

THE MARCH 1931

# RADIO INDEX

The Magazine that Doubles the Pleasure of Radio



25<sup>c</sup>

Elements of Radio in A-B-C  
Neutralizing the Neutrodyne  
Stopping Leaks in Aerial and Ground  
Complete List of Cuban and Mexican Stations



# 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 WEAJ in New York. First we must ascertain the frequency for this station. Look it up under WEAJ 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 WEAJ is 660. Now we turn to 660 kilocycles in the Index by Frequencies and Dial Numbers. Here we find that WEAJ is one of the two stations which have been assigned the 660 keys, frequency by the Federal Radio Commission. We also find that it has a power of 50,000 watts, that it is located in New York City and is owned by the National Broadcasting Co., Inc.

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

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

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

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

Now we tune in some other station, proceeding as before until after an evening or two, we have blanks filled on every page. We are now able to set our dials for any frequency we desire and consequently any station we may want whether we have ever received it before or not.

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

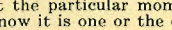
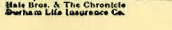
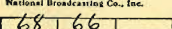
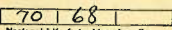
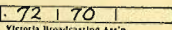
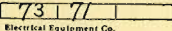
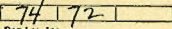
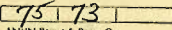
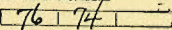
time. In this case, of course, it is not possible to tell which one of the two stations is broadcasting at the particular moment we hear it, but we do know it is one or the other of them.

The second column in the Index by Frequencies, as we have seen, gives the power of the station as measured in watts. This power also aids us in identifying stations as we will not ordinarily hear those stations with 5000 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	76 74
KHO 1000 Spokane, Wash.	
WEAJ 500 Lincoln, Neb.	
WJEF 1000 Boston, Mass.	
WMMG 1000 Omaha, Neb.	
WVIC 1000 Berkes Springs, Mich.	
600 kilocycles 499.7 meters	75 73
CFBU 325 Troopets Falls, Ont.	
KFBU 300 Los Angeles, Calif.	
WCAO 350 Baltimore, Md.	
WJWV 350 Detroit, Mich.	
WOAN 350 Lawrenceburg, Tenn.	
WREK 350 Memphis, Tenn.	
WVIC 350 Hartford, Conn.	
610 kilocycles 491.5 meters	74 72
KERC 1000 San Francisco, Calif.	
WDAF 1000 Kansas City, Mo.	
WFAW 500 Philadelphia, Pa.	
WJWV 500 Philadelphia, Pa.	
WJWV 500 Kansas City, Mo.	
620 kilocycles 483.6 meters	73 71
KFAD 500 Phoenix, Ariz.	
KJWV 1000 Portland, Ore.	
WDAE 1000 Tampa, Fla.	
WJWV 1000 Orlando, Fla.	
WJWV 1000 Dover-Foscroft, Me.	
WJWV 1000 Milwaukee, Wis.	
630 kilocycles 475.9 meters	72 70
CFBU 325 Detroit, Mich.	
KFBU 300 Los Angeles, Calif.	
WCAO 350 Baltimore, Md.	
WJWV 350 Detroit, Mich.	
WJWV 350 Lawrenceburg, Tenn.	
WREK 350 Memphis, Tenn.	
WVIC 350 Hartford, Conn.	
640 kilocycles 468.5 meters	
KFI 5000 Los Angeles, Calif.	
WAIU 5000 Columbus, Ohio	
650 kilocycles 461.3 meters	70 68
WSM 5000 Nashville, Tenn.	
660 kilocycles 454.3 meters	69 67
WAAW 100 Omaha, Neb.	
WEAF 5000 New York City	
670 kilocycles 447.5 meters	68 66
WMAO 5000 Chicago, Ill.	
680 kilocycles 440.9 meters	67 65
KFBU 300 Los Angeles, Calif.	
WPTF 5000 Raleigh, N. C.	



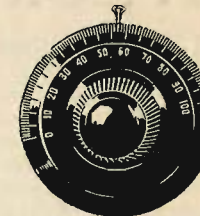
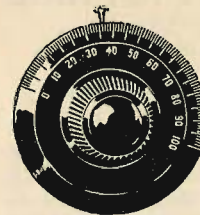
THE MARCH 1931

# RADIO INDEX

REG. U. S. PATENT OFFICE

FRED CLAYTON BUTLER

Editor and Publisher



SEVENTH YEAR

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# THEORY of Radio in a NUT SHELL

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

Written in  
A-B-C Terms

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  
CLWKR0PWOKLRA  
O F MBQHK I H  
WFIWWJRATWWOW  
SOWKTSM  
W KMPC WAAW H  
AKFK HHK KMCS  
W0V 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.

1	2	3	4	5	6	7	8	9	10	11		
12	13	14		15		16		17	18	19		
20	21	22	23		24	25	26		27	28	29	30
31		32	33	34	35		36	37	38	39		40
			41	42	43	44	45	46	47			
48	49	50	51	52	53	54	55	56	57	58	59	60
61		62		63	64	65	66	67		68		69
70	71	72	73	74	75	76	77	78	79	80	81	82
			83	84	85	86	87	88	89			
90		91	92	93	94		95	96	97	98		99
100	101	102	103		104	105	106		107	108	109	110
111	112	113		114		115			116	117	118	
119	120	121	122		123	124	125		126	127	128	129

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

### Horizontal

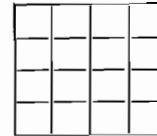
- 1- 4 "Now don't go 'way."
- 5- 7 "The Nation's Station."
- 8- 11 Last two letters stand for city.
- 12- 14 In a state capital.
- 15- 16 First and last of two Ohio stations.
- 17- 19 Reverse. 20 k.w.
- 20- 23 On 1370.
- 24- 26 In Virginia.
- 27- 30 500-watt daylight.
- 31- 40 Second and last letter 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.
- 12- 51 In Los Angeles.
- 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.
- 79-106 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 Compernelle, 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

**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

## Radio Chat and Comment

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 prefers 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 Rut-

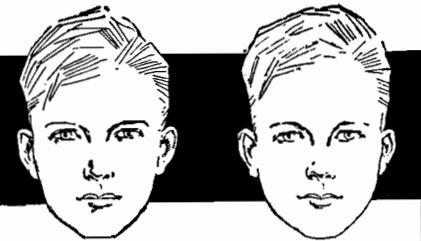
land, Vt., station WSYB is given by R. W. Raustron, 15 Edgewood St., Claremont, N. H., as follows: "Daily, 10-11 a.m., 12-1 p.m., and 6-9 p.m., EST."

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)



## One of these Boys Will Fail - IF

Both possess equal health and intelligence, both have qualities for success—but one stammers. Where the one will succeed the stammerer will fail.

He will dread to meet people, he will lack the self-confidence so necessary in business. The humiliation of his disability will impair his nervous system—a condition often the beginning of ill health.

This handicap can be removed. As hundreds of other stammerers have been cured permanently at Bogue Institute, so he can be cured. The Institute was founded in 1901 by Benjamin N. Bogue, who cured himself after stammering twenty years.

Instruction is based on the principle of co-ordination between the mind and speech organs. No drugs or medicines. Endorsed by physicians. The history of the Bogue Institute and description of its methods embodied in Mr. Bogue's book, "Stammering—Its Cause and Its Cure," furnished on request. Address

## Bogue Institute for STAMMERERS

14054 Bogue Bldg. 1147 North Illinois St. Indianapolis, Ind.

# 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 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 adaptor 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 head-phone 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.

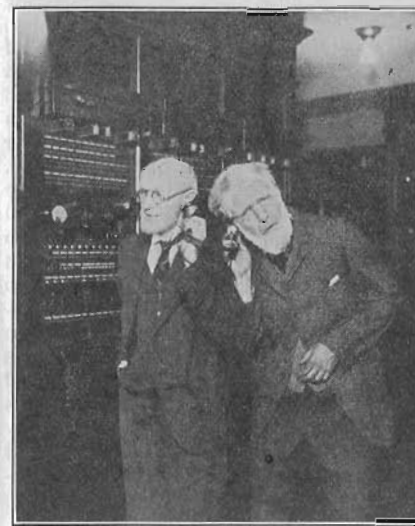
A booster unit for putting ahead of a regular receiver thus adding an additional stage of radio frequency.

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

**E**UGENE MARTIN, 5446 McComas Lane, Dallas, Texas, sends a newspaper clipping regarding the new station XEP on 1430 keys. 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 keys. 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 stations 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 Dwyne, P.O. Box 88, Towaco, N. J., always had trouble bringing in stations between 540 and 760 keys. 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 keys. 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 keys., 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 aeriels," 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		Deleted		Calls	
550	CMCI 250	632	XFE Villahermosa, Mex.	1120	KMIC Inglewood, Cal., to KMCS.
856	CMJE 5	846	NBA Balboa, C. Z.	1320	KGIQ Twin Falls, Idaho, to KTFI.
977	CMGF 50	859	XFZ Mexico City.	1350	WKBQ New York City, to WBNX.
1000	XEE 10	1240	CMKX Holguin, Cuba.		
1010	XEFE 101	1400	WSDA Brooklyn, N. Y.		
1070	CMCX 250	1450	WHOM Jersey City, N. J.		
1090	CMBG 150				
1094	CMAA 30				
1110	CMGI 30				
1154	CMHA 200				
1176	CMKG 30				
1185	CMGB 7.5				
1200	CMKB 15				
1225	CMCN 250				
1249	CMAB 20				
1250	CMGH 60				
1276	XEFA 250				
1285	CMJB 20				
	CMBJ 15				
	CMBM 15				
	CMCG 30				
	CMCR 20				
1310	WBEO 100				
	XETN 30				
1315	CMGC 30				
1327	CMKH 250				
1332	CMJA 10				
1345	CMBA 50				
	CMBF 7.5				
	CMCD 15				
	CMCU 50				
	CMCY 15				
1363	CMKF 30				
1375	CMGE 30				
1405	CMBI 30				
	CMBK 15				
	CMBN 30				
	CMBQ 50				
	CMBX 30				
1429	CMHE 20				
1430	XEP 2500				
1450	CMKA 20				
1500	CMHB 10				
	CMBH 10				
	CMCI 250				
	CMCJ 250				
	CMCK 500				
	CMCL 500				
	CMCM 15				
	CMCN 250				
	CMCO 500				
	CMCP 500				
	CMCQ 600				
	CMCR 250				
	CMCS 500				
	CMCT 5				
	CMCH 40				
	CMCI 101				
	CMCJ 1000				
	CMCK 500				
	CMCL 2000				
	CMCM 10				
	CMCN 500				
	CMCO 5000				
	CMCP 150				
	CMCQ 150				
	CMCR 10000				
	XEA 101				
	XEC 50				
	XEF 105				
	XEH 101				
	XEJ 101				
	XEL 10				
	XEU 101				
	XEV 101				
	XEY 105				
1034	CMKC 150				
1140	CMGD 5				
	XETA 500				
1150	CMCQ 600				
	CMQ 250				
1210	XEX 500				
1321	CMJC 15				

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	Ciñfuegos, 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 KRLED 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 arrester 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 arrester 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 arrester can readily be checked with the headphones and a small C-battery. Disconnect the leads from the lightning arrester 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 arrester, 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 arrester 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 Tastyest 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 Greta, 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 Greta 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, Carpenteria, 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 adaptor 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 popping 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	880 (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 (16.373)	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 Haddock 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	15,840 (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	W8XX	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.	CJRJX	11,720 (25.6)	2000	James Richardson & Sons, Ltd.

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- Two subscriptions to RADEX with one leatherette cover and Radio Map, both free..... 3.50
- Leatherette Cover..... .50
- One copy "Radio Trouble Shooting," by E. R. Haan..... 3.00

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Street and Number.....

City and State.....

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CFCF 1030 N	KPRC 920 N	WCAU 1170 C	WHAS 820 N	WNAC 1230 C
CFRB 960 C	KRLD 1040 C	WCCO 810 C	WHEC 1440 C	WNAX 570 C
CKAC 730 C	KSCJ 1330 C	WCFL 970 N	WHK 1390 C	WOAI 1190 N
CKGW 690 N	KSD 550 N	WCKY 1490 N	WHO 1000 N	WOC 1000 N
KDKA 980 N	KSL 1130 N	WCSH 940 N	WHP 1430 C	WORC 1200 C
KDYL 1290 C	KSTP 1460 N	WDAE 1220 C	WIBO 560 N	WOW 590 N
KECA 1430 N	KTAR 620 N	WDAF 610 N	WIBW 580 C	WOWO 1160 C
KFAB 770 N	KTHS 1040 N	WDAY 940 C	WIOD 1300 N	WPG 1100 C
KFAP 770 N	KTRH 1120 C	WDBJ 930 C	WISN 1120 C	WPTF 680 N
KFH 1300 C	KTSA 1290 C	WDBO 1120 C	WJAR 890 N	WQAM 560 C
KFI 640 N	KVI 760 C	WDOD 1280 C	WJAS 1290 C	WRC 950 N
KFJF 1480 C	KVOO 1140 N	WDRC 1330 C	WJAX 900 N	WREC 600 C
KFKX 1020 N	KWK 1350 N	WDSU 1250 C	WJDX 1270 N	WREN 1220 N
KFPY 1340 C	KYW 1020 N	WEAF 660 N	WJJD 1130 C	WRR 1280 C
KFRC 610 C	WABC 860 C	WEAN 780 C	WJR 750 N	WRVA 1110 N
KFSD 600 N	WACO 1240 C	WEBC 1290 N	WJZ 760 N	WSAI 1330 N
KGO 790 N	WADC 1320 C	WEEI 590 N	WKBN 570 C	WSB 740 N
KGW 620 N	WAIU 640 C	WENR 870 N	WKBW 1480 C	WSM 650 N
KHJ 900 C	WAPI 1140 N	WFAA 800 N	WKRC 550 C	WSMB 1320 N
KHQ 590 N	WBAL 1060 N	WFAN 610 C	WKY 900 N	WSPD 1340 C
KLRA 1390 C	WBAP 800 N	WFBL 1360 C	WLAC 1470 C	WSUN 620 N
KLZ 560 C	WBBM 770 C	WFBM 1230 C	WLBW 1260 C	WTAG 580 N
KMBC 950 C	WBCM 1410 C	WFI 560 N	WLBZ 620 C	WTAM 1070 N
KMOX 1090 C	WBEN 900 N	WFLA 620 N	WLIT 560 N	WTAQ 1330 C
KOA 830 N	WBRC 930 C	WGAR 1450 N	WLS 870 N	WTAR 780 C
KOIL 1260 C	WBT 1080 C	WGN 720 N	WLW 700 N	WTIC 1060 N
KOIN 940 C	WBZ-A 990 N	WGR 550 C	WMAL 630 C	WTMJ 620 N
KOL 1270 C	WCAE 1220 N	WGST 890 C	WMAQ 670 C	WTOC 1260 C
KOMO 920 N	WCAH 1430 C	WGY 790 N	WMC 780 N	WWJ 920 N
KPO 680 N	WCAO 600 C	WHAM 1150 N	WMT 600 C	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 WEAJ 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 WBN CKGW	8:00-8:15 Gene and Glenn—Quaker Early Birds WEAF WJAR WEEI WTAG WCHS WFI WRC WGY WCAE WTAM WWJ WSAI CKGW WRVA WPTF WJAX WIOD WFLA WSUN	8:15-9:30 Morning Devotions WEAF WRC WCAE WGY WHAS WOV WFI WCHS WJAR WWJ WPTF WIOD WAPI WFLA WSUN WTAG WGN WJAX WJDX WRVA WBN WSMB WFI	8:30-9:00 Cheerio WEAF WEEI WCKY WRC WCHS WWJ WHO WOC WDAF WAPI KPRC WFI WSB WSM WJAX WPTF WTAG WOAI WBN WRVA CKGW WIOD WHAS WFLA WSUN WTAM WMC WJDX WJAR WGY WOW WCAE WBO	9:00-9:15 Something for Everyone WABC WHEC WPG WCAU WHP WJAS WDBJ WNC WXYZ WBCM WIOD WREC WLAC WBRC KSCJ WMT KMOX KMBC KOIL KFJ KFJ KTRH CFRB	9:15-9:45 Campbell's Orchestra WEAF WJAR WLIT WTAG WCHS WRC WDAF WBN WCAE WJAX WTAM WSAI KSD WOW WOC WWJ CKGW (WLS on 9:30)	9:45-10:00 A. & P. Program WEAF WJAR WTAG WCHS 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 WBN WOW WFI KSTP	11:15-11:30 Radio Household Institute WEAF WJAR WTAG WCHS WLIT WRC WHAS WSM WSB WCAE WWJ WSAI KFJK WTAM KSD WTMJ KSTP WEBC WAPI WSMB WOAI KTHS KVOO KPRC WKY WEEI WGY WMC WBN	12:00-12:30 Paul Tremaine and His Orchestra WABC WHEC WLBZ WORC WPG WCAU WHP WJAS WLBW WMAJ WCAO WJAR WDBJ WHK WKRC WAIU WNNC WIOD 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 WMAJ WCAO WJAR WXYZ WBCM WIOD 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 WOV 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 KFJK WPTF WCHS	1:30-2:00 Ambassador Hotel Orchestra WABC WHEC WLBZ WEAN WPG WFAJ WJAS WLBW WMAJ WCAO WJAR WDBJ	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 WNNC WORC WPG WCAU WHP WMAJ WCAO WJAR WDBJ WKRC WNNC WXYZ WBCM WIOD WREC WLAC WBRC WFBM WMAQ WBBM KSCJ WMT KMBC WDAY KOIL WIBW KFJ KFJF KRLL KTRH K TSA 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 KSO KOMO KHQ WSB WAPI WGAR WTMJ KSL	3:00-5:00 New York Philharmonic Orchestra WABC WHEC WLBZ WEAN WNNC WORC WCAU WHP WJAS WLBW WMAJ WCAO WJAR WDBJ WKRC WAIU WNNC WXYZ WBCM WSPD WIOD WREC WLAC WBRC WFBM WMAQ WCCO KSCJ WMT KMOX KMBC WDAY KOIL WIBW KFJ KTRH KRLL KTRH KLZ KFRC	4:00-5:00 Dr. S. Parke Cadman WEAF WEEI WJAR WCHS WTAG KOA WOW WKY WOAI WSAI WJAX WHAS WJDX KVOO KPRC WEBC WDAF WWJ WFLA WSUN KHQ WHO WOC KGO KOMO WCAE WFCJ WRC KGW WPTF WMC WGY WSM KTHS WBAP WSB WDSB WAPI WBN 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 Gey Barnhouse WABC WFBZ WGR WEAN WDRS WNNC WCAU WJAS WMAJ WADC WKRC WXYZ WSPD WOW WMAQ KOIL KRLL WRR	5:00-6:00 Davey Hour WEAF WJAR WTAG WCHS WFI WRC WGY WCAE WTAM KSD WSAI WENR WOC WHO WOW WDAF CCKGW WBN	5:00-6:00 National Vespers WJZ WBAL WHAM KWK WREN WCKY KSTP WEBC WIOD WMC KOMO WJDX WPTF KVOO KPRC WFLA WSUN KOA KTR 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 WFBZ WKBW WEAN WDRS WNNC WFAJ WCAU WJAS WMAJ WADC WKRC WXYZ WSPD WOW WBM KMBC KOIL	6:00-7:00 Catholic Hour WEAF WEEI WJAR WTAG WCHS WRC WGY WWJ WEBC WIOD WKY WJDX KGO KSTP WSM KOMO KSD KGW WCAE KECA KTR WFCJ 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 WCHS WRC WCAE WWJ WSAI WLS KSD WOC WHO WOW WEBC WTMJ WBN WLIT	7:30-8:00 RCA Victor Program WEAF WJAR WTAG WCHS WWJ KPRC WBN 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 KTR KFSD KGO KOMO KHQ	7:30-8:00 Williams Oromatics WJZ WBZ WBZA WHAM KWK WLW WREN KDKA WGN WJR	8:00-8:15 Enna Jettick Melodias 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 KTR WJDX KPO KVOO KHQ	8:00-8:15 "Devils, Drugs and Doctors" WABC WFBZ WHEC WGR WEAN WDRS WNNC WCAU WJAS WMAJ WCAO WADC WHK WKRC WGST WXYZ WSPD WREC WLAC WBRC WDSU WISN WOV WFBM WMAQ WCCO KSCJ KMOX KMBC KOIL WIBW WRR K TSA KLZ KDYL KVI KOL KFJF KOIN KHJ KPRC	8:00-8:30 Major Bowes' Family WEAF WSM KSTP WCHS WDAF WIOD WSB WMC WJDX WKY WJAR WCAE WRC WGY WWJ WSAI KSD WFCF 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 WCHS WRC WGY WCAE WWJ WSAI KSD WOW WIOD WOC KSTP WHO WOC WHAS WLIT WEBC WMC WSB WSMB WKY KTHS KPRC WOAI WTMJ WTAM WJDX WIOD WFLA WSUN WDAF W TIC KVOO WBN	8:45-9:00 The Gauchos WABC WEAN WDRS WNNC WRC WHP WJAS WLBW WMAJ WCAO WJAR WDBJ WADC WKBW WBT WXYZ WBCM WSPD WREN WISN WFBM KSCJ KMOX KLRA WNAX KOIL KFJF KTRH K TSA KLZ KOL KFJF	9:00-9:15 "Our Government," David Lawrence WEAF WTAG WCHS WEBC WGY WHAS KSD WKY WSAI WFCJ WSB WMC WSM WFAA WOW WOAI WSMB WJDX WIOD WFLA WSUN WOC WHO WRC WWJ KVOO WLIT WBN WJAR	9:00-9:30 Arabesque—Desert Play WABC WGR WEAN WDRS WNNC WORC WFAJ WHP WJAS WLBW WMAJ WDBJ WADC WKBW WBT WDAE WXYZ WBCM WSPD WREC WISN WOV WCCO KSCJ WMT KMBC KLRA WDAY WNAX KOIL WIBW KFJF KRLL KTRH K TSA KLZ KOL KFJF	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 WBN KSTP	9:30-10:00 Graham-Paige Hour WABC WFBZ WKBW WEAN WDRS WNNC WCAU WJAS WMAJ WCAO WADC WHK WKRC WBT WGST WIOC WQAM WDBO WDAE WXYZ WSPD WREC WDSU WOV WBBM WCCO KMOX KMBC KOIL KFJF KRLL KTRH K TSA KLZ KDYL KOL KFJF KOIN KHJ KPRC	10:00-10:30 Royce's Poet of the Organ WABC WFBZ WKBW WEAN WNNC WCAU WJAS WLBW WMAJ WCAO WADC WHK WKRC WGST WXYZ WSPD WLAC WOWO WBBM KMOX KMBC KOIL KLZ KDYL KOL KFJF KOIN KHJ KPRC	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
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#### Sunday

1:00-2:00 National Oratorio Society WEAF WJAR WCHS WRC WGY WCAE WTAM WWJ KSD WOW WOC WHO WDAF CKGW WTMJ KSTP WEBC WHAS KPO KOA KGW KFSD KOMO KECA WBN KGO CFCF	1:30-2:00 Conclave of Nations WABC WHEC WPG WHP WMAJ WCAO WJAR WDBJ WAIU WNNC WXYZ WBCM WIOD WREC WLAC WBRC WBBM WCCO KSCJ WMT KMOX KMBC WDAY KOIL WIBW KFJF K TSA KLZ
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10:15-10:30 Earth Incorporated  
WEAF WEEL WJAR WTAG WCSH WFI  
WRC WGY WBN WCAE WTAM WTIC  
WOW KOA

10:30-11:00 Koffee 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 WEEL WCSH WRC WGY WOW  
WDAF CKGW WTMJ KSTP WCAE WTAM  
WFJC WWJ KYW WOV WHO WEBC  
WJAX WIOD WHAS WSM WJDX KPRC  
WKY KOA KGO KGW WSB KTAR  
KFSD WRVA WBN 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 WBN

### 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  
WAU 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 Warden Park Hotel Orchestra  
WABC WLBZ WEAN WNAC WORC WPG  
WFAN WHP WLBW WMAL WCAO WTAR  
WDBJ WKRC WAU WWNC WXYZ WBCM  
WSPD WDOD WREC WLAC WBRW 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 WDRW WFAN WHP WLBW  
WMAL WCAO WTAR WDBJ WADC WKBW  
WBT WXYZ WBCM WREC WLAC WBRW  
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

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

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

7:45-8:30 Rozy's Gang Program  
WJZ WHAM KWK WSB WSM KFAB  
CKGW WIBW 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

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 WBN WJDX WSMB  
KGO KVOO KPRC KOA KECA WFLA  
WSUN WTIC WKY WHAS KHQ WJAX

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

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

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 WDRW WNAC WORC  
WPG WFAN WJAS WLBW WMAL WCAO  
WTAR WDBJ WADC WHK WAU WBT  
WDAE WXYZ WBCM WSPD WLAC WBRW  
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 WPK  
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  
WDRW WNAC WORC WPG WCAU WHP  
WJAS WLBW WMAL WCAO WTAR WDBJ  
WADC WHK WKRC WNNC WBT WGST  
WTOC WQAM WDBO WDAE WXYZ WBCM  
WSPD WDOD WREC WLAC WBRW WDSU  
WISN WOV 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 WEEL WJAR WCSH WTAG WLIT  
WRC WGY WCAE WTAM WWJ WGN  
KSD WOC WOV WSAI WDAF KSTP  
WTMJ WHAS WSM WMC WSB KPRC  
WJAX WFAA WOAI WKY KOA KSL  
KGO KGW KFI KOMO KHQ WTIC  
WHO WBN WCAE

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

10:00-10:30 Robert Burns Panatela Program  
WABC WFBL WKBW WEAN WDRW WNAC  
WCAU WJAS WMAL WCAO WADC WHK  
WKRC WXYZ WSPD WOV 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 WRAV 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 WEEL  
WLIT WTAM WSAI WRC WGN WOC  
WHO WBN 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 Robinson and his Orchestra  
WEAF WJAR WTAG WRC WCAE WTAM  
WLIT WWJ WDAF WMC WSB WJDX  
WBN WGY WOC WHO CFCF WEEL

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

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 Marton Downey - Leon Belasco's Orchestra  
WABC WKBW WCAU WEAN WDRW WNAC  
WORC WPG WGR WLW WCAO WTAR  
WDBJ WHK WKBW WBT WXYZ WBCM  
WSPD WREC WLAC WBRW 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 WDRW WORC WFAN WLBW  
WMAL WCAO WTAR WDBJ WADC WHK  
WKBW WBT WXYZ WBCM WSPD WREC  
WLAC WBRW 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  
KFJK KDKA KWK CKGW KFAB WKY  
KVOO WOAI WBAP WGAR

3:30-4:00 Golden Gems  
WEAF WEEL 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 WAU WWNC WXYZ WSPD WDOD  
WREC WLAC WBRW 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 WAU WWNC WXYZ WBCM  
WDOD WREC WLAC WBRW WCCO KSCJ  
WMT KMBC WDAY KFJF KRLD KTRH  
KTSA KLZ

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

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

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  
WEEL WJAR WTAG WCSH WFI WRC  
WGY WBN

8:15-8:30 Old Gold Character Readings  
WABC WFBL WHEC WGR WLBZ WEAN  
WDRW WNAC WORC WPG WCAU WHP  
WJAS WLBW WCAO WTAR WDBJ WADC  
WKRC WAU WKBW WNAC WBT WGST  
WTOC WQAM WDBO WDAE WXYZ WBCM  
WSPD WDOD WREC WLAC WBRW WDSU  
WISN WJDX 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 WBN KSTP

8:45-9:00 Premier Salad Dressers  
WABC WFBL WKBW WEAN WDRW WNAC  
WCAU WJAS WMAL WCAO WADC WHK  
WGST WTOC WQAM WDBO WDAE WXYZ  
WSPD WLAC WDSU WOV 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 WEEL WJAR WTAG WCSH WFI  
WRC WBN WTAM WSAI KSD WOW  
WTMJ WEBC WRVA WIOD WFLA WSUN  
WMC WMC WSB WSMB WJDX KPRC  
WKY KOA KSL KGO KECA KTAR  
KFSD KGA KOMO KHQ KVOO WOAI  
KYW

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

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

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 WEEL 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 WBN KPRC

10:00-10:15 Graybar - Mr. and Mrs.  
WADC WCAO WNAC WKBW WBBM WKRC  
WHK WXYZ WOV KMBC WABC WLBW  
KOIL WCAU WJAS WEAN KMOX WFLB  
WSPD WMAL WWNC WGST WBRW KRLD  
KLZ KTRH WFBM WLRA WCCO WISN  
WREC WTAR WLAC WDSU KFJF WHEC  
WDBJ KTSA KDYL KFH WKBW 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 WEEL 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  
WDRG WNAK WPG WCAU WHP WJAS  
WMAL WCAO WTAR WDBJ WADC WHK  
WQRC WKBW WNNC WBT WGST WTOG  
WQAM WBOB WDAE WXYZ WBCM WJAX  
WIOD WREC WLAC WBRG WDSU WISN  
WOWO WFBM WBBM WCCO KSCJ WMT  
KMOX KLRA WDAY WNAK KOIL WBW  
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 WEEL WDAF WCAE WIOD

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

**11:30-12:00 Vincent Lopez and His Orchestra**  
WEAF WFI KOA WRC KSTP WOC  
WHO WOV 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 WEEL 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 WDRG WNAC  
WORC WPG WCAU WHP WMAL WCAO  
WTAR WDBJ WADC WAIU WBT WXYZ  
WBCM WSPD WREC WLAC WBRG WISN  
WBBM WCCO KSCJ KMOX WDAY KOIL  
WBW 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 WNNC WXYZ WBCM WDOD  
WREC WLAC WBRG WCCO KSCJ WMT  
WDAF KFH KFJF KRLD KTRH KTSa  
KLZ

**7:00-7:15 Rodeheaver Sing**  
WEAF WJAR WFI WBEN WCAE WOC  
WHO WOV KGO WEEL

**7:00-7:30 Morton Downey — With Freddie Rich**  
WABC WHEC WLBZ WEAN WNAC WORC  
WCAU WHP WJAS WLBW WMAL WCAO  
WTAR WDBJ WKRK WAIU WNNC WXYZ  
WBCM WDOOD WLAC WBRG KSCJ WDAY  
WBW KFJF KTRH KOL KFRC

**7:30-7:45 Evangeline Adams, Astrologer**  
WABC WFBL WHEC WGR WEAN WDRG  
WNAC WCAU WCAO WDBJ WTAR WADC

WHK WKRC WAIU WWNC WGST WXYZ  
WSPD WDOOD WREC WLAC WBRG WDSU  
WISN WFBM WGL WCCO KMOX KMBC  
KLRA KOIL KFJF WRR KTRH CFRB

**7:45-8:00 Smith Brother's Orchestra**  
WJZ WGRAR 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 WBO KSD WOC WHO  
WOW WDAF WAPI

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

**8:00-8:15 Listerine Program—Bobby Jones**  
WEAF WEEL WTIC WJAR WTAG WCSH  
WLIT WRC WBEN WTAM WJZ WSAI  
KSD WOC WHO WOV WPTF WIOD  
WFLA WSUN WHAS WSM WTB 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 WBO KSD WOV WIOD  
WSM WSB WSMB WJDX WOAI KOA  
KHQ KOMO KFSD KTAR KECA KSL  
KGO KOA KYOO

**8:15-8:30 U.S. Marine Band**  
WABC WLBZ WEAN WNAC WORC WJAS  
WLBW WMAL WTAR WDBJ WNNC WXYZ  
WBCM WSPD WDOOD WREC WLAC WBRG  
WFBM KSCJ WMT KMOX KMBC WDAY  
WNAK KFJF KRLD KTSa KOL KFRC  
CFRB

**8:30-9:00 Mobiloil Concert**  
WEAF WEEL WJAR WTAG WCSH WLIT  
WRC WSAI KSD WOV 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 WDRG WNAC  
WFAN WCAU WJAS WMAL WCAO WADC  
WHK WKRK WXYZ WSPD WOV WJDX  
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 WEEL WJAR WTAG WCSH WLIT  
WRC WGY WCAE CKGW WRVA WJAX  
KOA KSL KGO KGW KOMO KHQ  
WSAI KSD WOC WHO WOV WWJ  
WSMB KVOO KPRC WOAI KSTP WTMJ  
KYW WHAS WSM WMC WSB KFI  
WBEN WTAM

**9:30-10:30 Palmolive Hour**  
WEAF WEEL WTIC WJAR WTAG WCSH  
WLIT WRC WGY WCAE WSAI WGN  
KSD WOC WOV 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 WDRG WNAC WORC  
WPG WCAU WJAS WLBW WMAL WCAO  
WTAR WDBJ WADC WHK WBT WXYZ  
WBCM WSPD WREC WLAC WISN WOV  
WFBM WCCO KSCJ WDAY WNAK KOIL  
KFH KFJF KTSa KLZ KOL KHJ  
CFRB WTAQ

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

**10:30-11:00 Columbia Concerts Programs**  
WABC WHEC WLBZ WEAN WNAC WORC  
WPG WJAS WLBW WMAL WCAO WTAR  
WDBJ WNNC WXYZ WBCM WSPD WDOOD  
WFBM WMAQ WCCO KSCJ WMT KMOX  
KMBC WDAY WNAK WJWB WKBW  
KTSa KLA KOL CFRB

**10:30-11:00 Coca Cola Program**  
WEAF WEEL 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 WOV 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 WNNC WXYZ WBCM WSPD WDOOD  
WREC WFBM WCCO KSCJ WMT KMOX  
KMBC WDAY WNAK KOIL WBW 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  
of 11:15) (WSM WOC WHO WDAF on 11:15)

**11:30-12:00 Bert Lown and His Biltmore Orchestra**  
WABC WKBW WEAN WDRG WNAC WORC  
WCAU WLBW WCAO WTAR WDBJ WKBW  
WBT WXYZ WBCM WSPD WREC WLAC  
WBRG WISN WFBM WCCO KSCJ WNAK  
KOIL WBW KFH KFJF KTRH KLZ  
WTAQ

### Thursday

**10:00-10:15 Ceresotes 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 WKK WREN KFAB WJAX  
WSM KSTP WSMB

**5:30-5:45 Rinoza Talkie**  
WEAF WEEL 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 WBO WWJ WHAS WOC  
WHO KOA WBEN

**7:30-7:45 St. Moritz Orchestra**  
WEAN WDRG WHP WJAS WLBW WMAL  
WDBJ WKBW WBT WXYZ WREC WBCM  
WLAC WBRG WISN WFBM WGL KSCJ  
KMOX WDAY WNAK 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 WBO KOA KSL  
WGAR

**8:00-9:00 Fleischmann Hour — Rudy Vallee**  
WEAF WEEL WTIC WJAR WJDX  
WJAR WCSH WFI WRC WGY WCAE  
WHO WOV WDAF WWJ WHAS KTRAR  
WMC WSB WSMB WEBC KOA WRVA

KSL KOMO WOAI WSM WOC WAPI  
KGO KHQ KECA KSD CKGW WTAM  
KGW KSTP WGN KPRC WBEN (WTM)  
KTHS WSAI WBAP WKY of 8:30)

**8:15-8:30 Barbasol Program**  
WABC WFBL WKBW WEAN WDRG WNAC  
WCAU WJAS WMAL WCAO WADC WKRK  
WXYZ WSPD WISN WFBM WJDX WCCO  
KMOX KMBC KOIL

**8:30-8:45 Kaltenborn Edits the News**  
WABC WFBL WGR WEAN WDRG WNAC  
WORC WCAU WJAS WMAL WCAO WADC  
WHK WKRK 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  
WKRK WXYZ WSPD WOWO WJDX KMOX  
KMBC KOIL

**9:00-9:15 Lee Morse**  
WABC WKBW WEAN WDRG WORC WNAC  
WPG WCAU WHP WJAS WLBW WMAL  
WCAO WTAR WDBJ WADC WHK WKBW  
WBT WDAE WXYZ WBCM WSPD WREC  
WLAC WBRG WISN KSCJ WDAY WNAK  
KOIL WBW KFH KFJF KRLD KTSa  
KLZ KOL KFPY KHJ

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

**9:00-9:30 Arco Birthday Party**  
WEAF WEEL 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 WOV 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  
WDRG WNAC WORC WPG WCAU WHP  
WJAS WLBW WCAO WTAR WDBJ WADC  
WHK WKRK WAIU WKBW WNNC WBT  
WGST WTOG WQAM WDOO WDAE WXYZ  
WDSU WISN WOV WFBM WBBM WCCO  
KSCJ WMT KMOX KMBC KLRA WDAY  
WNAK KOIL WBW KFH KFJF KRLD  
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 WDRG WNAC  
WCAU WJAS WMAL WCAO WADC WHK  
WKRK 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 WDRG WNAC  
WCAU WJAS WMAL WCAO WADC WHK  
WKRK WXYZ WSPD WDSU WOWO WBBM  
WCCO WMT KMOX KMBC WNAK KOIL  
KRLD KLZ KDYL KOL KFPY KOIN  
KHJ KFRC

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

**10:30-11:00 Toscha Seidel and Concert Orchestras**  
 WABC WFBL WKBW WEAN WDRC WNAC  
 WORG WFAN WHP WJAS WLBW WMAL  
 WCAO WJAR WDBJ WADC WHK WKBN  
 WBT WXYZ WBCM WSPD WLAC WBRC  
 WISN WQOW KSCJ KMOX WDAY WNAK  
 KOIL WIBW KFJF KRLL KTRH K TSA  
 KLZ CFRB

**11:00-11:30 Florence Richardson's Orchestra**  
 WEAF WCAE WFI (WWJ WSAI of 11:15)  
 (KST) 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 WJAR  
 WDBJ WNC WXYZ WBCM WSPD W DOD  
 WREC WLAC WBRC WFBM WCCO WMT  
 KMOX KMBC WDAY WNAK KOIL WIBW  
 KFH KFJF KTRH K TSA KLZ KOL  
 CFRB

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

**Friday**

**4:10-4:45 Dancing Melodies**  
 WEAF WTAG WCAE WFJC WTAM WWJ  
 WOC WHO WOV WDAF WBN

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

**7:15-7:30 Little Things in Life**  
 WEAF WCSH WBN WAD 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 WJAR WDBJ WAIU  
 WBT WXYZ WBCM WREC WLAC WBRC  
 WISN WFBM WMAQ WCCO KSCJ WDAY  
 WNAK KOIL WIBW KFJF KRLL 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 WBCB  
 WOAL KOMO KGO KGW KHQ KSL  
 WTAG CKGW KECA WHO WSAI WTAM  
 WBN WWJ (WFAA KPRC off 8:30)

**8:15-8:30 Rhythm Choristers**  
 WABC WKBW WDRC WORC WHP WJAS  
 WLBW WMAL WJAR WDBJ WADC WAIU  
 WXYZ WBCM WREC WLAC WBRC WISN  
 WMAQ KSCJ KMOX WDAY WNAK  
 KFJF KRLL 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  
 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 Cliequot Club Eskimos**  
 WEAF WEEI WTIC WJAR WTAG WCSH  
 WLIT WRC WOW WCAE WSAI WIBO  
 KSD WWJ WDAF WOC WHO WGY  
 WBN

**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 WKY 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 WOW WMAQ KMOX  
 KMBC KOIL

**9:30-9:45 Enna Jettick Songbird**  
 WEAF WEEI WJAR WTAG WCSH WRC  
 WLIT WGY WBN 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 WBN 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 WJAR  
 WDBJ WADC WHK WBT WBCM WSPD  
 WLAC WISN WCCO KSCJ WDAY WNAK  
 KOIL WIBW KFJF KTRH KLZ EOL  
 KFPY

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

**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  
 WKY 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 WBN

**10:30-11:00 Nit Wit Hour**  
 WABC WHEC WLBZ WEAN WNAC WORC  
 WPG WCAU WJAS WLBW WMAL WCAO  
 WJAR WDBJ WHK WNNC WXYZ WBCM  
 WSPD W DOD WLAC WBRC KSCJ WCCO  
 WMT KMOX WDAY WNAK KOIL WIBW  
 KFJF KTRH K TSA KLZ

**11:00-11:30 Noble Sissle and Princesse Orchestra**  
 WABC WKBW WEAN WDRC WNAC WORC  
 WCAU WLBW WCAO WJAR WDBJ WHK  
 WKBN WBT WXYZ WBCM WSPD WREC  
 WLAC WBRC WISN WOWO WCCO KMOX  
 WDAY WNAK 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 WJAR WDBJ WKRC WNNC WXYZ  
 WBCM W DOD WREC WLAC WBRC WCCO  
 WMT KMBC WDAY WNAK 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 WNNC

WXYZ WDOD WBCM WREC WLAC WFBM  
 KSCJ WMT KMBC WDAY KOIL KFJF  
 KRLL K TSA CFB

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

**4:45-5:00 Spanish Serenade**  
 WABC WLBZ WEAN WNAC WORC WFAN  
 WHP WMAL WCAO WJAR WDBJ WKRC  
 WAIU WNNC WXYZ WBCM WSPD WDOD  
 WREC WLAC WBRC WMAQ WBBM WCCO  
 KSCJ WMT KMOX KMBC WDAY KOIL  
 WIBW KFJF KRLL KTRH K TSA KLZ

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

**6:00-6:30 Ted Husing's Sportsants**  
 WABC WFBL WFN WHP WLBW WJAR  
 WDBJ WADC WHK WAIU WBT WBCM  
 WREC WLAC WBRC WISN WOWO WBBM  
 WCCO KSCJ WDAY KOIL WIBW KFH  
 KFJF KRLL KTRH K TSA KLZ KVI  
 KOL KFPY KHJ KFRC CFB

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

**7:00-7:15 Rodeaveer 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 WJAR WDBJ WHK WKRC  
 WNNC WXYZ WBCM WDOD WBRC WFBM  
 KSCJ WMT KMBC WDAY WNAK WCOL  
 KOIL KFRC

**7:30-7:45 Snoop and Peep**  
 WEAF WJAR WTAG WBN 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 WBN 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 WBN WCAE WTAM WWJ  
 WSAI WBO 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 WKBW WBT WXYZ WBCM  
 WSPD WREC WLAC WBRC WISN WOWO  
 WFBM WMAQ KSCJ KMOX WDAY WNAK  
 KOIL KFH KFJF KTRH K TSA 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 WBN 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 WJAR WDBJ WADC WBRC WBT  
 WBCM WSPD WLAC WBRC WISN WXYZ  
 WMAQ KSCJ KMOX WDAY WNAK KOIL  
 KFH KFJF KRLL KTRH K TSA CFB  
 KVI KFPY KHJ KFRC

**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 WBN WCAE WTAM WWJ  
 WSAI WBO KSD WOC WHO WDAF  
 WTMJ WKY KSTP WEBC WVA WJAX  
 WHAS WMC WSB WAPI WSMB WBAF  
 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 WJAR  
 WDBJ WKRC WNNC WXYZ WBCM WSPD  
 WDOD WREC WLAC WBRC WFBM WCOL  
 KSCJ WMT KMBC WDAY WNAK WCOL  
 WIBW KFH KFJF KTRH K TSA KLZ  
 KOIL KFRC

**10:00-11:00 Lucky Strike Dance Orchestra**  
 WEAF WEEI WJAR WTAG WCSH WFI  
 WRC WGY WBN WCAE WTAM WWJ  
 WSAI WNNC KSD WHO WOC WJAX  
 WDAF WTMJ KSTP WEBC WVA WJAX  
 WIOD WFLA WSUN WHAS WMC WSB  
 WSMB WJDX KVOO WFAA KPRC WOAI  
 WKY KOA KSL KGO KFI  
 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 WJAR WDBJ WKRC WNNC WXYZ  
 WBCM WSPD WDOD WLAC WBRC WFBM  
 WMAQ WCCO KSCJ WMT KMOX KMBC  
 WDAY WNAK KOIL WIBW KFH KFJF  
 KRLL KTRH K TSA KLZ KOL KFRC

**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 WOV

**11:00-11:30 Jack Denny and His Orchestra**  
 WABC WHEC WLBZ WEAN WNAC WORC  
 WPG WCAU WHP WLBW WMAL WCAO  
 WJAR WDBJ WNNC WXYZ WBCM WSPD  
 WDOD WREC WLAC WBRC WFBM KSCJ  
 WMT KMBC WDAY WNAK KOIL WIBW  
 KFJF KRLL KTRH KLZ KOL CFB

**11:30-12:00 Guy Lombardo and His Orchestra**  
 WABC WHEC WLBZ WEAN WNAC WORC  
 WPG WFAN WHP WLBW WMAL WCAO  
 WJAR WDBJ WKRC WNNC WXYZ WBCM  
 WDOD WREC WLAC WBRC WFBM WCCO  
 KSCJ WMT KMBC WDAY WNAK KOIL  
 WIBW KFJF KRLL KTRH KLZ KOL CFB

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

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

INDEX BY FREQUENCIES AND DIAL NUMBERS

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KEY

Frequency in kilocycles. Wave lengths in meters. Second column symbols: \* Verifies receptions 2c; sends station stamp 10c; † Verifies 2c; no stamp; ‡ Does not verify; § Did not reply. Third column shows night power in watts. Fourth column symbols: D, daytime only; 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

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Manitoba Telephone System

550 kilocycles 545.1 meters

CMCJ -- 250 --- Havana, Cuba  
 KFDY † 500 1+ Brookings, S. D.  
 KFUO \* 500 2+ St. Louis, Mo.  
 KFVR † 1000 1+ Bismarck, N. D.  
 KOAC † 1000 --- Corvallis, Ore.  
 KSD † 500 2N St. Louis, Mo.  
 WGR \* 1000 C Buffalo, N. Y.  
 WKRC † 1000 C Cincinnati, Ohio

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Rafael Rodriguez  
 S. D. State College  
 Concordia Theological Seminary  
 Meyer Broadcasting Co.  
 State Agricultural College  
 Pultitzer Publishing Co.  
 Buffalo Broadcasting Co.  
 WKRC Incorporated

560 kilocycles 535.4 meters

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

		79 WE
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Magnolia Petroleum Co.  
 Reynolds Radio Co., Inc.  
 Associated Broadcasters  
 Strawbridge & Clothier  
 Nelson Bros. Bond & Mortgage Co.  
 Lit Brothers  
 Sterchi Bros.  
 North Shore Congregational Church  
 Miami Broadcasting Co.

570 kilocycles 526.0 meters

KGKO \* 250 + Wichita Falls, Texas  
 KMTR \* 500 --- Los Angeles, Cal.  
 KXA \* 500 --- Seattle, Wash.  
 WEAO † 750 1 Columbus, Ohio  
 WKBN \* 500 1C Youngstown, Ohio  
 WMAC -- 250 2 Syracuse, N. Y.  
 WMCA \* 500 3 New York City  
 WNAX \* 1000 C Yankton, S. D.  
 WNYC † 500 3 New York City  
 WSYR -- 250 2 Syracuse, N. Y.  
 WWNC \* 1000 C Asheville, N. C.

		77-12
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Wichita Falls Broadcasting Co.  
 KMTR Radio Corp.  
 American Radio Tel. Co.  
 Ohio State University  
 W. P. Williamson, Jr.  
 Clive B. Meredith  
 Knickerbocker Broadcasting Co., Inc.  
 House of Gurney, Inc.  
 Dept. of Plants and Structures  
 Clive B. Meredith  
 Citizens Broadcasting Co., Inc.

580 kilocycles 516.9 meters

CFCL -- 500 3S Toronto, Ont.  
 CHMA -- 250 4 Edmonton, Alta.  
 CKCL \* 500 3 Toronto, Ont.  
 CKNC \* 500 3 Toronto, Ont.  
 CKUA † 500 4 Edmonton, Alta.  
 KGFX -- 200 D Pierre, S. D.  
 KSAC -- 500 2+ Manhattan, Kans.  
 WIBW \* 1000 2+C Topeka, Kansas  
 WOBU \* 250 1 Charleston, W. Va.  
 WSAZ \* 250 1 Huntington, W. Va.  
 WTAG \* 250 N Worcester, Mass.

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

INDEX BY FREQUENCIES AND DIAL NUMBERS

590 kilocycles 508.2 meters

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

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

KCYS.  
 670  
 MTRS.  
 447.5  
 DIAL

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.

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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.  
 WFXN \* 500 2C Philadelphia, Pa.  
 WIP \* 500 2 Philadelphia, Pa.  
 WJAY † 500 D Cleveland, Ohio

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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  
 WWSN \* 1000 1+N St. Petersburg, Fla.  
 WTMJ \* 1000 +N Milwaukee, Wis.

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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.  
 KFRR \* 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.

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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

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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

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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.  
 WEAJ † 50000 N New York City

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

670 kilocycles 447.5 meters

WMAQ \* 5000 C Chicago, Ill.

77		67
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WMAQ, Inc

CUT OUT ON DOTTED LINES



INDEX BY FREQUENCIES AND DIAL NUMBERS

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.  
 CJCT \* 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  
 Spratt-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.

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WISJ -- 250 + Madison, Wis.  
 WMC -- 500 +N Memphis, Tenn.  
 WPOR -- 500 1 Norfolk, Va.  
 WTR \* 500 1C Norfolk, Va.  
 XEW † 5000 --- Mexico City

Wisconsin State Journal Bdcsg. Co.  
 Dillard & Brown, Receivers  
 WTAR Radio Corp.  
 WTAR Radio Corp.  
 Mexico Music Co.

790 kilocycles 379.5 meters

CMBS -- 150 --- Havana, Cuba  
 CMHC -- 500 Tuinucu, Cuba  
 KGO † 7500 N San Francisco, Cal.  
 WGY † 50000 N Schenectady, N. Y.

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

800 kilocycles 374.8 meters

WBAP † 10000 1XN Fort Worth, Texas  
 WFAA -- 50000 1N Dallas, Texas  
 XFC -- 350 805 Aguascalientes, Mex.

Carter Publications, Inc.  
 News & Journal  
 Gobierno del Estado de Aguascalientes

810 kilocycles 370.2 meters

WCCO \* 7500 C Minneapolis, Minn.  
 WPCB \* 500 D New York City

Northwestern Broadcasting, Inc.  
 Eastern Broadcasters, Inc.

820 kilocycles 365.6 meters

WHAS † 10000 N Louisville, Ky.  
 XFI -- 1000 818 Mexico City

Courier-Journal & Times  
 Sria. de Ind., Comercio y Trabajo

830 kilocycles 361.2 meters

CMGA -- 100 834 Colon, Cuba  
 KOA † 12500 N Denver, Colo.  
 WHDH -- 1000 D Boston, Mass.  
 WRUF \* 5000 Dn Gainesville, Fla.

Leopoldo V. Figueros  
 National Broadcasting Co., Inc.  
 Matheson Radio Co., Inc.  
 University of Florida

840 kilocycles 356.9 meters

CFCA † 500 1 Toronto, Ont.  
 CHCT -- 1000 --- Red Deer, Alta.  
 CKLC † 1000 2 Red Deer, Alta.  
 CMC \* 500 845 Havana, Cuba  
 CNRD † 1000 2 Red Deer, Alta.  
 CNRT \* 500 1 Toronto, Ont.  
 XEG -- 2000 --- Mexico City

Star Publishing & Ptg. Co.  
 G. F. Tull & Ardern, Ltd.  
 Alberta Pacific Grain Co., Ltd.  
 Cuban Telephone Co.  
 Canadian National Railways  
 Canadian National Railways  
 Juan Gutierrez, Jr.

850 kilocycles 352.7 meters

KWKH \* 10000 1 Shreveport, La.  
 WWL \* 5000 1 New Orleans, La.

Hello World Broadcasting Corp.  
 Loyola University

860 kilocycles 348.6 meters

CMJE -- 5 856 Camaguey, Cuba  
 KMO -- 500 + Dn Tacoma, Wash.  
 WABC \* 5000 XC New York City  
 WBOQ -- 5000 --- New York City  
 WHB \* 500 D Kansas City, Mo.  
 XFX -- 500 --- Mexico City, Mex.

Manuel Fernandez  
 KMO, Inc.  
 Atlantic Broadcasting Corp.  
 Atlantic Broadcasting Corp.  
 WHB Broadcasting Co.  
 Secretaria de Educacion Publica

870 kilocycles 344.6 meters

CMHH -- 10 --- Cifuentes, Cuba  
 WENR -- 50000 1N Chicago, Ill.  
 WLS † 5000 1XN Chicago, Ill.

Antonio Quintero  
 Great Lakes Broadcasting Co.  
 Agricultural Broadcasting Co.

880 kilocycles 340.7 meters

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

Maple Leaf Radio Co., Ltd.  
 N. Nathanson  
 Le "Soleil," Ltd.  
 G. A. Vandry  
 Canadian National Railways  
 Midwestern Radio Corp.  
 Tribune Publishing Co.  
 Pillar of Fire, Inc.  
 Mississippi Broadcasting Co., Inc.  
 Scranton Broadcasters, Inc.  
 Scranton Times  
 University of Iowa

KCYS.  
 880  
 MTRS.  
 340.7  
 DIAL

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INDEX BY FREQUENCIES AND DIAL NUMBERS

890 kilocycles 336.9 meters

CFBO	*	500	---	St. John, N. B.
CKCO	†	100	---	Ottawa, Ont.
CKPR	---	50	---	Port Arthur, Ont.
CMX	*	500	---	Havana, Cuba
KPNF	*	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.
WIAR	*	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

900 kilocycles 333.1 meters

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

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.

920 kilocycles 325.9 meters

CMHD	---	250	---	Caibarien, Cuba
HHK	*	1000	---	Port au Prince, Haiti
KFEL	†	500	1	Denver, Colo.
KFXP	*	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	N15	Chihuahua, Mex.

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.

940 kilocycles 319.0 meters

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

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.

315.6 meters

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	

305.9 meters

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	

302.8 meters

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

296.8 meters

Manuel A. Alvarez	
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	

293.9 meters

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	

291.1 meters

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

288.3 meters

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

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960 kilocycles 312.3 meters

CFCY	*	250	1	Charlottetown, P. E. I.
CFRB	*	4000	2C	Toronto, Ont.
CHCK	---	100	1	Charlottetown, P. E. I.
CHWC	*	500	3	Regina, Sask.
CJBR	---	500	3	Regina, Sask.
CKCK	†	500	3	Regina, Sask.
CNRR	---	500	3	Regina, Sask.
CNRR	*	4000	2	Toronto, Ont.

970 kilocycles 309.1 meters

CMGF	---	50	977	Matanzas, Cuba
KJR	*	5000	---	Seattle, Wash.
WCFL	---	1500	N Dn	Chicago, Ill.
XED	*	10000	977	Reynosa, Mex

980 kilocycles 305.9 meters

KDKA	---	50000	N	Pittsburgh, Pa.
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990 kilocycles 302.8 meters

WBZ-A	†	15000	1N	Springfield, Mass.
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1000 kilocycles 299.8 meters

KFVD	*	250	Dn	Culver City, Cal.
WHO	*	5000	1N	Des Moines, Iowa
WOC	*	5000	1N	Davenport, Iowa
XEA	---	101	---	Guadalajara, Mex.
XEC	---	50	---	Toluca, Mex.
XEE	---	10	---	Linares, Mex.
XEF	*	105	---	Oaxaca, Mex.
XEFE	---	101	---	Laredo, Mex.
XEH	---	101	---	Monterrey, Mex.
XEI	*	101	---	Morelia, Mex.
XEJ	*	101	---	Juarez, Mex.
XEK	---	101	---	Mexico City
XEL	---	10	---	Saltillo, Mex.
XEU	---	101	---	Veracruz, Mex.
XEV	---	101	---	Puebla, Mex.
XEY	---	105	---	Merida, Mex.

1010 kilocycles 296.8 meters

CFLC	*	50	3	Prescott, Ont.
CKCR	---	50	3	Waterloo, Ont.
CKIC	---	50	---	Wolfville, N. S.
CMBW	---	150	---	Havana, Cuba
CMBZ	---	150	---	Havana, Cuba
CMCX	---	250	---	Havana, Cuba
KGGF	†	500	2	S. Coffeyville, Okla.
KQW	*	500	---	San Jose, Cal.
WHN	*	250	1	New York City
WIS	*	500	+	Columbia, S. C.
WNAD	*	500	2	Norman, Okla.
WPAP	*	250	1	New York City
WQAO	---	250	1	New York City
WRNY	---	250	1	New York City

1020 kilocycles 293.9 meters

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

1030 kilocycles 291.1 meters

CFCF	---	500	N	Montreal, Que.
CMKC	*	150	1034	Santiago de Cuba
CNVR	†	500	---	Vancouver, B. C.
XEB	†	1000	---	Mexico City, Mex.

1040 kilocycles 288.3 meters

KRLD	*	10000	1C	Dallas, Texas
KTHS	†	10000	1N	Hot Springs, Ark.
WKAR	*	1000	D	East Lansing, Mich.
WMAK	*	1000	Dn	Buffalo, N. Y.

312.3 meters

The Island Radio Co.	
Rogers-Majestic Corp., Ltd.	
W. E. Burke	
R. H. Williams & Sons, Ltd.	
Cooperative Wheat Producers, Ltd.	
Leader Publishing Co., Ltd.	
Canadian National Railways	
Canadian National Railways	

309.1 meters

Bernabe R. de la Torre	
Northwest Broadcasting System, Inc.	
Chicago Federation of Labor	
International Broadcasting Co., Inc.	

305.9 meters

Westinghouse Elec. & Mfg. Co.	
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302.8 meters

Westinghouse Elec. & Mfg. Co.	
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299.8 meters

Los Angeles Broadcasting Co.	
Central Broadcasting Co.	
Central Broadcasting Co.	
Alberto Palos Sauza	
Jesus R. Benavides	
Lic. Mariano Berlanga	
Alfonso Zorilla B.	
Rafael T. Carranza	
Constantino de Tarnave, Jr.	
Carlos Gutierrez M.	
Juan G. Buttner	
Arturo Martinez	
Antonio Garza Castro	
Fernando Pazos	
Ciro Molina	
Socialist Party del Surreste	

296.8 meters

Radio Association	
John Patterson	
Acadia Academy	
M. Alvarez	
Manuel y G. Salas	
"El Mundo"	
Powell & Platz	
Pacific Agricultural Foundation, Ltd.	
Marcus New Booking Agency	
South Carolina Broadcasting Co., Inc.	
University of Oklahoma	
Palisades Amusement Park	
Calvary Baptist Church	
Avlation Radio Station, Inc.	

293.9 meters

Westinghouse Elec. & Mfg. Co.	
Westinghouse Elec. & Mfg. Co.	
WRAX Broadcasting Co.	

291.1 meters

Canadian Marconi Co.	
M. P. Martinez	
Canadian National Railways	
El Buen Tono, S. A.	

288.3 meters

KRLD Radio Corp.	
Chamber of Commerce	
Michigan State College	
Buffalo Broadcasting Corp.	

KCYS.  
1040  
MTRS.  
288.3  
DIAL

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INDEX BY FREQUENCIES AND DIAL NUMBERS

<b>1050 kilocycles</b>	<b>285.5 meters</b>	
KFKB * 5000 Dn	Milford, Kansas	
KNX * 5000 X	Hollywood, Cal.	
<b>1060 kilocycles</b>	<b>282.8 meters</b>	
KWJJ -- 500 Dn	Portland, Ore.	
WBAL * 10000 1N	Baltimore, Md.	
WJAG * 1000 Dn	Norfolk, Nebr.	
WTIC * 50000 1N	Hartford, Conn.	
<b>1070 kilocycles</b>	<b>280.2 meters</b>	
CMBG -- 150 ---	Havana, Cuba	
CMBT -- 150 ---	Havana, Cuba	
CMCB -- 150 ---	Havana, Cuba	
KJBS * 100 D	San Francisco, Cal.	
WCAZ -- 50 D	Carthage, Ill.	
WDZ † 100 D	Tuscola, Ill.	
WTAM * 50000 N	Cleveland, Ohio	
<b>1080 kilocycles</b>	<b>277.6 meters</b>	
WBT * 5000 C	Charlotte, N. C.	
WCBM * 5000 1 Dn	Zion, Ill.	
WMBI * 5000 1 Dn	Chicago, Ill.	
<b>1090 kilocycles</b>	<b>275.1 meters</b>	
CMAA -- 30 ---	Guanajay, Cuba	
CMGI -- 30 1094	Matanzas, Cuba	
KMOX * 50000 1CX	St. Louis, Mo.	
<b>1100 kilocycles</b>	<b>272.6 meters</b>	
CMKD -- 20 ---	Santiago, Cuba	
KGDM * 250 DX	Stockton, Cal.	
WLWL * 5000 1	New York City	
WPG * 5000 1C	Atlantic City, N. J.	
<b>1110 kilocycles</b>	<b>270.1 meters</b>	
CMHI -- 15 ---	Santa Clara, Cuba	
KSOO * 2000 Dn	Sioux Falls, S. D.	
WRVA * 5000 N	Richmond, Va.	
<b>1120 kilocycles</b>	<b>267.7 meters</b>	
CFJC -- 100 ---	Kamloops, B. C.	
CHCS -- 10 4--	Hamilton, Ont.	
CHGS * 100 ---	Summerside, P. E. I.	
CJOC † 50 ---	Lethbridge, Alta.	
CKOC * 50 4--	Hamilton, Ont.	
KFIO † 100 D	Spokane, Wash.	
KFSG * 500 3	Los Angeles, Cal.	
KMCS * 500 3Y	Inglewood, Cal.	
KRSC † 50 D	Seattle, Wash.	
KTRH * 500 2C	Houston, Texas	
WDBO * 500 +C	Orlando, Fla.	
WDEL † 250 +X	Wilmington, Del.	
WHAD † 250 1	Milwaukee, Wis.	
WISN * 250 1C	Milwaukee, Wis.	
WTAW * 500 2	College Station, Texas	
<b>1130 kilocycles</b>	<b>265.3 meters</b>	
KSL * 5000 N	Salt Lake City	
WJJD * 20000 C Dn	Mooseheart, Ill.	
WOV -- 1000 D	New York City	
<b>1140 kilocycles</b>	<b>263.0 meters</b>	
CMGD -- 5 ---	Matanzas, Cuba	
KVOO * 5000 1N	Tulsa, Okla.	
WAPI -- 5000 1N	Birmingham, Ala.	
XETA -- 500 ---	Mexico City	
<b>1150 kilocycles</b>	<b>260.7 meters</b>	
CMCQ -- 600 ---	Havana, Cuba	
CMHA -- 200 1154	Cienfuegos, Cuba	
CMQ † 250 ---	Havana, Cuba	
WHAM * 5000 N	Rochester, N. Y.	

	KFKB Broadcasting Assn., Inc.	
	Western Broadcast Co.	
	KWJJ Broadcast Co., Inc.	
	Consolidated Gas Elec. & Pwr. Co.	
	Norfolk Daily News	
	Travelers Broadcasting Service Corp.	
	Francisco Garrigo	
	E. Perera	
	M. D. Autran	
	Julius Brunton & Sons Co.	
	Superior Broadcasting Service	
	James L. Bush	
	National Broadcasting Co., Inc.	
	Station WBT, Inc.	
	Wilbur Glenn Voliva	
	Moody Bible Institute	
	Antonio Sarasola	
	Armando Lizama	
	Voice of St. Louis, Inc.	
	Jose Caluff	
	E. F. Peffer	
	Missionary Society of St. Paul	
	WPG Broadcasting Corp.	
	Laviz y Paz	
	Sioux Falls Broadcasting Assn., Inc.	
	Larus & Bros. Co., Inc.	
	N. S. Dalgleish & Sons	
	The Hamilton Spectator	
	R. T. Holman, Ltd.	
	Harold R. Carson	
	Wentworth Radio & Auto Sply. Co., Ltd	
	Spokane Broadcasting Corp.	
	Echo Park Evang. Assn.	
	Dalton's, Inc.	
	Radio Sales Corp.	
	Rice Hotel	
	Orlando Broadcasting Co., Inc.	
	WDEL, Inc.	
	Marquette University	
	Evening Wisconsin Co.	
	Agricultural & Mech. College	
	Radio Service Corp. of Utah	
	Loyal Order of Moose	
	International Broadcasting Corp.	
	Rafael Rodriguez	
	Southwestern Sales Corp.	
	Alabama Polytechnic Institute	
	Manuel Espinosa Tagle	
	Andres Martinez	
	Fox Bros Co.	
	Jose Fernandez	
	Stromberg-Carlson Tel. Mfg. Co.	

INDEX BY FREQUENCIES AND DIAL NUMBERS

<b>1160 kilocycles</b>	<b>258.5 meters</b>	
WOWO * 10000 1C	Ft. Wayne, Ind.	
WWVA * 5000 1	Wheeling, W. Va.	
<b>1170 kilocycles</b>	<b>256.3 meters</b>	
CMKG -- 30 1176	Santiago de Cuba	
KTNT * 5000 Dn	Muscatine, Iowa	
WCAU * 10000 C	Philadelphia, Pa.	
<b>1180 kilocycles</b>	<b>254.1 meters</b>	
CMGB -- 7.5 1185	Matanzas, Cuba	
KEX * 5000 2	Portland, Ore.	
KOB * 20000 2	State College, N. M.	
WDGY * 1000 1 Dn	Minneapolis, Minn.	
WHDH * 500 1 Dn	Minneapolis, Minn.	
<b>1190 kilocycles</b>	<b>252.0 meters</b>	
WICC * 500 D	Bridgeport, Conn.	
WOAI * 50000 N	San Antonio, Texas	
<b>1200 kilocycles</b>	<b>249.9 meters</b>	
CFCH -- 50 ---	North Bay, Ont.	
CMKB -- 15 ---	Santiago de Cuba	
KBTM -- 100 D--	Paragould, Ark.	
KFIB -- 100 +	Marshalltown, Iowa	
KFWF -- 100 5	St. Louis, Mo.	
KGCU -- 100 ---	Mandan, N. D.	
KGDE * 100 +	Fergus Falls, Minn.	
KGDY -- 100 ---	Huron, S. D.	
KGEK -- 50 9--	Yuma, Colo.	
KGEW † 100 9	Fort Morgan, Colo.	
KGEI † 100 ---	Los Angeles, Cal.	
KGHI -- 100 ---	Little Rock, Ark.	
KGV † 10 +	Lacey, Wash.	
KMLB -- 50 D	Monroe, La.	
KSMR -- 100 ---	Santa Maria, Cal.	
KVOS * 100 ---	Bellingham, Wash.	
KWG * 100 ---	Stockton, Cal.	
WABI † 100 ---	Bangor, Maine	
WABZ * 100 1	New Orleans, La.	
WBBZ * 100 ---	Ponca City, Okla.	
WCAT † 100 ---	Rapid City, S. D.	
WCAX * 100 2--	Burlington, Vt.	
WCLO † 100 ---	Janesville, Wis.	
WCOD † 100 3	Harrisburg, Pa.	
WEHC * 100 +	Emory, Va.	
WEPS † 100 ---	Worcester, Mass.	
WFBC * 50 ---	Knoxville, Tenn.	
WFBE -- 100 +	Cincinnati, Ohio	
WHBC -- 10 4S	Canton, Ohio	
WIBY † 100 +	Green Bay, Wis.	
WIBX -- 100 +	Utica, N. Y.	
WIL -- 100 5+	St. Louis, Mo.	
WIB * 100 6	La Salle, Ill.	
WJBL † 100 6	Decatur, Ill.	
WJBW -- 100 1	New Orleans, La.	
WKJC -- 100 3	Lancaster, Pa.	
WLAP † 100 +	Louisville, Ky.	
WLBG * 100 +	Petersburg, Va.	
WBO * 100 4	Washington, Pa.	
WNBW † 10 ---	Carbondale, Pa.	
WNBX † 10 2--	Springfield, Vt.	
WORC * 100 CX	Worcester, Mass.	
WRAP * 100 8	La Porte, Ind.	
WRBL † 50 ---	Columbus, Ga.	
WWAE * 100 8	Hammond, Ind.	
10-BP † 25 ---	Wingham, Ont.	

<b>1210 kilocycles</b>	<b>247.8 meters</b>	
CFCO -- 100 ---	Chatham, Ont.	
CFNB -- 100 ---	Fredrickton, N. B.	
CJOR * 50 ---	Sea Island, B. C.	
CKMC -- 15 ---	Cobalt, Ont.	

	Main Auto Supply Co.	
	West Virginia Broadcasting Corp.	
	Ricardo Arnoldo	
	Norman Baker	
	Universal Broadcasting Co.	
	Jose Anorga	
	Western Broadcasting Co.	
	College of Agriculture & Mech. Arts	
	Dr. George W. Young	
	Wm. Flood Dunwoody Industrial Inst.	
	Bridgeport Broadcasting Station, Inc.	
	Southern Equipment Co.	
	Northern Supplies, Ltd.	
	Melchor Agüero	
	W. J. Beard's Temple of Music	
	Marshall Electric Co., Inc.	
	St. Louis Truth Center, Inc.	
	Mandan Radio Association	
	Jaren Drug Co.	
	Voice of South Dakota	
	Beehler Elec. Equipment Co.	
	City of Fort Morgan	
	Ben S. McGlashan	
	Berean Bible Class	
	St. Martin's College	
	G. C. Linder	
	Santa Maria Radio	
	KVOS, Inc.	
	Portable Wireless Tel. Co., Inc.	
	Pine Tree Broadcasting Corp.	
	Radio Broadcasting Co. of La.	
	C. L. Carrell	
	State School of Mines	
	University of Vermont	
	WCLO Radio Corp.	
	Keystone Broadcasting Corp.	
	Emory & Henry College	
	Alfred Frank Kleindienst	
	First Baptist Church	
	WFBE, Inc.	
	St. John's Catholic Church	
	St. Norbert's College	
	WIBX, Inc.	
	Missouri Broadcasting Corp.	
	Kaskaskia Broadcasting Co.	
	Commodore Broadcasting, Inc.	
	Charles C. Carlson, Jr.	
	Kirk, Johnson & Co.	
	American Broadcasting Corp. of Ky.	
	Robert Allen Gamble	
	John Brownlee Spriggs	
	Home Cut Glass & China Co.	
	First Congregational Church	
	Alfred Frank Kleindienst	
	Chas. Middleton	
	David Parmer	
	Hammond-Calumet Broad. Corp.	
	Radio & Electric Shop	
	Western Ontario "Better Radio" Club	
	James S. Neill & Sons, Ltd.	
	G. C. Chandler	
	R. L. MacAdam	

CKYS.  
1210  
MTRS.  
247.8  
DIAL

CUT OUT ON DOTTED LINES



INDEX BY FREQUENCIES AND DIAL NUMBERS

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 Brdcastg. 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.	Dutree 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.
WLAI	†	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
CMCN	--	250	1225	Havana, Cuba
KFKU	†	500	1	Lawrence, Kans.
KWSC	†	1000	+	Pullman, Wash.
WCAD	†	500	D	Canton, N. Y.
WCAE	†	1000	N	Pittsburgh, Pa.
WDAE	†	1000	C	Tampa, Fla.
WREN	†	1000	IN	Lawrence, Kans.

1230 kilocycles 243.8 meters

KFQD	--	100	---	Anchorage, Alaska
KGCM	†	250	+	Albuquerque, N. Mex.
KYA	†	1000	---	San Francisco, Cal.
WBIS	†	1000	2	Boston, Mass.
WFBM	†	1000	1C	Indianapolis, Ind.
WNAC	†	1000	2C	Boston, Mass.
WPSC	--	500	D	State College, Pa.
WSBT	†	500	1	South Bend, Ind.

1240 kilocycles 241.8 meters

CMAB	--	20	1249	Pinar del Rio, Cuba
CMGH	--	60	1249	Matanzas, Cuba
CMKE	--	250	1249	Santiago de Cuba
KTAT	†	1000	1	Ft. Worth, Texas
WACO	†	1000	1C	Waco, Texas
WXYZ	†	1000	C	Detroit, Mich.

1250 kilocycles 239.9 meters

KFMX	--	1000	2	Northfield, Minn.
KFOX	†	1000	---	Long Beach, Cal.
KIDO	--	1000	---	Boise, Idaho

M. Cruz
Antonio Ginard
University of Kansas
State College of Washington
St. Lawrence University
Gimbel Bros.
Tampa Publishing Co.
Jenny Wren Co.

Anchorage Radio Club
New Mexico Broadcasting Co.
Pacific Broadcasting Corp.
Shepard Broadcasting Service, Inc.
Indianapolis Power & Light Co.
Shepard Broadcasting Service, Inc.
Pennsylvania State College
South Bend Tribune

Francisco Martinez
Alberto Alvarez
Edmundo Recamier
S. A. T. Broadcast Co.
Central Texas Broadcasting Co., Inc.
Kunsky-Trendle Broadcasting Corp.

Carleton College
Nichols & Warinner, Inc.
Boise Broadcasting Station

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WAAM	*	1000	1+X	Newark, N. J.
WCAL	*	1000	2	Northfield, Minn.
WDSU	--	1000	C	New Orleans, La.
WGCP	--	250	1	Newark, N. J.
WLB	†	1000	2	St. Paul, Minn.
WODA	--	1000	1	Paterson, N. J.
WRHM	†	1000	2	Minneapolis, Minn.
XEFA	--	250	---	Mexico City

1260 kilocycles 238.0 meters

KOIL	*	1000	C	Council Bluffs, Iowa
KRGV	*	500	1	Harlingen, Texas
KVOA	--	500	D	Tucson, Ariz.
KWWG	*	500	1	Brownsville, Texas
WLBW	*	500	C+	Oil City, Pa.
WTOC	*	500	C	Savannah, Ga.

1270 kilocycles 236.1 meters

CMJB	--	20	1276	Ciego de Avila, Cuba
KFUM	--	1000	---	Colorado Springs, Colo.
KGCA	†	50	2D	Decorah, Iowa
KOL	†	1000	3C	Seattle, Wash.
KTW	†	1000	3	Seattle, Wash.
KWLC	--	100	2D	Decorah, Iowa
WASH	*	500	1	Grand Rapids, Mich.
WBAL	*	1000	D	Ithaca, N. Y.
WFBR	--	500	---	Baltimore, Md.
WJDX	--	1000	N-	Jackson, Miss.
WOOD	--	500	1	Grand Rapids, Mich.

1280 kilocycles 234.2 meters

CMBJ	--	15	1285	Havana, Cuba
CMBM	--	15	1285	Havana, Cuba
CMCG	--	30	1285	Havana, Cuba
CMCH	--	15	1285	Havana, Cuba
CMCR	--	20	1285	Havana, Cuba
KFBB	*	1000	+	Great Falls, Mont.
WCAM	--	500	1	Camden, N. J.
WCAP	--	500	1	Asbury Park, N. J.
WDOD	*	1000	+C	Chattanooga, Tenn.
WIBA	*	500	---	Madison, Wis.
WQAX	--	500	1	Trenton, N. J.
WRR	--	500	C	Dallas, Texas

1290 kilocycles 232.4 meters

KDYL	*	1000	C	Salt Lake City
KFUL	--	500	1	Galveston, Texas
KLCN	--	50	D	Blytheville, Ark.
KTSA	†	1000	1+C	San Antonio, Texas
WEBC	*	1000	+N	Superior, Wis.
WJAS	*	1000	C+	Pittsburgh, Pa.
WNBZ	--	50	D	Saranac Lake, N. Y.

1300 kilocycles 230.6 meters

KFH	*	1000	2C	Wichita, Kansas
KEJR	*	500	3	Portland, Ore.
KGEF	*	1000	4	Los Angeles, Cal.
KTBI	*	1000	4	Los Angeles, Cal.
KTBR	--	500	3	Portland, Ore.
WBRR	†	1000	1	Brooklyn, N. Y.
WEVD	*	500	1	New York City
WHAP	*	1000	1	New York City
WHAZ	*	500	1	Troy, N. Y.
WIOD	*	1000	N	Miami, Fla.
WQQ	*	1000	2	Kansas City, Mo.

1310 kilocycles 228.9 meters

CMGC	--	30	1315	Matanzas, Cuba
KCRJ	†	100	---	Jerome, Ariz.
KFBK	†	100	---	Sacramento, Cal.
KFGQ	†	100	7-	Boone, Iowa
KEIU	†	10	---	Juneau, Alaska
KEIY	†	100	7-	Ft. Dodge, Iowa
KFPL	†	100	---	Dublin, Texas
KFPM	†	15	---	Greenville, Texas
KFPJ	--	100	8	Denver, Colo.
KFXJ	--	50	8XY	Edgewater, Colo.

WAAM, Inc.
St. Olaf College
Jos. H. Uhalt
May Radio Broadcast Corp.
University of Minnesota
Richard E. O'Dea
Minnesota Broadcasting Corp.
Luis F. Murguia

Mona Motor Oil Co.
KRGV, Inc.
Robert M. Riculfi
Herald Pub. Co.
Radio-Wire Program Corp.
Savannah Broadcasting Co.

Eduardo V. Figueroa
W. D. Corley
Charles W. Greenley
Seattle Broadcasting Co., Inc.
First Presbyterian Church
Luther College
WASH Broadcasting Corp.
Cornell University
Baltimore Radio Show, Inc.
Lamar Life Insurance Co.
Walter B. Stiles, Inc.

Jesus Lopez
Jose Leiro
Jose Justo Moran
Hernani Terralbas
Aurelio Terrandez
Buttrey Broadcast, Inc.
City of Camden
Radio Industries Broadcast Co.
WDOD Broadcasting Corp.
Capital Times Co.
WOAX, Inc.
City of Dallas

Intermountain Broadcasting Corp.
Will H. Ford
C. L. Lintzenich
Lone Star Broadcast Co.
Head of Lake Broadcasting Co.
Pittsburgh Radio Supply House
Smith & Mace

Radio Station KFH Co.
Ashley C. Dixon & Son
Trinity Methodist Church
Bible Institute of Los Angeles
M. E. Brown
People's Pulpit Association
Debs Memorial Radio Fund, Inc.
Defenders of Truth Society, Inc.
Rensselaer Polytechnic Institute
Isle of Dreams Broadcasting Corp.
Unity School of Christianity

Oscar Mechoso
Chas. C. Robinson
Jas. McClatchy Co.
Boone Biblical College
Alaska Electric Light & Power Co.
C. S. Tunwall
C. C. Baxter
The New Furniture Co.
Fitzsimmons General Hospital
Western Slope Broadcasting Co.

KCY.S.  
1310  
MTRS.  
228.9  
DIAL

CUT OUT ON DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

KFXR	100	+	Oklahoma City
KGBX	100	---	St. Joseph, Mo.
KGCX	100	+	Wolf Point, Mont.
KCEZ	100	---	Kalispell, Mont.
KGFW	100	---	Ravenna, Neb.
KIT	50	---	Yakima, Wash.
KMED	50	---	Medford, Ore.
KRMD	50	9	Shreveport, La.
KTLG	100	X	Houston, Tex.
KTSL	100	9	Shreveport, La.
KTSM	100	2	El Paso, Texas
KWCR	100	7	Cedar Rapids, Iowa
KXRO	75	---	Aberdeen, Wash.
WBEO	100	CP	Marquette, Mich.
WBOW	100	---	Terre Haute, Ind.
WBRE	100	---	Wilkes-Barre, Pa.
WCLS	100	1	Joliet, Ill.
WDAH	100	2	El Paso, Texas
WEBR	100	+	Buffalo, N. Y.
WEXL	50	---	Royal Oak, Mich.
WFBG	100	3+	Altoona, Pa.
WFDF	100	---	Flint, Mich.
WGAL	100	---	Lancaster, Pa.
WGH	100	---	Newport News, Va.
WHAT	100	4X	Philadelphia, Pa.
WJAC	100	3	Johnstown, Pa.
WJAK	50	6	Marion, Ind.
WKAV	100	---	Laconia, N. H.
WKBB	100	1	Joliet, Ill.
WKBC	100	---	Birmingham, Ala.
WKBS	100	---	Galesburg, Ill.
WLBC	50	---	Muncie, Ind.
WMBO	100	6	Auburn, N. Y.
WNBH	100	---	New Bedford, Mass.
WOBT	100	+	Union City, Tenn.
WOL	100	---	Washington, D. C.
WRBW	50	5XZ	Reading, Pa.
WRBI	100	---	Tifton, Ga.
WROL	100	---	Knoxville, Tenn.
WSAJ	100	---	Grove City, Pa.
WSJS	100	---	Winston-Salem, N. C.
WTEL	50	4X	Philadelphia, Pa.
XETN	30	---	Toluca, Mex.

Exchange Ave. Baptist Church
KGBX Inc.
First State Bank of Vida
Treolar-Church Brdctg. Co.
Central Nebraska Broadcasting Corp.
Carl E. Haymond
Mrs. W. J. Virgin
Robert M. Dean
Houston Broadcasting Co.
G. A. Houseman
W. S. Bledsoe & W. T. Blackwell
Harry F. Paar
KXRO, Inc.
Charles B. McCleod
Banks of Wabash, Inc.
Louis G. Baltimore
WCLS, Inc.
Eagle Broadcasting Co.
Howell Broadcasting Co., Inc.
Royal Oak Broadcasting Co.
Wm. F. Gable Co.
Frank D. Fallain
WGAL, Inc.
Hampton Roads Broadcasting Corp.
Independence Broadcasting Co.
Johnstown Automobile Co.
Marion Broadcasting Co.
Laconia Radio Club
Sanders Bros. Radio Station
R. B. Broyles Furniture Co.
Permil N. Nelson
Donald A. Burton
Radio Service Laboratories
New Bedford Broadcasting Co.
Tittsworth's Radio & Music Shop
American Broadcasting Co.
Reading Broadcasting Co.
Kent's Furniture & Music Store
Stewart Broadcasting Co.
Grove City College
Winston-Salem Journal Co.
Foulkrod Radio Engineering Co.
Antonio Fernandez

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Feliciano Isaac
Alberto Ravelo
C. P. Ritchie & J. E. Finch
Honolulu Broadcasting Co., Ltd.
KID Broadcasting Co.
Radio Broadcasting Corp.
Allen T. Simmons
Saenger Theatre & Maison Blanche Co.

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Pedro Nogueras
Pickwick Broadcasting Corp.
Perkins Bros. Co.
Doolittle Radio Corp.
Crosley Radio Corp., Lessee
Gillette Rubber Co.

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Oscar Montenegro
Jose G. Reigada
Angel Bertamaty
Jorge Garcia Serra
M. D. Autran
Southwestern Hotels Co.
Symons Broadcasting Co.
City of Pensacola
Toledo Broadcasting Co.

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Greater St. Louis Broadcasting Corp.
Pillar of Fire
Standard Cahill Co., Inc.
Italian Educ. Broadcasting Co., Inc.
Madison Sq. Garden Brdctg. Corp.

1320 kilocycles 227.1 meters

CMJC	15	1321	Camaguey, Cuba
CMKH	250	1327	Santiago de Cuba
KGHF	250	X+	Pueblo, Colo
KGMB	500	---	Honolulu, Hawaii
KID	250	1+	Idaho Falls, Idaho
KTFI	250	1+	Twin Falls, Idaho
WADC	1000	C	Akron, Ohio
WSMB	500	N	New Orleans, La.

1330 kilocycles 225.4 meters

CMJA	10	1332	Camaguey, Cuba
KGB	250	X	San Diego, Cal.
KSCJ	1000	1+C	Sioux City, Iowa
WDRG	500	C	Hartford, Conn.
WSAI	500	N	Cincinnati, Ohio
WTAQ	1000	1C	Eau Claire, Wis.

1340 kilocycles 223.7 meters

CMBA	50	1345	Havana, Cuba
CMBF	7.5	1345	Havana, Cuba
CMCD	15	1345	Havana, Cuba
CMCU	50	1345	Havana, Cuba
CMCY	15	1345	Havana, Cuba
KFPW	50	D	Fort Smith, Ark.
KFPY	1000	C	Spokane, Wash.
WCOA	500	---	Pensacola, Fla.
WSPD	500	C+	Toledo, Ohio

1350 kilocycles 222.1 meters

KWK	1000	N	St. Louis, Mo.
WAWZ	250	1	New York City
WBNX	250	1	New York City
WCDA	250	1	New York City
WMSG	250	1	New York City

1360 kilocycles 220.4 meters

CMKF	30	1363	Holguin, Cuba
KGER	1000	4	Long Beach, Cal.
KGIR	500	---	Butte, Mont.
KPSN	1000	4	Pasadena, Cal.
WCSC	500	---	Charleston, S. C.
WFBL	1000	C+X	Syracuse, N. Y.
WGES	500	1+	Chicago, Ill.
WJKS	1000	1+	Gary, Ind.
WQBC	300	CPD	Vicksburg, Miss.

1370 kilocycles 218.7 meters

CMGE	30	1375	Cardenas, Cuba
KCRC	100	2+	Enid, Okla.
KFBL	50	3	Everett, Wash.
KFJI	100	---	Astoria, Ore.
KFJM	100	---	Grand Forks, N. D.
KFJZ	100	X	Ft. Worth, Texas
KFLX	100	---	Galveston, Texas
KGAR	100	+	Tucson, Ariz.
KGDA	100	---	Mitchell, S. D.
KGFG	100	2	Oklahoma City
KGFL	50	---	Raton, N. M.
KGKL	100	---	San Angelo, Texas
KMAC	100	5	San Antonio, Tex.
KONO	100	5	San Antonio, Texas
KOOS	100	---	Marshfield, Ore.
KRE	100	6	Berkeley, Cal.
KVL	100	3	Seattle, Wash.
KWKC	100	6	Kansas City, Mo.
KZM	100	---	Hayward, Cal.
WBGF	50	7	Glens Falls, N. Y.
WBTH	100	7	Danville, Va.
WCBM	100	+Z	Baltimore, Md.
WELK	100	+	Philadelphia, Pa.
WFDV	100	---	Rome, Ga.
WGL	100	---	Fort Wayne, Ind.
WHBD	100	---	Mount Orab, Ohio
WHBQ	100	---	Memphis, Tenn.
WHDF	100	1	Calumet, Mich.
WIBM	100	1	Jackson, Mich.
WJBK	50	1	Detroit, Mich.
WLEY	100	+	Lexington, Mass.
WLVA	100	7	Lynchburg, Va.
WMBR	100	---	Tampa, Fla.
WPOE	100	---	Patchogue, N. Y.
WQDM	100	D	St. Albans, Vt.
WRAG	50	---	Williamsport, Pa.
WRBJ	10	---	Hattiesburg, Miss.
WRBT	100	---	Wilmington, N. C.
WRJN	100	---	Racine, Wis.
WRSV	50	---	Buffalo, N. Y.
WSDO	100	CP	Augusta, Me.

1380 kilocycles 217.3 meters

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

1390 kilocycles 215.7 meters

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

1400 kilocycles 214.2 meters

CMBI	30	1405	Havana, Cuba
CMBK	15	1405	Havana, Cuba
CMBN	30	1405	Havana, Cuba
CMBO	50	1405	Havana, Cuba
CMBX	30	1405	Havana, Cuba
CMBY	100	1405	Havana, Cuba
KLD	500	X	Ogden, Utah
KOCW	250	+	Chickasha, Okla.
WBAA	500	1+	Lafayette, Ind.

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Manuel J. de Gongora
C. Merwin Dobyns
KGIR, Inc.
Pasadena Star-News
Jordan & Burk
Onondaga Radio Broadcasting Corp.
Oak Leaves Broadcasting Station, Inc.
Johnson-Kennedy Radio Corp.
Delta Broadcasting Co., Inc.

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Genaro Sebater
Champlin Refining Co.
Leese Bros.
Everett, Wash.
KFJI Broadcasters, Inc.
University of North Dakota
Estate of H. C. Meachem
George Roy Clough
Tucson Motor Service Co.
Mitchell Broadcasting Corp.
Oklahoma Broadcasting Co., Inc.
W. E. Whitmore
KGKL, Inc., Opr. by Ragsdale Auto
W. W. McAllister
Mission Broadcasting Co.
H. H. Hanseth, Inc.
Marshfield, Ore.
Berkeley, Cal.
Seattle, Wash.
Kansas City, Mo.
Hayward, Cal.
Glens Falls, N. Y.
Danville, Va.
Baltimore, Md.
Philadelphia, Pa.
Dolies Goings
Fred C. Zieg
F. P. Moler
Broadcasting Station WHBQ, Inc.
Upper Michigan Broadcasting Co.
WIBM, Inc.
Jackson, Mich.
James F. Hopkins, Inc.
Lexington Air Stations
Lynchburg Broadcasting Corp.
Lynchburg, Va.
F. J. Reynolds
Nassau Broadcasting Corp.
A. J. St. Antoine
C. R. Cummins
Woodruff Furniture Co., Inc.
Hattiesburg, Miss.
Wilmington, N. C.
Racine, Wis.
Seneca Vocational School
Albert S. Woodson

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Jay Peters
Doubleday-Hill Electric Co.
Berry Seed Co.
WKBH, Inc.
Stanley M. Krohn, Jr.

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

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Heriberto Meireles
Jose L. Ferriol
Armado Romeu
Emilio Salas
Bertin Fernandez
Lino E. Cosculluela
Peery Building Co.
College for Women
Purdue University

KCY5.  
1400  
MTRS.  
214.2  
DIAL

CUT OUT ON  
DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

WBBC	*	500	2	Brooklyn, N. Y.
WCGU	*	500	2	Brooklyn, N. Y.
WCMA	†	500	1	Culver, Ind.
WFOX	*	500	2	Brooklyn, N. Y.
WKBF	†	500	1	Indianapolis, Ind.
WLTH	*	500	2	Brooklyn, N. Y.

1410 kilocycles 212.6 meters

KFLV	†	500	4	Rockford, Ill.
KGRS	*	1000	1	Amarillo, Texas
WBCM	*	500	C	Bay City, Mich.
WDAG	*	250	1X	Amarillo, Texas
WHBL	*	500	4	Sheboygan, Wis.
WHIS	†	250	---	Bluefield, W. Va.
WLEX	†	500	2	Lexington, Mass.
WODX	†	500	3	Mobile, Ala.
WRBX	*	250	---	Roanoke, Va.
WSFA	†	500	3	Montgomery, Ala.
WSSH	†	500	2	Boston, Mass.

1420 kilocycles 211.1 meters

CMHE	--	20	1429	Santa Clara, Cuba
KBPS	--	100	4	Portland, Ore.
KFIZ	*	100	---	Fond du Lac, Wis.
KFOU	*	100	5X	Holy City, Cal.
KFQW	--	100	---	Seattle, Wash.
KFXD	*	100	XY	Nampa, Idaho
KFYD	†	100	+	Flagstaff, Ariz.
KFFY	†	100	Y	Abilene, Texas
KGFF	†	100	---	Shawnee, Okla.
KGCC	†	100	5	San Francisco, Cal.
KGIW	†	100	---	Trinidad, Colo.
KGIX	†	100	---	Las Vegas, Nevada
KGKX	†	100	---	Sand Point, Idaho
KGVO	†	100	CPD	Missoula, Mont.
KICK	*	100	---	Red Oak, Iowa
KLPM	†	100	---	Minot, North Dakota
KORE	*	100	---	Eugene, Ore.
KTAP	†	100	---	San Antonio, Texas
KXL	--	100	4	Portland, Ore.
KXYZ	--	100	X	Houston, Texas
WEHD	--	100	---	Erie, Pa.
WEHS	--	100	2	Cicero, Ill.
WELL	†	50	X	Battle Creek, Mich.
WFDW	--	100	---	Talladega, Ala.
WHDL	*	10	DX	Tupper Lake, N. Y.
WHFC	--	100	2	Cicero, Ill.
WIAS	†	100	---	Ottumwa, Iowa
WIBR	*	50	---	Steubenville, Ohio
WILM	*	100	---	Wilmington, Del.
WJBO	*	100	---	New Orleans, La.
WKBI	*	100	2	Chicago, Ill.
WLBF	--	100	---	Kansas City, Kas.
WMBG	--	100	X+	Detroit, Mich.
WMBH	--	100	+	Joplin, Mo.
WPAD	†	100	---	Paducah, Ky.
WSPA	*	100	+	Spartanburg, S. C.
WTBO	*	100	---	Cumberland, Md.

1430 kilocycles 209.7 meters

KECA	†	1000	N	Los Angeles, Cal.
KGNF	†	500	D	North Platte, Neb.
WBAK	†	500	1X+	Harrisburg, Pa.
WCAH	*	500	1C	Columbus, Ohio
WGBC	*	500	2S	Memphis, Tenn.
WHP	*	500	1C+	Harrisburg, Pa.
WNBR	*	500	2	Memphis, Tenn.
XEP	--	2500	---	Laredo, Mex.

1440 kilocycles 208.2 meters

KLS	*	250	D	Oakland, Cal.
WBIG	*	500	---	Greensboro, N. C.
WBCA	--	250	1	Allentown, Pa.
WHCC	--	500	2C	Rochester, N. Y.
WMBD	--	500	3+	Peoria Heights, Ill.
WOKO	--	500	2Y	Poughkeepsie, N. Y.
WSAN	--	250	1	Allentown, Pa.
WTAD	†	500	3	Quincy, Ill.

Brooklyn Broadcasting Corp.  
U. S. Broadcasting Corp.  
General Broadcasting Corp.  
Paramount Broadcasting Co.  
Indianapolis Broadcasting, Inc.  
The Voice of Brooklyn, Inc.

Rockford Broadcasters, Inc.  
Gish Radio Service  
James E. Davidson  
National Radio & Broadcasting Corp.  
Press Pub. Co.  
Daily Telegraph  
Bay State Broadcasting Corp.  
Mobile Broadcasting Corp.  
Richmond Development Corp.  
Montgomery Broadcasting Co., Inc.  
Tremont Temple Baptist Church

Juan del Regato  
Benson Polytechnic Institute  
Reporter Printing Co.  
W. E. Riker  
KFQW, Inc.  
Service Radio Co.  
Mary M. Costigan  
T. E. Kirksey  
KGFF Broadcasting Co.  
Golden Gate Broadcasting Co.  
Leonard E. Wilson  
Las Vegas, Nevada, Radio Corp.  
C. E. Twiss and F. H. McCann  
Mosby's Incorporate  
Red Oak Radio Corp.  
John B. Cooley  
Eugene Broadcasting Station  
Alamo Broadcasting Co.  
KKL Broadcasters, Inc.  
Harris County Broadcast Co.  
Erle Dispatch-Herald  
WEHS, Inc.  
Enquirer-News Co.  
Raymond G. Hammett  
Tupper Lake Broadcasting Co., Inc.  
Triangle Broadcasters  
Iowa Broadcasting Co.  
George W. Robinson  
Delaware Broadcasting Co., Inc.  
Veldemar Jensen  
Fred L. Schoenwolf  
WLBF Broadcasting Co.  
Michigan Broadcasting Co., Inc.  
Edwin Dudley Aber  
Paducah Broadcasting Co.  
Voice of South Carolina  
Associated Broadcasting Corp.

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

Warner Bros.  
North Carolina Broadcasting Co.  
B. B. Musselman  
Hickson Electric & Radio Corp.  
Peoria Heights Radio Laboratory  
WOKO, Inc.  
Allentown Call Publishing Co., Inc.  
Ills. Stock Medicine Broadcasting Co.

INDEX BY FREQUENCIES AND DIAL NUMBERS

1450 kilocycles 206.8 meters

CKMA	--	20	---	Santiago de Cuba
KTBS	--	1000	---	Shreveport, La.
WBMS	*	250	1	Hackensack, N. J.
WGAR	†	500	N	Cleveland, Ohio
WHOM	*	500	1	Jersey City, N. J.
WKBO	*	250	1	Jersey City, N. J.
WNJ	*	250	1	Newark, N. J.
WSAR	*	250	---	Fall River, Mass.
WTFI	--	500	D	Toccoa, Ga.

Arturio C. de Ribas  
Tri-State Broadcasting System, Inc.  
WBMS Broadcasting Corp.  
WGAR Broadcasting Co.  
New Jersey Broadcasting Corp.  
Carnih Corp.  
Radio Investment Co.  
Doughty & Welch Electric Co., Inc.  
Toccoa Falls Institute

1460 kilocycles 205.4 meters

KSTP	*	10000	NX	St. Paul, Minn.
WJSV	*	10000	---	Alexandria, Va.

National Battery Broadcasting Co.  
Independent Publishing Co.

1470 kilocycles 204.0 meters

KGA	†	5000	---	Spokane, Wash.
WLAC	*	5000	1C	Nashville, Tenn.
WTNT	--	5000	1	Nashville, Tenn.

Northwest Broadcasting System, Inc.  
Life & Casualty Insurance Co.  
Life & Casualty Insurance Co.

1480 kilocycles 202.6 meters

KFJF	*	5000	C	Oklahoma City
WKBW	*	5000	C	Buffalo, N. Y.

National Radio Mfg. Co.  
Buffalo Broadcasting Co., Lessees

1490 kilocycles 201.2 meters

WCHI	*	5000	1	Chicago, Ill.
WKCY	*	5000	1N	Covington, Ky.
WJAZ	--	5000	1	Chicago, Ill.

People's Pulpit Association  
L. B. Wilson, Inc.  
Zenith Radio Corp.

1500 kilocycles 199.9 meters

CMBH	--	30	---	Havana, Cuba
CMBL	--	15	---	Havana, Cuba
CMBP	--	15	---	Havana, Cuba
CMBR	--	15	---	Havana, Cuba
CMCT	--	15	---	Havana, Cuba
CMCT	--	5	---	Havana, Cuba
CMHB	--	10	---	Sagua la Grande, Cuba
KDB	*	100	---	Santa Barbara, Cal.
KGFI	*	100	+	Corpus Christi, Texas
KGFK	†	50	---	Moorhead, Minn.
KGIZ	--	50	---	Grant City, Mo.
KGKB	--	100	---	Brownwood, Texas
KGKY	*	100	---	Scottsbluff, Nebr.
KPJY	*	100	---	Prescott, Ariz.
KPO	†	50	---	Wenatchee, Wash.
KREG	†	100	---	Santa Ana, Cal.
KUJ	†	100	---	Walla Walla, Wash.
KUT	†	100	---	Austin, Texas
KXO	--	100	---	El Centro, Cal.
WCLB	--	100	1Y	Long Beach, N. Y.
WDIX	--	100	---	Tupelo, Miss.
WKBV	*	100	+	Connersville, Ind.
WKBZ	†	50	---	Ludington, Mich.
WLBX	*	100	1	Long Island City, N. Y.
WLOE	*	100	+	Boston, Mass.
WMBB	--	100	---	Newport, R. I.
WMBQ	*	100	1	Brooklyn, N. Y.
WMPC	†	100	---	Lapeer, Mich.
WNBF	*	100	---	Binghamton, N. Y.
WOPI	--	100	---	Bristol, Tenn.
WPEN	*	100	+	Philadelphia, Pa.
WRDW	*	100	---	Augusta, Ga.
WWRL	*	100	1	Woodside, N. Y.
WSYB	†	100	CP	Rutland, Vt.
-----	--	100	CP	Pittsburgh, Pa.

Gustavo Huber  
Julio C. Hidalgo  
Ricardo Perkins  
Tomas Basall  
Martinez y Madico  
Alberto Fernandez  
Santiago Ventura  
Dwight Faulding  
Eagle Broadcasting Co., Inc.  
Red River Broadcasting Co., Inc.  
Grant City Park Corp.  
Eagle Publishing Co.  
Hilliard Co., Inc.  
Miller & Klahn  
Wescoast Broadcasting Co.  
Pacific Western Broadcasting  
Columbia Broadcasting Co., Inc.  
Driskill Hotel  
E. R. Irey and F. M. Bowles  
Arthur Faske  
North Mississippi Broadcasting Corp.  
Knox Battery & Electric Co.  
K. L. Ashbacher  
John N. Brahy  
Boston Broadcasting Co.  
LeRoy Joseph Beebe  
Paul J. Gollhofer  
First M. P. Church  
Howitt-Wood Radio Co., Inc.  
Radiophone Brdcastg. Station, Inc.  
Wm. Penn Broadcasting Co.  
Warren C. Davenport's Musicove, Inc.  
Long Island Broadcasting Corp.  
Seward & Weiss Music Co.  
William S. Walker

KCYS.  
1500  
MTRS.  
199.9  
DIAL



INDEX BY LOCATIONS WITH MAP KEY

ALABAMA		Watts	Keys.			San Jose J-1	500	KQW	1010
Birmingham O-21	5000	WAPI	1140	Santa Ana M-3	100	KREG	1500		
	500	WBRC	930	Santa Barbara M-2	100	KDB	1500		
	100	WKBC	1310	Santa Maria L-2	100	KSMR	1200		
Gadsden O-21	50	WJBY	1210	Stockton J-2	250	KGDM	1100		
Mobile Q-20	500	WODX	1410		100	KWG	1200		
Montgomery P-21	500	WSFA	1410	<b>COLORADO</b>					
Talladega O-21	100	WFDW	1420	Colorado Springs K-11	1000	KFUM	1270		
<b>ALASKA</b>				Denver K-11	500	KFEL	920		
Anchorage	100	KFOD	1230		100	KFUP	1310		
Juneau	10	KFIU	1310		500	KFXP	920		
Ketchikan	500	KGBU	900		1000	KLZ	560		
<b>ARIZONA</b>					12500	KOA	830		
Flagstaff M-7	100	KFXY	1420	Edgewater K-10	500	KPOF	880		
Jerome M-6	100	KCRJ	1310	Fort Morgan J-11	100	KGEW	1200		
Phoenix N-6	500	KOY	1390	Greeley J-11	500	KFKA	880		
	500	KTAR	620	Pueblo L-11	250	KGHF	1320		
Prescott M-6	100	KPJM	1500	Trinidad L-11	100	KGIV	1420		
	100	KGAR	1370	Yuma J-12	50	KGEK	1200		
Tucson O-7	500	KVOA	1260	<b>CONNECTICUT</b>					
<b>ARKANSAS</b>				Bridgeport H-27	500	WICC	1190		
Blytheville M-19	50	KLCN	1290	Hartford H-27	500	WDRG	1330		
Fayetteville M-16	1000	KUOA	1390		50000	WTIC	1060		
Fort Smith N-16	50	KFPW	1340	Storrs H-28	250	WCAC	600		
Hot Springs N-17	1000	KTHS	1040	<b>DELAWARE</b>					
Little Rock N-17	100	KGHI	1200	Wilmington J-26	250	WDEL	1120		
	250	KGJF	890		100	WILM	1420		
	1000	KLRA	1390	<b>DISTRICT OF COLUMBIA</b>					
Paragould M-18	100	KBTM	1200	Washington J-26	250	WMAL	630		
<b>CALIFORNIA</b>					500	WRC	950		
Berkeley J-2	100	KRE	1370		100	WOL	1310		
Burbank M-3	500	KELW	780	<b>FLORIDA</b>					
Culver City M-3	250	KFVD	1000	Clearwater R-24	1000	WFLA	620		
El Centro N-4	100	KXO	1500	Gainesville Q-24	5000	WRUF	830		
Fresno K-2	100	KMJ	1210	Jacksonville Q-24	1000	WJAX	900		
Hayward J-1	100	KZM	1370	Miami T-25	1000	WIOD	1300		
Hollywood M-3	1000	KFWB	950		1000	WQAM	560		
	5000	KNX	1050	Orlando R-24	500	WDBO	1120		
Holy City K-1	100	KFOU	1420	Pensacola Q-21	500	WCOA	1340		
Inglewood M-3	500	KMCS	1120	St. Petersburg S-24	1000	WSUN	620		
Long Beach M-3	1000	KFOX	1250	Tampa R-24	1000	WDAE	1220		
	1000	KGER	1360		100	WMBR	1370		
Los Angeles M-3	1000	KECA	1430	<b>GEORGIA</b>					
	5000	KFI	640	Atlanta O-22	250	WGST	890		
	500	KFSG	1120		5000	WSB	740		
	1000	KGEF	1300	Augusta O-23	100	WRDQ	1500		
	100	KGJF	1200	Columbus O-22	50	WRBL	1200		
	1000	KHJ	900	Macon O-23	250	WMAZ	890		
	500	KMPC	710	Rome N-22	100	WFDV	1370		
	500	KMTR	570	Savannah O-24	500	WTOG	1260		
	500	KTM	780	Thomasville Q-22	50	WODX	1210		
Oakland J-1	1000	KTBI	1300	Tifton P-23	100	WRBI	1310		
	250	KLS	1440	Toccoa N-23	500	WTPI	1450		
	500	KLX	880	<b>HAWAII</b>					
	500	KROW	930	Honolulu	500	KGMB	1320		
Pasadena M-3	50	KPPC	1210		1000	KGU	940		
	1000	KPSN	1360	<b>IDAHO</b>					
Sacramento J-2	100	KFBK	1310	Boise G-5	1000	KIDO	1250		
San Bernardino M-3	100	KFXM	1210	Idaho Falls G-7	250	KID	1320		
San Diego N-3	500	KFSD	600	Nampa G-5	50	KFXD	1420		
	250	KGB	1330	Pocatello H-7	250	KSEI	900		
San Francisco J-1	1000	KFRC	610	Sand Point D-6	100	KGKX	1420		
	500	KFWI	930	Twin Falls H-6	250	KTFI	1320		
	100	KGCC	1420	<b>ILLINOIS</b>					
	7500	KGO	790	Carthage J-18	50	WCAZ	1070		
	100	KJBS	1070	Chicago I-20	10000	KFKX	1020		
	5000	KPO	680		10000	KYW	1020		
	1000	KTAB	560		500	WAAF	920		
	1000	KYA	1230		25000	WBBM	770		

INDEX BY LOCATIONS WITH MAP KEY

ILLINOIS		Watts	Keys.			Ottumwa J-17	100	WIAS	1420
Carthage J-18	50	WCAZ	1070	Red Oak J-16	100	KICK	1420		
Chicago I-20	10000	KFKX	1020	Shenandoah J-16	500	KFNH	890		
	10000	KYW	1020		500	KMA	930		
	500	WAAF	920	Sioux City I-15	1000	KSCJ	1330		
	25000	WBBM	770	Waterloo I-17	500	WMT	600		
	1500	WCFL	970	<b>KANSAS</b>					
	5000	WCHI	1490	Dodge City L-13	100	KGNO	1210		
	100	WCRW	1210	Kansas City K-16	100	WLBF	1420		
	100	WEDC	1210	Lawrence K-16	500	KFKU	1220		
	50000	WENR	870		1000	WREN	1220		
	500	WGES	1360	Manhattan K-15	500	KSAC	580		
	25000	WGN	720	Milford K-14	5000	KFKB	1050		
	1000	WIBO	560	Topeka K-16	1000	WIBW	580		
	5000	WJAZ	1490	Wichita L-15	1000	KFH	1300		
	25000	WJBT	770	<b>KENTUCKY</b>					
	100	WKBI	1420	Covington K-22	5000	WCKY	1490		
	5000	WLS	870	Hopkinsville M-20	1000	WFIV	940		
	5000	WMAQ	670	Louisville L-21	10000	WHAS	820		
	5000	WMBI	1080		100	WLAP	1200		
	500	WPCC	560	Paducah M-19	100	WPAD	1420		
Cicero I-20	100	WSBC	1210	<b>LOUISIANA</b>					
	100	WEHS	1420	Monroe P-18	50	KMLB	1200		
Decatur K-19	100	WHFC	1420	New Orleans R-19	100	WABZ	1200		
	100	WJBL	1200		1000	WDSU	1250		
Galesburg J-18	100	WKBS	1310		100	WBO	1420		
Harrisburg L-19	100	WEBQ	1210		100	WJBW	1200		
Joliet I-19	100	WCLS	1310		500	WSMB	1320		
	100	WKBB	1310	Shreveport P-17	50	KRMD	1310		
La Salle J-19	100	WJBC	1200		1000	KTBS	1450		
Mooseheart I-19	20000	WJD	1130		100	KTSL	1310		
Peoria Heights J-19	500	WMBD	1440		100	KWEA	1210		
Quincy K-18	500	WTAD	1440		10000	KWKH	850		
Rockford I-19	500	KFLV	1410	<b>MAINE</b>					
Rock Island I-18	100	WHBF	1210	Augusta F-28	100	WRDO	1370		
Springfield K-19	100	WCBS	1210	Bangor F-29	100	WABI	1200		
	100	WTAX	1210		500	WLBZ	620		
	100	WDZ	1070	Portland F-28	1000	WCSH	940		
Tuscola K-20	100	WILL	890	<b>MARYLAND</b>					
Urbana J-20	250	WILL	890	Baltimore J-26	10000	WBAL	1060		
Zion I-20	5000	WCBD	1080		250	WCAO	600		
<b>INDIANA</b>						100	WCBM	1370	
Anderson J-21	100	WHBU	1210		500	WFBR	1270		
Connersville K-21	100	WKBV	1500	Cumberland J-25	100	WTBO	1420		
Culver I-20	500	WCMA	1400	<b>MASSACHUSETTS</b>					
Evansville L-20	500	WGBF	630	Boston G-28	1000	WBIS	1230		
Fort Wayne J-21	100	WGL	1370		1000	WEEL	590		
	10000	WOWO	1160		1000	WHDH	830		
Gary I-20	1000	WJKS	1360		100	WLOE	1500		
Hammond I-20	100	WWAE	1200		1000	WNAC	1230		
Indianapolis J-21	1000	WFBM	1230		500	WSSH	1410		
	500	WKBF	1400	Fall River H-28	250	WSAR	1450		
Lafayette J-20	500	WBAA	1400	Lexington G-28	500	WLEX	1410		
La Porte I-20	100	WRAF	1200		100	WLEY	1370		
Marion J-21	50	WJAK	1310	New Bedford H-28	100	WNBH	1310		
Muncie J-21	50	WLBC	1310	Springfield H-27	15000	WBZ-A	990		
South Bend I-20	500	WSBT	1230		500	WESB	920		
Terre Haute K-20	100	WBOW	1310	Needham G-28	100	WEPS	1200		
<b>IOWA</b>						250	WORC	1200	
Ames I-17	5000	WOI	640	Worcester G-28	100	WTAG	580		
Boone I-17	100	KFGQ	1310	<b>MICHIGAN</b>					
Cedar Rapids I-18	100	KWCR	1310	Battle Creek I-21	50	WELL	1420		
Clarinda J-16	500	KSO	1380	Bay City H-22	500	WBCM	1410		
Council Bluffs J-16	1000	KOIL	1260	Berrien Springs I-20	1000	WKZO	590		
Davenport I-18	5000	WOC	1000	Cadumet E-19	100	WHDF	1370		
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						

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	WDFD	1310
	100	WPDF	1200
Grand Rapids H-21	500	WASH	1270
	500	WOOD	1270
Jackson I-21	100	WIBM	1370
Lapeer H-22	100	WMPG	1500
Ludington H-20	50	WKBB	1500
Marquette F-19	100	WBEO	1310
Royal Oak H-22	50	WEXL	1310
<b>MINNESOTA</b>			
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
<b>MISSISSIPPI</b>			
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
<b>MISSOURI</b>			
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	1000	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
<b>MONTANA</b>			
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
<b>NEBRASKA</b>			
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

<b>NEVADA</b>			
Las Vegas L-5	100	KGIX	1420
Reno I-3	500	KOH	1380
<b>NEW HAMPSHIRE</b>			
Laconia G-28	100	WKAV	1310
<b>NEW JERSEY</b>			
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
<b>NEW MEXICO</b>			
Albuquerque N-7	250	KGGM	1230
Raton M-11	50	KGFL	1370
State College P-9	20000	KOB	1180
<b>NEW YORK</b>			
Auburn H-25	100	WMBO	1310
Binghamton H-26	100	WNBF	1500
Brooklyn I-27	500	WBBC	1400
	1000	WBRR	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	WKWB	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	WLCT	1210
	100	WMRJ	1210
Jamaica H-27	25	WOCL	1210
Jamestown H-24	100	WLBX	1500
Long Island City I-27	100	WCLB	1500
Long Beach I-27	5000	WABC	860
New York City I-27	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

INDEX BY LOCATIONS WITH MAP KEY

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
<b>NORTH CAROLINA</b>			
Asheville M-23	1000	WWNC	570
Charlotte M-24	5000	WBT	1080
Gastonia M-24	100	WSOC	1210
Greensboro M-24	500	WBG	1440
Raleigh M-25	1000	WPTF	680
Wilmington N-26	100	WRBT	1370
Winston-Salem M-24	100	WSJS	1310
<b>NORTH DAKOTA</b>			
Bismarck F-13	1000	KFYR	550
Devils Lake E-14	100	KDLR	1210
Fargo F-15	1000	WDAY	940
Grand Forks E-15	100	KEJM	1370
Mandan F-13	100	KGCU	1200
Minot E-13	100	KLPM	1420
<b>OHIO</b>			
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
Stuebenville J-23	50	WIBR	1420
Toledo I-22	500	WSPD	1340
Youngstown I-23	500	WKBN	570
Zanesville J-23	100	WALR	1210
<b>OKLAHOMA</b>			
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	KFEJ	1480
	100	KFXR	1310
	100	KGFG	1370
	1000	WKY	900
Ponca City M-15	100	WBBZ	1200
S. Coffeyville M-15	500	KGFF	1010
Shawnee N-15	100	KGFF	1420
Tulsa M-15	5000	KVOO	1140
<b>OREGON</b>			
Astoria D-2	100	KFJI	1370
Corvallis E-2	1000	KOAC	550
Eugene F-2	100	KOAE	1420

Marshfield F-1	100	KOOS	1370
Medford G-2	50	KMED	1310
Portland E-3	5000	KEX	1180
	100	KBPS	1420
	500	KFRJ	1300
	1000	KGW	620
	1000	KOIN	940
	500	KTBR	1300
	500	KWJJ	1060
	100	KXL	1420
<b>PENNSYLVANIA</b>			
Allentown I-26	250	WCBA	1440
	250	WSAN	1440
Altoona I-25	100	WFBG	1310
Carbondale E-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
	100	WJU	1210
Lewisburg I-26	100	WLBW	1260
Oil City I-24	500	WBAU	1170
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	WTBL	1310
Pittsburgh J-24	50000	KDKA	980
	500	KOV	380
	1000	WCAG	1220
	1000	WJAS	1290
	100	WRAW	1500
Reading I-26	50	WRAW	1310
Scranton H-26	250	WGBI	880
	250	WGN	880
State College I-25	500	WBCS	1230
Washington J-24	100	WNBO	1200
Wilkes-Barre I-26	100	WBAX	1210
	100	WBRE	1310
Williamsport I-25	50	WRAK	1370
<b>PORTO RICO</b>			
San Juan W-34	500	WKAQ	890
<b>RHODE ISLAND</b>			
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
<b>SOUTH CAROLINA</b>			
Charleston O-25	500	WCSC	1360
Columbia N-24	500	WIS	1010
Spartanburg N-23	100	WSPA	1420
<b>SOUTH DAKOTA</b>			
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

INDEX BY LOCATIONS WITH MAP KEY

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
	100	WSIX	1210
	100	WOBT	1310

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
	100	KUT	1500
	500	KFDM	560

Beaumont R-17	500	KWVG	1260
Brownsville U-15	500	KGKB	1500
Brownwood P-14	100	KTAW	1120
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
	100	KFJZ	1370
	1000	KTAT	1240

Fort Worth P-15	1000	WBAP	800
	1000	KFLX	1370
	500	KFUL	1290

Galveston R-16	15	KFPM	1310
	500	KRGV	1260
	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

Waco Q-15	50000	WOAI	1190
Wichita Falls O-14	1000	WACO	1240
	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
	250	WDBJ	930
	250	WRBX	1410

Roanoke L-24

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
	100	KFO	1120
	1000	KFPY	1340
	5000	KGA	1470
	1000	KHQ	590
	500	KMO	860
	1000	KVI	760
	100	KUJ	1500
	50	KPQ	1500
	50	KIT	1310

Spokane D-5

Tacoma D-3	500	KMO	860
	1000	KVI	760
	100	KUJ	1500
	50	KPQ	1500
	50	KIT	1310

Walla Walla E-5

Wenatchee D-4	100	KUJ	1500
Yakima D-4	50	KIT	1310

WEST VIRGINIA

Bluefield L-24	100	WHIS	1420
Charleston K-23	250	WOBW	580
Fairmont J-24	250	WMMN	890
Huntington K-23	250	WSAZ	580
Wheeling J-24	5000	WVVA	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	WGLO	1200
La Crosse H-18	1000	WKBH	1380
Madison H-19	750	WHA	940
	500	WIBA	1280
	250	WISJ	780
	100	WOMT	1210
	250	WHAD	1120
	250	WISN	1120
	1000	WTMJ	620
	100	WIBU	1210
	100	WRJN	1370
	500	WHBL	1410
	2000	WLHL	900
	1000	WEBC	1290

Manitowoc H-20

Milwaukee H-19	250	WHAD	1120
	250	WISN	1120
	1000	WTMJ	620
	100	WIBU	1210
	100	WRJN	1370
	500	WHBL	1410
	2000	WLHL	900
	1000	WEBC	1290

Poynette H-19

Racine I-20	100	WRJN	1370
Sheboygan H-20	500	WHBL	1410
Stevens Pt. G-19	2000	WLHL	900
Superior F-17	1000	WEBC	1290

WYOMING

Casper H-10	100	KDFN	1210
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CANADA

ALBERTA

Calgary B-7	500	CFAC	690
	500	CFCN	690
	500	CHCA	690
	500	CJCI	690
	500	CNRC	690
	250	CHMA	580
	500	CJCA	930
	500	CKUA	580
	500	CNRE	930
	50	CJOC	1120
	1000	CHCT	840
	1000	CKLC	840
	1000	CNRD	840

Edmonton A-8

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

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
	500	CFCT	630

Victoria C-3

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
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NOVA SCOTIA

Glace Bay C-32	10000	VAS	685
Halifax E-31	500	CHNS	910
	500	CNRH	910
	50	CJCB	880
	50	CKIC	1010

Sydney C-32

Wolfville D-31	50	CKIC	1010
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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
	500	CFRC	930
	500	CJGC	910
	500	CNRL	910
	50	CFCH	1200
	100	CKCO	890
	500	CNRO	600
	50	CKPR	890
	50	CFLC	1010
	25	CFPC	1210
	500	CFCA	840
	500	CFCL	580
	4000	CFRB	960
	5000	CJSC	690
	500	CKCL	580
	5000	CKCW	690
	500	CNRC	580
	500	CNRT	840
	4000	CNRX	960
	5000	CPRY	690
	50	CKCR	1010
	25	10-BP	1200

Kingston G-25

London H-23	500	CFRC	930
	500	CJGC	910
	500	CNRL	910
	50	CFCH	1200
	100	CKCO	890
	500	CNRO	600
	50	CKPR	890
	50	CFLC	1010
	25	CFPC	1210
	500	CFCA	840
	500	CFCL	580
	4000	CFRB	960
	5000	CJSC	690
	500	CKCL	580
	5000	CKCW	690
	500	CNRC	580
	500	CNRT	840
	4000	CNRX	960
	5000	CPRY	690
	50	CKCR	1010
	25	10-BP	1200

North Bay

Ottawa F-25	100	CKCO	890
	500	CNRO	600
	50	CKPR	890
	50	CFLC	1010
	25	CFPC	1210
	500	CFCA	840
	500	CFCL	580
	4000	CFRB	960
	5000	CJSC	690
	500	CKCL	580
	5000	CKCW	690
	500	CNRC	580
	500	CNRT	840
	4000	CNRX	960
	5000	CPRY	690
	50	CKCR	1010
	25	10-BP	1200

Port Arthur E-19

Prescott F-25	50	CFLC	1010
Preston H-23	25	CFPC	1210
Toronto G-24	500	CFCA	840
	500	CFCL	580
	4000	CFRB	960
	5000	CJSC	690
	500	CKCL	580
	5000	CKCW	690
	500	CNRC	580
	500	CNRT	840
	4000	CNRX	960
	5000	CPRY	690
	50	CKCR	1010
	25	10-BP	1200

Waterloo G-23

Wingham G-23	25	10-BP	1200
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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



CFAC

A COMPLETE INDEX BY CALL LETTERS

KDB

CFAC 690	CJSC 690	CMBR 1500	CMHJ 645
Calgary, Alta.	Toronto, Ont.	Havana, Cuba	Cienfuegos, Cuba
CFBO 890	CKAK 730	CMBS 790	CMJA 1332
St. John, N. B.	Montreal, Que.	Havana, Cuba	Camaguey, Cuba
CFCA 840	CKCD 730	CMBT 1070	CMJB 1276
Toronto, Ont.	Vancouver, B.C.	Havana, Cuba	Ciego de Avila
CFCC 1030	CKCI 880	CMBW 1010	CMJC 1321
Montreal, Que.	Quebec, Que.	Havana, Cuba	Camaguey, Cuba
CFCH 1200	CKCK 960	CMBX 1405	CMJE 856
North Bay, Ont.	Regina, Sask.	Havana, Cuba	Camaguey, Cuba
CFCL 580	CKCL 580	CMBY 1405	CMK 730
Toronto, Ont.	Toronto, Ont.	Havana, Cuba	Havana, Cuba
CFCN 690	CKCO 890	CMCZ 1010	CMKA 1450
Calgary, Alta.	Ottawa, Ont.	Havana, Cuba	Santiago, Cuba
CFCO 1210	CKCR 1010	CMC 845	CMKB 1200
Chatham, Ont.	Waterloo, Ont.	Havana, Cuba	Santiago, Cuba
CFCT 630	CKCY 880	CMCA 1225	CMKC 1034
Victoria, B. C.	Quebec, Que.	Havana, Cuba	Santiago, Cuba
CFCY 960	CKFC 730	CMCB 1070	CMKD 1100
Ch'lottet'n, P.E.I.	Vancouver, B.C.	Havana, Cuba	Santiago, Cuba
CFJC 1120	CKGW 690	CMCD 1345	CMKE 1249
Kamloops, B. C.	Toronto, Ont.	Havana, Cuba	CMKF 1363
CFLC 1010	CKIC 1010	CMCF 900	CMKG 1176
Prescott, Ont.	Wolfville, N.S.	Havana, Cuba	Holguin, Cuba
CFNB 1210	CKLK 840	CMCG 1285	CMKH 1327
Fredericton, N.B.	Red Deer, Alta.	Havana, Cuba	Santiago, Cuba
CFNC 910	CKMC 1210	CMCH 1285	CMQ 1150
Saskatoon, Sask.	Cobalt, Ont.	Havana, Cuba	Havana, Cuba
CFRB 960	CKMO 730	CMCJ 550	CMW 588
Toronto, Ont.	Vancouver, B.C.	Havana, Cuba	Havana, Cuba
CFRC 930	CKNC 580	CMCM 1500	CMX 890
Kingston, Ont.	Toronto, Ont.	Havana, Cuba	CMY 630
CFKC 690	CKOC 1120	CMCN 1225	CNEA 630
Calgary, Alta.	Hamilton, Ont.	Havana, Cuba	Moncton, N.B.
CKCK 960	CKPC 1210	CMCO 660	CNRC 690
Ch'lottet'n, P.E.I.	Preston, Ont.	Havana, Cuba	Calgary, Alta.
CHCS 1120	CKPR 890	CMCQ 1150	CNRD 840
Hamilton, Ont.	Port Arthur, Ont.	Havana, Cuba	Red Deer, Alta.
CHCT 840	CKUA 580	CMCR 1285	CNRE 930
Red Deer, Alta.	Edmonton, Alta.	Havana, Cuba	Edmonton, Alta.
CHGS 1120	CKWX 730	CMCT 1500	CNRH 910
Sum'rside, P.E.I.	Vancouver, B.C.	Havana, Cuba	Halifax, N.S.
CHLS 730	CKX 540	CMCU 1345	CNRL 910
Vancouver, B.C.	Brandon, Man.	Havana, Cuba	London, Ont.
CHMA 580	CKY 780	CMCX 1010	CNRM 730
Edmonton, Alta.	Winnipeg, Man.	Havana, Cuba	Montreal, Que.
CHML 880	CMAA 1090	CMCY 1345	CNRO 600
Hamilton, Ont.	Guantanamo, Cuba	Havana, Cuba	Ottawa, Ont.
CHNS 910	CMAB 1249	CMGA 834	Quebec, Que.
Halifax, N.S.	Pinar del Rio, Cu.	Colon, Cuba	CNRE 960
CHRC 645	CMBA 1345	CMGB 1185	Fort Dodge, Ia.
Quebec, Que.	Havana, Cuba	Matanzas, Cuba	FT. Worth, Tex.
CHWC 960	CMBC 955	CMGC 1315	Greeley, Colo.
Regina, Sask.	Havana, Cuba	Matanzas, Cuba	KFB 1050
CHWK 665	CMBD 955	CMGD 1140	Milford, Kansas
Chilliwack, B.C.	Havana, Cuba	Matanzas, Cuba	KGBU 900
CHYC 730	CMBF 1345	CMGE 1375	Ketchikan, Al'ka.
Montreal, Que.	Havana, Cuba	Cardenas, Cuba	KGX 1310
CJBB 960	CMBG 1070	CMGF 977	St. Joseph, Mo.
Regina, Sask.	Havana, Cuba	Matanzas, Cuba	KGZ 930
CJCA 930	CMBH 1500	CMGH 1249	York, Nebr.
Edmonton, Alta.	Havana, Cuba	Matanzas, Cuba	KGCA 1270
CJCB 880	CMBI 1405	CMGI 1094	Decorah, Iowa
Sydney, N.S.	Havana, Cuba	Matanzas, Cuba	KGCR 1210
CJCY 690	CMBJ 1285	CMHA 1154	Watertown, S.D.
Calgary, Alta.	Havana, Cuba	Cienfuegos, Cuba	KGCO 1200
CJGC 910	CMBK 1405	CMHB 1500	Mandan, N.D.
London, Ont.	Havana, Cuba	Sagua la Grande	KGCS 1310
CJGX 630	CMBL 1500	CMHC 790	Wolf P't, Mont.
Yorkton, Sask.	Havana, Cuba	Tuinucu, Cuba	KGDA 1370
CJOC 1120	CMBM 1285	CMHD 920	Mitchell, S. D.
Lethbridge, Alta.	Havana, Cuba	Caibarien, Cuba	KGDE 1200
CJOR 1210	CMBN 1405	CMHE 1429	Ferg's F'lls, Minn
Sea Island, B.C.	Havana, Cuba	Santa, Clara Cu.	
CJRM 600	CMBP 1500	CMHH 870	
Moose Jaw, Sask.	Havana, Cuba	Cifuentes, Cuba	
CJRW 600	CMBQ 1405	CMHI 1110	
Fleming, Sask	Havana, Cuba	Santa Clara, Cu.	

KDFN

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KOMO

KDFN 1210	KFPM 1310	KGDM 1100	KGW 620
Casper, Wyo.	Greenville, Tex.	Stockton, Cal.	Portland, Ore.
KDKA 980	KFPW 1340	KGDY 1200	KGY 1200
Pittsburgh, Pa.	Ft. Smith, Ark.	Huron, S. D.	Lacey, Wash.
KDLR 1210	KFPY 1340	KGEF 1300	KHJ 900
Devils Lake, N.D.	Spokane, Wash.	Los Angeles, Cal.	Los Angeles, Cal.
KDYL 1290	KFQD 1230	KGEK 1200	KHQ 590
Salt Lake City	Anchorage, Alas.	Yuma, Colo.	Spokane, Wash.
KELW 1430	KFQU 1420	KGER 1360	KICK 1420
Los Angeles, Cal.	Holy City, Cal.	Long Beach, Cal.	Red Oak, Iowa.
BURbank, Cal.	KFQW 1420	KGEW 1200	KID 1320
KEX 1180	Seattle, Wash.	Ft. Morgan, Colo.	Idaho Falls, Ida.
Portland, Ore.	KFRG 610	KGEZ 1310	KIDO 1250
KFAB 770	San F'nscisco, Cal.	Kaliapell, Mont.	Boise, Idaho
Lincoln, Nebr.	KFRU 630	KGFF 1420	KIT 1310
KFBB 1280	Columbia, Mo.	Shawnee, Okla.	Yakima, Wash.
Great Fls., Mont.	KFSD 600	KGFG 1370	KJBS 1070
KFBK 1310	San Diego, Cal.	Oklahoma City	San F'nscisco, Cal.
Sacramento, Cal.	KFSG 1120	KGFI 1500	KJR 970
Everett, Wash.	Los Angeles, Cal.	Corpus Ch'sti, Tex	Seattle, Wash.
KFDM 560	KFUL 1290	KGFF 1500	KLCN 1290
Beaumont, Tex.	Galveston, Tex.	KGFK 1500	Blytheville, Ark.
KFFG 550	KFUM 1270	KGFL 1370	KLO 1400
Brookings, S.D.	Col. Spgs., Colo.	Moorhead, Minn.	Ogden, Utah
Denver, Colo.	KFUO 550	Raton, N. M.	KLPM 1420
KFVD 680	St. Louis, Mo.	KGFW 1310	Minot, N. Dak.
Culver City, Cal.	KFUP 1310	Ravenna, Nebr.	KLRA 1390
KFVS 1210	Denver, Colo.	KGFX 580	Little Rock, Ark.
Cape Gir'rd'u, Mo	KFVU 1000	Pierre, S. D.	KLX 880
KFWB 950	St. Joseph, Mo.	San F'nscisco, Cal.	Oakland, Cal.
Hollywood, Cal.	KFGG 1310	KGFF 1010	KLZ 560
KFWF 1200	Boone, Iowa	Coffeyville, Kans.	Denver, Colo.
St. Louis, Mo.	Wichita, Kansas	KGGM 1230	KMA 930
KFWI 930	CNEA 630	Alb'g'rque, N.M.	Shenandoah, Ia.
San F'nscisco, Cal.	Moncton, N.B.	KGHF 1320	San Antonio, Tex.
KFXD 1420	Calgary, Alta.	KGHI 1200	KMBC 950
Nampa, Idaho	Red Deer, Alta.	Little Rock, Ark.	Kan. City, Mo.
KFXZ 920	CNRE 930	Billings, Mont.	KMCS 1120
Denver, Colo.	Edmonton, Alta.	KGIR 1360	Inglewood, Cal.
Edgewater, Colo.	Halifax, N.S.	Butte, Mont.	KMED 1310
KFXM 1210	London, Ont.	Trinidad, Colo.	Medford, Ore.
San Ber'd'no, Cal.	Montreal, Que.	KGIX 1420	KMJ 1210
KFJI 1370	Quebec, Que.	Las Vegas, Nev.	Fresno, Cal.
Astoria, Ore.	Quebec, Que.	KGIZ 1500	KMLB 1200
KFJM 1370	Quebec, Que.	Grant City, Mo.	Monroe, La.
Grd. Forks, N.D.	Quebec, Que.	KGJF 890	KMMJ 740
Portland, Ore.	Regina, Sask.	Little Rock, Ark.	Clay Ctr., Nebr.
KFJY 1310	CNRS 910	KGKB 1500	KMO 860
Fort Dodge, Ia.	Saskatoon, Sask.	Brownwood, Tex.	Tacoma, Wash.
KFJZ 1470	CNRT 840	KGKL 1370	KMOX 1090
Greeley, Colo.	Toronto, Ont.	San Angelo, Tex.	St. Louis, Mo.
KFKB 1050	CNRV 1030	KGKO 570	KMPC 710
Milford, Kansas	Vancouver, B.C.	Wichita Flls., Tex	Los Angeles, Cal.
KFKU 1220	CNRW 780	KGKX 1420	KMTR 570
Lawrence, Kans.	Winnipeg, Man.	Sand Point, Ida.	Los Angeles, Cal.
KFKX 1020	Chicago, Ill.	KGKY 1500	Los Angeles, Cal.
Chicago, Ill.	Rockford, Ill.	Scottsbluff, Nebr.	Denver, Colo.
Rockford, Ill.	Rockford, Ill.	KGMB 1320	KOAC 550
KGCA 1270	KGFL 1370	Honolulu, T. H.	Corvallis, Ore.
Decorah, Iowa	KGFM 1250	KGMP 1210	KOB 1180
KGCR 1210	N'fhfield, Minn.	Elk City, Okla.	State Coll., N.M.
Watertown, S.D.	KBTM 890	KGNF 1430	KOCW 1400
Mandan, N.D.	Shenandoah, Ia.	No. Platte, Neb.	Chickasha, Okla.
KGCS 1310	KCRC 1370	KGNO 1210	KOH 1380
Wolf P't, Mont.	Enid, Okla.	Dodge City, Kans.	Reno, Nevada
KGDA 1370	KCRJ 1310	KGQ 790	KOIL 1260
Mitchell, S. D.	Jerome, Ariz.	San F'nscisco, Cal.	Council Bluffs, Ia.
KGDE 1200	KDB 1500	KGRS 1410	KOIN 940
Dublin, Texas	S. Barbara, Cal.	Amarillo, Texas	Portland, Ore.
		RGU 940	KOL 1270
		Honolulu, Hawaii	Seattle, Wash.
		Missoula, Mont.	KOMO 920
			Seattle, Wash.

KONO

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WDAY

KONO 1370 San Antonio, Tex	KTLC 1310 Houston, Texas	WAAM 1250 Newark, N. J.	WCAC 600 Storrs, Conn.
KOOS 1370 Marshfield, Ore.	KTM 780 Los Angeles, Cal.	WAAT 940 Jersey City, N. J.	WCAD 1220 Canton, N. Y.
KORE 1420 Eugene, Ore.	KTNT 1170 Muscatine, Iowa	WAAW 660 Omaha, Nebr.	WCAE 1220 Pittsburg, Pa.
KOY 1390 Phoenix, Ariz.	KTRH 1120 Houston, Texas	WABC 860 New York City	WCAH 1430 Columbus, Ohio
KPCB 650 Seattle, Wash.	KTSA 1290 San Antonio, Tex.	WABI 1200 Bangor, Maine	WCAJ 590 Lincoln, Nebr.
KPJM 1500 Prescott, Ariz.	KTSL 1310 Shreveport, La.	WABZ 1200 New Orleans, La.	WCAL 1250 Northfield, Minn.
KPO 680 San Francisco, Cal.	KTSM 1310 El Paso, Texas	WACO 1240 Waco, Texas	WCAM 1280 Camden, N. J.
KPWF 880 Denver, Colo.	KTW 1270 Seattle, Wash.	WADC 1320 Akron, Ohio	WCAO 600 Baltimore, Md.
KPPC 1210 Pasadena, Cal.	KUJ 1500 Longview, Wash.	WAU 640 Columbus, Ohio	WCAP 1280 Asbury Pk., N. J.
KPKQ 1500 Wenatchee, Wash.	KUOA 1390 Fayetteville, Ark.	WALR 1210 Zanesville, Ohio	WCAT 1200 Rapid City, S. D.
KPBC 920 Houston, Texas	KUSD 890 Vermillion, S. D.	WAPI 1140 Birmingham, Ala.	WCAU 1170 Philadelphia, Pa.
KPSN 1360 Pasadena, Cal.	KUT 1500 Austin, Texas	WASH 1270 Gr. Rapids, Mich.	WCAX 1200 Burlington, Vt.
KQV 1380 Pittsburgh, Pa.	KVI 760 Tacoma, Wash.	WAWZ 1350 New York City	WCAY 1070 Carthage, Ill.
KQW 1010 San Jose, Cal.	KVL 1370 Seattle, Wash.	WBA 1400 Lafayette, Ind.	WCBA 1440 Allentown, Pa.
KRE 1370 Berkeley, Cal.	KVOA 1260 Tucson, Arizona	WBAK 1430 Harrisburg, Pa.	WCBD 1080 Zion, Ill.
KREG 1500 Santa Ana, Cal.	KVOC 1140 Tulsa, Okla.	WBAL 1060 Baltimore, Md.	WCBM 1370 Baltimore, Md.
KRGV 1260 Harlingen, Texas	KWOS 1200 Bellingh'm, Wash.	WBAP 800 Fort Worth, Tex.	WCBS 1210 Springfield, Ill.
KRLD 1040 Dallas, Texas	KWCR 1310 Cedar Rapids, Ia.	WBAX 1210 Wilkes-Barre, Pa.	WCCO 810 Minneapolis, Minn.
KRMD 1310 Shreveport, La.	KWEA 1210 Shreveport, La.	WBBC 1400 Brooklyn, N. Y.	WCDA 1350 New York City
KROW 930 Oakland, Cal.	KWG 1200 Stockton, Cal.	WBBL 1210 Richmond, Va.	WCFC 970 Chicago, Ill.
KRSC 1120 Seattle, Wash.	KWJJ 1060 Portland, Ore.	WBFB 770 Chicago, Ill.	WCGU 1400 Brooklyn, N. Y.
KSAC 580 Manh'tt'n, Kans.	KWK 1350 St. Louis, Mo.	WBFR 1300 Brooklyn, N. Y.	WCHI 1490 Chicago, Ill.
KSCJ 1330 Sioux City, Ia.	KWKC 1370 Kansas City, Mo.	WBWB 1200 Ponca City, Okla.	WCKY 1490 Covington, Ky.
KSD 550 St. Louis, Mo.	KWKH 850 Shreveport, La.	WBWC 1410 Bay City, Mich.	WCLB 1500 Long Beach, N. Y.
KSEI 900 Pocatello, Idaho	KWLC 1270 Decorah, Iowa	WBEN 900 Buffalo, N. Y.	WCLO 1200 Janesville, Wis.
KSL 1130 Salt Lake City	KWSC 1220 Pullman, Wash.	WBEO 1310 Marquette, Mich.	WCLS 1310 Joliet, Ill.
KSMR 1200 Santa Maria, Cal.	KWWG 1260 Brownsville, Tex.	WBGF 1370 Glens Falls, N. Y.	WCMA 1400 Culver, Ind.
KSO 1380 Clarinda, Iowa	KXA 570 Seattle, Wash.	WBIG 1440 Greensboro, N. C.	WCOA 1340 Pensacola, Fla.
KSOO 1110 Sioux Falls, S. D.	KXI 1420 Portland, Ore.	WBIS 1230 Boston, Mass.	WCOC 880 Meridian, Miss.
KSTP 1460 St. Paul, Minn.	KXG 1500 El Centro, Cal.	WBMS 1450 Hackensack, N. J.	WCOD 1200 Harrisburg, Pa.
KTAB 560 San Francisco, Cal.	KXRO 1310 Aberdeen, Wash.	WBNS 1350 New York City	WCOH 1210 Yonkers, N. Y.
KTAF 1420 San Antonio, Tex.	KXYZ 1420 Houston, Texas	WBOQ 860 New York City	WCRW 1210 Chicago, Ill.
KTAR 620 Phoenix, Ariz.	KYA 1230 San Francisco, Cal.	WBOW 1310 Terre Haute, Ind.	WCSC 1360 Charleston, S. C.
KTAT 1240 Ft. Worth, Tex.	KYW 1020 Chicago, Ill.	WBRC 930 Birmingham, Ala.	WCSH 940 Portland, Maine
KTBI 1300 Los Angeles, Cal.	KZM 1370 Hayward, Cal.	WBRE 1310 Wilkes-Barre, Pa.	WDAE 1220 Tampa, Fla.
KTBR 1300 Portland, Ore.	NAA 690 Arlington, Va.	WBSO 920 Needham, Mass.	WDAF 610 Kansas City, Mo.
KTBS 1450 Shreveport, La.	TIC 750 San Jose, C. R.	WBT 1080 Charlotte, N. C.	WDAG 1410 Amarillo, Texas
KTFI 1320 Twin Falls, Ida.	VAS 685 Glace Bay, N. S.	WBTM 1370 Danville, Va.	WDAH 1310 El Paso, Texas
KTHS 1040 Hot Spgs., Ark.	WAAF 920 Chicago, Ill.	WBZ-A 990 Springfield, Mass.	WDAY 940 Fargo, N. D.

WDBJ

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WLBX

WDBJ 930 Roanoke, Va.	WFDW 1420 Talladega, Ala.	WHDL 1420 Tupper Lake, N. Y.	WJBO 1420 New Orleans, La.
WDBO 1120 Orlando, Fla.	WFI 560 Philadelphia, Pa.	WHEC 1440 Rochester, N. Y.	WJBT 770 Chicago, Ill.
WDEL 1120 Wilmington, Del.	WFLA 940 Hopkinsville, Ky.	WHFC 1420 Cicero, Ill.	WJBU 1210 Lewisburg, Pa.
WDGY 1180 Minneapolis, Minn.	WFLB 620 Clearwater, Fla.	WHIS 1410 Bluefield, W. Va.	WJBW 1200 New Orleans, La.
WDX 1500 Tupelo, Miss.	WFOX 1400 Brooklyn, N. Y.	WHK 1390 Cleveland, Ohio	WJBY 1210 Gadsden, Ala.
WDOD 1280 Chattanooga, Tenn.	WGAL 1310 Lancaster, Pa.	WHY 1010 New York City	WJDX 1270 Jackson, Miss.
WDR 1330 Hartford, Conn.	WGAR 1450 Cleveland, Ohio	WHO 1000 Des Moines, Ia.	WJFD 1130 Mooseheart, Ill.
WDSU 1250 New Orleans, La.	WGBB 1210 Freeport, N. Y.	WHOM 1450 Jersey City, N. J.	WJKS 1360 Gary, Ind.
WDWF 1210 Providence, R. I.	WGBC 1430 Memphis, Tenn.	WHP 1430 Harrisburg, Pa.	WJR 750 Detroit, Mich.
WDZ 1070 Tuscola, Ill.	WGFB 630 Evansville, Ind.	WIAS 1420 Ottumwa, Iowa	WJSV 1460 Alexandria, Va.
WEAF 660 New York City	WGBI 880 Scranton, Pa.	WIB 1280 Madison, Wis.	WJW 1210 Mansfield, Ohio
WEAI 1270 Ithaca, N. Y.	WGBS 600 New York City	WIBG 930 Elkins Park, Pa.	WJZ 760 New York City
WEAN 780 Providence, R. I.	WGCM 1210 Gulfport, Miss.	WIBM 1370 Jackson, Mich.	WKAQ 890 San Juan, P. R.
WEAO 570 Columbus, Ohio	WGCP 1250 Newark, N. J.	WIBO 560 Chicago, Ill.	WKAR 1040 E. Lansing, Mich.
WEBC 1360 Chicago, Ill.	WGES 1360 Chicago, Ill.	WIBR 1420 Steubenville, O.	WKAV 1310 Laconia, N. H.
WGH 1310 Newsp't News, Va.	WGL 1370 Ft. Wayne, Ind.	WIBU 1210 Ponnette, Wis.	WKBB 1310 Joliet, Ill.
WGN 720 Chicago, Ill.	WGN 720 Chicago, Ill.	WIBW 580 Topeka, Kansas	WKBC 1310 Birmingham, Ala.
WGR 550 Buffalo, N. Y.	WHD 1120 Milwaukee, Wis.	WIKX 1200 Utica, N. Y.	WKBF 1400 Indianapolis, Ind.
WGY 790 Schenec'd'y, N. Y.	WHM 1150 Rochester, N. Y.	WIC 1190 Bridgeport, Conn.	WKBI 1380 La Crosse, Wis.
WH 940 Madison, Wis.	WHM 1150 Rochester, N. Y.	WIGST 890 St. Louis, Mo.	WKB 1420 Chicago, Ill.
WHB 1370 Cicero, Ill.	WHM 1150 Rochester, N. Y.	WIL 1200 St. Louis, Mo.	WKBN 570 Youngstown, O.
WHDL 1370 Philadelphia, Pa.	WHM 1150 Rochester, N. Y.	WILL 890 Urbana, Ill.	WKBO 1450 Jersey City, N. J.
WHL 1420 Battle Creek, Mich.	WHM 1150 Rochester, N. Y.	WILM 1420 Wilmington, Del.	WKBS 1310 Galesburg, Ill.
WENR 870 Chicago, Ill.	WHM 1150 Rochester, N. Y.	WIOM 1300 Miami, Fla.	WKBV 1500 Connersville, Ind.
WEP 1200 Worcester, Mass.	WHM 1150 Rochester, N. Y.	WIP 610 Philadelphia, Pa.	WKWB 1480 Buffalo, N. Y.
WEVD 1300 New York City	WHM 1150 Rochester, N. Y.	WIS 1010 Columbia, S. C.	WKWB 1500 Ludington, Mich.
WEW 760 St. Louis, Mo.	WHM 1150 Rochester, N. Y.	WISJ 780 Madison, Wis.	WKJC 1200 Lancaster, Pa.
WEXL 1310 Royal Oak, Mich.	WHM 1150 Rochester, N. Y.	WHAT 1310 Philadelphia, Pa.	WKRC 550 Cincinnati, O.
WFAB 800 Dallas, Texas	WHM 1150 Rochester, N. Y.	WHAZ 1300 Troy, N. Y.	WKY 900 Oklahoma City
WFAN 610 Philadelphia, Pa.	WHM 1150 Rochester, N. Y.	WHB 860 Kansas City, Mo.	WKZO 590 Be'n Spgs., Mich.
WFBI 1200 Canton, Ohio	WHM 1150 Rochester, N. Y.	WHBC 1200 Kansas City, Mo.	WLAC 1470 Nashville, Tenn.
WFBR 1200 Knoxville, Tenn.	WHM 1150 Rochester, N. Y.	WHBD 1370 Mt. Orab, O.	WLAP 1200 Louisville, Ky.
WFBS 1200 Cincinnati, Ohio	WHM 1150 Rochester, N. Y.	WHBF 1210 Rock Island, Ill.	WLB 1250 St. Paul, Minn.
WFBG 1310 Altoona, Pa.	WHM 1150 Rochester, N. Y.	WHBL 1410 Sheboygan, Wis.	WLBC 1310 Muncie, Ind.
WFBU 1360 Syracuse, N. Y.	WHM 1150 Rochester, N. Y.	WHBQ 1370 Memphis, Tenn.	WLB 1200 Kansas City, Mo.
WFBM 1230 Indianapolis, Ind.	WHM 1150 Rochester, N. Y.	WHBU 1210 Anderson, Ind.	WLBG 1200 Ettrick, Va.
WFBT 1270 Baltimore, Md.	WHM 1150 Rochester, N. Y.	WHBY 1200 Green Bay, Wis.	WLBL 900 Stevens Pt., Wis.
WFDE 1310 Flint, Mich.	WHM 1150 Rochester, N. Y.	WHDF 1370 Calumet, Mich.	WLBW 1260 Oil City, Pa.
WFDV 1370 Rome, Ga.	WHM 1150 Rochester, N. Y.	WHDI 1180 Minneapolis, Minn.	WLBX 1500 L.I. City, N. Y.

WLBZ 620 Bangor, Me.	WNBR 1430 Memphis, Tenn.	WPTF 680 Raleigh, N. C.	WSIX 1210 Springfield, Tenn.
WLCI 1210 Ithaca, N. Y.	WNBW 1200 Carbondale, Pa.	WQAM 560 Miami, Fla.	WSJS 1310 Winst.-Sal., N. C.
WLEX 1410 Lexington, Mass.	WNBX 1200 Springfield, Vt.	WQAN 880 Scranton, Pa.	WSM 650 Nashville, Tenn.
WLEY 1370 Lexington, Mass.	WNBZ 1290 Saranac Lake, N.Y.	WQAO 1010 New York City	WSMB 1320 New Orleans, La.
WLIT 560 Philadelphia, Pa.	WNJ 1450 Newark, N. J.	WQBC 1360 Vicksburg, Miss.	WSMC 1380 Dayton, Ohio
WLOE 1500 Boston, Mass.	WNOX 560 Knoxville, Tenn.	WQDM 1370 St. Albans, Vt.	WSOC 1210 Gastonia, N. C.
WLS 870 Chicago, Ill.	WNYC 570 New York City	WQDX 1210 Thomasville, Ga.	WSPA 1420 Spartanburg, S.C.
WLSI 1210 Providence, R. I.	WOAI 1190 San Antonio, Tex.	WRAF 1200 La Porte, Ind.	WSPD 1340 Toledo, Ohio
WLTH 1400 Brooklyn, N. Y.	WOAN 600 Law'neeb'g, Tenn.	WRAC 1870 Williamsport, Pa.	WSSH 1410 Boston, Mass.
WLVA 1370 Lynchburg, Va.	WOAX 1280 Trenton, N. J.	WRAP 1810 Reading, Pa.	WSUI 880 Iowa City, Ia.
WLW 700 Cincinnati, Ohio	WOBT 1310 Union City, Tenn.	WRAX 1020 Philadelphia, Pa.	WSUN 620 St. Petersburg, Fla.
WLWL 1100 New York City	WOBU 580 Charleat'n, W. Va.	WRBI 1310 Tifton, Ga.	WSVS 1370 Buffalo, N. Y.
WMAC 570 Syracuse, N. Y.	WOC 1000 Davenport, Iowa	WRBJ 1870 Hattiesburg, Miss.	WSYB 1500 Rutland, Vt.
WMAK 1040 Buffalo, N. Y.	WOCL 1200 Jamestown, N. Y.	WRBL 1210 Columbus, Ga.	WSYR 570 Syracuse, N. Y.
WMAL 630 Washington, D.C.	WODA 1250 Paterson, N. J.	WRBQ 1210 Greenville, Miss.	WTAD 1440 Quincy, Ill.
WMAZ 670 Chicago, Ill.	WODX 1410 Mobile, Ala.	WRBT 1870 Wilmington, N.C.	WTAG 580 Worcester, Mass.
WMBA 890 Macon, Ga.	WOI 640 Ames, Iowa	WRBX 1410 Roanoke, Va.	WTAM 1070 Cleveland, Ohio
WMBA 1500 Newport, R. I.	WOKO 1440 P'ghkeepsie, N.Y.	WRC 950 Washington, D.C.	WTAQ 1330 Eau Claire, Wis.
WMBC 1420 Detroit, Mich.	WOL 1310 Washington, D.C.	WRDO 1370 Augusta, Me.	WTAR 780 Norfolk Va.
WMBD 1440 Peoria Hghts., Ill.	WOMT 1210 Manitowoc, Wis.	WBDW 1500 Augusta, Ga.	WTAW 1120 College Sta., Tex.
WMBG 1210 Richmond, Va.	WOOD 1270 Gr. Rapids, Mich.	WREC 600 Memphis, Tenn.	WTAX 1210 Springfield, Ill.
WMBH 1420 Joplin, Mo.	WOPI 1500 Bristol, Tenn.	WREN 1220 Lawrence, Kans.	WTBO 1420 Cumberland, Md.
WMBI 1080 Chicago, Ill.	WOQ 1300 Kansas City, Mo.	WRHM 1250 Minneap., Minn.	WTEL 1310 Philadelphia, Pa.
WMBO 1310 Auburn, N. Y.	WOR 710 Newark, N. J.	WRJN 1370 Racine, Wis.	WTFI 1450 Toccoa, Ga.
WMBQ 1500 Brooklyn, N. Y.	WORC 1200 Worcester, Mass.	WRNY 1010 New York City	WTIC 1060 Hartford, Conn.
WMBR 1370 Tampa, Fla.	WOS 630 Jeff'n City, Mo.	WROL 1310 Knoxville, Tenn.	WTMJ 620 Milwaukee, Wis.
WMC 780 Memphis, Tenn.	WOV 1130 New York City	WRR 1280 Dallas, Texas	WTNT 1470 Nashville, Tenn.
WMCA 570 New York City	WOW 590 Omaha, Nebr.	WRUF 830 Gainesville, Fla.	WTOC 1260 Savannah, Ga.
WMMN 890 Fairmont, W. Va.	WOWO 1160 Ft. Wayne, Ind.	WRVA 1110 Richmond, Va.	WWAE 1200 Hammond, Ind.
WMPC 1500 Lapeer, Mich.	WPAD 1420 Paducah, Ky.	WSAI 1330 Cincinnati, Ohio	WWJ 920 Detroit, Mich.
WMRJ 1210 Jamaica, N. Y.	WPAP 1010 New York City	WSAJ 1310 Grove City, Pa.	WWL 850 New Orleans, La.
WMSG 1350 New York City	WPAW 1210 Pawtucket, R. I.	WSAN 1440 Allentown, Pa.	WWNC 570 Asheville, N. C.
WMT 600 Waterloo, Iowa	WPCC 560 Chicago, Ill.	WSAR 1450 Fall River, Mass.	WWRL 1500 Woodside, N. Y.
WNAC 1230 Boston, Mass.	WPCH 810 New York City	WSAZ 580 Hunt'gton, W. Va.	WWVA 1160 Wheeling, W. Va.
WNAD 1010 Norman, Okla.	WPEN 1500 Philadelphia, Pa.	WSB 740 Atlanta, Ga.	WXYZ 1240 Detroit, Mich.
WNAX 570 Yankton, S. D.	WPFG 1100 Atl'ntic City, N.J.	WSBC 1210 Chicago, Ill.	XEA 1000 Guad'l'jara, Mex.
WNBF 1500 Bingh'mt'n, N.Y.	WPOE 1370 Patchogue, N. Y.	WSBT 1230 South Bend, Ind.	XEB 1030 Mexico City
WNBH 1310 New B'd'f'd, Mass.	WPOR 780 Norfolk, Va.	WSEN 1210 Columbus, Ohio	XEC 1000 Toluca, Mex.
WNBO 1200 Washington, Pa.	WPSK 1230 State College, Pa.	WSFA 1410 Montgomery, Ala.	XED 977 Reynosa, Mex.

XEE 1000 Linares, Mex.	XEL 1000 Saltillo, Mex.	XETA 1140 Mexico City	XFC 805 Aguascal'tes, M.
XEF 1000 Oaxaca, 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	XWMC 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 CMBT 790	500 CMX 890
	150 CMBU 1070	30 CMKF 1363
	150 CMBV 1010	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	20 CMAB 1249
	15 CMCD 1345	10 CMHB 1500
	250 CMCF 900	20 CMHE 1429
	30 CMCG 1285	15 CMHI 1110
	15 CMCH 1285	20 CMKA 1450
	250 CMCI 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	500 CMHC 790
	50 CMCU 1345	
	250 CMCX 1010	
	15 CMCY 1345	
	3000 CMK 730	
Holguin W-27		
Matanzas W-24		
Pinar del Rio W-22		
Sagua la Grande W-24		
Santa Clara W-25		
Santiago X-28		
Tuinuucu		
COSTA RICA		
San Jose FF-23	50 TIC 750	

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

Country and City	Call	Keys.	Watts	Country and City	Call	Keys.	Watts
<b>HUNGARY</b>				<b>Nauen</b>	AGC	17430	-----
Budapest	-----	545	20000	AGJ	5290	-----	---
				Norddeich	-----	167	1000
<b>ITALY</b>				Nuremberg	-----	1254	1000
Bolzano	IBZ	662	200	Schaerbeck	-----	1304	---
Genoa	IGE	788	1200	Stettin	-----	1059	750
Milan	IMI	599	7000	Stuttgart	-----	833	4000
Naples	INA	905.2	1500	<b>IRISH FREE STATE</b>			
Rome	IRO	680	3000	Cork	6CK	1337	1000
	IRAX	6666.7	---	Dublin	2RN	940	1500
Turin	ITO	1031	7000	<b>LUXEMBURG</b>			
				Luxemburg	LOAA	1344	10000
<b>PORTUGAL</b>				<b>NETHERLANDS</b>			
Lisbon	CT1AA	942	1000	Hilversum	PFBI	1004	7000
	PIAA	983.6	500	Huizen	PHI	17778	40000
						160	
<b>RUMANIA</b>				Scheveningen	PCF	279	1500
Bucharest	-----	545	12000	<b>UNITED KINGDOM</b>			
<b>SPAIN</b>				Aberdeen	2BD	995	1000
Almeria	EAJ18	1193	200	Belfast	2BE	1238	1000
Barcelona	EAJ1	860	7500	Bournemouth	6BM	1040	1000
	EAJ13	1121	10000	Cardiff	5WA	968	1000
Madrid	EAJ2	750	750	Daventry	5XX	193	25000
	EAJ7	707.6	1500		5GB	626	25000
	EAM	9772	---	Dundee	2DE	1040	130
Salamanca	EAJ22	662	---	Edinburgh	2EH	1040	350
San Sebastian	EAJ8	633	1000	Glasgow	5SC	752	1000
Seville	-----	815	---	Hull	6KH	1040	130
<b>SWITZERLAND</b>				Leeds & Bradford	2LS	1500	130
Basel	-----	941	250			1040	
Berne	-----	743	1000	Liverpool	6LV	1040	130
				London	2LO	842	30000
Geneva	-----	9375	---			1150	
Lausanne	-----	395	250	Manchester	2ZY	797	1000
Zurich	H9XD	3529.4	---	Newcastle	5NO	1148	1000
		9375	---	Plymouth	5PY	1040	130
		653	630	Sheffield	6FL	1040	130
<b>YUGOSLAVIA</b>				Stoke on Trent	6ST	1040	130
Belgrade	-----	695	2500	Swansea	5SX	1040	130
Ljubljana	-----	522	3000				
Zagreb	-----	973	700	<b>NORTHERN EUROPE</b>			
				<b>CZECHOSLOVAKIA</b>			
				Bratislava	OKR	1075	1250
				Brunn	OKB	877	2500
				Kosice	OKK	1023	2500
				Prague	OKP	616	5000
					OKIMPI	5169	5000
				<b>DENMARK</b>			
				Copenhagen	-----	1067	1000
				Kalundborg	-----	260	7500
				Lyngby	-----	15300	500
						9488	
						6057	
				Soro	-----	3088	2000
				<b>ESTONIA</b>			
				Tallinn	-----	1013	10000
					-----	250	100
					-----	735	2200
				<b>FINLAND</b>			
				Abo	-----	1219	---
				Bjorenborg (Pori)	-----	1219	1500
				Helsingfors	-----	1357	10000
				Jakobstad	-----	1219	750
				Jyväskylä	-----	1009	200
				Lahti	-----	166	40000
				Tammerfors	-----	---	700
				Vipuri	-----	1030	750
				<b>ICELAND</b>			
				Akureyri	G2SH	1560	---
				Reykjavik	-----	8995	500
				<b>LATVIA</b>			
				Riga	YLZ	571	10000
				<b>LITHUANIA</b>			
				Kovno	RYK	155	7000
				<b>NORWAY</b>			
				Aalesund	LKA	671	350
				Bergen	LKB	824	1000
					LGN	9994	---
					LKF	779	700
				Fredrikstad	LKH	526	700
				Hammar	-----	---	---



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**\$500 extra in 6 months**  
"I find I made \$500 from January to May in my spare time. My best week brought me \$187. I should have taken it long ago."  
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R. 3, Box 215,  
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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

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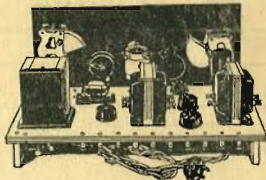
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