKA WJR
KWK KYW KSTP WEBC KTHS WKY
WOAI KOA KSL KGO KECA KGW
KHQ KOMO KVOO WLW WFAA KPRC
WGAR

9:00-9:30 The Three Bakers
WABC WFBL WHEC WKBW WLBZ WEAN
WDRC WNAC WORC WPG WCAU WHP
WJAS WLBW WMAL WCAO WTAR WDBJ
WADC WHK WKRC WWNC WBT WGST
WTOC WQAM WDBO WDAE WXYZ WBCM
WSPD WDOD WREC WLAC WBRC WDSU
WISN WOWO WFBM WMAQ WCCO KSCJ
WMT KMOX KMBC KLRA WDAY WNAX
KOIL WIBW KFH KFJF WRR KTRH
KTSA KLZ KDYL KOL KFPY KOIN
KHJ KFRC

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

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

9:30-10:00 Bourjois
WABC WFBL WKBW WEAN WNAC WCAU
WJAS WLBW WMAL WCAO WADC WHK
WKRC WBT WXYZ WSPD WOWO WBBM
KMOX KMBC KOIL

10:00-10:30 Robert Burns Panatela Program
WABC WFBL WKBW WEAN WDRC WNAC
WCAU WJAS WMAL WCAO WADC WHK
WKRC WXYZ WSPD WOWO WFBM WMAQ
WCCO KMOX KMBC KOIL KFJF KRLD
KTRH KTSA KLZ KDYL KVI KOL
KFPY KOIN KHJ KFRC

10:00-10:30 Stromberg-Carlson Program
WJZ WBZ WBZA WHAM KDKA KYW
KWK WREN WEBC WRVA WJAX WIOD
WHAS WSM WMC WSB WSMB WOAI
KOA KPRC KGO KFI WCKY KGW
KHQ KOMO WJDX WFLA WSUN WJR
KTAR KFSD WAPI WKY WGAR

10:00-10:30 Adventures of Sherlock Holmes
WEAF WJAR WCSH WWJ WTAG WEEI
WLIT WTAM WSAI WRC WGN WOC
WHO WBEN WCAE

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

10:30-11:00 Willard Robison and his Orchestra
WEAF WJAR WTAG WRC WCAE WTAM
WLIT WWJ WDAF WMC WSB WJDX
WBEN WGY WOC WHO CFCF WEEI

10:30-11:00 Don Amaizo
WACU WHP WJAS WLBW WADC WHK
WKRC WCAH WKBN WSPD WISN WBBM
WCCO KSCJ WMT WDAY WNAX KOIL
KLZ KDYL KOL KFPY KOIN KHJ
KFRC KNX

11:00-11:30 Florence Richardson and Orchestra
WEAF WGY WCAE WOC WHO WOW
(WSAI off 11:15) (WJDX WMC WSB on 11:15)
(KSD WTMJ WSM on 11:15)

11:00-11:30 Morton Downey — Leon Belasco's Orchestra
WABC WKBW WGR WEAN WDRC WNAC
WORC WPG WCAU WLBW WCAO WTAR
WDBJ WHK WKBN WBT WXYZ WBCM
WSPD WREC WLAC WBRC WISN WFBM
WCCO KSCJ KMOX KLRA WDAY KOIL
WIBW KFH KFJF KTRH KLZ KOL
KFPY CFRB

11:30-12:00 Ben Bernie and His Orchestra
WABC WKBW WDRC WORC WFAN WLBW
WMAL WCAO WTAR WDBJ WADC WHK
WKBN WBT WXYZ WBCM WSPD WREC
WLAC WBRC WISN WFBM WCCO KSCJ
KLRA WDAY WNAX KOIL WIBW KFH
KFJF KTRH KLZ KOL KFPY CFRB

11:30-12:00 Henry Busse and his Orchestra
WEAF WWJ KSD WOC WHO WOW
WDAF KSTP WEBC KOA WTAM

12:00-1:00 Phil Spitalny and His Orchestra
WEAF WRC WKY WSM KYW (KSD on
12:30) (KSTP WGY off 12:30) WDAF off 12:15

Tuesday

10:15-10:30 Through the Looking Glass
WJZ WBZ WBZA WHAM WLW WREN
KFKX KDKA KWK CKGW KFAB WKY
KVOO WOAI WBAP WGAR

3:30-4:00 Golden Gems
WEAF WEEI WTIC WTAG WTAM WFJC
KSD WFLA WSUN KSTP WOC WHO
CKGW

4:00-4:30 Italian Idyll
WABC WLBZ WEAN WNAC WORC WPG
WCAU WLBW WMAL WCAO WTAR WDBJ
WKRC WAIU WWNC WXYZ WSPD WDOD
WREC WLAC WBRC WBBM WCCO KSCJ
WMT KMOX KMBC WDAY KOIL KFJF
KTRH KTSA KLZ KFRC CFRB

4:00-5:00 Pacific Vagabonds
WJZ WHAM WJR WGAR WLW WLS
KWK KFAB WREN WRC WJAX WSM
WMC WAPI WFAA KSTP KOA KGO
KFSD KTAR

5:00-5:15 Rhythm Kings
WABC WHEC WFAN WHP WLBW WMAL
WCAO WTAR WAIU WWNC WXYZ WBCM
WDOD WREC WLAC WBRC WCCO KSCJ
WMT KMBC WDAY KFJF KRLD KTRH
KTSA KLZ

7:30-7:45 Political Situation in Washington
WKBW WDRC WNAC WORC WCAU WHP
WLBW WTAR WDBJ WKBN WBT WXYZ
WREC WLAC WBRC WISN WGL WMAQ
KSCJ WDAY WNAX KOIL KFH KFJF
KTRH KVI KFPY KFRC WJAS

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

8:00-8:30 Paul Whiteman's Paint Men
WJZ WBZ WBZA WHAM KDKA WTMJ
WJR WLW KYW KWK WREN WRVA
WJAX KGW KOMO KHQ KFSD KTAR
WGAR WGY KOA WIOD WHAS WSM
WMC WSB WJDX WSMB WOAI KFAB
KGO KECA WBAL WPTF

8:00-8:30 Blackstone Plantation
WEAF WCAE WTAM WWJ WSAI WIBO
KSD WOC WHO WOW WDAF KOA
WEEI WJAR WTAG WCSH WFI WRC
WGY WBEN

8:15-8:30 Old Gold Character Readings
WABC WFBL WHEC WGR WLBZ WEAN
WDRC WNAC WORC WPG WCAU WHP
WJAS WLBW WCAO WTAR WDBJ WADC
WKRC WAIU WKBN WWNC WBT WGST
WTOC WQAM WDBO WDAE WXYZ WBCM
WSPD WDOD WREC WLAC WBRC WDSU
WISN WJJD WCCO KSCJ WMT KMOX
KMBC KLRA WDAY WNAX KOIL WIBW
KFH KFJF WRR KTRH KTSA KLZ
KDYL KVI KOL KFPY KOIN KHJ
KFRC

8:30-9:00 Florsheim Frolic
WEAF WTAG WFI WRC WGY WCAE
WWJ WSAI WGN KSD WDAF WEBC
WRVA KVOO WJAX WIOD WSUN WFLA
WSM WMC WSB WSMB WJDX KPRC
WOAI WKY KOA KSL KTHS WJAR
WHAS WCSH WBAP WBEN KSTP

8:45-9:00 Premier Salad Dressers
WABC WFBL WKBW WEAN WDRC WNAC
WCAU WJAS WMAL WCAO WADC WHK
WGST WTOC WQAM WDBO WDAE WXYZ
WSPD WLAC WDSU WOWO WCCO KMOX
KMBC KOIL KTRH KLZ KDYL KVI
KOL KFPY KOIN KHJ KFRC

8:45-9:00 Works of Great Composers
WJZ WBZ WBZA WBAL WREN KDKA

9:00-9:30 McKesson Musical Magazine
WEAF WEEI WJAR WTAG WCSH WFI
WRC WBEN WTAM WSAI KSD WOW
WTMJ WEBC WRVA WIOD WFLA WSUN
WSM WMC WSB WSMB WJDX KPRC
WKY KOA KSL KGO KECA KTAR
KFSD KGW KOMO KHQ KVOO WOAI
KYW

9:00-9:30 Henry-George
WABC WFBL WGR WEAN WDRC WNAC
WCAU WJAS WMAL WCAO WADC WHK
WKRC WXYZ WSPD WISN WOWO WFBM
WBBM WCCO KMOX KMBC KOIL KFH

9:30-10:00 The Philco Symphony Concert
WABC WFBL WHEC WKBW WEAN WDRC
WNAC WCAU WJAS WMAL WCAO WTAR
WADC WHK WKRC WGST WXYZ WSPD
WDOD WREC WLAC WBRC WDSU WISN
WOWO WFBM WMAQ WCCO WMT KMOX
KMBC KOIL KFH KFJF KRLD KTRH
KTSA CFRB

9:30-10:00 Death Valley Days
WJZ WBAL WCKY KWK WBZ WBZA
WHAM KDKA WENR

9:30-10:00 Happy Wonder Bakers
WEAF WJAR WEEI WTAG WCSH WRC
WGY WCAE WTAM WWJ WSAI WIBO
KSD WHO WOW WTMJ KSTP WEBC
KVOO WKY KOA KSL KGO KOMO
KECA KGW KHQ WBAP WOC WRVA
WFI WDAF WBEN KPRC

10:00-10:15 Graybar — Mr. and Mrs.
WADC WCAO WNAC WKBW WBBM WKRC
WHK WXYZ WOWO KMBC WABC WLBW
KOIL WCAU WJAS WEAN KMOX WFBL
WSPD WMAL WWNC WGST WBRC KRLD
KLZ KTRH WFBM WLRA WCCO WISN
WREC WTAR WLAC WDSU KFJF WHEC
WDBJ KTSA KDYL KFH WKBN KHJ
KOIN KFRC KOL KFPY

10:00-10:30 Westinghouse Pioneers
WJZ WBZ WBZA WBAL KDKA KYW
KWK KPRC WEBC WJAX WHAS WSM
WMC WSMB KGW KOA KSL KGO
KHQ WTMJ KOMO WREN WRVA WOAI

WSB WIOD WCKY WFLA WSUN KECA
KSTP KTAR KFSD WJR WAPI WGAR
WFAA WHAM WCKY

10:00-11:00 Lucky Strike Dance Orchestra
WEAF WEEI WJAR WTAG WCSH WFI
WRC WCAE WWJ WSAI KSD WOC
WHO WTMJ WEBC WRVA WJAX WIOD
WFLA WSUN WHAS WSM WMC WSB
WSMB WJDX WOAI WKY KOA KGO
KECA KGW KHQ KOMO KTAR KFSD
WIBO WDAF WTAM WAPI WBEN

10:30-10:45 Clara, Lu and Em
WJZ WBAL WHAM KDKA WJR WLW
KWK WREN WGAR WBZ WBZA WGN

10:30-11:00 Paramount Publix Playhouse
WABC WFBL WHEC WKBW WLBZ WEAN
WDRC WNAC WPG WCAU WHP WJAS
WMAL WCAO WTAR WDBJ WADC WHK
WKRC WKBN WWNC WBT WGST WTOC
WQAM WDBO WDAE WXYZ WBCM WSPD
WDOD WREC WLAC WBRC WDSU WISN
WOWO WFBM WBBM WCCO KSCJ WMT
KMOX KLRA WDAY WNAX KOIL WIBW
KFH KFJF KRLD KTRH KTSA KLZ
KDYL KOL KFPY KOIN KHJ KFRC
KNX CFRB

11:00-11:30 Cab Calloway and His Orchestra
WEAF WFI WRC KSD WWJ WSAI
WOC WHO WEEI WDAF WCAE WIOD

11:00-11:30 Paul Tremaine and His Orchestra
WABC WHEC WLBZ WEAN WNAC WORC
WCAU WHP WLBW WCAO WTAR WDBJ
WWNC WXYZ WSPD WDOD WREC WLAC
WFBM WCCO WMT KMOX KMBC WDAY
WNAX KOIL WIBW KFH KFJF KTRH
KLZ KOL CFRB

11:30-12:00 Vincent Lopez and His Orchestra
WEAF WFI KOA WRC KSTP WOC
WHO WOW WJDX KSD WTAM WDAF
WBEN

Wednesday

3:00-3:15 Edna Wallace Hopper
WJZ WBZ WBZA WBAL WHAM KDKA
WGAR WLW WGN KWK WREN WTMJ
WJDX KOA KSTP WEBC WRVA WPTF
WJAX WIOD WFLA WSUN WHAS WSM
WMC WSB WSMB KSL KGO KECA
KGW KOMO KHQ KFAB WAPI KFSD

3:30-4:00 Evening Stars
WEAF WEEI WJAX WIOD WHAS WSM
WRC KPRC KYW WMC WAPI WKY
WOAI WJDX WSB WSMB WFLA WSUN
WTAG KOA KGO WFJC WFI WGY
WCAE WSAI KSD WEBC KSTP WRVA
WTAM WPTF WWJ WOC WHO WBAP
KPRC WBEN KSL CKGW KTHS

4:00-5:00 Musical Album
WABC WKBW WGR WEAN WDRC WNAC
WORC WPG WCAU WHP WMAL WCAO
WTAR WDBJ WADC WAIU WBT WXYZ
WBCM WSPD WREC WLAC WBRC WISN
WBBM WCCO KSCJ KMOX WDAY KOIL
WIBW KFJF KRLD KTRH KTSA KLZ
KVI KOL KFPY KFRC CFRB WTAQ

5:00-5:30 Asbury Park Casino Orchestra
WABC WHEC WFAN WHP WLBW WCAO
WTAR WAIU WWNC WXYZ WBCM WDOD
WREC WLAC WBRC WCCO KSCJ WMT
WDAY KFH KFJF KRLD KTRH KTSA
KLZ

7:00-7:15 Rodeheaver Sing
WEAF WJAR WFI WBEN WCAE WOC
WHO WOW KGO WEEI

7:00-7:30 Morton Downey — With Freddie Rich
WABC WHEC WLBZ WEAN WNAC WORC
WCAU WHP WJAS WLBW WMAL WCAO
WTAR WDBJ WKRC WAIU WWNC WXYZ
WBCM WDOD WLAC WBRC KSCJ WDAY
WIBW KFJF KTRH KOL KFRC

7:30-7:45 Evangeline Adams, Astrologer
WABC WFBL WHEC WGR WEAN WDRC
WNAC WCAU WCAO WDBJ WTAR WADC
WHK WKRC WAIU WWNC WGST WXYZ
WSPD WDOD WREC WLAC WBRC WDSU
WISN WFBM WGL WCCO KMOX KMBC
KLRA KOIL KFJF WRR KTRH CFRB

7:45-8:00 Smith Brother's Orchestra
WJZ WGAR KDKA WJR WIBO KWK
WREN KFAB WLW

7:45-8:00 "Back in the News in Washington"
WEAF WRC KOA KECA KGO WGY
WCAE WFJC WBEN WRVA WKY KOMO
KFSD WSAI WIBO KSD WOC WHO
WOW WDAF WAPI

7:45-8:00 Daddy and Rollo
WABC WFBL WKBW WEAN WNAC WCAU
WJAS WLBW WMAL WCAO WADC WKRC
WXYZ WSPD WREC WISN WFBM WGL
WMAQ WCCO KMOX KOIL WRHM

8:00-8:15 Listerine Program—Bobby Jones
WEAF WEEI WTIC WJAR WTAG WCSH
WLIT WRC WBEN WTAM WWJ WSAI
KSD WOC WHO WOW WPTF WIOD
WFLA WSUN WHAS WSM WSB WSMB
WJDX WFAA WOAI KOA

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

8:15-8:30 Radiotron Varieties
WEAF WTIC WJAR WTAG WRC WBEN
WTAM WSAI WIBO KSD WOW WIOD
WSM WSB WSMB WJDX WOAI KOA
KHQ KOMO KFSD KTAR KECA KSL
KGO KOA KVOO

8:15-8:30 U.S. Marine Band
WABC WLBZ WEAN WNAC WORC WJAS
WLBW WMAL WTAR WDBJ WWNC WXYZ
WBCM WSPD WDOD WREC WLAC WBRC
WFBM KSCJ WMT KMOX KMBC WDAY
WNAX KFJF KRLD KTSA KOL KFRC
CFRB

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

8:30-9:00 The Sunkist Musical Cocktail
WABC WFBL WGR WEAN WDRC WNAC
WFAN WCAU WJAS WMAL WCAO WADC
WHK WKRC WXYZ WSPD WOWO WJJD
KMOX KMBC KOIL KLZ KDYL KOL
KFPY KOIN KHJ KFRC

8:30-9:00 Vibrant Melodies
WJZ WBZ WBZA KDKA WLW KYW
KWK WREN KFAB CKGW CFCF WHAM

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

9:30-10:30 Palmolive Hour
WEAF WEEI WTIC WJAR WTAG WCSH
WLIT WRC WGY WCAE WSAI WGN
KSD WOC WOW WSMB WTMJ KSTP
WHAS WSM WMC WDAF WHO WSB
WJAX WOAI KOA KSL KGO KGW
KOMO KHQ WFAA KPRC WWJ WTAM
KFI WBEN (KVOO of 10:00)

9:30-10:00 Camel Pleasure Hour
WJZ WBZ WBZA WHAM KDKA WREN
WLW KYW WSJS WRVA WJR KWK
WIOD WJAX WFLA WSUN

9:30-10:00 The Columbians
WABC WKBW WEAN WDRC WNAC WORC
WPG WCAU WJAS WLBW WMAL WCAO
WTAR WDBJ WADC WHK WBT WXYZ
WBCM WSPD WREC WLAC WISN WOWO
WFBM WCCO KSCJ WDAY WNAX KOIL
KFH KFJF KTSA KLZ KOL KHJ
CFRB WTAQ

10:00-10:30 Columbia Experimental Laboratory
WABC WKBW WEAN WDRC WNAC WORC
WPG WCAU WJAS WLBW WMAL WCAO
WTAR WDBJ WADC WHK WBT WXYZ
WBCM WSPD WLAC WISN WFBM KSCJ
KMOX WDAY WNAX KOIL KFJF KTSA
KTRH KLZ KOL KFPY CFRB WTAQ

10:30-11:00 Columbia Concerts Programs
WABC WHEC WLBZ WEAN WNAC WORC
WPG WJAS WLBW WMAL WCAO WTAR
WDBJ WWNC WXYZ WBCM WSPD WDOD
WFBM WMAQ WCCO KSCJ WMT KMOX
KMBC WDAY WNAX WIBW KFJF KTRH
KTSA KLZ KOL CFRB

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

11:00-11:30 Guy Lombardo and His Orchestra
WABC WHEC WLBZ WEAN WNAC WORC
WPG WCAU WLBW WCAO WTAR WDBJ
WHK WWNC WXYZ WBCM WSPD WDOD
WREC WFBM WCCO KSCJ WMT KMOX
KMBC WDAY WNAX KOIL WIBW KFH
KFJF KTRH KLZ KOL CFRB

11:00-11:30 Vincent Lopez and His Orchestra
WEAF WFLA WSUN WRC WCAE KSD
WOW WJDX WGY WLIT (WWJ WTAM
off 11:15) (WSM WOC WHO WDAF on 11:15)

11:30-12:00 Bert Lown and His Biltmore Orchestra
WABC WKBW WEAN WDRC WNAC WORC
WCAU WLBW WCAO WTAR WDBJ WKBN
WBT WXYZ WBCM WSPD WREC WLAC
WBRC WISN WFBM WCCO KSCJ WNAX
KOIL WIBW KFH KFJF KTRH KLZ
WTAQ

Thursday

10:00-10:15 Ceresota Program
WEAF WJAR WTAG WCSH WFI WRC
WGY WCAE WWJ WSAI KYW KSTP
WRVA WTAM WBEN WOC WHO

11:30-11:45 Odorono-Cutex Program
WJZ WHAM KDKA KWK WREN WLW
WIBO KPRC WKY WOAI WBZ WBZA
KVOO WJR WFAA

3:30-3:45 Chicago Serenade
WJZ KDKA WJR WREN KFAB KOA
WLW WSM WMC WAPI WFLA WSUN
CKGW

4:30-5:00 U. S. Army Band
WJZ WLW KWK WREN KFAB WJAX
WSM KSTP WSMB

5:30-5:45 Rinso Talkie
WEAF WEEI WTIC WTAG WJAR WLIT
WRC WGY WBEN WCAE WTAM WWJ
KSD WOC WHO WSAI KYW

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

7:30-7:45 St. Moritz Orchestra
WEAN WDRC WHP WJAS WLBW WMAL
WDBJ WKBN WBT WXYZ WREC WBCM
WLAC WBRC WISN WFBM WGL KSCJ
KMOX WDAY WNAX KOIL KFJF KTRH
KVI KFPY KFRC

7:45-8:00 Friendly Five Footnotes
WJZ WBZ WBZA WREN KWK KFAB
WHAS WSM WMC WSB WAPI WSMB
WJDX WRVA WPTF WJAX WIOD WFLA
WSUN KGO KECA KOMO KHQ KTAR
KFSD WBAL KDKA WIBO KOA KSL
WGAR

8:00-9:00 Fleischmann Hour — Rudy Vallee
WEAF WEEI WTAG WJAX WIOD WJDX
WJAR WCSH WFI WRC WGY WCAE
WHO WOW WDAF WWJ WHAS KTAR
WMC WSB WSMB WEBC KOA WRVA
KSL KOMO WOAI WSM WOC WAPI
KGO KHQ KECA KSD CKGW WTAM
KGW KSTP WGN KPRC WBEN (WTMJ
KTHS WSAI WBAP WKY of 8:30)

8:15-8:30 Barbasol Program
WABC WFBL WKBW WEAN WDRC WNAC
WCAU WJAS WMAL WCAO WADC WKRC
WXYZ WSPD WISN WFBM WJJD WCCO
KMOX KMBC KOIL

8:30-8:45 Kaltenborn Edits the News
WABC WFBL WGR WEAN WDRC WNAC
WORC WCAU WJAS WMAL WCAO WADC
WHK WKRC WXYZ WSPD WOWO WMAQ
WCCO KMOX KMBC KOIL

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

9:00-9:15 Lee Morse
WABC WKBW WEAN WDRC WORC WNAC
WPG WCAU WHP WJAS WLBW WMAL
WCAO WTAR WDBJ WADC WHK WKBN
WBT WDAE WXYZ WBCM WSPD WREC
WLAC WBRC WISN KSCJ WDAY WNAX
KOIL WIBW KFH KFJF KRLD KTSA
KLZ KOL KFPY KHJ

9:00-9:30 Blackstone Plantation
WJZ WBZ WBZA WBAL KDKA WCKY
WHAM

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

9:15-9:30 Old Gold Character Readings
WABC WFBL WHEC WGR WLBZ WEAN
WDRC WNAC WORC WPG WCAU WHP
WJAS WLBW WCAO WTAR WDBJ WADC
WHK WKRC WAIU WKBN WWNC WBT
WGST WTOC WQAM WDBO WDAE WXYZ
WBCM WSPD WDOD WREC WLAC WBRC
WDSU WISN WOWO WFBM WBBM WCCO
KSCJ WMT KMOX KMBC KLRA WDAY
WNAX KOIL WIBW KFH KFJF KRLD
KTSA KLZ KDYL KVI KOL KFPY
KOIN KHJ KFRC

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

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

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

10:00-10:30 The Lutheran Hour
WABC WFBL WKBW WEAN WDRC WNAC
WCAU WJAS WMAL WCAO WADC WHK
WKRC WXYZ WSPD WDSU WOWO WBBM
WCCO WMT KMOX KMBC WNAX KOIL
KRLD KLZ KDYL KOL KFPY KOIN
KHJ KFRC

10:00-11:00 Lucky Strike Dance Orchestra
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WCAE WWJ WSAI WBEN
KSD WOW WKY WOAI KOA KSL
WTMJ WIOD WHAS WSM WMC WSMB
KYW KVOO WDAF WJAX KPRC WEBC
WRVA WFLA WSUN WSB WFAA KFSD
KTAR (KGO KGW KFI KOMO KHQ
off 10:30) (WOC WHO KTHS on 10:30)

10:30-11:00 Toscha Seidel and Concert Orchestra
WABC WFBL WKBW WEAN WDRC WNAC
WORC WFAN WHP WJAS WLBW WMAL
WCAO WTAR WDBJ WADC WHK WKBN
WBT WXYZ WBCM WSPD WLAC WBRC
WISN WOWO KSCJ KMOX WDAY WNAX
KOIL WIBW KFJF KRLD KTRH KTSA
KLZ CFRB

11:00-11:30 Florence Richardson's Orchestra
WEAF WCAE WFI (WWJ WSAI of 11:15)
(KSD WOW WSM WSMB on 11:15) (WOC
WHO on 11:05-11:15)

11:00-11:30 Ben Bernie and His Orchestra
WABC WHEC WLBZ WEAN WNAC WORC
WCAU WHP WLBW WMAL WCAO WTAR
WDBJ WWNC WXYZ WBCM WSPD WDOD
WREC WLAC WBRC WFBM WCCO WMT
KMOX KMBC WDAY WNAX KOIL WIBW
KFH KFJF KTRH KTSA KLZ KOL
CFRB

11:30-12:00 Cab Calloway and His Orchestra
WEAF WWJ WOW WFI KSD KSTP
WJDX WDAF WTAM WOC WHO WIBO

Friday

4:10-4:45 Dancing Melodies
WEAF WTAG WCAE WFJC WTAM WWJ
WOC WHO WOW WDAF WBEN

5:00-5:45 Light Opera Gems
WABC WKBW WGR WDRC WHP WJAS
WLBW WCAO WTAR WAIU WKBN WBT
WXYZ WBCM WSPD WREC WLAC WBRC
WISN WGL WCCO KSCJ KMOX WDAY
KOIL KFH KFJF KRLD KTRH KTSA
KLZ CFRB

7:15-7:30 Little Things in Life
WEAF WCSH WBEN WWJ WSAI WIBO
WOC WHO WDAF KSTP WHAS WSM
WAPI WSMB KTHS WKY KOA KGW
KOMO KFSD KTAR

7:45-8:00 The World's Business
WABC WKBW WDRC WORC WFAN WHP
WLBW WMAL WCAO WTAR WDBJ WAIU
WBT WXYZ WBCM WREC WLAC WBRC
WISN WFBM WMAQ WCCO KSCJ WDAY
WNAX KOIL WIBW KFJF KRLD KTRH
KVI KOL KFPY KFRC

7:45-8:00 Brownbilt Footlites
WJZ WBZ WBZA WREN KWK KFAB
WTMJ WEBC WRVA WPTF WJAX WIOD
WFLA WSUN WHAS WSM WAPI WSMB
WJDX WOAI WIBO KOA KSL KDKA
WSB WLW KSTP WGAR

8:00-8:30 Nestle's Program
WJZ WBZ WBZA WHAM WIBO KWK
WREN KFAB WJR WLW KDKA WGAR

8:00-9:00 Cities Service Concert Orchestra
WEAF WEEI WTIC WLIT WRC WCAE
WJAR WCSH WOW KYW KSD WDAF
KSTP WTMJ WKY WOC KOA WEBC
WOAI KOMO KGO KGW KHQ KSL
WTAG CKGW KECA WHO WSAI WTAM
WBEN WWJ (WFAA KPRC off 8:30)

8:15-8:30 Rhythm Choristers
WABC WKBW WDRC WORC WHP WJAS
WLBW WMAL WTAR WDBJ WADC WAIU
WXYZ WBCM WREC WLAC WBRC WISN
WMAQ KSCJ KMOX WDAY WNAX KOIL
KFJF KRLD KTRH KVI KFPY KHJ
KFRC

8:30-9:00 The Dutch Masters
WABC WFBL WGR WEAN WDRC WNAC
WCAU WJAS WMAL WCAO WADC WKRC
WXYZ WSPD WBBM WCCO KMOX KMBC
KOIL

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

9:00-9:30 Clicquot Club Eskimos
WEAF WEEI WTIC WJAR WTAG WCSH
WLIT WRC WOW WCAE WSAI WIBO
KSD WWJ WDAF WOC WHO WGY
WBEN

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

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

9:30-9:45 Enna Jettick Songbird
WEAF WEEI WJAR WTAG WCSH WRC
WLIT WGY WBEN WCAE WWJ WSAI
WENR KSD WOC WHO WOW WDAF
CKGW WTAM CFCF

9:30-10:00 Armour Program
WJZ WBZ WBZA WJR KYW WREN
KSTP WEBC WRVA WMC WSB WGAR
WOAI KOA KSL KGO WKY WHAS
KGW KHQ KOMO KDKA WJAX WJDX
WIOD WTMJ WAPI WHAM KWK WSM
WLW WSMB KFI

9:45-10:00 Two Troupers
WEAF WEEI WJAR WTAG WCSH WRC
WLIT WGY WBEN WSAI KSD WOC
WHO WDAF WCAE WTAM WWJ WOW

10:00-10:30 Gypsy Trail
WABC WFBL WKBW WEAN WDRC WNAC
WORC WJAS WLBW WMAL WCAO WTAR
WDBJ WADC WHK WBT WBCM WSPD
WLAC WISN WCCO KSCJ WDAY WNAX
KOIL WIBW KFJF KTRH KLZ KOL
KFPY

10:00-10:30 Crime Prevention Program
WEAF WJAR WCSH WCAE WWJ KSD
WSAI WDAF WRC WBEN

10:00-10:30 Armstrong Quakers
WJZ KDKA WBZ WBZA KYW KWK
WHAM KPRC WJR WTMJ WEBC WHAS
WSM WSB WOAI KOA WSMB KSL
KGW KOMO KHQ WMC KFI WBAP
WCKY KTHS KSTP KVOO WKY

10:30-11:00 RKO Theatre of the Air
WEAF WEEI WJAR WTAG WLIT WGY
WCAE WWJ WSAI WIBO KSD WDAF
WRVA WJAX WIOD WMC WSB WSMB
WOC WJDX KGO KTHS WOAI WKY
WRC KOA KGW KFI KHQ KOMO
KTAR KFSD WCSH WHO WOW KSL
WTAM WFLA WSUN WBEN

10:30-11:00 Nit Wit Hour
WABC WHEC WLBZ WEAN WNAC WORC
WPG WCAU WJAS WLBW WMAL WCAO
WTAR WDBJ WHK WWNC WXYZ WBCM
WSPD WDOD WLAC WBRC KSCJ WCCO
WMT KMOX WDAY WNAX KOIL WIBW
KFJF KTRH KTSA KLZ

11:00-11:30 Noble Sissle and Princesse Orchestra
WABC WKBW WEAN WDRC WNAC WORC
WCAU WLBW WCAO WTAR WDBJ WHK
WKBN WBT WXYZ WBCM WSPD WREC
WLAC WBRC WISN WOWO WCCO KMOX
WDAY WNAX KOIL WIBW KFH KFJF
KTRH KLZ KFPY CFRB

11:00-12:00 Vincent Lopez and His Orchestra
WEAF WGY CKGW WTIC WOC WHO
(WRC WWJ off 11:15) (KOA KSTP WDAF
on 11:45) (KSD on 11:30) (WCFL on 11:15-
11:30) (WFJC WLIT off 11:30)

11:30-12:00 Romanelli and His Orchestra
WABC WHEC WLBZ WORC WLBW WMAL
WCAO WTAR WDBJ WKRC WWNC WXYZ
WBCM WDOD WREC WLAC WBRC WCCO
WMT KMBC WDAY WNAX KOIL WIBW
KFH KFJF KTRH KLZ CFRB

Saturday

10:30-11:00 New World Salon Orchestra
WABC WHEC WLBZ WEAN WDRC WNAC
WORC WJAS WMAL WDBJ WAIU WWNC

WXYZ WDOD WBCM WREC WLAC WFBM
KSCJ WMT KMBC WDAY KOIL KFJF
KRLD KTSA CFRB

1:30-2:00 Savoy Plaza Orchestra
WABC WHEC WLBZ WEAN WCAU WHP
WJAS WMAL WCAO WTAR WDBJ WKRC
WAIU WWNC WXYZ WBCM WSPD WDOD
WLAC WBRC WIBW CFRB

4:45-5:00 Spanish Serenade
WABC WLBZ WEAN WNAC WORC WFAN
WHP WMAL WCAO WTAR WDBJ WKRC
WAIU WWNC WXYZ WBCM WSPD WDOD
WREC WLAC WBRC WMAQ WBBM WCCO
KSCJ WMT KMOX KMBC WDAY KOIL
WIBW KFJF KRLD KTRH KTSA KLZ
KOL KFRC

5:30-5:40 Peter van Steeden and Orchestra
WJZ KWK WHAM KDKA WMC WSB
WSMB

6:00-6:30 Ted Husing's Sportslants
WABC WFBL WFAN WHP WLBW WTAR
WDBJ WADC WHK WAIU WBT WBCM
WREC WLAC WBRC WISN WOWO WBBM
WCCO KSCJ WDAY KOIL WIBW KFH
KFJF KRLD KTRH KTSA KLZ KVI
KOL KFPY KHJ KFRC CFRB

6:15-6:45 Smith Ballew and His Orchestra
WJZ WBZ WBZA WRC KFAB KWK

7:00-7:15 Rodeheaver Sing
WEAF WJAR WFI KSTP WOW KOA
WTAM

7:00-7:15 Freddie Rich and His Orchestra
WABC WHEC WLBZ WORC WHP WJAS
WLBW WCAO WTAR WDBJ WHK WKRC
WWNC WXYZ WBCM WDOD WBRC WFBM
KSCJ WMT WDAY KOIL WIBW KFH
KFJF KOL KFRC CFRB

7:30-7:45 Snoop and Peep
WEAF WJAR WTAG WBEN WSAI WOC
WHO WOW WTMJ KSTP WEBC WIOD
WFLA WSUN KGO CFCF

7:30-7:45 Rose of the Goldbergs
WJZ WHAM KWK WREN WIBO WSB
WJDX WSMB WAPI WGAR

7:30-8:00 Necco Candy Party — Henry Burbig
WABC WFBL WHEC WGR WLBZ WEAN
WNAC WORC

7:45-8:00 "The Highroad of Adventure"
WEAF WTAG WBEN WCAE WTAM WWJ
WSAI WOC WHO KSTP WEBC KGO
KGW KFSD KTAR

7:45-8:00 Pickard Family
WJZ WHAM KWK WREN WIBO WGAR

8:00-8:15 Dixies Circus
WJZ WBAL KDKA KYW WHAM WBZ
WBZA WOAI KSTP KPRC WKY CKGW
WGAR

8:00-8:15 Webster Program — Weber and Fields
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WBEN WCAE WTAM WWJ
WSAI WIBO KSD WOC WHO WOW
WDAF WTMJ KSTP KOA KSL WEBC

8:15-8:30 Ben Alley, Tenor, with Ann Leaf
WABC WKBW WGR WDRC WORC WPG
WFAN WHP WJAS WLBW WMAL WCAO
WDBJ WADC WKBN WBT WXYZ WBCM
WSPD WREC WLAC WBRC WISN WOWO
WFBM WMAQ KSCJ KMOX WDAY WNAX
KOIL KFH KFJF KTRH KTSA KVI
KFPY KHJ KFRC

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

8:15-8:30 Radiotron Varieties
WEAF WEEI WJAR WTAG WCSH WRC
WGY WBEN WCAE WTAM WWJ WSAI
WIBO KSD WOC WHO WOW WDAF
WTMJ WRVA WJAX WIOD WFLA WSUN
WSM WMC WSB WSMB WJDX KPRC
WOAI WKY KOA KSL KGO KGW
KOMO KHQ KTAR KFSD

8:30-8:45 The Early Bookworm
WABC WKBW WEAN WDRC WNAC WORC
WPG WCAU WHP WJAS WLBW WMAL
WCAO WDBJ WADC WKBN WBT WXYZ
WBCM WSPD WLAC WBRC WISN WOWO
WMAQ KSCJ KMOX WDAY WNAX KOIL
KFH KFJF KRLD KTRH KTSA KLZ
KVI KFPY KHJ KFRC CFRB

8:30-9:00 The Silver Flute
WEAF WEEI WTAG WCSH WRC WFI
WGY WCAE WWJ WSAI KSD WDAF
WIOD

8:30-9:00 Fuller Man
WJZ WBZ WBZA WBAL WHAM KDKA
WJR KWK WREN KOA CKGW WHAS
KPRC KGO KECA KGW KOMO KFAB
KHQ WIBO WKY WTMJ WMC WEBC
WSB WAPI WSMB WLW WJDX KSTP

9:00-9:30 Carborundum Hour
WABC WKBW WNAC WCAU WHK WXYZ
WMAQ KMOX

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

9:30-10:00 Columbia Educational Features
WABC WLBZ WEAN WNAC WORC WPG
WFAN WHP WJAS WLBW WMAL WTAR
WDBJ WKRC WWNC WXYZ WBCM WSPD
WDOD WREC WLAC WBRC WFBM WCCO
KSCJ WMT KMBC WDAY WNAX KOIL
WIBW KFH KFJF KTRH KTSA KLZ
KOL KFRC

10:00-11:00 Lucky Strike Dance Orchestra
WEAF WEEI WJAR WTAG WCSH WFI
WRC WGY WBEN WCAE WTAM WWJ
WSAI WGN KSD WHO WOC WOW
WDAF WTMJ KSTP WEBC WRVA WJAX
WIOD WFLA WSUN WHAS WMC WSB
WSMB WJDX KVOO WFAA KPRC WOAI
WKY KOA KSL KGO KFI KGW
KOMO KHQ KTAR KFSD

10:00-11:00 Hank Simmons' Show Boat
WABC WHEC WLBZ WEAN WNAC WORC
WPG WFAN WHP WJAS WLBW WMAL
WCAO WTAR WDBJ WKRC WWNC WXYZ
WBCM WSPD WDOD WLAC WBRC WFBM
WMAQ WCCO KSCJ WMT KMOX KMBC
WDAY WNAX KOIL WIBW KFH KFJF
KRLD KTRH KTSA KLZ KOL KFRC
CFRB

10:00-10:30 Cuckoo
WJZ WBZ WBZA WBAL KDKA WHAM
WGAR WLW WIBO KWK WREN WJR
CFCF CKGW

11:00-11:15 Troubadour of the Moon
WEAF WFI WCAE WWJ WSAI WOC
WHO WOW

11:00-11:30 Jack Denny and His Orchestra
WABC WHEC WLBZ WEAN WNAC WORC
WPG WCAU WHP WLBW WMAL WCAO
WTAR WDBJ WWNC WXYZ WBCM WSPD
WDOD WREC WLAC WBRC WFBM KSCJ
WMT KMBC WDAY WNAX KOIL WIBW
KFJF KRLD KTRH KLZ KOL CFRB

11:30-12:00 Guy Lombardo and His Orchestra
WABC WHEC WLBZ WEAN WNAC WORC
WPG WFAN WHP WLBW WMAL WCAO
WTAR WDBJ WKRC WWNC WXYZ WBCM
WDOD WREC WLAC WBRC WFBM WCCO
KSCJ WMT KMBC WDAY WNAX KOIL
WIBW KFJF KRLD KTRH KLZ KOL
CFRB

11:45-12:00 Little Jack Little
WEAF WFI WCAE WTAM KSD WOC
WHO WDAF WFLA WSUN WSB KOA
WGY WIBO WOW KPRC WIOD

12:00-1:00 Smith Ballew and His Orchestra
WEAF WRC KSTP KPRC WSB WMC
WBEN KOA (WTAM KSD on 12:30)

INDEX BY FREQUENCIES AND DIAL NUMBERS

KEY

Frequency in kilocycles. Wave lengths in meters. Second column symbols: * Verifies receptions 2c; sends station stamp 10c; † Verifies 2c; no stamp; ‡ Does not verify; § Did not reply. Third column shows night power in watts. Fourth column symbols: D, daytime only; 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. Dn —This daylight station may use evening hours under certain conditions. Dashes (--) have no meaning.

540 kilocycles 555.6 meters

CKX	†	500	---	Brandon, Manitoba	Manitoba Telephone System

550 kilocycles 545.1 meters

CMCJ	--	250	---	Havana, Cuba	Rafael Rodriguez
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.	Meyer Broadcasting Co.
KOAC	--	1000	---	Corvallis, Ore.	State Agricultural College
KSD	†	500	2N	St. Louis, Mo.	Pulitzer Publishing Co.
WGR	*	1000	C	Buffalo, N. Y.	Buffalo Broadcasting Co.
WKRC	†	1000	C	Cincinnati, Ohio	WKRC Incorporated

560 kilocycles 535.4 meters

KFDM	*	500	X+	Beaumont, Texas	Magnolia Petroleum Co.
KLZ	*	1000	C	Denver, Colo.	Reynolds Radio Co., Inc.
KTAB	*	1000	---	San Francisco, Cal.	Associated Broadcasters
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	---	Los Angeles, 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	Syracuse, N. Y.	Clive B. Meredith
WMCA	*	500	3	New York City	Knickerbocker Broadcasting Co., Inc.
WNAX	*	1000	C	Yankton, S. D.	House of Gurney, Inc.
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
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
KGFX	--	200	D	Pierre, S. D.	Dana McNeil
KSAC	--	500	2+	Manhattan, Kans.	State Agricultural College
WIBW	*	1000	2+C	Topeka, Kansas	Topeka Broadcasting Assn., Inc.
WOBU	*	250	1	Charleston, W. Va.	WOBU, Inc.
WSAZ	*	250	1	Huntington, W. Va.	WSAZ, Inc.
WTAG	*	250	N	Worcester, Mass.	Telegram Publishing Co.

590 kilocycles 508.2 meters

CMW	--	700	588	Havana, Cuba
KHQ	--	1000	+N	Spokane, Wash.
WCAJ	*	500	1	Lincoln, Nebr.
WEEI	†	1000	N	Boston, Mass.
WKZO	*	1000	D	Berrien Springs, Mich.
WOW	*	1000	1N	Omaha, Nebr.
XEZ	*	500	588	Mexico City

Columbus Commercial & Radio Co.
Louis Wasmer, Inc.
Nebraska Wesleyan University
Edison Elec. Illuminating Co.
WKZO, Inc.
Woodmen of the World
Gonzales Zamacona y Cia.

600 kilocycles 499.7 meters

CJRM	†	500	4	Moose Jaw, Sask.
CJRW	--	500	4	Fleming, Sask.
CNRO	†	500	3	Ottawa, Ont.
KFSD	*	500	+N	San Diego, Cal.
WCAC	--	250	2+	Storrs, Conn.
WCAO	*	250	C	Baltimore, Md.
WGBS	‡	250	2+	New York City
WMT	*	500	C	Waterloo, Iowa
WOAN	--	500	1	Lawrenceburg, Tenn.
WREC	*	500	1+C	Memphis, Tenn.

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

610 kilocycles 491.5 meters

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

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

620 kilocycles 483.6 meters

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

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

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.
XET	†	500	---	Monterrey, Mex.

Victoria Broadcasting Association
Winnipeg Grain Exchange
Canadian National Railways
Stephens College
Evansville on the Air, Inc.
M. A. Leese
State Marketing Bureau
Mexico Music Co., S. A.

640 kilocycles 468.5 meters

CHRC	--	100	645	Quebec, Que.
CMHJ	--	40	645	Cienfuegos, Cuba
KFI	--	5000	NX	Los Angeles, Cal.
WAIU	*	500	C Dn	Columbus, Ohio
WOI	*	5000	D	Ames, Iowa
XFG	--	2000	638	Mexico City

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

650 kilocycles 461.3 meters

KPCB	--	100	Dn	Seattle, Wash.
WSM	*	5000	N	Nashville. Tenn.
XER	--	101	---	Mexico City

Queen City Broadcasting Co.
National Life & Accident Ins. Co.
Armida y Cia.

660 kilocycles 454.3 meters

CHWK	†	5	---	Chilliwack, B. C.
CMCO	--	225	---	Havana, Cuba
WAAW	*	500	D	Omaha, Neb.
WEAF	†	50000	N	New York City

Chilliwack Brdcstg. Co., Ltd.
J. L. Stowers
Omaha Grain Exchange
National Broadcasting Co., Inc.

670 kilocycles 447.5 meters

WMAQ	*	5000	C	Chicago, Ill.

WMAQ, Inc

KCYS. 670 MTRS. 447.5 DIAL

CUT OUT ON DOTTED LINES

680 kilocycles 440.9 meters

KFEQ	*	2500	D	St. Joseph, Mo.
KPO	†	5000	N	San Francisco, Cal.
WPTF	*	1000	N Dn	Raleigh, N. C.
XETF	--	500	---	Veracruz, Mex.
8WMC	--	500	682	St. Johns, N. F.

Scroggin & Co., Bank
Hale Bros. & The Chronicle
Durham Life Insurance Co.
Manuel Angel Fernandez & Cia.
Wesley United Church

690 kilocycles 434.5 meters

CFAC	--	500	1	Calgary, Alta.
CFCN	--	500	1	Calgary, Alta.
CHCA	*	500	1	Calgary, Alta.
CJCJ	*	500	1	Calgary, Alta.
CJSC	--	5000	---	Toronto, Ont.
CKGW	*	5000	2N	Toronto, Ont.
CNRC	--	500	1	Calgary, Alta.
CPRY	--	5000	2	Toronto, Ont.
NAA	--	1000	---	Arlington, Va.
VAS	†	10000	685	Glace Bay, N. S.

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

700 kilocycles 428.3 meters

WLW	*	50000	N	Cincinnati, Ohio

Crosley Radio Corp.

710 kilocycles 422.3 meters

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

R. S. MacMillan
Bamberger Broadcasting Service, Inc.

720 kilocycles 416.4 meters

WGN	†	25000	N	Chicago, Ill.
XEN	†	1000	719	Mexico City

Chicago Tribune
Cia. Civil de Inversiones

730 kilocycles 410.7 meters

CHLS	--	50	1	Vancouver, B. C.
CHYC	*	5000	2	Montreal, Que.
CKAC	*	5000	2C	Montreal, Que.
CKCD	--	50	1	Vancouver, B. C.
CKFC	†	50	1	Vancouver, B. C.
CKMO	--	50	1	Vancouver, B. C.
CKWX	†	100	1	Vancouver, B. C.
CMK	--	3000	---	Havana, Cuba
CNRM	*	5000	2	Montreal, Que.
XEM	†	500	---	Tampico, Mex.

W. G. Hassell
Northern Electric Co., Ltd.
La Presse Publishing Co., Ltd.
Vancouver Daily Province
United Church of Canada
Sprott-Shaw Radio Co.
A. Holstead & Wm. Hanlon
Cuban Broadcasting Co., Hotel Plaza
Canadian National Railways
Herbert H. Denny y Cia.

740 kilocycles 405.2 meters

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

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

750 kilocycles 399.8 meters

TIC	--	50	---	San Jose, Costa Rica
WJR	†	5000	N	Detroit, Mich.
XEQ	--	1000	---	Juarez, Mex.

WJR, The Goodwill Station, Inc.
Feliciano Lopez Islas

760 kilocycles 394.5 meters

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

Puget Sound Broadcasting Co., Inc.
St. Louis University
National Broadcasting Co., Inc.

770 kilocycles 389.4 meters

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

KFAB Broadcasting Co.
The Atlas Co., Inc.
The Atlas Co., Inc.

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.

Manitoba Telephone System
Canadian National Railways
Union Bank & Trust Co.
Pickwick Broadcasting Corp.
Shepard Broadcasting Service, Inc.

WISJ	--	250	+	Madison, Wis. — Wisconsin State Journal Bdcsg. Co.
WMC	--	500	+N	Memphis, Tenn. — Dillard & Brown, Receivers
WPOR	--	500	1	Norfolk, Va. — WTAR Radio Corp.
WTAR	*	500	1C	Norfolk, Va. — WTAR Radio Corp.
XEW	†	5000	---	Mexico City — Mexico Music Co.

790 kilocycles 379.5 meters

CMBS	--	150	---	Havana, Cuba — E. Artalejo
CMHC	--	500	---	Tuinucu, Cuba — Frank H. Jones
KGO	‡	7500	N	San Francisco, Cal. — National Broadcasting Co., Inc.
WGY	†	50000	N	Schenectady, N. Y. — General Electric Co.

800 kilocycles 374.8 meters

WBAP	†	10000	1XN	Fort Worth, Texas — Carter Publications, Inc.
WFAA	--	50000	1N	Dallas, Texas — News & Journal
XFC	--	350	805	Aguascalientes, Mex. — Gobierno del Estado de Aguascalientes

810 kilocycles 370.2 meters

WCCO	*	7500	C	Minneapolis, Minn. — Northwestern Broadcasting, Inc.
WPCH	*	500	D	New York City — Eastern Broadcasters, Inc.

820 kilocycles 365.6 meters

WHAS	†	10000	N	Louisville, Ky. — Courier-Journal & Times
XFI	--	1000	818	Mexico City — Sria. de Ind., Commercio y Trabajo

830 kilocycles 361.2 meters

CMGA	--	100	834	Colon, Cuba — Leopoldo V. Figueros
KOA	†	12500	N	Denver, Colo. — National Broadcasting Co., Inc.
WHDH	--	1000	D	Boston, Mass. — Matheson Radio Co., Inc.
WRUF	*	5000	Dn	Gainesville, Fla. — University of Florida

840 kilocycles 356.9 meters

CFCA	†	500	1	Toronto, Ont. — Star Publishing & Ptg. Co.
CHCT	--	1000	---	Red Deer, Alta. — G. F. Tull & Ardern, Ltd.
CKLC	†	1000	2	Red Deer, Alta. — Alberta Pacific Grain Co., Ltd.
CMC	*	500	845	Havana, Cuba — Cuban Telephone Co.
CNRD	†	1000	2	Red Deer, Alta. — Canadian National Railways
CNRT	*	500	1	Toronto, Ont. — Canadian National Railways
XEG	--	2000	---	Mexico City — Juan Gutierrez, Jr.

850 kilocycles 352.7 meters

KWKH	*	10000	1	Shreveport, La. — Hello World Broadcasting Corp.
WWL	*	5000	1	New Orleans, La. — Loyola University

860 kilocycles 348.6 meters

CMJE	--	5	856	Camaguey, Cuba — Manuel Fernandez
KMO	--	500	+ Dn	Tacoma, Wash. — KMO, Inc.
WABC	*	5000	XC	New York City — Atlantic Broadcasting Corp.
WBOQ	--	5000	---	New York City — Atlantic Broadcasting Corp.
WHB	*	500	D	Kansas City, Mo. — WHB Broadcasting Co.
XFX	--	500	---	Mexico City, Mex. — Secretaria de Educacion Publica

870 kilocycles 344.6 meters

CMHH	--	10	---	Cifuentes, Cuba — Antonio Quintero
WENR	--	50000	1N	Chicago, Ill. — Great Lakes Broadcasting Co.
WLS	†	5000	1XN	Chicago, Ill. — Agricultural Broadcasting Co.

880 kilocycles 340.7 meters

CHML	*	50	4	Hamilton, Ont. — Maple Leaf Radio Co., Ltd.
CJCB	*	50	---	Sydney, N. S. — N. Nathanson
CKCI	‡	22.5	3	Quebec, Que. — Le "Soleil," Ltd.
CKCV	†	50	3	Quebec, Que. — G. A. Vandry
CNRQ	†	50	3	Quebec, Que. — Canadian National Railways
KFKA	†	500	2+	Greeley, Colo. — Midwestern Radio Corp.
KLX	--	500	---	Oakland, Cal. — Tribune Publishing Co.
KPOF	*	500	2	Denver, Colo. — Pillar of Fire, Inc.
WCOC	--	500	+	Meridian, Miss. — Mississippi Broadcasting Co., Inc.
WGBI	*	250	1	Scranton, Pa. — Scranton Broadcasters, Inc.
WQAN	*	250	1	Scranton, Pa. — Scranton Times
WSUI	*	500	---	Iowa City, Iowa — University of Iowa

KCYS.
880
MTRS.
340.7
DIAL

CUT OUT ON DOTTED LINES

890 kilocycles 336.9 meters

CFBO	*	500	---	St. John, N. B.
CKCO	‡	100	---	Ottawa, Ont.
CKPR	--	50	---	Port Arthur, Ont.
CMX	*	500	---	Havana, Cuba
KFNF	--	500	2+	Shenandoah, Iowa
KGJF	*	250	---	Little Rock, Ark.
KUSD	*	500	2+	Vermillion, S. D.
WGST	*	250	1+C	Atlanta, Ga.
WILL	*	250	2+	Urbana, Ill.
WJAR	*	250	+N	Providence, R. I.
WKAQ	*	500	---	San Juan, P. R.
WMAZ	†	250	1+	Macon, Ga.
WMMN	*	250	+	Fairmount, W. Va.
XES	†	500	---	Tampico, Mexico

C. A. Munro, Ltd.		
Dr. G. M. Geldert		
Dougall Motor Car Corp.		
Francisco Lavin		
Henry Field Co.		
Church of the Nazarene		
University of South Dakota		
Georgia School of Technology		
University of Illinois		
The Outlet Co.		
Radio Corp. of Porto Rico		
Junior Chamber of Commerce		
Holt-Rowe Novelty Co.		
Difusora Portena XES		

900 kilocycles 333.1 meters

CMCF	†	250	---	Havana, Cuba
KGBU	†	500	---	Ketchikan, Alaska
KHJ	*	1000	C	Los Angeles, Cal.
KSEI	*	250	---	Pocatello, Idaho
WBEN	*	1000	N	Buffalo, N. Y.
WJAX	*	1000	N	Jacksonville, Fla
WKY	*	1000	N	Oklahoma City
WLBL	*	2000	D	Stevens Point, Wis.

Casa Karman		
Alaska Radio & Service Co.		
Don Lee, Inc.		
KSEI Broadcasting Association, Inc.		
Buffalo Evening News		
City of Jacksonville		
WKY Radiophone Co.		
Wisconsin Dept. of Markets		

910 kilocycles 329.6 meters

CFQC	--	500	1	Saskatoon, Sask.
CHNS	*	500	3	Halifax, N. S.
CJGC	*	500	2	London, Ont.
CNRH	--	500	3	Halifax, N. S.
CNRL	*	500	2	London, Ont.
CNRS	--	500	1	Saskatoon, Sask.

The Electric Shop, Ltd.		
Halifax Herald, Ltd.		
Free Press Printing Co., Ltd.		
Canadian National Railways		
Canadian National Railways		
Canadian National Railways		

920 kilocycles 325.9 meters

CMHD	--	250	---	Caibarien, Cuba
HHK	*	1000	---	Port au Prince, Haiti
KFEL	†	500	1	Denver, Colo.
KFXF	*	500	1	Denver, Colo.
KOMO	†	1000	N	Seattle, Wash.
KPRC	*	1000	+N	Houston, Texas
WAAF	--	500	D	Chicago, Ill.
WBSO	--	500	D	Needham, Mass.
WWJ	†	1000	N	Detroit, Mich.
XFF	--	250	915	Chihuahua, Mex.

Manuel A. Alverez		
Republic of Haiti		
Eugene P. O'Fallon, Inc.		
Colorado Radio Corp.		
Fisher's Blend Station, Inc.		
Houston Printing Co.		
Drovers Journal Publishing Co.		
Babson Statistical Organization, Inc.		
The Detroit, News		
Gobierno del Estado de Chihuahua		

930 kilocycles 322.4 meters

CJCA	*	500	4	Edmonton, Alta.
CFRC	--	500	'	Kingston, Ont.
CNRE	--	500	4	Edmonton, Alta.
KFWI	†	500	1	San Francisco, Cal.
KGBZ	--	500	2+	York, Nebr.
KMA	*	500	2+	Shenandoah, Iowa
KROW	*	500	1+X	Oakland, Cal.
WBRC	*	500	+C	Birmingham, Ala.
WDBJ	*	250	+C	Roanoke, Va.
WIBG	*	50	D	Elkins Park, Pa.

The Edmonton Journal, Ltd.		
Queen's University		
Canadian National Railways		
Radio Entertainments, Inc.		
Dr. George R. Miller		
May Seed & Nursery Co.		
Educational Broadcasting Corp.		
Birmingham Broadcasting Co., Inc.		
Richardson-Wayland Elec. Corp.		
St. Pauls P. E. Church		

940 kilocycles 319.0 meters

KGU	†	1000	---	Honolulu, Hawaii
KOIN	*	1000	C	Portland, Ore.
WAAT	--	300	D	Jersey City, N. J.
WCSH	*	1000	N	Portland, Maine
WDAY	*	1000	C	Fargo, N. D.
WFIW	*	1000	---	Hopkinsville, Ky.
WHA	--	750	D	Madison. Wis.
XEO	--	5000	---	Mexico City

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

950 kilocycles 315.6 meters

CMBC	--	150	955	Havana, Cuba
CMBD	--	150	955	Havana, Cuba
KFWB	*	1000	---	Hollywood, Cal.
KGHL	--	1000	---	Billings, Mont.
KMBC	*	1000	C	Kansas City, Mo.
WRC	†	500	N	Washington, D. C.

Domingo Fernandez		
Luis Perez Garcia		
Warner Bros. Broadcasting Corp.		
Northwestern Auto Supply Co., Inc.		
Midland Broadcasting Co., Inc.		
National Broadcasting Co., Inc.		

960 kilocycles 312.3 meters

CFCY	*	250	1	Charlottetown, P. E. I.	The Island Radio Co.
CFRB	*	4000	2C	Toronto, Ont.	Rogers-Majestic Corp., Ltd.
CHCK	--	100	1	Charlottetown, P. E. I.	W. E. Burke
CHWC	*	500	3	Regina, Sask.	R. H. Williams & Sons. Ltd.
CJBR	--	500	3	Regina, Sask.	Cooperative Wheat Producers, Ltd.
CKCK	†	500	3	Regina, Sask.	Leader Publishing Co., Ltd.
CNRR	--	500	3	Regina, Sask.	Canadian National Railways
CNRX	*	4000	2	Toronto, Ont.	Canadian National Railways

970 kilocycles 309.1 meters

CMGF	--	50	977	Matanzas, Cuba	Bernabe R. de la Torre
KJR	*	5000	---	Seattle, Wash.	Northwest Broadcasting System, Inc.
WCFL	--	1500	N Dn	Chicago, Ill.	Chicago Federation of Labor
XED	*	10000	977	Reynosa, Mex	International Broadcasting Co., Inc.

980 kilocycles 305.9 meters

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

990 kilocycles 302.8 meters

WBZ-A	†	15000	1N	Springfield, Mass.	Westinghouse Elec. & Mfg. Co.

KCYS.
1040
MTRS.
288.3
DIAL

1000 kilocycles 299.8 meters

KFVD	*	250	Dn	Culver City, Cal.	Los Angeles Broadcasting Co.
WHO	*	5000	1N	Des Moines, Iowa	Central Broadcasting Co.
WOC	*	5000	1N	Davenport, Iowa	Central Broadcasting Co.
XEA	--	101	---	Guadalajara, Mex.	Alberto Palos Sauza
XEC	--	50	---	Toluca, Mex.	Jesus R. Benavides
XEE	--	10	---	Linares, Mex.	Lic. Mariano Berlanga
XEF	*	105	---	Oaxaca, Mex.	Alfonso Zorilla B.
XEFE	--	101	---	Laredo, Mex.	Rafael T. Carranza
XEH	--	101	---	Monterrey, Mex.	Constantino de Tarnave, Jr.
XEI	*	101	---	Morelia, Mex.	Carlos Gutierrez M.
XEJ	*	101	---	Juarez, Mex.	Juan G. Buttner
XEK	--	101	---	Mexico City	Arturo Martinez
XEL	--	10	---	Saltillo, Mex.	Antonio Garza Castro
XEU	--	101	---	Veracruz, Mex.	Fernando Pazos
XEV	--	101	---	Puebla, Mex.	Ciro Molina
XEY	--	105	---	Merida, Mex.	Socialist Party del Surreste

1010 kilocycles 296.8 meters

CFLC	*	50	3	Prescott, Ont.	Radio Association
CKCR	--	50	3	Waterloo, Ont.	John Patterson
CKIC	--	50	---	Wolfville, N. S.	Acadia Academy
CMBW	--	150	---	Havana, Cuba	M. Alvarez
CMBZ	--	150	---	Havana, Cuba	Manuel y G. Salas
CMCX	--	250	---	Havana, Cuba	"El Mundo"
KGGF	†	500	2	S. Coffeyville, Okla.	Powell & Platz
KQW	*	500	---	San Jose, Cal.	Pacific Agricultural Foundation, Ltd.
WHN	*	250	1	New York City	Marcus Loew Booking Agency
WIS	*	500	+	Columbia, S. C.	South Carolina Broadcasting Co., Inc.
WNAD	*	500	2	Norman, Okla.	University of Oklahoma
WPAP	*	250	1	New York City	Palisades Amusement Park
WQAO	--	250	1	New York City	Calvary Baptist Church
WRNY	--	250	1	New York City	Aviation Radio Station, Inc.

1020 kilocycles 293.9 meters

KFKX	*	10000	1N	Chicago, Ill.	Westinghouse Elec. & Mfg. Co.
KYW	*	10000	1N	Chicago, Ill.	Westinghouse Elec. & Mfg. Co.
WRAX	†	250	D	Philadelphia, Pa.	WRAX Broadcasting Co.

1030 kilocycles 291.1 meters

CFCF	--	500	N	Montreal, Que.	Canadian Marconi Co.
CMKC	*	150	1034	Santiago de Cuba	M. P. Martinez
CNRV	†	500	---	Vancouver, B. C.	Canadian National Railways
XEB	†	1000	---	Mexico City, Mex.	El Buen Tono, S. A.

1040 kilocycles 288.3 meters

KRLD	*	10000	1C	Dallas, Texas	KRLD Radio Corp.
KTHS	§	10000	1N	Hot Springs, Ark.	Chamber of Commerce
WKAR	*	1000	D	East Lansing, Mich.	Michigan State College
WMAK	*	1000	Dn	Buffalo, N. Y.	Buffalo Broadcasting Corp.

CUT OUT ON DOTTED LINES

1050 kilocycles 285.5 meters

KFKB	*	5000	Dn	Milford, Kansas	KFKB Broadcasting Assn., Inc.
KNX	*	5000	X	Hollywood, Cal.	Western Broadcast Co.

1060 kilocycles 282.8 meters

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

1070 kilocycles 280.2 meters

CMBG	--	150	---	Havana, Cuba	Francisco Garrigo
CMBT	--	150	---	Havana, Cuba	E. Perera
CMCB	--	150	---	Havana, Cuba	M. D. Autran
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	N	Cleveland, Ohio	National Broadcasting Co., Inc.

1080 kilocycles 277.6 meters

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

1090 kilocycles 275.1 meters

CMAA	--	30	---	Guanajay, Cuba	Antonio Sarasola
CMGI	--	30	1094	Matanzas, Cuba	Armando Lizama
KMOX	*	50000	1CX	St. Louis, Mo.	Voice of St. Louis, Inc.

1100 kilocycles 272.6 meters

CMKD	--	20	---	Santiago, Cuba	Jose Caluff
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.	WPG Broadcasting Corp.

1110 kilocycles 270.1 meters

CMHI	--	15	---	Santa Clara, Cuba	Laviz y Paz
KSOO	*	2000	Dn	Sioux Falls, S. D.	Sioux Falls Broadcasting Assn., Inc.
WRVA	*	5000	N	Richmond, Va.	Larus & Bros. Co., Inc.

1120 kilocycles 267.7 meters

CFJC	--	100	---	Kamloops, B. C.	N. S. Dalgleish & Sons
CHCS	--	10	4	Hamilton, Ont.	The Hamilton Spectator
CHGS	*	100	---	Summerside, P. E. I.	R. T. Holman, Ltd.
CJOC	†	50	---	Lethbridge, Alta.	Harold R. Carson
CKOC	*	50	4	Hamilton, Ont.	Wentworth Radio & Auto Sply. Co., Ltd
KFIO	†	100	D	Spokane, Wash.	Spokane Broadcasting Corp.
KFSG	*	500	3	Los Angeles, Cal.	Echo Park Evang. Assn.
KMCS	*	500	3Y	Inglewood, Cal.	Dalton's, Inc.
KRSC	†	50	D	Seattle, Wash.	Radio Sales Corp.
KTRH	*	500	2C	Houston, Texas	Rice Hotel
WDBO	*	500	+C	Orlando, Fla.	Orlando Broadcasting Co., Inc.
WDEL	†	250	+X	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

1130 kilocycles 265.3 meters

KSL	*	5000	N	Salt Lake City	Radio Service Corp. of Utah
WJJD	*	20000	C Dn	Mooseheart, Ill.	Loyal Order of Moose
WOV	--	1000	D	New York City	International Broadcasting Corp.

1140 kilocycles 263.0 meters

CMGD	--	5	---	Matanzas, Cuba	Rafael Rodriguez
KVOO	*	5000	1N	Tulsa, Okla.	Southwestern Sales Corp.
WAPI	--	5000	1N	Birmingham, Ala.	Alabama Polytechnic Institute
XETA	--	500	---	Mexico City	Manuel Espinosa Tagle

1150 kilocycles 260.7 meters

CMCQ	--	600	---	Havana, Cuba	Andres Martinez
CMHA	--	200	1154	Cienfuegos, Cuba	Fox Bross Co.
CMQ	†	250	---	Havana, Cuba	Jose Fernandez
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

CMKG	--	30	1176	Santiago de Cuba	Ricardo Arnoldo
KTNT	*	5000	Dn	Muscatine, Iowa	Norman Baker
WCAU	*	10000	C	Philadelphia, Pa.	Universal Broadcasting Co

1180 kilocycles 254.1 meters

CMGB	--	7.5	1185	Matanzas, Cuba	Jose Anorga
KEX	*	5000	2	Portland, Ore.	Western Broadcasting Co.
KOB	*	20000	2	State College, N. M.	College of Agriculture & Mech. Arts
WDGY	*	1000	1 Dn	Minneapolis, Minn.	Dr. George W. Young
WHDI	*	500	1 Dn	Minneapolis, Minn.	Wm. Hood Dunwoody Industrial Inst.

1190 kilocycles 252.0 meters

WICC	*	500	D	Bridgeport, Conn.	Bridgeport Broadcasting Station, Inc.
WOAI	*	50000	N	San Antonio, Texas	Southern Equipment Co.

1200 kilocycles 249.9 meters

CFCH	--	50	---	North Bay, Ont.	Northern Supplies, Ltd.
CMKB	--	15	---	Santiago de Cuba	Melchor Aguero
KBTM	--	100	D	Paragould, Ark.	W. J. Beard's Temple of Music
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	--	100	---	Huron, S. D.	Voice of South Dakota
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
KGHI	--	100	---	Little Rock, Ark.	Berean Bible Class
KGY	†	10	+	Lacey, Wash.	St. Martin's College
KMLB	--	50	D	Monroe, La.	G. C. Liner
KSMR	--	100	---	Santa Maria, Cal.	Santa Maria Radio
KVOS	*	100	---	Bellingham, Wash.	KVOS, Inc.
KWG	*	100	---	Stockton, Cal.	Portable Wireless Tel. Co., Inc.
WABI	†	100	---	Bangor, Maine	Pine Tree Broadcasting Corp.
WABZ	*	100	1	New Orleans, La.	Radio Broadcasting Co. of La.
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		Janesville, Wis.	WCLO Radio Corp.
WCOD	†	100	3	Harrisburg, Pa.	Keystone Broadcasting Corp.
WEHC	*	100	+	Emory, Va.	Emory & Henry College
WEPS	†	100	---	Worcester, Mass.	Alfred Frank Kleindienst
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.	Kaskaskia Broadcasting Co.
WJBL	†	100	6	Decatur, Ill.	Commodore Broadcasting, Inc.
WJBW	--	100	1	New Orleans, La.	Charles C. Carlson, Jr.
WKJC	*	100	3	Lancaster, Pa.	Kirk, Johnson & Co.
WLAP	†	100	+	Louisville, Ky.	American Broadcasting Corp. of Ky.
WLBG	*	100	+	Petersburg, Va.	Robert Allen Gamble
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	CX	Worcester, Mass.	Alfred Frank Kleindienst
WRAF	*	100	8	La Porte, Ind.	Chas. Middleton
WRBL	†	50	---	Columbus, Ga.	David Parmer
WWAE	*	100	8	Hammond, Ind.	Hammond-Calumet Broad. Corp.
10-BP	†	25	---	Wingham, Ont.	Radio & Electric Shop

1210 kilocycles 247.8 meters

CFCO	--	100	---	Chatham, Ont.	Western Ontario "Better Radio" Club
CFNB	*	100	---	Fredericton, N. B.	James S. Neill & Sons, Ltd.
CJOR	*	50	---	Sea Island, B. C.	G. C. Chandler
CKMC	--	15	---	Cobalt, Ont.	R. L. MacAdam

KCYS.
1210
MTRS.
247.8
DIAL

CUT OUT ON DOTTED LINES

CKPC	†	25	+	Preston, Ont.	Metal Shingle & Siding Co.
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, Cal.	J. C. & E. W. Lee
KGCR	†	100	---	Watertown, S. D.	Cutler's Radio Brdcstg. Service, Inc.
KGMP	§	100	---	Elk City, Okla.	Bryant Radio & Electric Co.
KGNO	*	100	---	Dodge City, Kans.	Dodge City Broadcasting Co.
KMJ	*	100	---	Fresno, Cal.	James McClatchy Co.
KPPC	§	50	9	Pasadena, Cal.	Pasadena Presbyterian Church
KWEA	*	100	---	Shreveport, La.	Hello World Broadcasting Corp.
WALR	*	100	---	Zanesville, Ohio	Roy. W. Waller
WBAX	*	100	1	Wilkes-Barre, Pa.	John H. Stenger, Jr.
WBBL	†	100	7S	Richmond, Va.	Grace Covenant Pres. 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
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
WIBU	*	100	---	Poynette, Wis.	Wm. C. Forrest
WJBI	--	100	3	Red Bank, N. J.	Monmouth Broadcasting Co.
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.
WMBG	*	100	---	Richmond, Va.	Havens & Martin, Inc.
WMRJ	*	100	3	Jamaica, N. Y.	Peter J. Prinz
WOCL	*	50	---	Jamestown, N. Y.	A. E. Newton
WOMT	*	100	---	Manitowoc, Wis.	Francis M. Kadow
WPAW	*	100	5	Pawtucket, R. I.	Shartenburg & Robinson Co.
WQDX	*	50	---	Thomasville, Ga.	Stevens Luke
WRBQ	†	100	+	Greenville, Miss.	J. Pat. Scully
WSBC	*	100	4	Chicago, Ill.	World Battery Co., Inc.
WSEN	†	100	---	Columbus, Ohio	Columbus Broadcasting Co.
WSIX	--	100	---	Springfield, Tenn.	638 Tire & Vulcanizing Co.
WSOC	--	100	---	Gastonia, N. C.	WSOC, Inc.
WTAX	†	100	2	Springfield, Ill.	WTAX, Inc.
XEX	--	500	---	Mexico City	Excelsior, Cia Editorial S. A.

1220 kilocycles 245.8 meters

CMCA	--	150	1225	Havana, Cuba	M. Cruz
CMCN	--	250	1225	Havana, Cuba	Antonio Ginard
KFKU	*	500	1	Lawrence, Kans.	University of Kansas
KWSC	*	1000	+	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, Cal.	Pacific Broadcasting Corp.
WBIS	*	1000	2	Boston, Mass.	Shepard Broadcasting Service, Inc.
WFBM	*	1000	1C	Indianapolis, Ind.	Indianapolis Power & Light Co.
WNAC	*	1000	2C	Boston, Mass.	Shepard Broadcasting Service, Inc.
WPSC	--	500	D	State College, Pa.	Pennsylvania State College
WSBT	*	500	1	South Bend, Ind.	South Bend Tribune

1240 kilocycles 241.8 meters

CMAB	--	20	1249	Pinar del Rio, Cuba	Francisco Martinez
CMGH	--	60	1249	Matanzas, Cuba	Alberto Alvarez
CMKE	--	250	1249	Santiago de Cuba	Edmundo Recamier
KTAT	†	1000	1	Ft. Worth, Texas	S. A. T. Broadcast Co.
WACO	†	1000	1C	Waco, Texas	Central Texas Broadcasting Co., Inc.
WXYZ	†	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+X	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.
WLB	†	1000	2	St. Paul, Minn.	University of Minnesota
WODA	--	1000	1	Paterson, N. J.	Richard E. O'Dea
WRHM	*	1000	2	Minneapolis, Minn.	Minnesota Broadcasting Corp.
XEFA	--	250	---	Mexico City	Luis F. Murguia

1260 kilocycles 238.0 meters

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

1270 kilocycles 236.1 meters

CMJB	--	20	1276	Ciego de Avila, Cuba	Eduardo V. Figueroa
KFUM	*	1000	---	Colorado Springs, Colo.	W. D. Corley
KGCA	--	50	2D	Decorah, Iowa	Charles W. Greenley
KOL	†	1000	3C	Seattle, Wash.	Seattle Rroadcasting 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	--	500	---	Baltimore, Md.	Baltimore Radio Show, Inc.
WJDX	--	1000	N	Jackson, Miss.	Lamar Life Insurance Co.
WOOD	--	500	1	Grand Rapids, Mich.	Walter B. Stiles, Inc.

1280 kilocycles 234.2 meters

CMBJ	--	15	1285	Havana, Cuba	Jesus Lopez
CMBM	--	15	1285	Havana, Cuba	Jose Leiro
CMCG	--	30	1285	Havana, Cuba	Jose Justo Moran
CMCH	--	15	1285	Havana, Cuba	Hernani Torralbas
CMCR	--	20	1285	Havana, Cuba	Aurelio Hernandez
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.	WDOD Broadcasting Corp.
WIBA	*	500	---	Madison, Wis.	Capital Times Co.
WOAX	--	500	1	Trenton, N. J.	WOAX, Inc.
WRR	--	500	C	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	Brooklyn, 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, Fla.	Isle of Dreams Broadcasting Corp.
WOQ	*	1000	2	Kansas City, Mo.	Unity School of Christianity

1310 kilocycles 228.9 meters

CMGC	--	30	1315	Matanzas, Cuba	Oscar Mechoso
KCRJ	†	100	---	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.
KFUP	--	100	8	Denver, Colo.	Fitzsimmons General Hospital
KFXJ	--	50	8XY	Edgewater, Colo.	Western Slope Broadcasting Co.

KCYS.
1310
MTRS.
228.9
DIAL

CUT OUT ON DOTTED LINES

KFXR	--	100	+	Oklahoma City	Exchange Ave. Baptist Church
KGBX	*	100	---	St. Joseph, Mo.	KGBX Inc.
KGCX	--	100	+	Wolf Point, Mont.	First State Bank of Vida
KGEZ	†	100	---	Kalispell, Mont.	Treloar-Church Brdcstg. Co.
KGFW	†	100	---	Ravenna, Neb.	Central Nebraska Broadcasting Corp.
KIT	†	50	---	Yakima, Wash.	Carl E. Haymond
KMED	†	50	---	Medford, Ore.	Mrs. W. J. Virgin
KRMD	†	50	9	Shreveport, La.	Robert M. Dean
KTLC	*	100	X	Houston, Tex.	Houston Broadcasting Co.
KTSL	--	100	9	Shreveport, La.	G. A. Houseman
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.
WBEO	--	100	CP	Marquette, Mich.	Charles B. McCleod
WBOW	*	100	---	Terre Haute, Ind.	Banks of Wabash, Inc.
WBRE	--	100	---	Wilkes-Barre, Pa.	Louis G. Baltimore
WCLS	*	100	1	Joliet, Ill.	WCLS, Inc.
WDAH	†	100	2	El Paso, Texas	Eagle Broadcasting Co.
WEBR	*	100	+	Buffalo, N. Y.	Howell Broadcasting Co., Inc.
WFXL	†	50	---	Royal Oak, Mich.	Royal Oak Broadcasting Co.
WFBG	*	100	3+	Altoona, Pa.	Wm. F. Gable Co.
WFDF	*	100	---	Flint, Mich.	Frank D. Fallain
WGAL	*	100	5	Lancaster, Pa.	WGAL, Inc.
WGH	*	100	---	Newport News, Va.	Hampton Roads Broadcasting Corp.
WHAT	†	100	4X	Philadelphia, Pa.	Independence Broadcasting Co.
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.
WOBT	†	100	+	Union City, Tenn.	Tittsworth's Radio & Music Shop
WOL	*	100	---	Washington, D. C.	American Broadcasting Co.
WRAW	*	50	5XZ	Reading, Pa.	Reading Broadcasting Co.
WRBI	--	100	---	Tifton, Ga.	Kent's Furniture & Music Store
WROL	†	100	---	Knoxville, Tenn.	Stewart Broadcasting Co.
WSAJ	*	100	---	Grove City, Pa.	Grove City College
WSJS	--	100	---	Winston-Salem, N. C.	Winston-Salem Journal Co.
WTEL	*	50	4X	Philadelphia, Pa.	Foulkrod Radio Engineering Co.
XETN	--	30	---	Toluca, Mex.	Antonio Fernandez

1320 kilocycles 227.1 meters

CMJC	--	15	1321	Camaguey, Cuba	Feliciano Isaac
CMKH	--	250	1327	Santiago de Cuba	Alberto Ravelo
KGHF	†	250	X+	Pueblo, Colo	C. P. Ritchie & J. E. Finch
KGMB	†	500	---	Honolulu, Hawaii	Honolulu Broadcasting Co., Ltd.
KID	†	250	1+	Idaho Falls, Idaho	KID Broadcasting Co.
KTFI	--	250	1+	Twin Falls, Idaho	Radio Broadcasting Corp.
WADC	†	1000	C	Akron, Ohio	Allen T. Simmons
WSMB	*	500	N	New Orleans, La.	Saenger Theatre & Maison Blanche Co.

1330 kilocycles 225.4 meters

CMJA	--	10	1332	Camaguey, Cuba	Pedro Nogueras
KGB	*	250	X	San Diego, Cal.	Pickwick Broadcasting Corp.
KSCJ	*	1000	1+C	Sioux City, Iowa	Perkins Bros. Co.
WDRC	*	500	C	Hartford, Conn.	Doolittle Radio Corp.
WSAI	*	500	N	Cincinnati, Ohio	Crosley Radio Corp., Lessee
WTAQ	*	1000	1C	Eau Claire, Wis.	Gillette Rubber Co.

1340 kilocycles 223.7 meters

CMBA	--	50	1345	Havana, Cuba	Oscar Montenegro
CMBF	--	7.5	1345	Havana, Cuba	Jose G. Reigada
CMCD	--	15	1345	Havana, Cuba	Angel Bertamaty
CMCU	--	50	1345	Havana, Cuba	Jorge Garcia Serra
CMCY	--	15	1345	Havana, Cuba	M. D. Autran
KFPW	--	50	D	Fort Smith, Ark.	Southwestern Hotels Co.
KFPY	*	1000	C	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.
WAWZ	*	250	1	New York City	Pillar of Fire
WBNX	--	250	1	New York City	Standard Cahill Co., Inc.
WCDA	--	250	1	New York City	Italian Educ. Broadcasting Co., Inc.
WMSG	--	250	1	New York City	Madison Sq. Garden Brdcstg. Corp.

1360 kilocycles 220.4 meters

CMKF	--	30	1363	Holguin, Cuba	Manuel J. de Gongora
KGER	*	1000	4	Long Beach, Cal.	C. Merwin Dobyns
KGIR	†	500	---	Butte, Mont.	KGIR, Inc.
KPSN	--	1000	4	Pasadena, Cal.	Pasadena Star-News
WCSC	*	500	---	Charleston, S. C.	Jordan & Burk
WFBL	*	1000	C+X	Syracuse, N. Y.	Onondaga Radio Broadcasting Corp.
WGES	*	500	1+	Chicago, Ill.	Oak Leaves Broadcasting Station, Inc.
WJKS	*	1000	1+	Gary, Ind.	Johnson-Kennedy Radio Corp.
WQBC	--	300	CP D	Vicksburg, Miss.	Delta Broadcasting Co., Inc.

1370 kilocycles 218.7 meters

CMGE	--	30	1375	Cardenas, Cuba	Genaro Sebater
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	X	Ft. Worth, Texas	Estate of H. C. Meachem
KFLX	--	100	---	Galveston, Texas	George Roy Clough
KGAR	*	100	+	Tucson, Ariz.	Tucson Motor Service Co.
KGDA	†	100	---	Mitchell, S. D.	Mitchell Broadcasting Corp.
KGFG	†	100	2	Oklahoma City	Oklahoma Broadcasting Co., Inc.
KGFL	†	50	---	Raton, N. M.	W. E. Whitmore
KGKL	†	100	---	San Angelo, Texas	KGKL, Inc., Opr. by Ragsdale Auto
KMAC	--	100	5	San Antonio, Tex.	W. W. McAllister
KONO	†	100	5	San Antonio, Texas	Mission Broadcasting Co.
KOOS	*	100	---	Marshfield, Ore.	H. H. Hanseth, Inc.
KRE	--	100	6	Berkeley, Cal.	First Congregational Church
KVL	--	100	3	Seattle, Wash.	KVL, Inc.
KWKC	--	100	---	Kansas City, Mo.	Wilson Duncan Broadcasting Co.
KZM	*	100	6	Hayward, Cal.	Leon P. Tenney
WBGF	†	50	---	Glens Falls, N. Y.	W. N. Parker and H. H. Metcalfe
WBTM	†	100	7	Danville, Va.	Clarke Electric Co.
WCBM	--	100	+Z	Baltimore, Md.	Baltimore Broadcasting Corp.
WELK	--	100	+	Philadelphia, Pa.	WELK Broadcasting Station, Inc.
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.	WIBM, Inc.
WJBK	*	50	1	Detroit, Mich.	James F. Hopkins, Inc.
WLEY	--	100	+	Lexington, Mass.	Lexington Air Stations
WLVA	†	100	7	Lynchburg, Va.	Lynchburg Broadcasting Corp.
WMBR	†	100	---	Tampa, Fla.	F. J. Reynolds
WPOE	†	100	---	Patchogue, N. Y.	Nassau Broadcasting Corp.
WQDM	*	100	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
WRDO	§	100	CP	Augusta, Me.	Albert S. Woodson

1380 kilocycles 217.3 meters

KOH	†	500	---	Reno, Nevada	Jay Peters
KQV	†	500	2	Pittsburgh, Pa.	Doubleday-Hill Electric Co.
KSO	*	500	1	Clarinda, Iowa	Berry Seed Co.
WKBH	*	1000	1	La Crosse, Wis.	WKBH, Inc.
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	C	Cleveland, Ohio	Radio Air Service Corp.

1400 kilocycles 214.2 meters

CMBI	--	30	1405	Havana, Cuba	Heriberto Meireles
CMBK	--	15	1405	Havana, Cuba	Jose L. Ferriol
CMBN	--	30	1405	Havana, Cuba	Armado Romeu
CMBQ	--	50	1405	Havana, Cuba	Emilio Salas
CMBX	--	30	1405	Havana, Cuba	Bertin Fernandez
CMBY	--	100	1405	Havana, Cuba	Lino E. Cosculluala
KLO	*	500	X	Ogden, Utah	Peery Building Co.
KOCW	*	250	+	Chickasha, Okla.	College for Women
WBAA	†	500	1+	Lafayette, Ind.	Purdue University

KCYS.
1400
MTRS.
214.2
DIAL

CUT OUT ON DOTTED LINES

WBBC	*	500	2	Brooklyn, N. Y.	Brooklyn Broadcasting Corp.
WCGU	*	500	2	Brooklyn, N. Y.	U. S. Broadcasting Corp.
WCMA	†	500	1	Culver, Ind.	General Broadcasting Corp.
WFOX	--	500	2	Brooklyn, N. Y.	Paramount Broadcasting Co.
WKBF	†	500	1	Indianapolis, Ind.	Indianapolis Broadcasting, Inc.
WLTH	*	500	2	Brooklyn, N. Y.	The Voice of Brooklyn, Inc.

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	1X	Amarillo, Texas	National Radio & Broadcasting Corp.
WHBL	*	500	4	Sheboygan, Wis.	Press Pub. Co.
WHIS	†	250	---	Bluefield, W. Va.	Daily Telegraph
WLEX	--	500	2	Lexington, Mass.	Bay State Broadcasting Corp.
WODX	*	500	3	Mobile, Ala.	Mobile Broadcasting Corp.
WRBX	*	250	---	Roanoke, Va.	Richmond Development Corp.
WSFA	†	500	3	Montgomery, Ala.	Montgomery Broadcasting Co., Inc.
WSSH	†	500	2	Boston, Mass.	Tremont Temple Baptist Church

1420 kilocycles 211.1 meters

CMHE	--	20	1429	Santa Clara, Cuba	Juan del Regato
KBPS	--	100	4	Portland, Ore.	Benson Polytechnic Institute
KFIZ	*	100	---	Fond du Lac, Wis.	Reporter Printing Co.
KFQU	*	100	5X	Holy City, Cal.	W. E. Riker
KFQW	--	100	---	Seattle, Wash.	KFQW, Inc.
KFXD	*	100	XY	Nampa, Idaho	Service Radio Co.
KFXY	--	100	---	Flagstaff, Ariz.	Mary M. Costigan
KFYO	†	100	+	Abilene, Texas	T. E. Kirksey
KGFF	--	100	Y	Shawnee, Okla.	KGFF Broadcasting Co.
KGGC	†	100	5	San Francisco, Cal.	Golden Gate Broadcasting Co.
KGIW	--	100	---	Trinidad, Colo.	Leonard E. Wilson
KGIX	†	100	---	Las Vegas, Nevada	Las Vegas, Nevada, Radio Corp.
KGKX	--	100	---	Sand Point, Idaho	C. E. Twiss and F. H. McCann
KGVO	--	100	CPD	Missoula, Mont.	Mosby's Incorporate
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.
KXL	--	100	4	Portland, Ore.	KXL Broadcasters, Inc.
KXYZ	--	100	X	Houston, Texas	Harris County Broadcast Co.
WEDH	*	100	---	Erie, Pa.	Erie Dispatch-Herald
WEHS	--	100	2	Cicero, Ill.	WEHS, Inc.
WELL	†	50	X	Battle Creek, Mich.	Enquirer-News Co.
WFDW	*	100	---	Talladega, Ala.	Raymond G. Hammett
WHDL	*	10	DX	Tupper Lake, N. Y.	Tupper Lake Broadcasting Co., Inc.
WHFC	--	100	2	Cicero, Ill.	Triangle Broadcasters
WIAS	†	100	---	Ottumwa, Iowa	Iowa Broadcasting Co.
WIBR	*	50	---	Steubenville, Ohio	George W. Robinson
WILM	*	100	---	Wilmington, Del.	Delaware Broadcasting Co., Inc.
WJBO	*	100	---	New Orleans, La.	Valdemar Jensen
WKBI	*	100	2	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
WPAD	†	100	---	Paducah, Ky.	Paducah Broadcasting Co.
WSPA	*	100	+	Spartanburg, S. C.	Voice of South Carolina
WTBO	*	100	---	Cumberland, Md.	Associated Broadcasting Corp.

1430 kilocycles 209.7 meters

KECA	‡	1000	N	Los Angeles, Cal.	Pacific Development Radio Co.
KGNF	†	500	D	North Platte, Neb.	Great Plains Broadcasting Co.
WBAK	†	500	1X+	Harrisburg, Pa.	Penna. State Police
WCAH	*	500	1C	Columbus, Ohio	Commercial Radio Service Co.
WGBC	*	500	2S	Memphis, Tenn.	Memphis Broadcasting Co.
WHP	*	500	1C+	Harrisburg, Pa.	Pennsylvania Broadcasting Co.
WNBR	*	500	2	Memphis, Tenn.	Memphis Broadcasting Co.
XEP	--	2500	---	Laredo, Mex.	La Voz Latino

1440 kilocycles 208.2 meters

KLS	*	250	D	Oakland, Cal.	Warner Bros.
WBIG	*	500	---	Greensboro, N. C.	North Carolina Broadcasting Co.
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
WOKO	--	500	2Y	Poughkeepsie, N. Y.	WOKO, Inc.
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

CMKA	--	20	---	Santiago de Cuba	Arturio C. de Ribas
KTBS	*	1000	---	Shreveport, La.	Tri-State Broadcasting System, Inc.
WBMS	*	250	1	Hackensack, N. J.	WBMS Broadcasting Corp.
WGAR	†	500	N	Cleveland, Ohio	WGAR Broadcasting Co.
WHOM	*	500	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	D	Toccoa, Ga.	Toccoa Falls Institute

1460 kilocycles 205.4 meters

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

1470 kilocycles 204.0 meters

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

1480 kilocycles 202.6 meters

KFJF	*	5000	C	Oklahoma City	National Radio Mfg. Co.
WKBW	*	5000	C	Buffalo, N. Y.	Buffalo Broadcasting Co., Lessees

1490 kilocycles 201.2 meters

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

1500 kilocycles 199.9 meters

CMBH	--	30	---	Havana, Cuba	Gustavo Huber
CMBL	--	15	---	Havana, Cuba	Julio C. Hidalgo
CMBP	--	15	---	Havana, Cuba	Ricardo Perkins
CMBR	--	15	---	Havana, Cuba	Tomas Basail
CMCM	--	15	---	Havana, Cuba	Martinez y Madico
CMCT	--	5	---	Havana, Cuba	Alberto Fernandez
CMHB	--	10	---	Sagua la Grande, Cuba	Santiago Ventura
KDB	*	100	---	Santa Barbara, Cal.	Dwight Faulding
KGFI	*	100	+	Corpus Christi, Texas	Eagle Broadcasting Co., Inc.
KGFK	†	50	---	Moorhead, Minn.	Red River 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.
KPJM	*	100	---	Prescott, Ariz.	Miller & Klahn
KPQ	†	50	---	Wenatchee, Wash.	Wescoast Broadcasting Co.
KREG	†	100	---	Santa Ana, Cal.	Pacific Western Broadcasting
KUJ	--	100	---	Walla Walla, Wash.	Columbia Broadcasting Co., Inc.
KUT	†	100	---	Austin, Texas	Driskill Hotel
KXO	--	100	---	El Centro, Cal.	E. R. Irey and F. M. Bowles
WCLB	--	100	1Y	Long Beach, N. Y.	Arthur Faske
WDIX	--	100	---	Tupelo, Miss.	North Mississippi Broadcasting Corp.
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	+	Boston, Mass.	Boston Broadcasting Co.
WMBA	--	100	---	Newport, R. I.	LeRoy Joseph Beebe
WMBQ	*	100	1	Brooklyn, N. Y.	Paul J. Gollhofer
WMPC	†	100	---	Lapeer, Mich.	First M. P. Church
WNBF	*	100	---	Binghamton, N. Y.	Howitt-Wood Radio Co., Inc.
WOPI	--	100	---	Bristol, Tenn.	Radiophone Brdcstg. Station, Inc.
WPEN	*	100	+	Phildelphia, Pa.	Wm. Penn Broadcasting Co.
WRDW	*	100	---	Augusta, Ga.	Warren C. Davenport's Musicove, Inc.
WWRL	*	100	1	Woodside, N. Y.	Long Island Broadcasting Corp.
WSYB	†	100	CP	Rutland, Vt.	Seward & Weiss Music Co.
------	--	100	CP	Pittsburgh, Pa.	William S. Walker

KCYS.
1500
MTRS.
199.9
DIAL

INDEX BY LOCATIONS WITH MAP KEY

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

ILLINOIS	Watts		Kcys.
Carthage J-18	50	WCAZ	1070
Chicago I-20	10000	KFKX	1020
	10000	KYW	1020
	500	WAAF	920
	25000	WBBM	770
	1500	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
	100	WKBI	1420
	5000	WLS	870
	5000	WMAQ	670
	5000	WMBI	1080
	500	WPCC	560
Cicero I-20	100	WSBC	1210
	100	WEHS	1420
Decatur K-19	100	WHFC	1420
	100	WJBL	1200
Galesburg J-18	100	WKBS	1310
Harrisburg L-19	100	WEBQ	1210
Joliet I-19	100	WCLS	1310
	100	WKBB	1310
La Salle J-19	100	WJBC	1200
Mooseheart I-19	20000	WJJD	1130
Peoria Heights J-19	500	WMBD	1440
Quincy K-18	500	WTAD	1440
Rockford I-19	500	KFLV	1410
Rock Island I-18	100	WHBF	1210
Springfield K-19	100	WCBS	1210
	100	WTAX	1210
Tuscola K-20	100	WDZ	1070
Urbana J-20	250	WILL	890
Zion I-20	5000	WCBD	1080

INDIANA			
Anderson J-21	100	WHBU	1210
Connersville K-21	100	WKBV	1500
Culver I-20	500	WCMA	1400
Evansville L-20	500	WGBF	630
Fort Wayne J-21	100	WGL	1370
	10000	WOWO	1160
Gary I-20	1000	WJKS	1360
Hammond I-20	100	WWAE	1200
Indianapolis J-21	1000	WFBM	1230
	500	WKBF	1400
Lafayette J-20	500	WBAA	1400
La Porte I-20	100	WRAF	1200
Marion J-21	50	WJAK	1310
Muncie J-21	50	WLBC	1310
South Bend I-20	500	WSBT	1230
Terre Haute K-20	100	WBOW	1310

IOWA			
Ames I-17	5000	WOI	640
Boone I-17	100	KFGQ	1310
Cedar Rapids I-18	100	KWCR	1310
Clarinda J-16	500	KSO	1380
Council Bluffs J-16	1000	KOIL	1260
Davenport I-18	5000	WOC	1000
Decorah H-18	50	KGCA	1270
	100	KWLC	1270
Des Moines I-17	5000	WHO	1000
Fort Dodge I-16	100	KFJY	1310
Iowa City I-18	500	WSUI	880
Marshalltown I-17	100	KFJB	1200
Muscatine J-18	5000	KTNT	1170
Ottumwa J-17	100	WIAS	1420
Red Oak J-16	100	KICK	1420
Shenandoah J-16	500	KFNF	890
	500	KMA	930
Sioux City I-15	1000	KSCJ	1330
Waterloo I-17	500	WMT	600

KANSAS			
Dodge City L-13	100	KGNO	1210
Kansas City K-16	100	WLBF	1420
Lawrence K-16	500	KFKU	1220
	1000	WREN	1220
Manhattan K-15	500	KSAC	580
Milford K-14	5000	KFKB	1050
Topeka K-16	1000	WIBW	580
Wichita L-15	1000	KFH	1300

KENTUCKY			
Covington K-22	5000	WCKY	1490
Hopkinsville M-20	1000	WFIW	940
Louisville L-21	10000	WHAS	820
	100	WLAP	1200
Paducah M-19	100	WPAD	1420

LOUISIANA			
Monroe P-18	50	KMLB	1200
New Orleans R-19	100	WABZ	1200
	1000	WDSU	1250
	100	WJBO	1420
	100	WJBW	1200
	500	WSMB	1320
	5000	WWL	850
Shreveport P-17	50	KRMD	1310
	1000	KTBS	1450
	100	KTSL	1310
	100	KWEA	1210
	10000	KWKH	850

MAINE			
Augusta F-28	100	WRDO	1370
Bangor F-29	100	WABI	1200
	500	WLBZ	620
Portland F-28	1000	WCSH	940

MARYLAND			
Baltimore J-26	10000	WBAL	1060
	250	WCAO	600
	100	WCBM	1370
	500	WFBR	1270
Cumberland J-25	100	WTBO	1420

MASSACHUSETTS			
Boston G-28	1000	WBIS	1230
	1000	WEEI	590
	1000	WHDH	830
	100	WLOE	1500
	1000	WNAC	1230
	500	WSSH	1410
Fall River H-28	250	WSAR	1450
Lexington G-28	500	WLEX	1410
	100	WLEY	1370
New Bedford H-28	100	WNBH	1310
Springfield H-27	15000	WBZ-A	990
Needham G-28	500	WBSO	920
Worcester G-28	100	WEPS	1200
	100	WORC	1200
	250	WTAG	580

MICHIGAN			
Battle Creek I-21	50	WELL	1420
Bay City H-22	500	WBCM	1410
Berrien Springs I-20	1000	WKZO	590
Calumet E-19	100	WHDF	1370

INDEX BY LOCATIONS WITH MAP KEY

Detroit H-22	50	WJBK	1370
	5000	WJR	750
	100	WMBC	1420
	1000	WWJ	920
	1000	WXYZ	1240
East Lansing H-21	1000	WKAR	1040
Flint H-22	100	WFDF	1310
	100	WPDF	1200
Grand Rapids H-21	500	WASH	1270
	500	WOOD	1270
Jackson I-21	100	WIBM	1370
Lapeer H-22	100	WMPC	1500
Ludington H-20	50	WKBZ	1500
Marquette F-19	100	WBEO	1310
Royal Oak H-22	50	WEXL	1310

MINNESOTA

Fergus Falls F-15	100	KGDE	1200
Minneapolis G-17	7500	WCCO	810
	1000	WDGY	1180
	500	WHDI	1180
	1000	WRHM	1250
Moorhead F-15	50	KGFK	1500
Northfield G-17	1000	KFMX	1250
	1000	WCAL	1250
St. Paul G-17	1000	WLB	1250
	10000	KSTP	1460

MISSISSIPPI

Greenville O-18	100	WRBQ	1210
Gulfport Q-19	100	WGCM	1210
Hattiesburg Q-19	10	WRBJ	1370
Jackson P-19	1000	WJDX	1270
Meridian P-20	500	WCOC	880
Tupelo N-20	100	WDIX	1500
Vicksburg P-18	300	WQBC	1360

MISSOURI

Cp. Girardeau L-19	100	KFVS	1210
Columbia K-17	500	KFRU	630
Grant City J-16	50	KGIZ	1500
Jefferson City L-17	500	WOS	630
Joplin M-16	100	WMBH	1420
Kansas City K-16	1000	KMBC	950
	100	KWKC	1370
	1000	WDAF	610
	500	WHB	860
	1000	WOQ	1300
St. Joseph K-16	2500	KFEQ	680
	100	KGBX	1310
St. Louis L-18	500	KFUO	550
	100	KFWF	1200
	50000	KMOX	1090
	500	KSD	550
	1000	KWK	1350
	1000	WEW	760
	100	WIL	1200

MONTANA

Billings F-9	1000	KGHL	950
Butte F-7	500	KGIR	1360
Great Falls E-8	1000	KFBB	1280
Kalispell D-7	100	KGEZ	1310
Missoula E-7	100	KGVO	1420
Wolf Point E-11	100	KGCX	1310

NEBRASKA

Clay Center J-14	1000	KMMJ	740
Lincoln J-15	5000	KFAB	770
	100	KFOR	1210
	500	WCAJ	590
Norfolk I-15	1000	WJAG	1060
North Platte J-13	500	KGNF	1430
Omaha J-15	500	WAAW	660
	1000	WOW	590
Ravenna J-14	100	KGFW	1310
Scottsbluff I-11	100	KGKY	1500
York J-15	500	KGBZ	930

NEVADA

	Watts		Kcys
Las Vegas L-5	100	KGIX	1420
Reno I-3	500	KOH	1380

NEW HAMPSHIRE

Laconia G-28	100	WKAV	1310

NEW JERSEY

Asbury Park I-27	500	WCAP	1280
Atlantic City J-27	5000	WPG	1100
Camden I-26	500	WCAM	1280
Hackensack I-27	250	WBMS	1450
Jersey City I-27	300	WAAT	940
	500	WHOM	1450
	250	WKBO	1450
Newark I-27	1000	WAAM	1250
	250	WGCP	1250
	250	WNJ	1450
	5000	WOR	710
Paterson I-27	1000	WODA	1250
Red Bank I-27	100	WJBI	1210
Trenton I-26	500	WOAX	1280

NEW MEXICO

Albuquerque N-7	250	KGGM	1230
Raton M-11	50	KGFL	1370
State College P-9	20000	KOB	1180

NEW YORK

Auburn H-25	100	WMBO	1310
Binghamton H-26	100	WNBF	1500
Brooklyn I-27	500	WBBC	1400
	1000	WBBR	1300
	500	WCGU	1400
	500	WFOX	1400
	500	WLTH	1400
	100	WMBQ	1500
Buffalo H-24	1000	WBEN	900
	100	WEBR	1310
	1000	WGR	550
	5000	WKBW	1480
	1000	WMAK	1040
	50	WSVS	1370
Canton F-26	500	WCAD	1220
Freeport I-27	100	WGBB	1210
Glens Falls G-27	50	WBGF	1370
Ithaca H-25	1000	WEAI	1270
	50	WLCI	1210
Jamaica H-27	100	WMRJ	1210
Jamestown H-24	25	WOCL	1210
Long Island City I-27	100	WLBX	1500
Long Beach I-27	100	WCLB	1500
New York City I-27	5000	WABC	860
	250	WAWZ	1350
	250	WBNX	1350
	5000	WBOQ	860
	250	WCDA	1350
	50000	WEAF	660
	500	WEVD	1300
	250	WGBS	600
	1000	WHAP	1300
	250	WHN	1010
	30000	WJZ	760
	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 I-27	100	WPOE	1370
Poughkeepsie H-27	500	WOKO	1440
Rochester G-25	5000	WHAM	1150
	500	WHEC	1440
Saranac Lake F-26	50	WNBZ	1290
Schenectady G-27	50000	WGY	790
Syracuse G-25	1000	WFBL	1360
	250	WMAC	570
	250	WSYR	570
Troy G-27	500	WHAZ	1300
Tupper Lake F-26	10	WHDL	1420
Utica G-26	100	WIBX	1200
Woodside I-27	100	WWRL	1500
Yonkers I-27	100	WCOH	1210

NORTH CAROLINA

Asheville M-23	1000	WWNC	570
Charlotte M-24	5000	WBT	1080
Gastonia M-24	100	WSOC	1210
Greensboro M-24	500	WBIG	1440
Raleigh M-25	1000	WPTF	680
Wilmington N-26	100	WRBT	1370
Winston-Salem M-24	100	WSJS	1310

NORTH DAKOTA

Bismarck F-13	1000	KFYR	550
Devils Lake E-14	100	KDLR	1210
Fargo F-15	1000	WDAY	940
Grand Forks E-15	100	KFJM	1370
Mandan F-13	100	KGCU	1200
Minot E-13	100	KLPM	1420

OHIO

Akron I-23	1000	WADC	1320
Canton I-23	10	WHBC	1200
Cincinnati K-22	100	WFBE	1200
	1000	WKRC	550
	50000	WLW	700
	500	WSAI	1330
Cleveland I-23	500	WGAR	1450
	1000	WHK	1390
	500	WJAY	610
	50000	WTAM	1070
Columbus J-22	500	WAIU	640
	500	WCAH	1430
	750	WEAO	570
	100	WSEN	1210
Dayton J-22	200	WSMK	1380
Mansfield J-22	100	WJW	1210
Mount Orab K-22	100	WHBD	1370
Steubenville J-23	50	WIBR	1420
Toledo I-22	500	WSPD	1340
Youngstown I-23	500	WKBN	570
Zanesville J-23	100	WALR	1210

OKLAHOMA

Chickasha N-14	250	KOCW	1400
Elk City N-13	100	KGMP	1210
Enid M-14	100	KCRC	1370
Norman N-15	500	WNAD	1010
Oklahoma N-15	5000	KFJF	1480
	100	KFXR	1310
	100	KGFG	1370
	1000	WKY	900
Ponca City M-15	100	WBBZ	1200
S. Coffeyville M-15	500	KGGF	1010
Shawnee N-15	100	KGFF	1420
Tulsa M-15	5000	KVOO	1140

OREGON

Astoria D-2	100	KFJI	1370
Corvallis E-2	1000	KOAC	550
Eugene F-2	100	KORE	1420
Marshfield F-1	100	KOOS	1370
Medford G-2	50	KMED	1310
Portland E-3	5000	KEX	1180
	100	KBPS	1420
	500	KFJR	1300
	1000	KGW	620
	1000	KOIN	940
	500	KTBR	1300
	500	KWJJ	1060
	100	KXL	1420

PENNSYLVANIA

Allentown I-26	250	WCBA	1440
	250	WSAN	1440
Altoona I-25	100	WFBG	1310
Carbondale H-26	10	WNBW	1200
Elkins Park I-26	50	WIBG	930
Erie H-24	30	WEDH	1420
Grove City I-24	100	WSAJ	1310
Harrisburg I-25	500	WBAK	1430
	100	WCOD	1200
	500	WHP	1430
Johnstown J-24	100	WJAC	1310
Lancaster I-26	100	WGAL	1310
	100	WKJC	1200
Lewisburg I-26	100	WJBU	1210
Oil City I-24	500	WLBW	1260
Philadelphia I-26	10000	WCAU	1170
	100	WELK	1370
	500	WFAN	610
	500	WFI	560
	100	WHAT	1310
	500	WIP	610
	500	WLIT	560
	100	WPEN	1500
	250	WRAX	1020
	50	WTEL	1310
Pittsburgh J-24	50000	KDKA	980
	500	KQV	1380
	1000	WCAE	1220
	1000	WJAS	1290
	100	------	1500
Reading I-26	50	WRAW	1310
Scranton H-26	250	WGBI	880
	250	WQAN	880
State College I-25	500	WPSC	1230
Washington J-24	100	WNBO	1200
Wilkes-Barre I-26	100	WBAX	1210
	100	WBRE	1310
Williamsport I-25	50	WRAK	1370

PORTO RICO

San Juan W-34	500	WKAQ	890

RHODE ISLAND

Newport H-28	100	WMBA	1500
Pawtucket H-28	100	WPAW	1210
Providence H-28	100	WDWF	1210
	250	WEAN	780
	250	WJAR	890
	100	WLSI	1210

SOUTH CAROLINA

Charleston O-25	500	WCSC	1360
Columbia N-24	500	WIS	1010
Spartanburg N-23	100	WSPA	1420

SOUTH DAKOTA

Brookings H-15	500	KFDY	550
Huron H-14	100	KGDY	1200
Mitchell H-14	100	KGDA	1370
Pierre G-13	200	KGFX	580
Rapid City H-12	100	WCAT	1200
Sioux Falls H-15	2000	KSOO	1110

Vermillion I-15	500	KUSD	890
Watertown G-15	100	KGCR	1210
Yankton I-15	1000	WNAX	570
TENNESSEE			
Bristol L-23	100	WOPI	1500
Chattanooga N-21	1000	WDOD	1280
Knoxville M-22	50	WFBC	1200
	1000	WNOX	560
	100	WROL	1310
Lawrenceburg N-20	500	WOAN	600
Memphis N-19	500	WGBC	1430
	100	WHBQ	1370
	500	WMC	780
	500	WNBR	1430
	500	WREC	600
Nashville M-21	5000	WLAC	1470
	5000	WSM	650
	5000	WTNT	1470
Springfield M-20	100	WSIX	1210
Union City M-19	100	WOBT	1310
TEXAS			
Abilene P-13	100	KFYO	1420
Amarillo N-12	1000	KGRS	1410
	250	WDAG	1410
Austin Q-14	100	KUT	1500
Beaumont R-17	500	KFDM	560
Brownsville U-15	500	KWWG	1260
Brownwood P-14	100	KGKB	1500
College Sta. Q-15	500	WTAW	1120
Corpus Christi S-14	100	KGFI	1500
Dallas P-15	10000	KRLD	1040
	50000	WFAA	800
	500	WRR	1280
Dublin P-14	100	KFPL	1310
El Paso P-9	100	KTSM	1310
	100	WDAH	1310
Fort Worth P-15	100	KFJZ	1370
	1000	KTAT	1240
	10000	WBAP	800
Galveston R-16	100	KFLX	1370
	500	KFUL	1290
Greenville O-15	15	KFPM	1310
Harlingen T-14	500	KRGV	1260
Houston R-16	1000	KPRC	920
	100	KTLC	1310
	500	KTRH	1120
	100	KXYZ	1420
San Angelo Q-13	100	KGKL	1370
San Antonio R-14	100	KMAC	1370
	100	KONO	1370
	100	KTAP	1420
	1000	KTSA	1290
	50000	WOAI	1190
Waco Q-15	1000	WACO	1240
Wichita Falls O-14	250	KGKO	570
UTAH			
Ogden I-7	500	KLO	1400
Salt Lake City I-7	1000	KDYL	1290
	5000	KSL	1130
VERMONT			
Burlington F-27	100	WCAX	1200
Rutland G-27	100	WSYB	1500
St. Albans F-27	100	WQDM	1370
Springfield G-27	10	WNBX	1200
VIRGINIA			
Alexandria K-26	10000	WJSV	1460
Arlington J-25	1000	NAA	690
Danville L-25	100	WBTM	1370
Emory L-23	100	WEHC	1200
Lynchburg L-25	100	WLVA	1370
Newport News L-26	100	WGH	1310
Norfolk L-26	500	WPOR	780
	500	WTAR	780
Petersburg L-26	100	WLBG	1200
Richmond K-26	100	WBBL	1210
	100	WMBG	1210
	5000	WRVA	1110
Roanoke L-24	250	WDBJ	930
	250	WRBX	1410
WASHINGTON			
Aberdeen D-2	75	KXRO	1310
Bellingham C-3	100	KVOS	1200
Everett C-3	50	KFBL	1370
Lacey D-3	10	KGY	1200
Pullman E-5	1000	KWSC	1220
Seattle C-3	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 D-5	100	KFIO	1120
	1000	KFPY	1340
	5000	KGA	1470
	1000	KHQ	590
Tacoma D-3	500	KMO	860
	1000	KVI	760
Walla Walla E-5	100	KUJ	1500
Wenatchee D-4	50	KPQ	1500
Yakima D-4	50	KIT	1310
WEST VIRGINIA			
Bluefield L-24	100	WHIS	1420
Charleston K-23	250	WOBU	580
Fairmont J-24	250	WMMN	890
Huntington K-23	250	WSAZ	580
Wheeling J-24	5000	WWVA	1160
WISCONSIN			
Eau Claire G-18	1000	WTAQ	1330
Fond du Lac H-19	100	KFIZ	1420
Green Bay G-19	100	WHBY	1200
Janesville I-19	100	WCLO	1200
La Crosse H-18	1000	WKBH	1380
Madison H-19	750	WHA	940
	500	WIBA	1280
	250	WISJ	780
Manitowoc H-20	100	WOMT	1210
Milwaukee H-19	250	WHAD	1120
	250	WISN	1120
	1000	WTMJ	620
Poynette H-19	100	WIBU	1210
Racine I-20	100	WRJN	1370
Sheboygan H-20	500	WHBL	1410
Stevens Pt. G-19	2000	WLBL	900
Superior F-17	1000	WEBC	1290
WYOMING			
Casper H-10	100	KDFN	1210

CANADA

ALBERTA

Calgary B-7	500	CFAC	690
	500	CFCN	690
	500	CHCA	690
	500	CJCJ	690
	500	CNRC	690
Edmonton A-8	250	CHMA	580
	500	CJCA	930
	500	CKUA	580
	500	CNRE	930
Lethbridge C-8	50	CJOC	1120
Red Deer A-8	1000	CHCT	840
	1000	CKLC	840
	1000	CNRD	840

INDEX BY LOCATIONS WITH MAP KEY

BRITISH COLUMBIA	Watts		Kcys.
Chilliwack B-3	5	CHWK	665
Kamloops B-5	100	CFJC	1120
Sea Island	50	CJOR	1210
Vancouver B-3	50	CHLS	730
	50	CKCD	730
	50	CKFC	730
	50	CKMO	730
	100	CKWX	730
	500	CNRV	1030
Victoria C-3	500	CFCT	630
MANITOBA			
Brandon D-14	500	CKX	540
Winnipeg D-15	5000	CKY	780
	5000	CNRW	780
NEW BRUNSWICK			
Fredericton D-29	500	CFNB	1210
Moncton D-30	500	CNRA	630
St. John D-30	500	CFBO	890
NEWFOUNDLAND			
St. Johns A-35	500	8WMC	682
NOVA SCOTIA			
Glace Bay C-32	10000	VAS	685
Halifax E-31	500	CHNS	910
	500	CNRH	910
Sydney C-32	50	CJCB	880
Wolfville D-31	50	CKIC	1010
ONTARIO			
Chatham H-22	100	CFCO	1210
Cobalt E-23	15	CKMC	1210
Hamilton H-24	10	CHCS	1120
	50	CHML	880
	50	CKOC	1120
Kingston G-25	500	CFRC	930
London H-23	500	CJGC	910
	500	CNRL	910
North Bay	50	CFCH	1200
Ottawa F-25	100	CKCO	890
	500	CNRO	600
Port Arthur E-19	50	CKPR	890
Prescott F-25	50	CFLC	1010
Preston H-23	25	CKPC	1210
Toronto G-24	500	CFCA	840
	500	CFCL	580
	4000	CFRB	960
	5000	CJSC	690
	500	CKCL	580
	5000	CKGW	690
	500	CKNC	580
	500	CNRT	840
	4000	CNRX	960
	5000	CPRY	690
Waterloo G-23	50	CKCR	1010
Wingham G-23	25	10-BP	1200
PRINCE EDWARD ISLAND			
Charlottetown C-31	250	CFCY	960
	100	CHCK	960
Summerside C-31	100	CHGS	1120
QUEBEC			
Montreal E-26	500	CFCF	1030
	5000	CHYC	730
	5000	CKAC	730
	5000	CNRM	730
Quebec D-27	100	CHRC	645
	22	CKCI	880
	50	CKCV	880
	50	CNRQ	880

SASKATCHEWAN			
Fleming C-13	500	CJRW	600
Moose Jaw C-11	500	CJRM	600
Regina C-12	500	CHWC	960
	500	CJBR	960
	500	CKCK	960
	500	CNRR	960
Saskatoon B-11	500	CFQC	910
	500	CNRS	910
Yorkton B-13	500	CJGX	630
HAITI			
Port au Prince X-30	1000	HHK	920
MEXICO			
Aguascalientes W-10	350	XFC	805
Chihuahua, Chih. R-9	250	XFF	915
Guadalajara, Jal. X-10	101	XEA	1000
Juarez P-9	101	XEJ	1000
	1000	XEQ	750
Laredo, N. L. S-13	101	XEFE	1000
	2500	XEP	1430
Linares, N. L. U-13	10	XEE	1000
Merida, Yuc. X-19	105	XEY	1000
Mexico City Y-13	1000	XEB	1030
	250	XEFA	1250
	2000	XEG	840
	101	XEK	1000
	1000	XEN	719
	5000	XEO	940
	101	XER	650
	500	XETA	1140
	500	XEX	1210
	5000	XEW	780
	500	XEZ	588
	2000	XFG	638
	1000	XFI	818
	500	XFX	860
Monterrey, N. L. U-13	101	XEH	1000
	500	XET	630
Morelia, Mich. Y-12	101	XEI	1000
Oaxaca, Oak. AA-14	105	XEF	1000
Puebla Z-13	101	XEV	1000
Reynosa, Tams. T-14	10000	XED	977
Saltillo, Coah. U-12	10	XEL	1000
Tampico, Tams. W-14	500	XEM	730
	500	XES	890
Toluca. Y-12	50	XEC	1000
	30	XETN	1310
Veracruz, Ver. Z-14	500	XETF	680
	101	XEU	1000
CUBA			
Caibarien W-25	250	CMHD	920
Cardenas W-24	30	CMGE	1375
Camaguey W-26	10	CMJA	1332
	15	CMJC	1321
	5	CMJE	856
Ciego de Avila W-26	20	CMJB	1276
Cienfuegos W-25	200	CMHA	1154
	40	CMHJ	645
Cifuentes	10	CMHH	870
Colon W-24	100	CMGA	834
Guanajay W-23	30	CMAA	1090
Havana W-23	50	CMBA	1345
	150	CMBC	955
	150	CMBD	955
	7.5	CMBF	1345
	150	CMBG	1070
	30	CMBH	1500
	30	CMBI	1405
	15	CMBJ	1285
	15	CMBK	1405
	15	CMBL	1500
	15	CMBM	1285
	30	CMBN	1405
	15	CMBP	1500

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CFAC 690
Calgary, Alta.
CFBO 890
St. John, N. B.
CFCA 840
Toronto, Ont.
CFCF 1030
Montreal, Que.
CFCH 1200
North Bay, Ont.
CFCL 580
Toronto, Ont.
CFCN 690
Calgary, Alta.
CFCO 1210
Chatham, Ont.
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 1120
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 910
Halifax, N.S.
CHRC 645
Quebec, Que.
CHWC 960
Regina, Sask.
CHWK 665
Chilliwack, B.C.
CHYC 730
Montreal, Que.
CJBR 960
Regina, Sask.
CJCA 930
Edmonton, Alta.
CJCB 880
Syndey, N.S.
CJCJ 690
Calgary, Alta.
CJGC 910
London, Ont.
CJGX 630
Yorkton, Sask.
CJOC 1120
Lethbridge, Alta.
CJOR 1210
Sea Island, B.C.
CJRM 600
Moose Jaw, Sask.
CJRW 600
Fleming, Sask

CJSC 690
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 1010
Wolfville, N.S.
CKLC 840
Red Deer, Alta.
CKMC 1210
Cobalt, Ont.
CKMO 730
Vancouver, B.C.
CKNC 580
Toronto, Ont.
CKOC 1120
Hamilton, Ont.
CKPC 1210
Preston, Ont.
CKPR 890
Port Arthur, Ont.
CKUA 580
Edmonton, Alta.
CKWX 730
Vancouver, B.C.
CKX 540
Brandon, Man.
CKY 780
Winnipeg, Man.
CMAA 1090
Guanajay, Cuba
CMAB 1249
Pinar del Rio, Cu.
CMBA 1345
Havana, Cuba
CMBC 955
Havana, Cuba
CMBD 955
Havana, Cuba
CMBF 1345
Havana, Cuba
CMBG 1070
Havana, Cuba
CMBH 1500
Havana, Cuba
CMBI 1405
Havana, Cuba
CMBJ 1285
Havana, Cuba
CMBK 1405
Havana, Cuba
CMBL 1500
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CMBM 1285
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CMBN 1405
Havana, Cuba
CMBP 1500
Havana, Cuba
CMBQ 1405
Havana, Cuba

CMBR 1500
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CMBS 790
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CMCA 1225
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CMCB 1070
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CMCD 1345
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CMCF 900
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CMCG 1285
Havana, Cuba
CMCH 1285
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CMCJ 550
Havana, Cuba
CMCM 1500
Havana, Cuba
CMCN 1225
Havana, Cuba
CMCO 660
Havana, Cuba
CMCQ 1150
Havana, Cuba
CMCR 1285
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CMCT 1500
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CMCY 1345
Havana, Cuba
CMGA 834
Colon, Cuba
CMGB 1185
Matanzas, Cuba
CMGC 1315
Matanzas, Cuba
CMGD 1140
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CMGE 1375
Cardenas, Cuba
CMGF 977
Matanzas, Cuba
CMGH 1249
Matanzas, Cuba
CMGI 1094
Matanzas, Cuba
CMHA 1154
Cienfuegos, Cuba
CMHB 1500
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CMHC 790
Tuinucu, Cuba
CMHD 920
Caibarien, Cuba
CMHE 1429
Santa, Clara Cu.
CMHH 870
Cifuentes, Cuba
CMHI 1110
Santa Clara, Cu.

CMHJ 645
Cienfuegos, Cuba
CMJA 1332
Camaguey, Cuba
CMJB 1276
Ciego de Avila
CMJC 1321
Camaguey, Cuba
CMJE 856
Camaguey, Cuba
CMK 730
Havana, Cuba
CMKA 1450
Santiago, Cuba
CMKB 1200
Santiago, Cuba
CMKC 1034
Santiago, Cuba
CMKD 1100
Santiago, Cuba
CMKE 1249
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CMKF 1363
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CMKG 1176
Santiago, Cuba
CMKH 1327
Santiago, Cuba
CMQ 1150
Havana, Cuba
CMW 588
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CMX 890
Havana, Cuba
CNRA 630
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CNRC 690
Calgary, Alta.
CNRD 840
Red Deer, Alta.
CNRE 930
Edmonton, Alta.
CNRH 910
Halifax, N. S.
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 960
Toronto, Ont.
CPRY 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 1180
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
KFI 640
Los Angeles, Cal.
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.
KFPW 1340
Ft. Smith, Ark.
KFPY 1340
Spokane, Wash.
KFQD 1230
Anchorage, Alas.
KFQU 1420
Holy City, Cal.
KFQW 1420
Seattle, Wash.
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.
KFXD 1420
Nampa, 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
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
Huron, 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.
KGFF 1420
Shawnee, Okla.
KGFG 1370
Oklahoma City
KGFI 1500
Corpus Ch'sti,Tex
KGFJ 1200
Los Angeles, Cal.
KGFK 1500
Moorhead, Minn.
KGFL 1370
Raton, N. M.
KGFW 1310
Ravenna, Nebr.
KGFX 580
Pierre, S. D.
KGGC 1420
San F'ncisco, Cal.
KGGF 1010
Coffeyville, Kans.
KGGM 1230
Alb'q'rque, N.M.
KGHF 1320
Pueblo, Colo.
KGHI 1200
Little Rock, Ark.
KGHL 950
Billings, Mont.
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.
KGMP 1210
Elk City, Okla.
KGNF 1430
No. Platte, Neb.
KGNO 1210
Dodge City,Kans.
KGO 790
San F'ncisco, Cal.
KGRS 1410
Amarillo, Texas
KGU 940
Honolulu, Hawaii
KGVO 1420
Missoula, Mont.

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.
KMAC 1370
San Antonio,Tex.
KMBC 950
Kan. City, Mo.
KMCS 1120
Inglewood, Cal.
KMED 1310
Medford, Ore.
KMJ 1210
Fresno, Cal.
KMLB 1200
Monroe, La.
KMMJ 740
Clay Ctr., Nebr.
KMO 860
Tacoma, Wash.
KMOX 1090
St. Louis, Mo.
KMPC 710
Los Angeles, Cal.
KMTR 570
Los Angeles, Cal.
KNX 1050
Los Angeles, Cal.
KOA 830
Denver, Colo.
KOAC 550
Corvallis, Ore.
KOB 1180
State Coll., N.M.
KOCW 1400
Chickasha, Okla.
KOH 1380
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.
KROW 930
Oakland, Cal.
KRSC 1120
Seattle, Wash.
KSAC 580
Manh'tt'n, Kans.
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
San F'ncisco, Cal.
KTAP 1420
San Antonio, Tex.
KTAR 620
Phoenix, Ariz.
KTAT 1240
Ft. Worth, Tex.
KTBI 1300
Los Angeles, Cal.
KTBR 1300
Portland, Ore.
KTBS 1450
Shreveport, La.
KTFI 1320
Twin Falls, Ida.
KTHS 1040
Hot Spgs., Ark.

KTLC 1310
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
KTW 1270
Seattle, Wash.
KUJ 1500
Longview, Wash.
KUOA 1390
Fayetteville, Ark.
KUSD 890
Vermillion, S. D.
KUT 1500
Austin, Texas
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 1500
El Centro, Cal.
KXRO 1310
Aberdeen, Wash
KXYZ 1420
Houston, Texas
KYA 1230
San F'ncisco, Cal.
KYW 1020
Chicago, Ill.
KZM 1370
Hayward, Cal.
NAA 690
Arlington, Va.
TIC 750
San Jose, C. R.
VAS 685
Glace Bay, 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
WABZ 1200
New Orleans, La.
WACO 1240
Waco, Texas
WADC 1320
Akron, Ohio
WAIU 640
Columbus, Ohio
WALR 1210
Zanesville, Ohio
WAPI 1140
Birmingham, Ala.
WASH 1270
Gr. Rapids, Mich.
WAWZ 1350
New York City
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
Brooklyn, N. Y.
WBBZ 1200
Ponca City, Okla.
WBCM 1410
Bay City, Mich.
WBEN 900
Buffalo, N. Y.
WBEO 1310
Marquette, Mich.
WBGF 1370
Glens Falls, N. Y.
WBIG 1440
Greensboro,N.C.
WBIS 1230
Boston, Mass.
WBMS 1450
Hackensack, N.J.
WBNX 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
Needham, Mass.
WBT 1080
Charlotte, N. C.
WBTM 1370
Danville, Va.
WBZ-A 990
Springfield, 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.
WCLB 1500
Long Beach, N.Y.
WCLO 1200
Janesville, Wis.
WCLS 1310
Joliet, Ill.
WCMA 1400
Culver, Ind.
WCOA 1340
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WCOC 880
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WCOD 1200
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WCOH 1210
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WCRW 1210
Chicago, Ill.
WCSC 1360
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WCSH 940
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WDAE 1220
Tampa, Fla.
WDAF 610
Kansas City, Mo.
WDAG 1410
Amarillo, Texas
WDAH 1310
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Orlando, Fla.
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Wilmington, Del.
WDGY 1180
Minneap., Minn.
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WDOD 1280
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WDSU 1250
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WDWF 1210
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WDZ 1070
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WEBC 1290
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WEDH 1420
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WEEI 590
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WEHS 1420
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WELK 1370
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WELL 1420
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WEPS 1200
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WEVD 1300
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WEW 760
St. Louis, Mo.
WEXL 1310
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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
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WFDV 1370
Rome, Ga.

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WFI 560
Philadelphia, Pa.
WFIW 940
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WGAL 1310
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WGAR 1450
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WGBB 1210
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WGBC 1430
Memphis, Tenn.
WGBF 630
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WGBI 880
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WGBS 600
New York City
WGCM 1210
Gulfport, Miss.
WGCP 1250
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WGES 1360
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WGH 1310
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WGL 1370
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WGN 720
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WGR 550
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WGST 890
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WGY 790
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WHAD 1120
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WHAM 1150
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WHAP 1300
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Philadelphia, Pa.
WHAZ 1300
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WHBF 1210
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WHBU 1210
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WHBY 1200
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WHDF 1370
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WHDI 1180
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WHDL 1420
TupperLake,N.Y.
WHEC 1440
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WHFC 1420
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WHIS 1410
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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 1210
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, Fla.
WIP 610
Philadelphia, Pa.
WIS 1010
Columbia, S. C.
WISJ 780
Madison, Wis.
WISN 1120
Milwaukee, Wis.
WJAC 1310
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WJAG 1060
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WJAK 1310
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WJAR 890
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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
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WJBL 1200
Decatur, Ill.

WJBO 1420
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WJBT 770
Chicago, Ill.
WJBU 1210
Lewisburg, Pa.
WJBW 1200
New Orleans, La.
WJBY 1210
Gadsden, Ala.
WJDX 1270
Jackson, Miss.
WJJD 1130
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WJKS 1360
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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.
WKBS 1310
Galesburg, Ill.
WKBV 1500
Connersville, Ind.
WKBW 1480
Buffalo, N. Y.
WKBZ 1500
Ludington, Mich.
WKJC 1200
Lancaster, Pa.
WKRC 550
Cincinnati, O.
WKY 900
Oklahoma City
WKZO 590
Be'n Spgs., Mich.
WLAC 1470
Nashville, Tenn.
WLAP 1200
Louisville, Ky.
WLB 1250
St. Paul, 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.
WLIT 560
Philadelphia, Pa.
WLOE 1500
Boston, Mass.
WLS 870
Chicago, Ill.
WLSI 1210
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WLTH 1400
Brooklyn, N. Y.
WLVA 1370
Lynchburg, Va.
WLW 700
Cincinnati, Ohio
WLWL 1100
New York City
WMAC 570
Syracuse, N. Y.
WMAK 1040
Buffalo, N. Y.
WMAL 630
Washington, D.C.
WMAQ 670
Chicago, Ill.
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.
WMBO 1310
Auburn, N. Y.
WMBQ 1500
Brooklyn, N. Y.
WMBR 1370
Tampa, Fla.
WMC 780
Memphis, Tenn.
WMCA 570
New York City
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.
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.
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
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WOL 1310
Washington,D.C.
WOMT 1210
Manitowoc, Wis.
WOOD 1270
Gr. Rapids, Mich.
WOPI 1500
Bristol, Tenn.
WOQ 1300
Kansas City, Mo.
WOR 710
Newark, N. J.
WORC 1200
Worcester, Mass.
WOS 630
Jeff's'n City, Mo.
WOV 1130
New York City
WOW 590
Omaha, Nebr.
WOWO 1160
Ft. Wayne, Ind.
WPAD 1420
Paducah, Ky.
WPAP 1010
New York City
WPAW 1210
Pawtucket, R. I.
WPCC 560
Chicago, Ill.
WPCH 810
New York City
WPEN 1500
Philadelphia, Pa.
WPG 1100
Atl'ntic City,N.J.
WPOE 1370
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WPOR 780
Norfolk, Va.
WPSC 1230
State College, Pa.

WPTF 680
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WQAM 560
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WQAN 880
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WQAO 1010
New York City
WQBC 1360
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WQDM 1370
St. Albans, Vt.
WQDX 1210
Thomasville, Ga.
WRAF 1200
La Porte, Ind.
WRAK 1370
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WRAW 1310
Reading, Pa.
WRAX 1020
Philadelphia, Pa.
WRBI 1310
Tifton, Ga.
WRBJ 1370
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WRBL 1200
Columbus, Ga.
WRBQ 1210
Greenville, Miss.
WRBT 1370
Wilmington, N.C.
WRBX 1410
Roanoke, Va.
WRC 950
Washington,D.C.
WRDO 1370
Augusta, Me.
WRDW 1500
Augusta, Ga.
WREC 600
Memphis, Tenn.
WREN 1220
Lawrence, Kans.
WRHM 1250
Minneap., Minn.
WRJN 1370
Racine, Wis.
WRNY 1010
New York City
WROL 1310
Knoxville, Tenn.
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.
WSEN 1210
Columbus, Ohio
WSFA 1410
Montgomery,Ala.

WSIX 1210
Springfield, Tenn.
WSJS 1310
Winst.-Sal., N. C.
WSM 650
Nashville, Tenn.
WSMB 1320
New Orleans, La.
WSMK 1380
Dayton, Ohio
WSOC 1210
Gastonia, N. C.
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.
WSYB 1500
Rutland, Vt.
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
Springfield, Ill.
WTBO 1420
Cumberland, Md.
WTEL 1310
Philadelphia,Pa.
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.
WXYZ 1240
Detroit, Mich.
XEA 1000
Guad'l'jara, Mex.
XEB 1030
Mexico City
XEC 1000
Toluca, Mex.
XED 977
Reynosa, Mex.

XEE 1000 Linares, Mex.	**XEL** 1000 Saltillo, Mex.	**XETA** 1140 Mexico City	**XFC** 805 Aguascal'ntes, M.
XEF 1000 Oaxaco, Mex.	**XEM** 730 Tampico, Mex.	**XETF** 680 Veracruz, Mex.	**XFF** 915 Chihuahua, Mex.
XEFA 1250 Mexico City	**XEN** 719 Mexico City	**XETN** 1310 Toluca, Mexico	**XFG** 638 Mexico City
XEFE 1000 Laredo, Mex.	**XEO** 940 Mexico City	**XEU** 1000 Veracruz, Mex.	**XFI** 818 Mexico City
XEG 840 Mexico City	**XEP** 1430 Laredo, Mex.	**XEV** 1000 Puebla, Mex.	**XFX** 860 Mexico City
XEH 1000 Monterrey, Mex.	**XEQ** 750 Juarez, Mex.	**XEW** 780 Mexico City	**8WMC** 682 St. Johns, N.F.
XEI 1000 Morelia, Mex.	**XER** 650 Mexico City	**XEX** 1210 Mexico City	**10BP** 1200 Wingham, Ont.
XEJ 1000 Juarez, Mex.	**XES** 890 Tampico, Mex.	**XEY** 1000 Merida, Mex.	
XEK 1000 Mexico City	**XET** 630 Monterrey, Mex.	**XEZ** 588 Mexico City	

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Havana W-23	50	CMBQ	1405		250	CMQ	1150
	15	CMBR	1500		700	CMW	588
	150	CMBS	790		500	CMX	890
	150	CMBT	1070	Holguin W-27	30	CMKF	1363
	150	CMBW	1010	Matanzas W-24	7.5	CMGB	1185
	30	CMBX	1405		30	CMGC	1315
	100	CMBY	1405		5	CMGD	1140
	150	CMBZ	1010		50	CMGF	977
	500	CMC	845		60	CMGH	1249
	150	CMCA	1225		30	CMGI	1094
	150	CMCB	1070	Pinar del Rio W-22	20	CMAB	1249
	15	CMCD	1345	Sagua la Grande W-24	10	CMHB	1500
	250	CMCF	900	Santa Clara W-25	20	CMHE	1429
	30	CMCG	1285		15	CMHI	1110
	15	CMCH	1285	Santiago X-28	20	CMKA	1450
	250	CMCJ	550		15	CMKB	1200
	15	CMCM	1500		150	CMKC	1034
	250	CMCN	1225		20	CMKD	1100
	225	CMCO	660		250	CMKE	1249
	600	CMCQ	1150		30	CMKG	1176
	20	CMCR	1285		250	CMKH	1327
	5	CMCT	1500	Tuinucu	500	CMHC	790
	50	CMCU	1345				
	250	CMCX	1010	**COSTA RICA**			
	15	CMCY	1345	San Jose FF-23	50	TIC	750
	3000	CMK	730				

THE TELEVISION BAND

The Federal Radio Commission has instituted the new allocations of frequencies for television broadcasters, the outcome of the recommendation of a recent engineering conference called by the Commission. The new reallocations went into effect as follows:

2,000—2,100 kc.

W3XK	5,000	Wheaton, Md.
W2XCR	5,000	Jersey City, N. J.
W2XAP	250	Portable
W2XCD	5,000	Passiac, N. J.
W9XOA	500	Chicago, Ill.
W2XBU	100	Beacon, N. Y.

2,100—2,200 kc.

W3XAK	5,000	Bound Brook, N. J.
W3XAD	500	Camden, N. J.
W2XBS	5,000	New York, N. Y.
W2XCW	20,000	Schenectady, N. Y.
W8XAV	20,000	East Pittsburgh, Pa.
W9XAP	1,000	Chicago, Ill.
W2XR	500	Long Island City, N. Y.

2,750—2,850 kc.

W2XBO	500	Long Island City, N. Y.
W9XAA	1,000	Chicago, Ill.
W9XG	1,500	West Lafayette, Ind.

2,850—2,950 kc.

W1XAV	500	Boston, Mass.
W2XR	500	Long Island City, N. Y.
W9XR	5,000	Downers Grove, Ill.

Other proposals of the conference now being considered by the Engineering Division of the Federal Radio Commission, will probably be recommended for approval within a brief period.

This realignment of visual broadcasting stations is expected to aid experiments and to hasten the day when the art will be ready for public entertainment on a commercial scale.

The World Stations by Countries

Country and City	Call	Kcys.	Watts
OCEANIA AND AFRICA			
AUSTRALIA			
Adelaide	5CL	730	2500
	5DN	960	100
	5KA	1200	200
Bathurst	2MK	1155	50
Brisbane	4QG	760	2500
Hobart	7ZL	580	600
Melbourne	3AR	620	1000
	3DB	1180	100
	3LO	9369	1000
		800	
Newcastle	2NC	1245	2000
Perth	6ML	1010	300
	6WF	690	1000
Rockhampton	4RK	930	2000
Sydney	2BL	9225	1000
		855	
	2FC	10520	1000
		665	
	2GB	950	600
	2KY	1070	750
	2ME	10520	-----
	2UE	1025	50
	2UW	1125	100
NEW ZEALAND			
Auckland	1YA	900	500
	1ZQ	1188	-----
Christchurch	3YA	980	500
	3ZC	5996	250
		1199	
Dunedin	4YA	648	500
Gisborne	2ZM	1147	160
Palmerston	2ZF	1049	150
Wellington	2YA	718	5000
ALGERIA			
Algiers	8DB	825.3	100
	------	824	2400
CANARY ISLANDS			
Las Palmas	EAR5	1071	500
EGYPT			
Cairo	------	869	-----
	------	909	-----
KENYA			
Nairobi	7LO	9640	1000
		750	
MOROCCO			
Casablanca	AIN	5879	-----
Rabat	------	6877	2500
		724	
TUNISIA			
Carthage	TNU	162	-----
Constantine	8KR	7005	-----
Tunis	TUA	240	500
UNION OF SOUTH AFRICA			
Cape Town	ZTC	800	1000
Durban	ZTD	789	1000
Johannesburg	ZTJ	9369	15000
		666	
ASIA			
BRITISH MALAYA			
Singapore	VS1AB	7260	-----
Johore	VS3AB	7055	-----
CEYLON			
Colombo	------	375	1750
CHINA			
Canton	CAB	689	1000
Hangchow	XGY	895	250
Harbin	COHB	674	1000
Mukden	COMK	714	2000
Nanking	XGZ	606	500
Peking	COPK	937	1000
Shanghai	KRC	887	250
Tientsin	CRC	1071	500
	COTN	625	500
CHOSEN (KOREA)			
Heijo (Seoul)	JODK	714	1000
FRENCH INDO CHINA			
Haiphong	------	3446	2500
HONG KONG			
Victoria Peak	ZBW	857	1500
INDIA			
Bombay	VUB	840	3000
Calcutta	VUC	810	3000
JAPAN			
Hirasio	JHBB	7995	-----
Hiroshima	JOFK	849	10000
Kumamoto	JOGK	789	10000
Nagoya	JOCK	810	10000
Osaka	JOBK	750	10000
Sapporo	JOIK	831	10000
Sendai	JOHK	769	10000
Taihoku	JFAK	353	1000
Taipeh	JFAB	7590	-----
Tokyo	JOAK	869	10000
KWANGTUNG			
Dairen	JQAK	759	5000
NETHERLAND EAST INDIES			
Bandoeng	IBR	5170	1000
Batavia	PK1AA	3998	500
Djokjakarta	PK2AF	5996	500
Makassar	PK6KZ	7313	500
Malabar	PLF	17640	-----
Palembang	PK4PA	59964	240
Semarang	PK2AG	-----	-----
Surabaya	PH3CH	6662	250
	------	2142	500
SOUTHERN EUROPE			
ALBANIA			
Tirana	------	-----	300
AUSTRIA			
Graz	------	851	7000
Innsbruck	------	1058	500
Klagenfurt	------	662	500
Linz	------	1220	500
Vienna	------	581	15000
FRANCE			
Agen	F2BD	963.1	480
		9761	
Angers	------	1091	250
Beziers	------	1364.3	1500
Biarritz	------	1313	250
Bordeaux	------	1260.4	5000
	------	986	1500
Caen	------	1080	200
Grenoble	------	914.1	1500
Juan les Pins	------	1219	250
Lille	------	1130	500
Limoges	------	1022	500
Lyon	YN	644	3000
	YR	1029.9	500
		7462.7	
Marsan	------	750	250
Marseilles	------	950	500
Montpellier	------	1049	200
Nancy	------	19355	-----
Nice (see Juan les Pins)			
Nimes	------	1256	500
Nogent-sur-Seine	F8AV	3750	-----
Paris	FL	9375	15000
		207.5	
	FPTT	671	1000
	F8GC	825	1500
		4262.3	
	------	905.2	500
	------	174	13500
	------	967.8	2000
		7317.1	
Rennes	------	1103	1500
Rheims	------	777.2	500
St. Etienne	------	1363.6	250
Toulon	------	1200	500
Toulouse	MRD	1175	1500
	------	779	8000

Country and City	Call	Kcys.	Watts
HUNGARY			
Budapest	------	545	20000
ITALY			
Bolzano	IBZ	662	200
Genoa	IGE	788	1200
Milan	IMI	599	7000
Naples	INA	905.2	1500
Rome	IRO	680	3000
	IRAX	6666.7	-----
Turin	ITO	1031	7000
PORTUGAL			
Lisbon	CT1AA	942	1000
	PIAA	983.6	500
RUMANIA			
Bucharest	------	545	12000
SPAIN			
Almeria	EAJ18	1193	200
Barcelona	EAJ1	860	7500
	EAJ13	1121	10000
Madrid	EAJ2	750	750
	EAJ7	707.6	1500
	EAM	9772	-----
Salamanca	EAJ22	662	-----
San Sebastian	EAJ8	633	1000
Seville	------	815	-----
SWITZERLAND			
Basel	------	941	250
Berne	------	743	1000
		9375	
Geneva	------	395	250
Lausanne	------	442	600
Zurich	H9XD	3529.4	-----
		9375	
	------	653	630
YUGOSLAVIA			
Belgrade	------	695	2500
Ljubljana	------	522	3000
Zagreb	------	973	700

WESTERN EUROPE

BELGIUM			
Brussels	ON4GT	887	100
	ON4RB	590	3600
Chatelineau	ON4CE	1388	200
Ghent	ON4RG	1219	400
Liege	ON4RW	1219	200
DANZIG			
Danzig	PTB	689	500
GERMANY			
Aix la Chapelle	------	662	700
Augsburg	------	535	700
Berlin	------	717	4000
	AFT	5552	10000
		231	
		1635	
	------	1059	2000
	------	119	-----
Bremen	------	950	700
Breslau	------	923	4000
Cologne	------	1319	4000
Doberitz	------	4434	-----
		7963	
Flensburg	------	1373	1500
Frankfort on Main	------	769	1500
Freiburg	------	527	1500
Gleiwitz	------	1157	3000
Hamburg	------	806	4000
Hanover	------	535	750
Kaiserslautern	------	1110	4000
Kassel	------	1219	750
Kiel	------	1292	700
Konigsberg	------	1086	4000
Langenburg	------	635	8000
Leipzig	------	1184	4000
Ludwigshaven	------	1471	1500
Magdeburg	------	1059	-----
Muenster	------	1319	1500
Munich	------	563	4000
Nauen	AGC	17430	-----
	AGJ	5290	-----
Norddeich	------	167	1000
Nuremburg	------	1254	1000
Schaerbeck	------	1304	-----
Stettin	------	1059	750
Stuttgart	------	833	4000
IRISH FREE STATE			
Cork	6CK	1337	1000
Dublin	2RN	940	1500
LUXEMBURG			
Luxemburg	LOAA	1344	10000
NETHERLANDS			
Hilversum	PFBI	1004	7000
Huizen	PHI	17778	40000
		160	
Scheveningen	PCF	279	1500
UNITED KINGDOM			
Aberdeen	2BD	995	1000
Belfast	2BE	1238	1000
Bournemouth	6BM	1040	1000
Cardiff	5WA	968	1000
Daventry	5XX	193	25000
	5GB	626	25000
Dundee	2DE	1040	130
Edinburgh	2EH	1040	350
Glasgow	5SC	752	1000
Hull	6KH	1040	130
Leeds & Bradford	2LS	1500	130
		1040	
Liverpool	6LV	1040	130
London	2LO	842	30000
		1150	
Manchester	2ZY	797	1000
Newcastle	5NO	1148	1000
Plymouth	5PY	1040	130
Sheffield	6FL	1040	130
Stoke on Trent	6ST	1040	130
Swansea	5SX	1040	130

NORTHERN EUROPE

CZECHOSLOVAKIA			
Bratislava	OKR	1075	1250
Brunn	OKB	877	2500
Kosice	OKK	1023	2500
Prague	OKP	616	5000
	OK1MPI	5169	5000
DENMARK			
Copenhagen	------	1067	1000
Kalundborg	------	260	7500
Lyngby	------	15300	500
		9488	
		6057	
Soro	------	3088	2000
ESTONIA			
Tallinn	------	1013	10000
	------	250	100
Tartu	------	735	2200
FINLAND			
Abo	------	1219	-----
Bjorenborg (Pori)	------	1219	1500
Helsingfors	------	1357	10000
Jakobstad	------	1219	750
Jyvaskyla	------	1009	200
Lahti	------	166	40000
Tammerfors	------	-----	700
Vipuri	------	1030	750
ICELAND			
Akureyri	G2SH	1560	-----
Reykjavik	------	8995	500
LATVIA			
Riga	YLZ	571	10000
LITHUANIA			
Kovno	RYK	155	7000
NORWAY			
Aalesund	LKA	671	350
Bergen	LKB	824	1000
	LGN	9994	-----
Fredrikstad	LKF	779	700
Hamar	LKH	526	700

Country and City	Call	Kcys.	Watts
Oslo	LKO	608	60000
Porsbrund	LKP	662	700
Rjukan	LKR	671	-----
Trondhjem	------	1229	1000
POLAND			
Katowice	------	734	10000
Krakow	------	959	1500
Poznan	------	896	1500
Warsaw	------	202.5	12000
Wilna	------	779	500
SWEDEN			
Boden	SBE	250	600
Boras	SCA	1309	150
Eskilstuna	SCB	1220	200
Falun	SCC	1004	500
Gavle	SCD	1470	200
Goteborg	SBB	931	10000
Halmstad	SCE	1390	200
Horby	SBH	1167	10000
Hudiksvall	SCF	1110	150
Jonkoping	SCH	1484	250
Kalmar	SCI	1211	200
Karlsborg	SAS	11760	-----
Karlskrona	SCJ	1530	250
Karlstad	SCK	1375	250
Kiruna	SCL	1219	200
Kristinehamn	SCM	1481	250
Malmberget	SCN	689	250
Motala	SBG	222	30000
Norrkoping	SCO	1110	250
Orebro	SCV	1265	200
Ormskoeldsvik	SCW	1373	200
Ostersund	SBF	389	600
Saffle	SCP	1220	400
Stockholm	SBA	688	1000
Sundsvall	SBD	553	600
Trollhattan	SCQ	1129	250
Umea	SCS	1301	200
Uppsala	SCT	662	150
Varberg	SCU	1059	300

CENTRAL AND SOUTH AMERICA

ARGENTINA			
Azul	E4	882	350
Bahia Blanca	D5	1050	-----
Buenos Aires	LR1	789	500
	LR2	870	3000
	LR3	949	1000
	LR4	990	2000
	LR5	828	2000
	LR6	909	1000
	LR7	750	1250
	LR8	1149	1500
	LR9	1030	2000
	LS1	706	5000
	LS2	1190	1000
	LS3	1270	1000
	LS4	1112	1000
	LS5	1076	1000
	LS6	1428	1000
	LS7	1351	1000
Concordia	J2	1330	400
LaPlata	LT2	685	1000
Mar del Plata	D4	1410	100
Mendoza	LT4	760	500
Rafaela	G4	1287	560
Rosario	LT3	1090	1500
Tucuman	K4	956	250
Venado Tuerto	G5	840	250
BOLIVIA			
LaPaz	OPX	1000	1000
BRAZIL			
Bahia	SQBE	12490	-----
Juiz de Fora	PRAJ	789	200
Manaos	------	2998	1500
Para	------	8818	-----
Pelotas	PRAD	-----	-----
Pernambuco	PRAP	967	300
Porto Alegre	PRAG	1199	500
Rio de Janeiro	PRAA	750	1000
	PRAB	937	500
	PRAC	1153	500
	PRAD	857	500
Sao Paulo	PRAE	833	1000
	PRAO	1330	1000
	PRAR	1071	500
Sorocaba	------	706	-----
CHILE			
Santiago	CMAB	625	1000
	CMAC	804	1000
	CMAO	1016	250
	CMAQ	1224	100
Valparaiso	CMAJ	1034	100
COLOMBIA			
Bogota	HJN	706	550
HONDURAS			
Tegucigalpa	HRB	6005	2300
PERU			
Lima	OAX	789	1500
SALVADOR			
Salvador	RUS	664	500
URUGUAY			
Montevideo	CWOA	700	1000
	CWON	1169	200
	CWOR	857	500
	CWOS	789	500
	CWOW	600	-----

RUSSIA AND TURKEY

Country and City	Call	Meters	Watts
RUSSIA			
Armavir	RA47	720	200
Artemovsk	RA56	790	1200
Astrakhan	RA26	700	1000
Baku	RA45	750	4000
Bogorodski	RA8	750	700
Dneipropetrovske	RA30	525	1000
Erivan	RA49	1050	1200
Gomel	RA39	925	1200
Irkutsk	RA57	1100	500
Ivanovo-Vosnesensk	RA7	800	180
Kharkov	RA43	477	4000
		1700	
Kiev	RA5	755	1200
Kourak	RA34	575	1000
Krasnodar	RA38	513	1000
Leningrad	RA42	1000	10000
	RA51	150	350
Minsk	RA18	860	1200
Moscow	RA1	1450	40000
	RA2	450	500
	RA4	450	300
Malchik	RA67	1075	1200
Nizhni-Novgorod	RA13	840	1800
Novorossisk	RA33	1117	4000
Odessa	RA40	975	1200
Orenburg	RA25	640	1000
Petrozovodsk	RA46	765	2000
Rostov-on-Don	RA14	820	4000
Samara	RA22	900	1200
Saratov	RA32	420	200
Sevastopol	RA9	800	250
Smolensk	RA72	150	800
Stalino	RA77	730	1200
Stavropol	RA20	550	1200
Sverdlovak	RA15	1050	500
Tashkent	RA27	715	2000
Tiflis	RA11	870	3000
Tomsk	RA21	300	150
Tver	RA44	690	1200
Vel Ustjuk	RA16	650	1200
Vladivostok	RA17	480	1500
Vologda	RA41	875	1200
Voronezh	RA12	950	1200
TURKEY			
Angora	------	1600	5000
Osmanie	------	1200	6000

FAVORITE PROGRAMS

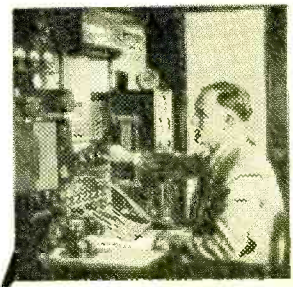
Time	Station	Dials	Feature
DAILY			
SUNDAY			
MONDAY			
TUESDAY			

Time	Station	Dials	Feature
WEDNESDAY			
THURSDAY			
FRIDAY			
SATURDAY			

I Will Train You at Home

to fill a

BIG PAY

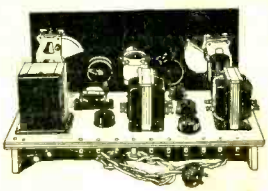


Radio Job!

I will give You my new 8 OUTFITS of RADIO PARTS for a home Experimental Laboratory

You can build over 100 circuits with these outfits. You build and experiment with the circuits used in Crosley, Atwater-Kent, Eveready, Majestic, Zenith, and other popular sets. You learn how these sets work, why they work, how to make them work. This makes learning at home easy, fascinating, practical.

Back view of 5 tube Screen Grid A. C. tuned Radio frequency set—one of many circuits you can build with my outfits.



If you are earning a penny less than $50 a week, send for my book of information on the opportunities in Radio. It is free. Clip the coupon NOW. Why be satisfied with $25, $30 or $40 a week for longer than the short time it takes to get ready for Radio.

Radio's growth opening hundreds of $50, $75, $100 a week jobs every year

In about ten years Radio has grown from a $2,000,000 to a $1,000,000,000 industry. Over 300,000 jobs have been created. Hundreds more are being opened every year by its continued growth. Men and young men with the right training—the kind of training I give you—are needed continually.

You have many jobs to choose from

Broadcasting stations use engineers, operators, station managers and pay $1,800 to $5,000 a year. Manufacturers continually need testers, inspectors, foremen, engineers, service men, buyers, for jobs paying up to $15,000 a year. Shipping companies use hundreds of Radio operators, give them world wide travel at practically no expense and a salary of $85 to $200 a month. Dealers and jobbers employ service men, salesmen, buyers, managers, and pay $50 to $100 a week. There are many other opportunities too.

So many opportunities many N. R. I. men make $5 to $25 a week extra while learning

The day you enroll with me I'll show you how to do 10 jobs common in most every neighborhood, for spare time money. Throughout your course I send you information on servicing popular makes of sets; I give you the plans and ideas that are making $200 to $1,000 for hundreds of N. R. I. students in their spare time while studying.

Talking Movies, Television, Wired Radio are also included

Radio principles as used in Talking Movies, Television and home Television experiments, Wired Radio, Radio's use in Aviation, are all given. I am so sure that I can train you satisfactorily that I will agree in writing to refund every penny of your tuition if you are not satisfied with my Lessons and Instruction Service upon completing.

64-page book of information FREE

Get your copy today. It tells you where Radio's good jobs are, what they pay, tells you about my course, what others who have taken it are doing and making. Find out what Radio offers you, without the slightest obligation. ACT NOW.

J. E. SMITH, President
National Radio Institute Dep. 1CO
Washington, D. C.

Here's Proof

$100 a week

"My earnings in Radio are many times greater than I ever expected they would be when I enrolled. They seldom fall under $100 a week." E. E. WESBORNE, 1414 W. 44th St., Norfolk, Va.

Jumped from $35 to $100 a week

"Before I entered Radio I was making $35 a week. Last week I earned $110 servicing and selling Radios. I owe my success to N. R. I." J. A. VAUGHN, 3715 S. Kirkwood Hwy., St. Louis, Mo.

$500 extra in 6 months

"I find I made $500 from January to May in my spare time. My best week brought me $167. I should have taken it long ago." HOYT MOORE, R. R. 3, Box 919, Indianapolis, Ind.

I am doubling and tripling the salaries of many in one year and less Find out about this quick way to *BIGGER PAY*

Radio Needs Trained Men

FILL OUT AND MAIL THIS COUPON TODAY

J. E. SMITH, President,
National Radio Institute, Dept. 1CO
Washington, D. C.
Dear Mr. Smith: Send me your book. This request does not obligate me

Name .....

Address .....

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

Lifetime Employment Service to all Graduates