

THE MARCH 1931

RADIO INDEX

The Magazine that Doubles the Pleasure of Radio



25^c

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

No. 47

N.S.E.

HOW TO TUNE A SET CORRECTLY

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

ALL stations in America are listed in RADEX in three tables:
1st by Frequencies.
2nd by Call Letters.
3rd by States and Cities.

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

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

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

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

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

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

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

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

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

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

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

The second column in the Index by Frequencies, as we have seen, gives the power of the station as measured in watts. This power also aids us in identifying stations as we will not ordinarily hear those stations with 500 watts or less unless 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	<input type="text" value="76"/> <input type="text" value="74"/>
KHO 1000 Spokane, Wash.		Louis Wasmor, Inc.
WKA 1000 Lincoln, Neb.		Nebraska Wesleyan University
WEEI 1000 Boston, Mass.		Edison Elec. Illuminating Co.
WOW 1000 Cambridge, Mass.		W. H. Wood
WEMC 1000 Berrien Springs, Mich.		Emmanuel Missionary College
600 kilocycles	499.7 meters	<input type="text" value="75"/> <input type="text" value="73"/>
CFCH 300 Ingoles Falls, Ont.		Abdull Power & Paper Co.
EFBU 320 Laramie, Wyo.		Bishop N. S. Thomas
EDSD 300 San Diego, Calif.		Alfred Radio Co.
WCAD 300 Baltimore, Md.		Monumental Radio Co., Inc.
WBEW 300 Boise, Ida.		Boiseli College
WLAN 500 Lawrenceburg, Tenn.		Vaughan School of Music
WLAN 500 Memphis, Tenn.		W. C. King
WTIC 350 Hartford, Conn.		Travelers Insurance Co.
610 kilocycles	491.5 meters	<input type="text" value="74"/> <input type="text" value="72"/>
EFRC 1000 San Francisco, Calif.		Don Lee, Inc.
WFAF 1000 Philadelphia, Pa.		Stap Co.
WFP 1000 Philadelphia, Pa.		Raymond Broadcasting Co., Inc.
WOO 1000 Kansas City, Mo.		Clifton Radio Co.
		Christy School of Christianity
620 kilocycles	483.6 meters	<input type="text" value="73"/> <input type="text" value="71"/>
EFAD 300 Phoenix, Ariz.		Electrical Equipment Co.
KCW 1000 Portland, Ore.		Oregonian Publishing Co.
WBAR 1000 Tampa, Fla.		Tampa Publishing Co.
WBDJ 1000 Orlando, Fla.		Rollins College
WTMJ 1000 Milwaukee, Wis.		Thompson & Greenway
		Milwaukee Journal
630 kilocycles	475.9 meters	<input type="text" value="72"/> <input type="text" value="70"/>
CFCT 500 Victoria, B. C.		Victoria Broadcasting Ass'n.
CKCK 500 Yorkton, Sask.		Winnipeg Grain Elevator
CNKA 500 Montreal, N. B.		Canadian National Railways
CUB 500 Columbus, Miss.		St. Louis-Slave
EFBU 500 Columbus, Miss.		Stephen College
WGL 500 Savannah, Ga.		Emmett on the Air, Inc.
WOS 500 Washington, D. C.		W. A. Luce Co.
		Radio-Advertising Bureau
640 kilocycles	468.5 meters	<input type="text" value="71"/> <input type="text" value="69"/>
EFU 5000 Los Angeles, Calif.		Karl G. Anthony, Inc.
WAIU 5000 Columbus, Ohio		American Insurance Union
650 kilocycles	461.3 meters	<input type="text" value="70"/> <input type="text" value="68"/>
WAM 5000 Nashville, Tenn.		National Life & Accident Ins. Co.
660 kilocycles	454.3 meters	<input type="text" value="69"/> <input type="text" value="67"/>
WAPF 50000 Omaha, Neb.		Omaha Great Exchange
WFAF 50000 New York City		National Broadcasting Co., Inc.
670 kilocycles	447.5 meters	<input type="text" value="68"/> <input type="text" value="66"/>
WMAO 5000 Chicago, Ill.		Chicago Daily News, Inc.
680 kilocycles	440.9 meters	<input type="text" value="67"/> <input type="text" value="65"/>
KFO 5000 San Francisco, Cal.		Kate Bros. & The Chronicle
WPTF 5000 Raleigh, N. C.		Barham Lee Co.

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
CLWKROPWOKLRA
O F MBQHK I H
WFIWWJRATWWOW
SOWKTSM
W KMPC WAAW H
AKFK HHK KMC
WOV C B CMC
ZASW KDB SAIW

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

Here it is:

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

Key

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

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

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

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

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

Horizontal

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

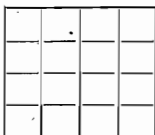
1	2	3	4	5	6	7	8	9	10	11	12	
K	W	K	H	W	L	W	K	W	K			
12	13	14		15		16		17	18	19		
W	O	S		W		R		B	O	K		
20	21	22	23	24	25	26	27	28	29	30		
W	R	A	K	N	A	A	W	A	A	W		
31		32	33	34	35	36	37	38	39	40		
G		C	M	K		W	F	A	A	X		
41	42	43	44	45	46	47						
	T	A	H	W	T	A	D					
48	49	50	51	52	53	54	55	56	57	58	59	60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

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

Vertical

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

No. 3



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

All calls are in North America.

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

Attaching Head Phones to a Majestic Set

A. R. Van Compennolle, 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 WFAF 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 Heinzl, 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 keys., 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 WFAF, 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 keys. Mr. Ide proffers the information that KOI on 1390 puts on a program after midnight Saturday which enables many DXers to add Arizona to their list.

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

The time schedule for the new Rut-

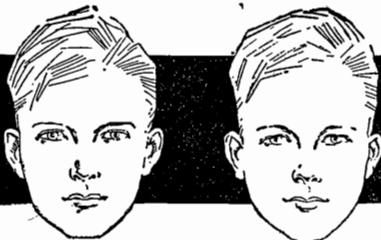
land, Vt., station WSYB is given by R. W. Raustron, 15 Edgewood St., Claremont, N. H., as follows: "Daily, 10-11 a.m., 12-1 p.m., and 6-9 p.m., EST."

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 stammerer. 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 Melodion 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 adapter published in the January issue of RADEX, form, when hooked up to gether, 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

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

The mystery of the Balboa station seems to be solved. Edward Heyworth, 55 No. 11th St., San Jose, Calif., and

several others write us that station KGER, Long Beach, Calif., broadcast frequently by remote control from Balboa, Calif., which is near Los Angeles, and is no relation of the Canal Zone Balboa. Evidently the information from the Navy authorities that there are no broadcasting stations in the Canal Zone is correct and we are deleting NBA.

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

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

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

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

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

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

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

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

Some Experiments

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

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

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

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

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

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



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

Radio Gossip

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

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NEUTRALIZING Oscillation of R. F. Tubes

Balancing the Neutrodyne

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

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

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

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

Gets Hot Signals

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

THIS MONTH'S CHANGES

New Stations

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

Power

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

Deleted

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

Calls

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

Frequencies

			From
630	XET	500	Monterrey, Mex.
645	CMHJ	40	Cienfuegos, Cuba.
650	XER	101	Mexico City.
719	XEN	1000	Mexico City
730	XEM	500	Tampico, Mex.
840	XEG	2000	Mexico City.
845	CMC	500	Havana, Cuba.
870	CMHH	10	Cifuentes, Cuba.
890	CMX	500	Havana, Cuba.
940	XEO	5000	Mexico City.
955	CMBC	150	Havana, Cuba.
	CMBD	150	Havana, Cuba.
977	XED	10000	Reynosa, Mex.
1000	XEA	101	Guadalajara, Mex.
	XEC	50	Toluca, Mex.
	XEF	105	Oaxaca, Mex.
	XEH	101	Monterrey, Mex.
	XEJ	101	Juarez, Mex.
	XEL	10	Saltillo, Mex.
	XEU	101	Veracruz, Mex.
	XEV	101	Puebla, Mex.
	XEY	105	Merida, Mex.
1084	CMKC	150	Santiago de Cuba.
1140	CMGD	5	Matanzas, Cuba.
	XETA	500	Mexico City.
1150	CMCQ	600	Havana, Cuba.
	CMCJ	250	Havana, Cuba.
1210	XEX	500	Mexico City.
1321	CMJC	15	Camaguey, Cuba.

A DXer's Dxology

Dear WILL:

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

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

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

Your friend,

KIT.

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

LEAKS Must be Plugged in AERIAL

Set Gives Only What it Gets

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

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

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

In order to find whether there is a break or an open circuit in the aerial, it is necessary to connect the far end of the aerial to the ground and then make the same test as just explained. A click in the

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

Grounded Aerials

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

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

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

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

Faulty Lightning Arrestors

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

Open-Circuited Aerials

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



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

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

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

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

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

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

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

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

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

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

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

station could do so much damage with only 1000 watts.

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

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

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

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

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

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

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

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

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

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

A Radio Mystery

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

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

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

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

Operation and Adjustment

(Continued from Page 9)

wire or laminations which accounts for the difference?

The difference in high and low-frequency transformers is in their winding and core. Transformers on the market

are not listed in this way. However, write to the Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill. This concern will be glad to quote prices on transformers of both classes.

More Data on S.W. Set

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

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

Lack of C Voltage

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

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

"Frying" Noises

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

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

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

Volume Falls

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

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

Faulty By-Pass

I have an Airline A C eight. Recently I began to notice a decrease in the volume of this set. It uses five 226, one 227, and two 171A tubes. A complete set of new Radiotrons did not remedy the trouble. I built the simpler of the two wave traps described in the December RADEX and this brought the volume at the higher frequencies almost back to normal, but did not help much elsewhere. At the extremely high frequencies the set howls quite loudly if the wave trap is not tuned sharply, but howls only when the wave trap is connected. The last few days a 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 Van-couver, 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

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

INSURE YOUR RADIO ENJOYMENT

SEND THIS BLANK TODAY

The Radex Press,
1367 East Sixth Street,
Cleveland, Ohio.

Enclosed find \$..... for which send me postpaid my choice of your offers as checked below:

- One Radio Map of North America..... 25c
- One copy of the next RADEX..... 25c
- Trial subscription, next five issues of RADEX..... \$1.00
- One year's subscription to RADEX, 10 issues, and Radio Map free..... 1.75
- 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

Write Name Plainly.....

Street and Number.....

City and State.....

KEY TO CHAIN STATIONS

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 930 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	WSAJ 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	WLWB 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	WTQC 1260 C
KOMO 920 N	WCAH 1430 C	WGY 790 N	WMC 780 N	WWJ 920 N
KPO 630 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 WEAf and WJZ; those of the Columbia Broadcasting System with WABC.

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

Daily (Except Saturday and Sunday)

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

8:00-8:15 Gene and Glenn — Quaker Early Birds
WEAF WJAR WEEI WTAG WCSH WFI
WRC WGY WCAE WTAM WWJ WSAI
CKGW WRVA WPTF WJAX WIOD WFLA
WSUN

8:15-8:30 Morning Devotions
WEAF WRC WCAE WGY WHAS WOW
WFI WCSH WJAR WWJ WPTF WIOD
WAPI WFLA WSUN WTAG WGN WJAX
WJDJ WRVA WBEN WSMB WFI

8:30-9:00 Cheerio
WEAF WEEI WCKY WRC WCSH WWJ
WHO WOC WDAF WAPI KPRC WFI
WSB WSM WJAX WPTF WTAG WOAI
WBEN WRVA CKGW WIOD WHAS WFLA
WSUN WTAM WMC WJDJ WJAR WGY
WOW WCAE WIBO

9:00-9:15 Something for Everyone
WABC WHEC WPG WCAU WHP WJAS
WDBJ WNNC WXYZ WBMC WDDO WREC
WLAC WBC KSCJ WMT KMOX KMBC
KOIL KFJ KFJ KTRH CFRB

9:15-9:45 Campbell's Orchestra
WEAF WJAR WLIT WTAG WCSH WRC
WDAF WBEN WCAE WHO WTAM WSAI
KSD WOW WOC WWJ CKGW (WLS on
9:30)

9:45-10:00 A. & P. Program
WEAF WJAR WTAG WCSH WRC WGY
WCAE WTAM WWJ WOC KSD WHO
WDAF WTMJ WEC WRVA WPTF WIOD
WFLA WSUN WHAS WSM WMC WSB
WAPI WSMB WJDJ KVOO WBAP KPRC
WOAI WKY WBEN WOW WFI KSTP
WIBO

11:15-11:30 Radio Household Institute
WEAF WJAR WTAG WCSH WLIT WRC
WHAS WSM WSB WCAE WWJ WSAI
KFJK WTAM KSD WTMJ KSTP WECB
WAPI WSMB WOAI KTHS KVOO KPRC
WKY WEEI WGY WMC WBEN

12:00-12:30 Paul Tremaine and His Orchestra
WABC WHEC WLBZ WORC WPG WCAU
WHP WHAS WLBW WMAL WCAO WTAR
WDBJ WHK WKRC WAIU WNNC WDDO
WREC WLAC WBC KSCJ WMT KMBC
WDAY KOIL WIBW KFJF KLZ

12:30-1:00 Columbia Revue
WABC WLBZ WORC WPG WCAU WHP
WJAS WLBW WMAL WCAO WTAR WXYZ
WBMC WDDO WREC WLAC WBC KSCJ
WMT KMBC WDAY WIBW KFJF KLZ

12:30-1:30 National Farm and Home Hour
WJZ WHAM WJR KSTP WRVA WHAS
WREN WFAA WECB WIOD WAPI WOW
WMC WSB WGAR KVOO WKY WOAI
WRC WHO WDAF WJDJ WBAL WSMB
KWK KOA WBZ WBZA WOC KTHS
WFLA WSUN WJAX KFAB KPRC KDKA
WLW KFJK WPTF WSM

1:30-2:00 Ambassador Hotel Orchestra
WABC WHEC WLBZ WEAN WPG WFAN
WJAS WLBW WMAL WCAO WTAR WDBJ

WKRC WAIU WWNC WXYZ WBCM WDDO
WLAC WBC

2:30-3:00 American School of the Air
WABC WFLB WKBW WEAN WNAC WCAU
WJAS WLBW WMAL WCAO WTAR WDBJ
WADC WHK WKRC WNNC WGST WXYZ
WSPD WDDO WREC WLAC WBC WDSU
WOWO WFBM WMAQ WCCO KMOX KMBC
KOIL KFJF KRLD KTSa KLZ KDYL
KVI KOL KFJF KOIN KHJ KFRG

3:00-3:30 Columbia Salon Orchestra
WABC WHEC WLBZ WEAN WNAC WORC
WPG WHP WLBW WMAL WCAO WTAR
WDBJ WHK WKRC WAIU WNNC WXYZ
WBMC WSPD WDDO WREC WLAC WBC
KSCJ WMT KMBC WDAY KOIL WIBW
KFJF KRLD KTRH KLZ CFRB

5:00-5:30 The Lady Next Door
WEAF WRC KSD WTAG WSM WHAS
WKY KPRC WTAM

6:05-6:30 Black and Gold Room Orchestra
WEAF WCAE WCSH WWJ WJAR WBEN

6:45-7:00 Uncle Abe and David
WEAF WEEI WJAR WCSH WFI WRC
WTMJ WSM WECB WCAE WGY WTAG
WTAM WWJ WSAI KSD WOC WTHS
WOW WDAF WSB WAPI WSMB WJDJ
WENR WHAS

6:45-7:00 Literary Digest Topics
WJZ WBZ WBZA WHAM WBAL KDKA
WRVA WPTF WJAX WIOD WLW WFLA
WSUN

7:00-7:15 Amos 'n' Andy
WJZ WHAM KDKA WBZ WBZA WRC
CKGW WRVA WPTF WJAX WIOD WCKY
WFLA WSUN WLW WJR WGAR CFCF

7:30-7:45 Phil Cook — Quaker Man
WJZ WBZ WBZA WHAM KDKA WREN
KWK WTMJ WECB KOA KSL KGO
KECA KGW WRC KOMO KHQ KFSD
WIOD WFLA WHAS WSM WMC WJDJ
KTHS KPRC WOAI

8:00-8:15 Literary Digest Topics
WFLB WGR WJAS WADC WHK WGST
WXYZ WSPD WREC WBC WDSU WFBM
WGL WMAQ WCCO WMOX KMBC KOIL
KFJF WRR KTSa

11:00-11:15 Amos 'n' Andy
WMAQ WREN KWK WDAF WTMJ WHAS
WSM WSB WKY WENR KSTP WSMB
WJDJ KTHS KPRC WECB WOAI WMC
KOA KFAB WBAP

Sunday

1:00-2:00 National Oratorio Society
WEAF WJAR WCSH WRC WGY WCAE
WTAM WWJ KSD WOW WOC WHO
WDAF CKGW WTMJ KSTP WECB WHAS
KPO KOA KGW KFSD KOMO KECA
WBEN KGO CFCF

1:30-2:00 Conclave of Nations
WABC WHEC WPG WHP WMAL WCAO
WTAR WDBJ WAIU WNNC WXYZ WBCM
WDDO WREC WLAC WBC WBMM WCCO
KSCJ WMT KMOX KMBC WDAY KOIL
WIBW KFJF KTSa KLZ

2:00-2:30 Library of Congress Musicals
 WJZ WJR KWK KSTP WRVA WIOD
 WSB WJDX WGN WREN

2:00-3:00 Cathedral Hour
 WABC WHEC WLBZ WEAN WNAC WORC
 WPG WCAU WHP WMAL WCAO W'AR
 WDBJ WKRC WNNC WXYZ WBCM WDOD
 WREC WLAC WBRC WFBM WMAQ WBBM
 KSCJ WMT KMBC WDAY KOIL W'BW
 KFJF KFJF KRLD KTRH KTSA KLZ
 CFRB

2:30-3:00 NBC Artists Program
 WEAJ WOV WWJ KSD WDAF KOA
 WGY

3:00-4:00 National Youth Conference
 WJZ WBAL KDKA KWK WREN KFAB
 WRVA WJAX WIOD KVOO WFAA WOI
 WFLA WSUN KGW WPTF KGO KOA
 KSTP WBCB WMC WSBM KPRC WKY
 KPO KOMO KHQ WSB WAFI WGAR
 WTMJ KSL

3:00-5:00 New York Philharmonic Orchestra
 WABC WHEC WLBZ WEAN WNAC WORC
 WCAU WHP WJAS WLBW WMAL WCAO
 W'AR WDBJ WKRC WAIU WNNC WXYZ
 WBCM WSPD WDOD WREC WLAC WBRB
 WFBM WMAQ WCCO KSCJ WMT KMOX
 KMBC WDAY KOIL W'BW KFJF
 KRLD KTRH KLZ KFRC

4:00-5:00 Dr. S. Parkes Cadman
 WEAJ WEEI WJAR WCSH WTAG KOA
 WOV WKY WOI WSAI WJAX WHAS
 WJDX KVOO KPRC WBCB WDAF WWJ
 WFLA WSUN KHQ WHO WOC KGO
 KOMO WCAE WFJC WRC KGW WPTF
 WMC WGY WSM KTHS WBAP WSB
 WMSB WAFI W'BN WRVA WIOD

4:15-4:45 Canadian Pacific Musical Crusaders
 WJZ WBAL WHAM KDKA WJR WLW
 KYW KWK WREN KFAB WBZ WBZA
 WGAR

5:00-5:30 Rev. Donald Grey Barnhouse
 WABC WFBM WGR WEAN WDRB WNAC
 WCAU WJAS WMAL WADC WKRC WXYZ
 WSPD WOV WMAQ KOIL KRLD WRR

5:00-6:00 Davey Hour
 WEAJ WJAR WTAG WCSH WFI WRC
 WGY WCAE W'AM KSD WSAI WENR
 WOC WHO WOV WDAF CKGW W'BN
 WEEI WWJ

5:00-6:00 National Vespers
 WJZ WBAL WHAM KWK WREN WCKY
 KSTP WBCB WIOD WMC KOMO WJDX
 WPTF KVOO KPRC WFLA WSUN KOA
 K'AR KGO KGW KHQ WSM WKY
 WSB WOI WAFI WSBM WBZ WBZA
 WGAR (KFAB on 5:15) (WIBO on 5:30)

5:30-6:00 Sweethearts of the Air
 WABC WFBM WKBW WEAN WDRB WNAC
 W'AN WCAU WJAS WMAL WADC WKRC
 WXYZ WSPD WOV WBBM KMBC KOIL

6:00-7:00 Catholic Hour
 WEAJ WEEI WJAR WTAG WCSH WRC
 WGY WWJ WBCB WIOD WKY WJDX
 KGO KSTP WSBM KOMO KSD WJDX
 WCAE KECA K'AR WFJC WOC WHO
 WDAF WJAX WFLA WSUN WHAS WMC
 WSB WBAP KPRC WOI W'VA KOA
 KVOO WSAI WSM WFI WIBO WLIT

7:00-7:30 Iodent Big Brother Club
 WEAJ WEEI WJAR WTAG WCSH WRC
 WCAE WWJ WSAI WLS KSD WOC
 WHO WOV WBCB W'FMJ W'BN WLIT

7:30-8:00 RCA Victor Program
 WEAJ WJAR WTAG WCSH WWJ KPRC
 W'BN WRC WGY WCAE W'AM WSAI
 KYW W'VA WIOD WFLA WSUN WHAS
 KSD WDAF W'FMJ WBCB WMC WSB
 WSBM WJDX KTHS KVOO WOI WKY
 KOA KSL KGO KFI K'AR KFSD
 KGW KOMO KHQ

7:30-8:00 Williams Oilomatics
 WJZ WBZ WBZA WHAM KWK WLW
 WREN KDKA WGN WJR

8:00-8:15 Enna Jettick Melodies
 WJZ WBZ WBZA WHAM KWK KYW
 WKY WJR WREN WFAA KPRC WOI
 WHAS WSM W'FMJ KSTP KDKA WMC
 KOA WENR WIOD KTHS WSBM KOMO
 KFI KGW KSL KHQ WLW WCKY
 WSB WPTF W'VA WFLA WSUN KFAB
 KFSD K'AR WJDX KPO KVOO KHQ

8:00-8:15 "Devils, Drugs and Doctors"
 WABC WFBM WHEC WGR WEAN WDRB
 WNAC WCAU WJAS WMAL WCAO WADC
 WHK WKRC WGST WXYZ WSPD WREC
 WLAC WBRB WDSU WISN WOV WFBM
 WMAQ WCCO KSCJ KMOX KMBC KOIL
 W'BW WRR K'AS KLZ KDYL KYI
 KOL KFPY KOIN KHJ KFRC

8:00-8:30 Major Bowes' Family
 WEAJ WSBM KSTP WCSH WDAF WIOD
 WSB WMC WJDX WKY WJAR WCAE
 WRC WGY WWJ WSAI KSD WFJC
 WHAS WFLA WSUN WTAG WLS WBCB

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
 WEAJ WJAR WTAG WCSH WRC WGY
 WCAE WWJ WSAI KSD WOV WIOD
 WBO KSTP WHO WOC WHAS WLIT
 WBCB WMC WSB WSBM WKY KTHS
 KPRC WOI W'FMJ WTAG WJDX WIOD
 WFLA WSUN WDAF W'IC KVOO W'BN

8:45-9:00 The Gauchos
 WABC WEAN WDRB WNAC WORC WHP
 WJAS WLBW WMAL WCAO W'AR WDBJ
 WADC WKBN WBT WXYZ WBCM WSPD
 WREC WISN WFBM KSCJ KMOX KLRA
 WNAX KOIL KFJF KTRH KTSA KLZ
 KOL KFPY

9:00-9:15 "Our Government," David Lawrence
 WEAJ WTAG WCSH WBCB WGY WHAS
 KSD WKY WSAI WFJC WSB WMC
 WSM WFAA WOV WOI WSBM WJDX
 WIOD WFLA WSUN WOC WHO WRC
 WWJ KVOO WLIT W'BN WJAR

9:00-9:30 Arabesque — Desert Play
 WABC WGR WEAN WDRB WNAC WORC
 W'AN WHP WJAS WLBW WMAL WDBJ
 WADC WKBN WBT WDAE WXYZ WBCM
 WSPD WREC WISN WOV WCCO KSCJ
 WMT KMBC KLRA WDAY WNAX KOIL
 W'BW KFJF KRLD KTRH KTSA KLZ
 KOL KFPY KFRC

9:15-10:15 Atwater Kent Hour
 WEAJ WEEI WRC WFI WGY WCAE
 W'AM WWJ WSAI KSD WOV WSM
 WFAA KOA WOI WSBM KFI KGW
 KOMO KPO KHQ KPRC WKY WHAS
 WGN WSB WOC WHO WMC WDAF
 KSL CKGW WAFI W'BN KSTP

9:30-10:00 Graham-Paige Hour
 WABC WFBM WKBW WEAN WDRB WNAC
 WCAU WJAS WMAL WCAO WADC WHK
 WKRC WBT WGST W'OC WQAM WDBO
 WDAE WXYZ WSPD WREC WDSU WOV
 WBBM WCCO KMOX KMBC KOIL KFJF
 KRLD KTRH KTSA KLZ KDYL KOL
 KFPY KOIN KHJ KFRC

10:00-10:30 Royal's Poet of the Organ
 WABC WFBM WKBW WEAN WNAC WCAU
 WJAS WLBW WMAL WCAO WADC WHK
 WKRC WGST WXYZ WSPD WLAC WOV
 WBBM KMOX KMBC KOIL KLZ KDYL
 KOL KFPY KOIN KHJ KFRC

10:15-10:30 Pennzoil Pete
 WJZ WBZ WBZA KDKA WJR WLW
 KWK WREN W'VA WJAX WIOD WAFI
 WSB WMC WHAS WFLA WSUN WSBM
 WJDX WOI WKY WHAM

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

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

10:30-11:00 Around the Samovar
WABC WKBW WEAN WNAC WORC WPG
WFAN WJAS WLWB 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
WFCP WWJ KYW WOW WHO WEBC
WJAX WIOD WHAS WSM WJDX KPRC
WKY KOA KGO KGW WSB KTAR
KFSD WRVA WBEN WLIT

11:00-12:00 Back Home Hour
WABC WHEC WLWB WPG WHP WMAL
WTAR WDBJ WXYZ WBCM WSPD WDOB
WREC WLAC WFBM WCCO WMT WDAY
WNAX WIBW KFJ KFJF KRLD KTRH
K TSA

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

Monday

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

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

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

4:15-4:30 U.S. Army Band
WABC WLWB WEAN WNAC WORC WPG
WCAU WLWB WMAL WCAO WTAR WDBJ
WAU WNNC WXYZ WBCM WSPD WDOB
WREC WLAC WBBM WCCO KSCJ WMT
KMOX KMBC WDAY KOIL KFJF KRLD
KTRH KLZ KOL KFCR CFRB

4:30-5:00 Wardman Park Hotel Orchestra
WABC WLWB WEAN WNAC WORC WPG
WFAN WHP WLWB WMAL WCAO WTAR
WDBJ WKRC WAU WNNC WXYZ WBCM
WSPD WDOB WREC WLAC WBRC WCCO
KSCJ KMOX KMBC WDAY KOIL WIBW
KFJF KRLD KTRH K TSA KLZ KOL
KFCR CFRB

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

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

7:00-7:15 Current Events
WDBJ WKRC WNNC WXYZ WBCM WDOB
WBRC KSCJ WMT WDAY KOIL WABC
WHEC WLWB WORC WHP WJAS WLWB
WMAL WCAO WTAR WIBW KFJF KTRH
KTRH KOL KFCR

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

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

8:00-8:15 "How's Business?"
WEAF WJAX WJAR WRC KSD WCAE
WWJ KOMO WSAI WDAF WJDX KGO

KVOO KECA KHQ WFLA WSUN WHAS
WEBC WSMB KGW KTAR KFSD KSL
WMC

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

8:15-8:30 Barbasol Program
WABC WFBL WKBW WEAN WDRS 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 WBEN

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

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

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

9:00-9:30 The Three Bakers
WABC WFBL WHEC WKBW WLWB WEAN
WDRS WNAC WORC WPG WCAU WHP
WJAS WLWB WMAL WCAO WTAR WDBJ
WADC WHK WKRC WNNC WBT WGBT
WTCO WQAM WDBO WDAE WXYZ WBCM
WSPD WDOB WREC WLAC WBRC WDSU
WISN WOW WFBM WMAQ WCCO KSCJ
WMT KMOX KMBC KLRA WDAY WNAX
KOIL WIBW KFJF KTRH WRR KTRH
K TSA KLZ KDYL KOL KFPY KOIN
KHJ KFCR

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 WOW WSAI WDAF KSTP
WTMJ WHAS WSM WMC WSB KPRC
WJAX WFAA WOAI WKY KOA KSL
KGO KGW KFI KOMO KHQ WTIC
WHO WBEN WCAE

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

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

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

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

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

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

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

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

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

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

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

12:00-1:00 Phil Spitalny and His Orchestra
 WEAJ WRC WCY 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
 KFCK KDKA KWK CKGW KFAB WKY
 KVOO WOAI WBAP WGAR

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

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

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

5:00-5:15 Rhythm Kings
 WABC WHEC WFAU WHP WLBW WMAL
 WCAO WTAR WAU WWNC WXYZ WBCM
 WDOD WREC WLAC WBRC WCCO KSCJ
 WMT KMBC WDAY KFJF KRDL KTRH
 K TSA KLZ

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

7:30-8:00 Soconyland Sketches
 WEAJ WEEI WJAR WTAG WCHS 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 WSBM WOAI KFAB
 KGO KECA WBAL WFTF

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

8:15-8:30 Old Gold Character Readings
 WABC WFLB WHEC WGR WLBZ WEAN
 WDRG WNBC WORC WPG WCAU WHP
 WJAS WLBW WCAO WTAR WDBJ WADC
 WKRC WAU WKBN WWNC WBT WGST
 WTOC WQAM WDBO WDAE WXYZ WBCM
 WSPD WDOD WREC WLAC WBRC WDSU
 WISN WJDD WCCO KSCJ WMT KMOX
 KMBC KLRA WDAY WNAX KOIL WBW
 KFJF KFJF WRR KTRH K TSA KLZ
 KDYL KVI KOL KFYP KOIN KHJ
 KFRC

8:30-9:00 Florsheim Frolic
 WEAJ WTAG WFI WRC WGY WCAE
 WWJ WSAI WGN KSD WDAF WREC
 WRVA KVOO WJAX WIOD WJUN WFLA
 WSM WMC WSB WSBM WJDX KPRC
 WOAI WKY KOA KSL KTHS WJAR
 WHAS WCHS WBAP WBN KSTP

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

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

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

9:00-9:30 Henry-George
 WABC WFLB WGR WEAN WDRG WNBC
 WCAU WJAS WMAL WCAO WADC WHK
 WKRC WXYZ WSPD WISN WOWO WFBM
 WBBM WCCO KMOX KMBC KOIL KFJF

9:30-10:00 The Philco Symphony Concert
 WABC WFLB WHEC WKBW WEAN WDRG
 WNBC WCAU WJAS WMAL WCAO WTAR
 WADC WHK WKRC WGST WXYZ WREC
 WDOD WREC WLAC WBRC WDSU WISN
 WOWO WFBM WMAQ WCCO WMT KMOX
 KMBC KOIL KFJF KTRH KRDL KTRH
 K TSA CFRB

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

9:30-10:00 Happy Wonder Bakers
 WEAJ WJAR WEEI WTAG WCHS 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 WNBC WKBW WBBM WKRC
 WHK WXYZ WOWO KMBC WABC WLBW
 KOIL WCAU WJAS WBN KMOX WFLB
 WSPD WMAL WWNC WGST WBRG KRDL
 KLZ KTRH WFBM WLRA WCCO WISN
 WREC WTAR WLAC WDSU KFJF WHEC
 WDBJ K TSA KDYL KFJF WKBN KHJ
 KOIN KFRC KOL KFYP

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

WSB WIOD WCKY WFLA WSUN KBCA
 KSTP KTAR KFSD WJR WAPI WGR
 WFAA WHAM WCKY

10:00-11:00 Lucky Strike Dance Orchestra
 WEAFF WEEI WJAR WTAG WCSH WFI
 WRC WCAE WWJ WSAI KSD WOC
 WHO WTMJ WEEC 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 WEAM KDKA WJR WLW
 KWK WREN WGAR WBZ WBEA WGN

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

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

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

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

Wednesday

3:00-3:15 Edna Wallace Hopper
 WJZ WBZ WBZA WBAL WEAM KDKA
 WGAR WLW WGN KWK WREN WTMJ
 WJDX KOA KSTP WEEC 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
 WEAFF WEEI WJAX WIOD WHAS WSM
 WRC KPRC KYW WMC WAPI WKY
 WQAI WJDX WSB WSMB WFLA WSUN
 WTAG KOA KGO WJFC WFI WGY
 WCAE WSAI KSD WEEC KSTP WRVA
 WTAM WPTF WWJ WOC WHO WBAP
 KPRC WBEN KSL CKGW KTHS

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

5:00-5:30 Asbury Park Casino Orchestra
 WABC WEEC WEAN WHP WLBW WCAO
 WTAR WAIU WNNC WXYZ WBCM WDDO
 WREC WLAC WBRG WCCO KSCJ WMT
 WDAY KFH KFJF KRLL KTRH KTSA
 KLZ

7:00-7:15 Roddeheaver Sing
 WEAFF WJAR WFI WBEN WCAE WOC
 WHO WOW KGO WEEI

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

7:30-7:45 Evangeline Adams, Astrologer
 WABC WFBL WEEC WGR WEAN WDRC
 WNAC WCAU WCAO WDBJ WTAR WADC

WHK WKRC WAIU WNNC WGST WXYZ
 WSPD WDDO 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 WGAR KDKA WJR WIBO KWK
 WREN KFAB WLW

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

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

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

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

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

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

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

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

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

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

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

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

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

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

10:30-11:00 Columbia Concerts Programs
WABC WHEC WLWB WEAN WNAC WORC
WPG WJAS WLWB WMAL WCAO WTAR
WDBJ WUNC WXYZ WBCM WSPD WDOJ
WFBM WMAQ WCCO KSCJ WMT KMOX
KMBC WDAY WNAK WIBW KFJF KTRH
KRTSA KLZ KOL CFRB

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

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

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

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

Thursday

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

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

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

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

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

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

7:30-7:45 St. Moritz Orchestra
WEAN WDRC WHP WJAS WLWB WMAL
WDBJ WKBN WBT WXYZ WREC WBCM
WLAC WBRC 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 WIBO KOA KSL
WGAR

8:00-9:00 Fleischmann Hour - Rudy Vallee
WEAF WEEI WTAG WJAX WIOD WJDX
WJAR WCSH WFI WRC WGY WCAE
WHO WOV WDAF WWJ WHAS KTAR
WMC WSB WSMB WEBC KOA WRVA

KSL KOMO WQAI WSM WOC WAPI
KGO KHQ KECA KSD CRGW WTAM
KGW KSTP WGN KPRC WBEN (WTM
KTHS WSAI WBP WXY (8:30)

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

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

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

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

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

9:00-9:30 Arco Birthday Party
WEAF WEEI WJAR WTAG WCSH WFI
CKGW WRC WGY WSB WSM WIOD
WJAX WQAI KOA KSL WKY WJDX
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 WLWB WEAN
WDRC WNAC WORC WPG WCAU WHP
WJAS WLWB WCAO WTAR WDBJ WADC
WHK WKRC WAIU WKBN WUNC WBT
WGST WTOC WQAM WDBO WDAE WXYZ
WBCM WSPD WDOJ WREC WLAC WBRC
WDSU WISN WOWO WFBM WBBM WCCO
KSCJ WMT KMOX KMBC KLRA WDAY
WNAX KOIL WIBW KFH KFJF KRLL
KRTSA KLZ KDYL KVI KOL KFPY
KOIN KHJ KFRC

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

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

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

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

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

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

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

11:00-11:30 Ben Bernie and His Orchestra
 WABC WHEC WLWB WEAN WNAC WORC
 WCAU WHP WLWB WMAL WCAO WTAR
 WDBJ WWNC WXYZ WBCM WSPD W DOD
 WREB WLAC WBRB WFBM WCCO WMT
 KMOX KMBC WDAY WNAX KOIL WIBW
 KFH KFJF KTRH K TSA KLZ KOL
 CFRB

11:30-12:00 Cab Calloway and His Orchestra
 WFAF WWJ WOV WFI KSD KSTP
 WJDX WDAF WTAM WOC WHO W BPO

Friday

4:10-4:45 Dancing Melodies
 WFAF WTAG WCAE WFJC WTAM WWJ
 WOC WHO WOV WDAF W BFN

5:00-5:45 Light Opera Gems
 WABC WKBW WGR WDRC WHP WJAS
 WLWB WCAO WTAR WAU WKBN WBT
 WXYZ WBCM WSPD WREB WLAC WBRB
 WISN WGL WCCO KSCJ KMOX WDAY
 KOIL KFH KFJF KRLD KTRH K TSA
 KLZ CFRB

7:15-7:30 Little Things in Life
 WFAF WCHS W BFN WWJ WSAI W BPO
 WOC WHO WDAF KSTP WHAS WSM
 WAPI WSMB KTHS WKY KOA KGW
 KOMO KPSD K TAR

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

7:45-8:00 Brownbill Footlites
 WJZ WBZ W BVA WREN KWK KFAB
 WTMJ W EBC WRVA WPTF WJAX WIOD
 WFLA WSUN WHAS WSM WAPI WSMB
 WJDX WOAI W BPO KOA KSL KDKA
 WSB WLW KSTP WGR

8:00-8:30 Nestle's Program
 WJZ WBZ W BVA WHAM W BPO KWK
 WREN KFAB WJR WLW KDKA WGR

8:00-9:00 Cities Service Concert Orchestra
 WFAF WEEI W TIC WLIT WRC WCAE
 WJAR WCHS WOV KYW KSD WDAF
 KSTP WTMJ WKY WOC KOA W EBC
 WOAI KOMO KGO KGW KHQ KSL
 WTAG CKGW KPCA WHO WSAI WTAM
 W BFN WWJ (WFAA KPRC off 8:30)

8:15-8:30 Rhythm Choristers
 WABC WKBW WDRC WORC WHP WJAS
 WLWB WMAL WTAR WDBJ WADC WAU
 WXYZ WBCM WBRB WLAC WBRB WISN
 WMAQ KSCJ KMOX WDAY WNAX KOIL
 KFJF KRLD KTRH KVI KFPY KHJ
 KPRC

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

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

9:00-9:30 Cliequot Club Eskimos
 WFAF WEEI W TIC WJAR WTAG WCHS
 WLIT WRC WOV WCAE WSAI W BPO
 KSD WWJ WDAF WOC WHO WGY
 W BFN

9:00-9:30 Interwoven Pair
 WJZ WHAM WMC KDKA WJAX WKY
 WREN KPRC KWK WBZ W BVA KGW
 WSMB WIOD WFAE WJR WTMJ KSTP
 WHAS KYW W EBC WCKY WSM WRVA
 WSB WAPI WOAI KOA KSL KGO
 KPCA KGW KOMO KHQ KPSD K TAR
 WJR WGR

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

9:30-9:45 Enna Jettick Songbird
 WFAF WEEI WJAR WTAG WCHS WRC
 WLIT WGY W BFN WCAE WWJ WSAI
 WENR KSD WOC WHO WOV WDAF
 CKGW WTAM CFCF

9:30-10:00 Armour Program
 WJZ WBZ W BVA WJR KYW WREN
 KSTP W EBC WRVA WMC WSB WGR
 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
 WFAF WEEI WJAR WTAG WCHS WRC
 WLIT WGY W BFN WSAI KSD WOC
 WHO WDAF WCAE WTAM WWJ WOV

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

10:00-10:30 Crime Prevention Program
 WFAF WJAR WCHS WCAE WWJ KSD
 WSAI WDAF WRC W BFN

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

10:30-11:00 RKO Theatre of the Air
 WFAF WEEI WJAR WTAG WLIT WGY
 WCAE WWJ WSAI W BPO KSD WDAF
 WRVA WJAX WIOD WMC WSB WSMB
 WOC WJDX KGO KTHS WOAI WKY
 WRC KOA KGW KFI KHQ KOMO
 K TAR KPSD WCHS WHO WOV KSL
 WTAM WFLA WSUN W BFN

10:30-11:00 Nit Wit Hour
 WABC WHEC WLWB WEAN WNAC WORC
 WPG WCAU WJAS WLWB WMAL WCAO
 WTAR WDBJ W EBC WWNC WXYZ WBCM
 WSPD W DOD WLAC WBRB KSCJ WCCO
 WMT KMOX WDAY WNAX KOIL W BPO
 KFJF KTRH K TSA KLZ

11:00-11:30 Noble Sissle and Princesse Orchestra
 WABC WKBW WEAN WDRC WNAC WORC
 WCAU WLWB WCAO WTAR WDBJ W EBC
 WKBN WBT WXYZ WBCM WSPD WREB
 WLAC WBRB WISN WOV WCCO KMOX
 WDAY WNAX KOIL WIBW KFH KFJF
 KTRH KLZ KFPY CFB

11:00-12:00 Vincent Lopez and His Orchestra
 WFAF WGY CKGW W TIC 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 WLWB WORC WLWB WMAL
 WCAO WTAR WDBJ WKRC WWNC WXYZ
 WBCM W DOD WREB WLAC WBRB WCCO
 WMT KMBC WDAY WNAX KOIL W BPO
 KFH KFJF KTRH KLZ CFRB

Saturday

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

	WXYZ	WDOD	WBCM	WREC	WLAC	WFBM			
	KSCJ	WMT	KMBC	WDAY	KOIL	KFJF			
	KRLD	KTSA	CFRB						
1:30-2:00 Savoy Plaza Orchestra									
	WABC	WHFC	WLBZ	WEAN	WCAU	WHP			
	WJAS	WMAL	WCAO	WTAR	WDBJ	WKRC			
	WAIU	WUNC	WXYZ	WBCM	WSPD	WDOD			
	WLAC	WBRC	WBIB	CFRB					
4:45-5:00 Spanish Serenade									
	WABC	WLBZ	WEAN	WNAC	WORC	WFAN			
	WHP	WMAL	WCAO	WTAR	WDBJ	WKRC			
	WAIU	WUNC	WXYZ	WBCM	WSPD	WDOD			
	WREC	WLAC	WBRC	WMAQ	WBMB	WCCO			
	KSCJ	WMT	KMOX	KMBC	WDAY	KOIL			
	WBIB	KFJF	KRLD	KTRH	KTSA	KLZ			
	KOL	KFRC							
5:30-5:40 Peter van Steeden and Orchestra									
	WJZ	KWK	WHAM	KDKA	WMC	WSB			
	WSMB								
6:00-6:30 Ted Husing's Sportsclats									
	WABC	WFBL	WFAN	WHP	WLBW	WTAR			
	WDBJ	WADC	WEK	WAIU	WBT	WBCM			
	WREC	WLAC	WBRC	WISN	WOWO	WBMB			
	WCCO	KSCJ	WDAY	KOIL	WBIB	KFH			
	KFJF	KRLD	KTRH	KTSA	KLZ	KVI			
	KOL	KFPY	KHJ	KFRC	CFRB				
6:15-6:45 Smith Ballou and His Orchestra									
	WJZ	WBZ	WBZA	WRC	KFAB	KWK			
7:00-7:15 Rodeheaver Sing									
	WEAF	WJAR	WFI	KSTP	WOW	KOA			
	WTAM								
7:00-7:15 Freddie Rich and His Orchestra									
	WABC	WHFC	WLBZ	WORC	WHP	WJAS			
	WLBW	WCAO	WTAR	WDBJ	WEK	WKRC			
	WUNC	WXYZ	WBCM	WDOD	WIBC	WFBM			
	KSCJ	WMT	WDAY	KOIL	WBIB	KFH			
	KFJF	KOL	KFRC	CFRB					
7:30-7:45 Snoop and Peep									
	WEAF	WJAR	WTAG	WBEN	WSAI	WOC			
	WHO	WOW	WTMJ	KSTP	WEBC	WIOD			
	WFLA	WSUN	KGO	CFRC					
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	WHFC	WGR	WLBZ	WEAN			
	WNAC	WORC							
7:45-8:00 "The Highroad of Adventure"									
	WEAF	WTAG	WBEN	WCAE	WTAM	WWJ			
	WSAI	WOC	WHO	KSTP	WEBC	KGO			
	KGW	KFSD	KTAR						
7:45-8:00 Pickard Family									
	WJZ	WHAM	KWK	WREN	WIBO	WGAR			
8:00-8:15 Dixies Circus									
	WJZ	WBAL	KDKA	KYW	WHAM	WBZ			
	WBZA	WOAI	KTSP	KPRC	WKY	CKGW			
	WGAR								
8:00-8:15 Webster Program — Weber and Fields									
	WEAF	WEEL	WJAR	WTAG	WCBS	WFI			
	WRC	WGY	WBEN	WCAE	WTAM	WWJ			
	WSAI	WIBO	KSD	WOC	WHO	WOW			
	WDAF	WTMJ	KSTP	KOA	KSL	WEBC			
8:15-8:30 Ben Alley, Tenor, with Ann Leaf									
	WABC	WKBW	WGR	WDRC	WORC	WPG			
	WFAN	WHP	WJAS	WLBW	WMAL	WCAO			
	WDBJ	WADC	WKBN	WBT	WXYZ	WBCM			
	WSPD	WREC	WLAC	WBRC	WISN	WOWO			
	WFBM	WMAQ	KSCJ	KMOX	WDAY	WNAX			
	KOIL	KFH	KFJF	KTRH	KTSA	KVI			
	KFPY	KHJ	KFRC						
8:15-8:30 "Rin-Tin-Tin Thriller"									
	WJZ	WHAM	WBAL	KDKA	WREN	KFAB			
	KWK	WBZ	WBZA	KYW	WGAR				
8:15-8:30 Radiotron Varieties									
	WEAF	WEEL	WJAR	WTAG	WCBS	WRC			
	WGY	WBEN	WCAE	WTAM	WWJ	WSAI			
	WIBO	KSD	WOC	WHO	WOW	WDAF			
	WTMJ	WRVA	WJAX	WIOD	WFLA	WSUN			
	WSM	WMC	WSB	WSMB	WJDX	KPRC			
	WOAI	WKY	KOA	KSL	KGO	KGW			
	KOMO	KHQ	KTAR	KFSD					
8:30-8:45 The Early Bookworm									
	WABC	WKBW	WEAN	WDRC	WNAC	WORC			
	WPG	WCAU	WHP	WJAS	WLBW	WMAL			
	WCAO	WDBJ	WADC	WKBN	WBT	WXYZ			
	WBCM	WSPD	WLAC	WBRC	WISN	WOWO			
	WMAQ	KSCJ	KMOX	WDAY	WNAX	KOIL			
	KFH	KFJF	KRLD	KTRH	KTSA	KLZ			
	KVI	KFPY	KHJ	KFRC	CFRB				
8:30-9:00 The Silver Flute									
	WEAF	WEEL	WTAG	WCBS	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	WEEL	WJAR	WTAG	WCBS	WFI			
	WRC	WGY	WBEN	WCAE	WTAM	WWJ			
	WSAI	WIBO	KSD	WOC	WOW	WDAF			
	WTMJ	WKY	KSTP	WEBC	WRVA	WJAX			
	WHAS	WMC	WSB	WAPI	WSMB	WBAB			
	KPRC	WOAI	KOA	KSL	KGO	KFI			
	KGW	KOMO	KHQ	KFSD	KTAR				
9:30-10:00 Columbia Educational Features									
	WABC	WLBZ	WEAN	WNAC	WORC	WPG			
	WFAN	WHP	WJAS	WLBW	WMAL	WTAR			
	WDBJ	WKRC	WUNC	WXYZ	WBCM	WSPD			
	WDOD	WREC	WLAC	WBRC	WFBM	WCCO			
	KSCJ	WMT	KMBC	WDAY	WNAX	KOIL			
	WBIB	KFH	KFJF	KTRH	KTSA	KLZ			
	KOL	KFRC							
10:00-11:00 Lucky Strike Dance Orchestra									
	WEAF	WEEL	WJAR	WTAG	WCBS	WFI			
	WRC	WGY	WBEN	WCAE	WTAM	WWJ			
	WSAI	WGN	KSD	WOC	WOW	WDAF			
	WDAF	WTMJ	KSTP	WEBC	WRVA	WJAX			
	WIOD	WFLA	WSUN	WHAS	WMC	WSB			
	WSMB	WJDX	KVOO	WFAA	KPRC	WOAI			
	WKY	KOA	KSL	KGO	KFI	KGW			
	KOMO	KHQ	KTAR	KFSD					
10:00-11:00 Hank Simmons' Show Boat									
	WABC	WHFC	WLBZ	WEAN	WNAC	WORC			
	WPG	WFAN	WHP	WJAS	WLBW	WMAL			
	WCAO	WTAR	WDBJ	WKRC	WUNC	WXYZ			
	WBCM	WSPD	WDOD	WLAC	WRC	WFBM			
	WMAQ	WCCO	KSCJ	WMT	KMOX	KMBC			
	WDAY	WNAX	KOIL	WBIB	KFH	KFJF			
	KRLD	KTRH	KTSA	KLZ	KOL	KFRC			
	CFRB								
10:00-10:30 Cuckoo									
	WJZ	WBZ	WBZA	WBAL	KDKA	WHAM			
	WGAR	WLW	WIBO	KWK	WREN	WJR			
	CFRC	CKGW							
11:00-11:15 Troubadour of the Moon									
	WEAF	WFI	WCAE	WWJ	WSAI	WOC			
	WHO	WOW							
11:00-11:30 Jack Denny and His Orchestra									
	WABC	WHFC	WLBZ	WEAN	WNAC	WORC			
	WPG	WCAU	WHP	WLBW	WMAL	WCAO			
	WTAR	WDBJ	WUNC	WXYZ	WBCM	WSPD			
	WDOD	WREC	WLAC	WBRC	WFBM	KSCJ			
	WMT	KMBC	WDAY	WNAX	KOIL	WBIB			
	KFJF	KRLD	KTRH	KLZ	KOIL	CFRB			
11:30-12:00 Guy Lombardo and His Orchestra									
	WABC	WHFC	WLBZ	WEAN	WNAC	WORC			
	WPG	WFAN	WHP	WLBW	WMAL	WCAO			
	WTAR	WDBJ	WKRC	WUNC	WXYZ	WBCM			
	WDOD	WREC	WLAC	WBRC	WFBM	WCCO			
	KSCJ	WMT	KMBC	WDAY	WNAX	KOIL			
	WBIB	KFJF	KRLD	KTRH	KLZ	KOL			
	CFRB								
11:45-12:00 Little Jack Little									
	WEAF	WFI	WCAE	WTAM	KSD	WOC			
	WHO	WDAF	WFLA	WSUN	WIBO	KOA			
	WGY	WIBO	WOW	KPRC	WIOD				
12:00-1:00 Smith Ballou and His Orchestra									
	WEAF	WRC	KSTP	KPRC	WSB	WMC			
	WBEN	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
 KFDD † 500 1+ Brookings, S. D.
 KFUD † 500 2+ St. Louis, Mo.
 KFYZ † 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
 Pulitzer Publishing Co.
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 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.

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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.

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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
 WOBW * 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.
 WOBW, 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

Columbus Commercial & Radio Co. Louis Wasmser, 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.
CNRD	†	500	3	Ottawa, Ont.
KFSD	*	500	+N	San Diego, Cal.
WCAC	--	250	2+	Storrs, Conn.
WCAO	*	250	C	Baltimore, Md.
WGBS	†	250	2+	New York City
WMT	--	500	C	Waterloo, Iowa
WOAN	--	500	1	Lawrenceburg, Tenn.
WREC	*	500	1+C	Memphis, Tenn.

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

610 kilocycles 491.5 meters

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

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

620 kilocycles 483.6 meters

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

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

630 kilocycles 475.9 meters

CFCT	*	500	---	Victoria, B. C.
CJGX	--	500	---	Yorkton, Sask.
CNRA	*	500	---	Moncton, N. B.
KFRU	*	500	1	Columbia, Mo.
WGBF	†	500	1	Evansville, Ind.
WMAL	*	250	+C	Washington, D. C.
WOS	*	500	1	Jefferson City, Mo.
XET	†	500	---	Monterrey, Mex.

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

640 kilocycles 468.5 meters

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

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

650 kilocycles 461.3 meters

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

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

660 kilocycles 454.3 meters

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

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

670 kilocycles 447.5 meters

WMAQ	*	5000	C	Chicago, Ill.
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WMAQ, Inc		

CUT OUT ON DOTTED LINES

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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.

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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.
CJ CJ	*	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	Glance Bay, N. S.

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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
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Crosley Radio Corp.

710 kilocycles 422.3 meters

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

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R. S. MacMillan
Bamberger Broadcasting Service, Inc.

720 kilocycles 416.4 meters

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

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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.

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

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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

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

770 kilocycles 389.4 meters

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

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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.

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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.
WTAR	*--	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.
WPCH	*	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. Figueres
National Broadcasting Co., Inc.
Matheson Radio Co., Inc.
University of Florida

840 kilocycles 356.9 meters

CFCA	†	500	1	Toronto, Ont.
CHCT	†	1000	2--	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.
KLX	†	500	---	Oakland, Cal.
KPOF	†	500	2	Denver, Colo.
WCOC	--	500	+	Meridian, Miss.
WGBI	*	250	1	Scranton, Pa.
WQAN	*	250	1	Scranton, Pa.
WSUI	*	500	---	Iowa City, Iowa

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

CUT OUT ON DOTTED LINES

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890 kilocycles 336.9 meters

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

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

900 kilocycles 333.1 meters

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

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

910 kilocycles 329.6 meters

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

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

920 kilocycles 325.9 meters

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

Manuel A. 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		

930 kilocycles 322.4 meters

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

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

940 kilocycles 319.0 meters

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

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

950 kilocycles 315.6 meters

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

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

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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.
CNRX	*	4000	2	Toronto, Ont.

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

970 kilocycles 309.1 meters

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

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

980 kilocycles 305.9 meters

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

990 kilocycles 302.8 meters

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

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.

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		

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

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

1020 kilocycles 293.9 meters

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

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

1030 kilocycles 291.1 meters

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

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

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.

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

KCYS.
1040
MTRS.
288.3
DIAL

CUT OUT ON DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

1050 kilocycles

KFKB * 5000 Dn
KNX * 5000 X

285.5 meters

Milford, Kansas
Hollywood, Cal.

--	--	--

KFKB Broadcasting Assn., Inc.
Western Broadcast Co.

--	--	--

1060 kilocycles

KWJJ -- 500 Dn
WBAL * 1000 1N
WJAG * 1000 Dn
WTIC * 5000 1N

282.8 meters

Portland, Ore.
Baltimore, Md.
Norfolk, Nebr.
Hartford, Conn.

--	--	--

KWJJ Broadcast Co., Inc.
Consolidated Gas Elec. & Pwr. Co.
Norfolk Daily News
Travelers Broadcasting Service Corp.

--	--	--

1070 kilocycles

CMBG -- 150 ---
CMBT -- 150 ---
CMCB -- 150 ---
KJBS * 100 D
WCAZ -- 50 D
WDZ † 100 D
WTAM * 5000 N

280.2 meters

Havana, Cuba
Havana, Cuba
Havana, Cuba
San Francisco, Cal.
Carthage, Ill.
Tuscola, Ill.
Cleveland, Ohio

--	--	--

Francisco Garrigo
E. Perera
M. D. Autran
Julius Brunton & Sons Co.
Superior Broadcasting System
James L. Bush
National Broadcasting Co., Inc.

1080 kilocycles

WBT * 5000 C
WCBD * 5000 1 Dn
WBMI * 5000 1 Dn

277.6 meters

Charlotte, N. C.
Zion, Ill.
Chicago, Ill.

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Station WBT, Inc.
Wilbur Glenn Voliva
Moody Bible Institute

1090 kilocycles

CMAA -- 30 ---
CMGI -- 30 1094
KMOX * 5000 ICX

275.1 meters

Guanajay, Cuba
Matanzas, Cuba
St. Louis, Mo.

--	--	--

Antonio Sarasola
Armando Lizama
Voice of St. Louis, Inc.

1100 kilocycles

CMKD -- 20 ---
KGDMD * 250 DX
WLWL * 5000 1C
WPG * 5000 1C

272.6 meters

Santiago, Cuba
Stockton, Cal.
New York City
Atlantic City, N. J.

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Jose Caluff
E. F. Peffer
Missionary Society of St. Paul
WPG Broadcasting Corp.

1110 kilocycles

CMHI -- 15 ---
KSOO * 2000 Dn
WRVA * 5000 N

270.1 meters

Santa Clara, Cuba
Sioux Falls, S. D.
Richmond, Va.

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Laviz y Paz
Sioux Falls Broadcasting Assn., Inc.
Larus & Bros. Co., Inc.

1120 kilocycles

CFJC -- 100 ---
CHCS -- 10 4
CHGS * 100 ---
CJOC † 50 ---
CKOC * 50 4
KFIO † 100 D
KFSG * 500 3
KMCS * 500 3Y
KRSC † 50 D
KTRH * 500 2C
WDBO * 500 +C
WDEL † 250 +X
WHAD * 250 1
WISN -- 250 1C
WTAW * 500 2

267.7 meters

Kamloops, B. C.
Hamilton, Ont.
Summerside, P. E. I.
Lethbridge, Alta.
Hamilton, Ont.
Spokane, Wash.
Los Angeles, Cal.
Inglewood, Cal.
Seattle, Wash.
Houston, Texas
Orlando, Fla.
Wilmington, Del.
Milwaukee, Wis.
Milwaukee, Wis.
College Station, Texas

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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

1130 kilocycles

KSL * 5000 N
WJJD * 20000 C Dn
WOV -- 1000 D

265.3 meters

Salt Lake City
Mooseheart, Ill.
New York City

--	--	--

Radio Service Corp. of Utah
Loyal Order of Moose
International Broadcasting Corp.

1140 kilocycles

CMGD -- 5 ---
KVOO * 5000 1N
WAPI -- 5000 1N
XETA -- 500 ---

263.0 meters

Matanzas, Cuba
Tulsa, Okla.
Birmingham, Ala.
Mexico City

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Rafael Rodriguez
Southwestern Sales Corp.
Alabama Polytechnic Institute
Manuel Espinosa Tagle

1150 kilocycles

CMCQ -- 600 ---
CMHA -- 200 1154
CMQ † 250 ---
WHAM * 5000 N

260.7 meters

Havana, Cuba
Cienfuegos, Cuba
Havana, Cuba
Rochester, N. Y.

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Andres Martinez
Fox Bros Co.
Jose Fernandez
Stromberg-Carlson Tel. Mfg. Co.

INDEX BY FREQUENCIES AND DIAL NUMBERS

1160 kilocycles 258.5 meters

WOWO	*	1000	1C	Ft. Wayne, Ind.
WWVA	*	5000	1	Wheeling, W. Va.

--	--	--

Main Auto Supply Co.
West Virginia Broadcasting Corp.

1170 kilocycles 256.3 meters

CMKG	--	30	1176	Santiago de Cuba
KTNT	*	5000	Dn	Muscataine, Iowa
WCAU	*	10000	C	Philadelphia, Pa.

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Ricardo Arnoldo
Norman Baker
Universal Broadcasting Co

1180 kilocycles 254.1 meters

CMGB	--	7.5	1185	Matanzas, Cuba
KEX	*	5000	2	Portland, Ore.
KOB	*	20000	2	State College, N. M.
WDGY	*	1000	1 Dn	Minneapolis, Minn.
WHDI	*	500	1 Dn	Minneapolis, Minn.

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

1190 kilocycles 252.0 meters

WICC	*	500	D	Bridgeport, Conn.
WOAI	*	50000	N	San Antonio, Texas

--	--	--

Bridgeport Broadcasting Station, Inc.
Southern Equipment Co.

1200 kilocycles 249.9 meters

CFCH	--	50	---	North Bay, Ont.
CMKB	--	15	---	Santiago de Cuba
KBTM	--	100	D	Paragould, Ark.
KFBJ	†	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.
KGFI	--	100	---	Los Angeles, Cal.
KGHI	--	100	---	Little Rock, Ark.
KGJ	†	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
WHBY	†	100	---	Green Bay, Wis.
WIBX	†	100	---	Utica, N. Y.
WIL	*	100	5+	St. Louis, Mo.
WJBC	*	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.
WLBC	*	100	+	Petersburg, Va.
WNBO	*	100	4	Washington, Pa.
WNBW	†	10	---	Carbondale, Va.
WNBZ	†	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.

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Northern Supplies, Ltd.
Melchor Aguero
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. Liner
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 Farmer
Hammond-Calumet Broad. Corp.
Radio & Electric Shop

KCYC.
1210
MTRS.
247.8
DIAL

CUT OUT ON DOTTED LINES

1210 kilocycles 247.8 meters

CFCO	--	100	---	Chatham, Ont.
CFNB	*	100	---	Fredericton, N. B.
CJOR	*	50	---	Sea Island, B. C.
CKMC	---	15	---	Cobalt, Ont.

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Western Ontario "Better Radio" Club
James S. Neill & Sons, Ltd.
G. C. Chandler
R. L. MacAdam

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.	Dutee W. Flint
WEBC	--	100	6	Harrisburg, Ill.	First Trust & Savings Bank
WGBB	--	100	3	Chicago, Ill.	Emil Denmark, Inc.
WGCM	*--	100	---	Freeport, N. Y.	Harry H. Carman
WHBF	*--	100	---	Gulfport, Miss.	Great Southern Land Co., Inc.
WHBU	†	100	---	Rock Island, Ill.	Beardsley Specialty Co.
WIBU	*--	100	---	Anderson, Ind.	Citizens Bank
WJBI	--	100	3	Poynette, Wis.	Wm. C. Forrest
WJBU	--	100	1	Red Bank, N. J.	Monmouth Broadcasting Co.
WJBY	*--	50	---	Lewisburg, Pa.	Bucknell University
WJW	*--	100	---	Gadsden, Ala.	Gadsden Broadcasting Co., Inc.
WLAI	*--	50	---	Mansfield, Ohio	Mansfield Broadcasting Assn.
WLSI	--	100	5	Ithaca, N. Y.	Lutheran Assn. of Ithaca
WMBG	*--	100	---	Providence, R. I.	The Lincoln Studios, Inc.
WMRJ	*--	100	3	Richmond, Va.	Havens & Martin, Inc.
WOCL	*--	50	---	Jamaica, N. Y.	Peter J. Prinz
WOMT	*--	100	---	Jamestown, N. Y.	A. E. Newton
WPAW	*--	100	5	Manitowoc, Wis.	Francis M. Kadow
WQDX	*--	50	---	Pawtucket, R. I.	Shartenburg & Robinson Co.
WRBQ	†	100	+	Thomasville, Ga.	Stevens Luke
WSBC	*--	100	4	Greenville, Miss.	J. Pat. Scully
WSEN	†	100	---	Chicago, Ill.	World Battery Co., Inc.
WSLX	--	100	---	Columbus, Ohio	Columbus Broadcasting Co.
WSOC	--	100	---	Springfield, Tenn.	638 Tire & Vulcanizing Co.
WTAX	†	100	2	Gastonia, N. C.	WSOC, Inc.
XEX	--	500	---	Springfield, Ill.	WTAX, Inc.
				Mexico City	Excelsior, Cia Editorial S. A.

1220 kilocycles 245.8 meters

CMCA	--	150	1225
CMCN	--	250	1225
KFKU	*--	500	1
KWSC	*--	1000	+
WCAD	*--	500	D
WCAE	*--	1000	N
WDAE	*--	1000	C
WREN	*--	1000	1N

Havana, Cuba
Havana, Cuba
Lawrence, Kans.
Pullman, Wash.
Canton, N. Y.
Pittsburgh, Pa.
Tampa, Fla.
Lawrence, Kans.

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

1230 kilocycles 243.8 meters

KFOD	--	100	---
KGGM	†	250	+
KYA	*--	1000	---
WBIS	*--	1000	2
WFBM	*--	1000	1C
WNAC	*--	1000	2C
WPSC	--	500	D
WSBT	*--	500	1

Anchorage, Alaska
Albuquerque, N. Mex.
San Francisco, Cal.
Boston, Mass.
Indianapolis, Ind.
Boston, Mass.
State College, Pa.
South Bend, Ind.

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

1240 kilocycles 241.8 meters

CMAB	--	20	1249
CMGH	--	60	1249
CMKE	--	250	1249
KTAT	†	1000	1
WACO	†	1000	1C
WXYZ	†	1000	C

Pinar del Rio, Cuba
Matanzas, Cuba
Santiago de Cuba
Ft. Worth, Texas
Waco, Texas
Detroit, Mich.

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

1250 kilocycles 239.9 meters

KFMX	--	1000	2
KFOX	*--	1000	---
KIDO	--	1000	---

Northfield, Minn.
Long Beach, Cal.
Boise, Idaho

Carleton College
Nichols & Warinner, Inc.
Boise Broadcasting Station

INDEX BY FREQUENCIES AND DIAL NUMBERS

WAAM * 1000 1+X
 WCAL * 1000 2
 WDSU -- 1000 C
 WGGP -- 250 1
 WLB † 1000 2
 WODA * 1000 1
 WRHM * 1000 2
 XEFA -- 250 ---

Newark, N. J.
 Northfield, Minn.
 New Orleans, La.
 Newark, N. J.
 St. Paul, Minn.
 Paterson, N. J.
 Minneapolis, Minn.
 Mexico City

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

1260 kilocycles

KOIL * 1000 C
 KRGV * 500 1
 KVOA -- 500 D
 KWWG * 500 1
 WLBW * 500 C+
 WTOC * 500 C

238.0 meters

Council Bluffs, Iowa
 Harlingen, Texas
 Tucson, Ariz.
 Brownsville, Texas
 Oil City, Pa.
 Savannah, Ga.

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

1270 kilocycles

CMJB -- 20 1276
 KFUM * 1000 1
 KGCA * 50 2D
 KOL † 1000 3C
 KTW * 1000 3
 KWLC * 100 2D
 WASH * 500 1
 WEAI * 1000 D
 WFBR -- 500 ---
 WJDX -- 1000 N
 WOOD -- 500 1

236.1 meters

Ciego de Avila, Cuba
 Colorado Springs, Colo.
 Decorah, Iowa
 Seattle, Wash.
 Seattle, Wash.
 Decorah, Iowa
 Grand Rapids, Mich.
 Ithaca, N. Y.
 Baltimore, Md.
 Jackson, Miss.
 Grand Rapids, Mich.

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

1280 kilocycles

CMBJ -- 15 1285
 CMBM -- 15 1285
 CMCG -- 30 1285
 CMCH -- 15 1285
 CMCR -- 20 1285
 KFBB * 1000 +
 WCAM -- 500 1
 WCAP * 500 1
 WDDO * 1000 +C
 WIBA * 500 ---
 WOAX -- 500 1
 WRR -- 500 C

234.2 meters

Havana, Cuba
 Havana, Cuba
 Havana, Cuba
 Havana, Cuba
 Havana, Cuba
 Great Falls, Mont.
 Camden, N. J.
 Asbury Park, N. J.
 Chattanooga, Tenn.
 Madison, Wis.
 Trenton, N. J.
 Dallas, Texas

Jesus Lopez
 Jose Leiro
 Joseusto Moran
 Hernani Torralbas
 Aurelio Hernandez
 Buttrey Broadcast, Inc.
 City of Camden
 Radio Industries Broadcast Co.
 WDDO Broadcasting Corp.
 Capital Times Co.
 WOAX, Inc.
 City of Dallas

1290 kilocycles

KDYL * 1000 C
 KFUL -- 500 1
 KLCN * 50 D
 KTSA † 1000 1+C
 WEBC * 1000 +N
 WJAS * 1000 C+
 WNBZ -- 50 D

232.4 meters

Salt Lake City
 Galveston, Texas
 Blytheville, Ark.
 San Antonio, Texas
 Superior, Wis.
 Pittsburgh, Pa.
 Saranac Lake, N. Y.

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

KCY5.
1310
 MTRS.
228.9
 DIAL

1300 kilocycles

KFH * 1000 2C
 KFJR * 500 3
 KGEF * 1000 4
 KTBI * 1000 4
 KTBR -- 500 3
 WBBR * 1000 1
 WEVD * 500 1
 WHAP * 1000 1
 WHAZ * 500 1
 WIOD * 1000 N
 WOQ * 1000 2

230.6 meters

Wichita, Kansas
 Portland, Ore.
 Los Angeles, Cal.
 Los Angeles, Cal.
 Portland, Ore.
 Brooklyn, N. Y.
 New York City
 New York City
 Troy, N. Y.
 Miami, Fla.
 Kansas City, Mo.

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

1310 kilocycles

CMGC -- 30 1315
 KCRJ † 100 ---
 KFBK † 100 ---
 KFGQ † 100 7
 KFIU -- 10 ---
 KFJY * 100 7
 KFPL † 100 ---
 KFPM * 15 ---
 KFUP -- 100 8
 KFXJ -- 50 8XY

228.9 meters

Matanzas, Cuba
 Jerome, Ariz.
 Sacramento, Cal.
 Boone, Iowa
 Juneau, Alaska
 Ft. Dodge, Iowa
 Dublin, Texas
 Greenville, Texas
 Denver, Colo.
 Edgewater, Colo.

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.

CUT OUT ON DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

KFXR	--	100	+	Oklahoma City
KGBX	--	100	---	St. Joseph, Mo.
KGCZ	--	100	+	Wolf Point, Mont.
KGEZ	--	100	---	Kalispell, Mont.
KGFYW	+	100	---	Ravenna, Neb.
KIT	+	50	---	Yakima, Wash.
KMED	+	50	---	Medford, Ore.
KRMD	+	50	9	Shreveport, La.
KTLC	*	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.
WFXL	+	50	---	Royal Oak, Mich.
WEBG	*	100	3+	Altoona, Pa.
WEDF	*	100	---	Flint, Mich.
WGAL	*	100	5	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	6	Muncie, Ind.
WMBO	+	100	---	Auburn, N. Y.
WNBH	*	100	---	New Bedford, Mass.
WOBT	+	100	+	Union City, Tenn.
WOL	*	100	---	Washington, D. C.
WRAW	*	50	5XZ	Reading, Pa.
WRBI	---	100	---	Tifton, Ga.
WROL	+	100	---	Knoxville, Tenn.
WSAJ	+	100	---	Grove City, Pa.
WSJS	---	100	---	Winston-Salem, N. C.
WTSL	*	50	4X	Philadelphia, Pa.
XETN	--	30	---	Toluca, Mex.

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

Exchange Ave. Baptist Church
 KGBX Inc.
 First State Bank of Vida
 Treloar-Church Brdctg. Co.
 Central Nebraska Broadcasting Corp.
 Carl E. Raymond
 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 Noguera
 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.

INDEX BY FREQUENCIES AND DIAL NUMBERS

1360 kilocycles 220.4 meters

CMKF	--	30	1363	Holguin, Cuba
KGCR	*	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.

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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.

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	---	Kansas City, Mo.
KZM	*	100	6	Hayward, Cal.
WBGF	†	50	---	Glens Falls, N. Y.
WBTM	†	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	+	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.
WRAC	*	50	---	Williamsport, Pa.
WRBJ	†	10	---	Hattiesburg, Miss.
WRBT	†	100	---	Wilmington, N. C.
WRJN	---	100	---	Racine, Wis.
WSVS	*	50	---	Buffalo, N. Y.
WRDO	§	100	CP	Augusta, Me.

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

1380 kilocycles 217.3 meters

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

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

KCY.S.

1400

MTRS.

214.2

DIAL

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

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

1400 kilocycles 214.2 meters

CMBI	---	30	1405	Havana, Cuba
CMBK	---	15	1405	Havana, Cuba
CMBN	---	30	1405	Havana, Cuba
CMBQ	---	50	1405	Havana, Cuba
CMBX	---	30	1405	Havana, Cuba
CMBY	---	100	1405	Havana, Cuba
KLO	*	500	X	Ogden, Utah
KOCW	*	250	+	Chickasha, Okla.
WBAA	†	500	1+	Lafayette, Ind.

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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

CUT OUT ON
DOTTED LINES

INDEX BY FREQUENCIES AND DIAL NUMBERS

WBBC * 500 2
 WCGU * 500 2
 WCMA † 500 1
 WFOX † 500 2
 WKBF † 500 1
 WLTH * 500 2

Brooklyn, N. Y.
 Brooklyn, N. Y.
 Culver, Ind.
 Brooklyn, N. Y.
 Indianapolis, Ind.
 Brooklyn, N. Y.

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

1410 kilocycles 212.6 meters

KFLV † 500 4
 KGRS * 1000 1
 WBCM * 500 C
 WDAG * 250 1X
 WHBL * 500 4
 WHIS † 250 ---
 WLEX † 500 2
 WODX * 500 3
 WRBX * 250 ---
 WSPA † 500 3
 WSSH † 500 2

Rockford, Ill.
 Amarillo, Texas
 Bay City, Mich.
 Amarillo, Texas
 Sheboygan, Wis.
 Bluefield, W. Va.
 Lexington, Mass.
 Mobile, Ala.
 Roanoke, Va.
 Montgomery, Ala.
 Boston, Mass.

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

1420 kilocycles 211.1 meters

CMHE -- 20 1429
 KBPS -- 100 4
 KFIZ * 100 ---
 KFQU * 100 5X
 KFQW -- 100 ---
 KF XD * 100 XY
 KFX Y -- 100 ---
 KFYO † 100 +
 KGFF -- 100 Y
 KGGC † 100 5
 KGIW -- 100 ---
 KGIX † 100 ---
 KGKX -- 100 ---
 KGVO 100 CPD
 KIKC * 100 ---
 KILPM † 100 ---
 KORE * 100 ---
 KTAP † 100 ---
 KXL -- 100 4
 KXYZ -- 100 X
 WEDH * 100 ---
 WEHS -- 100 2
 WELL † 50 X
 WFDW * 100 ---
 WHDL * 10 DX
 WHFC -- 100 2
 WIAS † 100 ---
 WIBR * 50 ---
 WILM * 100 ---
 WJBO * 100 ---
 WKBI * 100 2
 WLBF -- 100 ---
 WMBC -- 100 X+
 WMBH -- 100 +
 WPAD † 100 ---
 WSPA * 100 +
 WTBO * 100 ---

Santa Clara, Cuba
 Portland, Ore.
 Fond du Lac, Wis.
 Holy City, Cal.
 Seattle, Wash.
 Nampa, Idaho
 Flagstaff, Ariz.
 Abilene, Texas
 Shawnee, Okla.
 San Francisco, Cal.
 Trinidad, Colo.
 Las Vegas, Nevada
 Sand Point, Idaho
 Missoula, Mont.
 Red Oak, Iowa
 Minot, North Dakota
 Eugene, Ore.
 San Antonio, Texas
 Portland, Ore.
 Houston, Texas
 Erie, Pa.
 Cicero, Ill.
 Battle Creek, Mich.
 Talladega, Ala.
 Tupper Lake, N. Y.
 Cicero, Ill.
 Ottumwa, Iowa
 Steubenville, Ohio
 Wilmington, Del.
 New Orleans, La.
 Chicago, Ill.
 Kansas City, Kas.
 Detroit, Mich.
 Joplin, Mo.
 Paducah, Ky.
 Spartanburg, S. C.
 Cumberland, Md.

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.
 KXL Broadcasters, Inc.
 Harris County Broadcast Co.
 Erie Dispatch-Herald
 WEHS, Inc.
 Enquirer-News Co.
 Raymond G. Hammett
 Tupper Lake Broadcasting Co., Inc.
 Triangle Broadcasters
 Iowa Broadcasting Co.
 George W. Robinson
 Delaware Broadcasting Co., Inc.
 Valdemar Jensen
 Fred L. Schoenwolf
 WLBFB Broadcasting Co.
 Michigan Broadcasting Co., Inc.
 Edwin Dudley Aber
 Paducah Broadcasting Co.
 Voice of South Carolina
 Associated Broadcasting Corp.

1430 kilocycles 209.7 meters

KECA † 1000 N
 KGNF † 500 D
 WBAK † 500 1X+
 WCAH * 500 1C
 WGCBC * 500 2S
 WHP * 500 1C+
 WNBR * 500 2
 XEP -- 2500 ---

Los Angeles, Cal.
 North Platte, Neb.
 Harrisburg, Pa.
 Columbus, Ohio
 Memphis, Tenn.
 Harrisburg, Pa.
 Memphis, Tenn.
 Laredo, Mex.

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 Latino

1440 kilocycles 208.2 meters

KLS * 250 D
 WBIG * 500 ---
 WCBA -- 250 1
 WHEC * 500 2C
 WMBD * 500 3+
 WOKO -- 500 2Y
 WSAN * 250 1
 WTAD † 500 3

Oakland, Cal.
 Greensboro, N. C.
 Allentown, Pa.
 Rochester, N. Y.
 Peoria Heights, Ill.
 Poughkeepsie, N. Y.
 Allentown, Pa.
 Quincy, Ill.

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

CMKA -- 20 ---
 KTBS * 1000 ---
 WBMS * 250 1
 WGAR † 500 N
 WHOM * 500 1
 WKBO * 250 1
 WNJ * 250 1
 WWSR * 250 ---
 WTFI -- 500 D

Santiago de Cuba
 Shreveport, La.
 Hackensack, N. J.
 Cleveland, Ohio
 Jersey City, N. J.
 Jersey City, N. J.
 Newark, N. J.
 Fall River, Mass.
 Toccoa, Ga.

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

1460 kilocycles 205.4 meters

KSTP * 10000 NX
 WJSV * 10000 ---

St. Paul, Minn.
 Alexandria, Va.

National Battery Broadcasting Co.
 Independent Publishing Co.

1470 kilocycles 204.0 meters

KGA † 5000 ---
 WLAC * 5000 1C
 WTNT -- 5000 1

Spokane, Wash.
 Nashville, Tenn.
 Nashville, Tenn.

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

1480 kilocycles 202.6 meters

KFJF * 5000 C
 WKBW * 5000 C

Oklahoma City
 Buffalo, N. Y.

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

1490 kilocycles 201.2 meters

WCHI * 5000 1
 WKY * 5000 1N
 WJAZ -- 5000 1

Chicago, Ill.
 Covington, Ky.
 Chicago, Ill.

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

1500 kilocycles 199.9 meters

CMBH -- 30 ---
 CMBL -- 15 ---
 CMBP -- 15 ---
 CMBR -- 15 ---
 CMCM -- 15 ---
 CMCT -- 5 ---
 CMHB -- 10 ---
 KDB * 100 ---
 KGFI * 100 +
 KGFK † 50 ---
 KGIZ -- 50 ---
 KGKB -- 100 ---
 KGKY * 100 ---
 KPJM * 100 ---
 KPQ † 50 ---
 KRFG † 100 ---
 KUJ -- 100 ---
 KUT † 100 ---
 KXO -- 100 ---
 WCLB -- 100 1Y
 WDIX -- 100 ---
 WKBV * 100 +
 WKBZ † 50 ---
 WLBX * 100 1
 WLOE * 100 +
 WMBA -- 100 ---
 WMBQ * 100 1
 WMPC † 100 ---
 WNBV * 100 ---
 WOPI -- 100 ---
 WPEN * 100 +
 WRDW * 100 ---
 WURL * 100 1
 WSYB † 100 CP
 ----- -- 100 CP

Havana, Cuba
 Havana, Cuba
 Havana, Cuba
 Havana, Cuba
 Havana, Cuba
 Havana, Cuba
 Sagua la Grande, Cuba
 Santa Barbara, Cal.
 Corpus Christi, Texas
 Moorhead, Minn.
 Grant City, Mo.
 Brownwood, Texas
 Scottsbluff, Nebr.
 Prescott, Ariz.
 Wenatchee, Wash.
 Santa Ana, Cal.
 Walla Walla, Wash.
 Austin, Texas
 El Centro, Cal.
 Long Beach, N. Y.
 Tupelo, Miss.
 Connerville, Ind.
 Ludington, Mich.
 Long Island City, N. Y.
 Boston, Mass.
 Newport, R. I.
 Brooklyn, N. Y.
 Lapeer, Mich.
 Binghamton, N. Y.
 Bristol, Tenn.
 Philadelphia, Pa.
 Augusta, Ga.
 Woodside, N. Y.
 Rutland, Vt.
 Pittsburgh, Pa.

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

INDEX BY LOCATIONS WITH MAP KEY

ILLINOIS		Watts	Kcys.				
Carthage J-18	50	WCAZ	1070	Ottumwa J-17	100	WIAS	1420
Chicago I-20	10000	KFKX	1020	Red Oak J-16	100	KICK	1420
	10000	KYW	1020	Shenandoah J-16	500	KFNF	890
	500	WAAF	920		500	KMA	930
	25000	WBBM	770	Sioux City I-15	1000	KSCJ	1300
	1500	WCFL	970	Waterloo I-17	500	WMT	600
	5000	WCHI	1490				
	100	WCRW	1210	KANSAS			
	100	WEDC	1210	Dodge City L-13	100	KGNO	1210
	50000	WENR	870	Kansas City K-16	100	WLBK	1420
	500	WGES	1360	Lawrence K-16	500	KFKU	1220
	25000	WGN	720		1000	WREN	1220
	1000	WIBO	560	Manhattan K-15	500	KSAC	580
	5000	WJAZ	1490	Milford K-14	5000	KFKB	1050
	25000	WJBT	770	Topeka K-16	1000	WBW	580
	100	WKBI	1420	Wichita L-15	1000	KFH	1300
	5000	WLS	870				
	5000	WMAQ	670	KENTUCKY			
	5000	WMBI	1080	Covington K-22	5000	WKCY	1490
	500	WPCC	560	Hopkinsville M-20	1000	WFIV	940
	100	WBCB	1210	Louisville L-21	10000	WHAS	820
	100	WEHS	1420		100	WLAP	1200
	100	WHFC	1420	Paducah M-19	100	WPAD	1420
	100	WJBL	1200				
	100	WBBS	1310	LOUISIANA			
	100	WBEB	1210	Monroe P-18	50	KMLB	1200
	100	WCBS	1310	New Orleans R-19	100	WABZ	1200
	100	WCBS	1310		1000	WDSU	1250
	100	WCBB	1200		100	WJBO	1420
	100	WJBC	1130		100	WJBW	1200
	20000	WJJD	1130		500	WSMB	1320
	500	WMBD	1440		5000	WWL	850
	500	WTAD	1440	Shreveport P-17	50	KRMD	1310
	500	KELY	1410		1000	KTBS	1450
	100	WHBF	1210		100	KTSL	1310
	100	WCBS	1210		100	KWEA	1210
	100	WTAX	1210		10000	KWKH	850
	100	WDZ	1070				
	250	WILL	890	MAINE			
	5000	WCBD	1080	Augusta F-28	100	WRDO	1370
				Bangor F-29	100	WABI	1200
				Portland F-28	500	WLBZ	620
					1000	WCSH	940
INDIANA				MARYLAND			
Anderson J-21	100	WHBU	1210	Baltimore J-26	10000	WBAL	1060
Connorsville K-21	100	WKCB	1500		250	WCAO	600
Culver I-20	500	WCMA	1400		100	WCBM	1370
Evansville L-20	500	WGBF	630	Cumberland J-25	500	WFBR	1270
Fort Wayne J-21	100	WGL	1370		100	WTBO	1420
	20000	WOWO	1160				
Gary I-20	1000	WIKS	1360	MASSACHUSETTS			
Hammond I-20	100	WWAE	1200	Boston G-28	1000	WBIS	1230
Indianapolis J-21	1000	WFBN	1230		1000	WEEI	590
	500	WKBF	1400		1000	WHDH	830
Lafayette J-20	500	WBAA	1400		100	WLOE	1500
La Porte I-20	50	WRAF	1200		1000	WNAC	1230
Marion J-21	50	WIAK	1310		500	WSSH	1410
Muncie J-21	50	WLBC	1310	Fall River H-28	250	WSAR	1450
South Bend I-20	500	WSBT	1230	Lexington G-28	500	WLEX	1410
Terre Haute K-20	100	WBOW	1310		100	WLEY	1370
					100	WNBH	1310
				New Bedford H-28	100	WNBZ-A	990
				Springfield H-27	15000	WBSZ-A	920
				Needham G-28	500	WBSO	920
				Worcester G-28	100	WBFS	1200
					100	WORC	1200
					250	WTAG	580
IOWA				MICHIGAN			
Ames I-17	5000	WOI	640	Battle Creek I-21	50	WELL	1420
Boone I-17	100	KFGQ	1310	Bay City H-22	500	WBGM	1410
Cedar Rapids I-18	100	KWCR	1310	Berrien Springs I-20	1000	WKZO	590
Clarinda J-16	500	KSO	1380	Calumet E-19	100	WHDF	1370
Council Bluffs J-16	1000	KOIL	1260				
Davenport I-18	5000	WOC	1000				
Decorah H-18	50	KGCA	1270				
	100	KWLC	1270				
Des Moines I-17	5000	WHO	1000				
Fort Dodge I-16	100	KFTY	1310				
Iowa City I-18	500	WSUT	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	WFDF	1310
	100	WPDF	1200
Grand Rapids H-21	500	WASH	1270
	500	WOOD	1270
	100	WIBM	1370
Jackson I-21	100	WMPC	1500
Lapeer H-22	100	WMPC	1500
Ludington H-20	50	WKBZ	1500
Marquette F-19	100	WBEO	1310
Royal Oak H-22	50	WEXL	1310

MINNESOTA

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

MISSISSIPPI

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

MISSOURI

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

MONTANA

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

NEBRASKA

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

NEVADA

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

NEW HAMPSHIRE

Laconia G-28	100	WKAV	1310
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NEW JERSEY

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

NEW MEXICO

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

NEW YORK

Auburn H-25	100	WMBO	1310
Binghamton H-26	100	WNBF	1500
Brooklyn I-27	500	WBBC	1400
	1000	WBRR	1300
	500	WCGU	1400
	500	WFOX	1400
	500	WLTH	1400
	100	WMBQ	1500
Buffalo H-24	1000	WBEN	900
	1000	WBR	1310
	1000	WGR	550
	5000	WKBW	1480
	1000	WMAK	1040
	50	WSVS	1370
Canton F-26	500	WCAD	1220
Freeport I-27	100	WGBB	1210
Glens Falls G-27	50	WGBF	1370
Ithaca H-25	1000	WEAI	1270
	50	WLCI	1210
	100	WMRJ	1210
Jamaica H-27	75	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	WM5G	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

NORTH CAROLINA

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

NORTH DAKOTA

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

OHIO

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

OKLAHOMA

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

OREGON

Astoria D-2	100	KFJI	1370
Corvallis E-2	1000	KOAC	550
Eugene F-2	100	KORE	1420

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

PENNSYLVANIA

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

PORTO RICO

San Juan W-34	500	WKAQ	890
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RHODE ISLAND

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

SOUTH CAROLINA

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

SOUTH DAKOTA

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

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
Springfield M-20	5000	WTNT	1470
Union City M-19	100	WSIX	1210
	100	WOBT	1310

TEXAS

Abilene P-13	100	KFYO	1420
Amarillo N-12	1000	KGRS	1410
	250	WDAG	1410
	100	KUT	1500
Austin Q-14	500	KFDM	560
Beaumont R-17	500	KWWG	1260
Brownsville U-15	100	KGKB	1500
Brownwood P-14	500	WTAW	1120
College Sta. Q-15	100	KGFI	1500
Corpus Christi S-14	10000	KRLD	1040
Dallas P-15	50000	WFAA	800
	500	WRR	1280
Dublin P-14	100	KFPL	1310
El Paso P-9	100	KTSM	1310
	100	WDAH	1310
Fort Worth P-15	100	KFJZ	1370
	1000	KTAT	1240
	10000	WBAP	800
Galveston R-16	100	KFLX	1370
	500	KFUL	1290
Greenville O-15	15	KFPM	1310
Harlingen T-14	500	KRGV	1260
Houston R-16	1000	KPRC	920
	100	KTLC	1310
	500	KTRH	1120
	100	KXYZ	1420
San Angelo Q-13	100	KGKL	1370
San Antonio R-14	100	KMAC	1370
	100	KONO	1370
	100	KTAP	1420
	1000	KTSA	1290
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
Roanoke L-24	250	WDBJ	930
	250	WRBX	1410

WASHINGTON

Aberdeen D-2	75	KYRO	1310
Bellingham C-3	100	KVOS	1300
Everett C-3	50	KFBL	1370
Lacey D-3	10	KGY	1200
Pullman E-5	1000	KWSC	1220
Seattle C-3	100	KQFW	1420
	5000	KJR	970
	1000	KOL	1270
	1000	KOMO	920
	100	KPCB	650
	50	KRSC	1120
	1000	KTW	1270
	100	KVL	1370
	500	KYA	570
Spokane D-5	100	KFIO	1120
	1000	KFPY	1340
	5000	KGA	1470
	1000	KHO	590
Tacoma D-3	500	KMO	860
	1000	KVI	760
Walla Walla E-5	100	KUJ	1500
Wenatchee D-4	50	KPQ	1500
Yakima D-4	50	KIT	1310

WEST VIRGINIA

Bluefield L-24	100	WHIS	1420
Charleston K-23	250	WOBU	580
Fairmont J-24	250	WMMN	890
Huntington K-23	250	WSAZ	580
Wheeling J-24	5000	WWVA	1160

WISCONSIN

Eau Claire G-18	1000	WTAQ	1330
Fond du Lac H-19	100	KFIZ	1420
Green Bay G-19	100	WHBY	1200
Janesville I-19	100	WCLO	1200
La Crosse H-18	1000	WKBH	1380
Madison H-19	750	WHA	940
	500	WIBA	1280
	250	WISJ	780
Manitowoc H-20	100	WOMT	1210
Milwaukee H-19	250	WHAD	1120
	250	WISN	1120
	1000	WTMJ	620
Poynette H-19	100	WIBU	1210
Racine I-20	100	WRJN	1370
Sheboygan H-20	500	WHBL	1410
Stevens Pt. G-19	2000	WLBL	900
Superior F-17	1000	WEBC	1290

WYOMING

Casper H-10	100	KDFN	1210
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CANADA

ALBERTA

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

INDEX BY LOCATIONS WITH MAP KEY

BRITISH COLUMBIA		Watts	Keys.	SASKATCHEWAN			
Chilliwack B-3	5	CHWK	665	Fleming C-13	500	CJRW	600
Kamloops B-5	100	CFJC	1120	Moose Jaw C-11	500	CJRM	600
Sea Island	50	CJOR	1210	Regina C-12	500	CHWC	960
Vancouver B-3	50	CHLS	730		500	CJBR	960
	50	CKCD	730	Saskatoon B-11	500	CKKC	960
	50	CKFC	730		500	CNRR	960
	50	CKMO	730	Yorkton B-13	500	CFQC	910
	100	CKWX	730		500	CNRS	910
Victoria C-3	500	CNRV	1030		500	CJGX	630
	500	CFCT	630				
MANITOBA				HAITI			
Brandon D-14	500	CKX	540	Port au Prince X-30	1000	HHK	920
Winnipeg D-15	5000	CKY	780				
	5000	CNRW	780	MEXICO			
NEW BRUNSWICK				Aguascalientes W-10	350	XFC	805
Fredericton D-29	500	CFNB	1210	Chihuahua, Chih. R-9	250	XFF	915
Moncton D-30	500	CNRA	630	Guadalajara, Jal. X-10	101	XEA	1000
St. John D-30	500	CFBO	890	Juarez P-9	101	XEJ	1000
					1000	XEQ	750
NEWFOUNDLAND				Laredo, N. L. S-13	101	XEFE	1000
St. Johns A-35	500	8WMC	682		2500	XEP	1430
				Linares, N. L. U-13	10	XEE	1000
NOVA SCOTIA				Merida, Yuc. X-19	105	XEY	1000
Glace Bay C-32	10000	VAS	685	Mexico City Y-13	1000	XEB	1030
Halifax E-31	500	CHNS	910		250	XEFA	1250
	500	CNRH	910		2000	XEG	840
Sydney C-32	50	CJCB	880		101	XEK	1000
Wolfville D-31	50	CKIC	1010		1000	XEN	719
					5000	XEO	940
ONTARIO					101	XER	650
Chatham H-22	100	CFCO	1210		500	XETA	1140
Cobalt E-23	15	CKMK	1210		500	XEX	1210
Hamilton H-24	10	CHCS	1120		5000	XEW	780
	50	CHML	880		500	XEZ	588
	50	CKOC	1120		2000	XFG	638
Kingston G-25	500	CFRC	930		1000	XFI	818
London H-23	500	CJGC	910	Monterrey, N. L. U-13	500	XFX	860
	500	CNRL	910		101	XEH	1000
North Bay	50	CFCH	1200	Morelia, Mich. Y-12	500	XET	630
Ottawa F-25	100	CKCO	890	Oaxaca, Oak. AA-14	101	XEI	1000
	500	CNRO	600	Puebla Z-13	105	XEF	1000
	50	CKPR	890	Reynosa, Tams. T-14	10000	XED	977
Port Arthur E-19	50	CFLC	1010	Saltillo, Coah. U-12	10	XEL	1000
Prescott F-25	50	CKPC	1210	Tampico, Tams. W-14	500	XEM	730
Preston H-23	25	CFCA	840		500	XES	890
Toronto G-24	500	CFCL	580		50	XEC	1000
	4000	CFRB	960	Toluca. Y-12	30	XETN	1310
	5000	CJSC	690		500	XETF	680
	500	CKKL	580		101	XEU	1000
	5000	CKGW	690	CUBA			
	500	CKNC	580	Caibarien W-25	250	CMHD	920
	500	CNRT	840	Cardenas W-24	30	CMGE	1375
	4000	CNRX	960	Camaguey W-26	10	CMJA	1332
	5000	CPRY	690		15	CMJC	1321
Waterloo G-23	50	CKCR	1010		5	CMJE	856
Wingham G-23	25	10-BP	1200	Ciego de Avila W-26	20	CMJB	1276
				Cienfuegos W-25	200	CMHA	1154
					40	CMHJ	645
PRINCE EDWARD ISLAND				Cifuentes	10	CMHH	870
Charlottetown C-31	250	CFCY	960	Colon W-24	100	CMGA	834
	100	CHCK	960	Guanajay W-23	30	CMAA	1090
Summerside C-31	100	CHGS	1120	Havana W-23	50	CMBA	1345
					150	CMBC	955
QUEBEC					150	CMBD	955
Montreal E-26	500	CFCF	1030		7.5	CMBF	1345
	5000	CHYC	730		150	CMBG	1070
	5000	CKAC	730		30	CMBH	1500
	5000	CNRM	730		30	CMBI	1405
Quebec D-27	100	CHRC	645		15	CMBJ	1285
	22	CKCI	880		15	CMBK	1405
	50	CKCV	880		15	CMBL	1500
	50	CNRQ	880		15	CMBM	1285
					30	CMBN	1405
					15	CMBP	1500

CFAC 690	CJSC 690	CMBR 1500	CMHJ 645
Calgary, Alta.	Toronto, Ont.	Havana, Cuba	Cienfuegos, Cuba
CFBO 890	CKAC 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
CFCF 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	CMBZ 1010	CMKA 1450
Calgary, Alta.	Ottawa, Ont.	Havana, Cuba	Santiago, Cuba
CFCO 1210	CKCR 1010	Havana, Cuba	CMKB 1200
Chatham, Ont.	Waterloo, Ont.	CMC 845	Santiago, Cuba
CFCT 630	CKCV 880	Havana, Cuba	CMKC 1034
Victoria, B. C.	Quebec, Que.	CMCA 1225	Santiago, Cuba
CFCY 960	CKFC 730	Havana, Cuba	CMKD 1100
Ch'lotet'n,P.E.I.	Vancouver, B.C.	CMCB 1070	Santiago, Cuba
CFJC 1120	CKGW 690	Havana, Cuba	CMKE 1249
Kamloops, B. C.	Toronto, Ont.	CMCD 1345	Santiago, Cuba
CFLC 1010	CKIC 1010	Havana, Cuba	CMKF 1363
Prescott, Ont.	Wolfville, N.S.	CMCF 900	Holguin, Cuba
CFNB 1210	CKLC 840	Havana, Cuba	CMKG 1176
Fredericton, N.B.	Red Deer, Alta.	CMCG 1285	Santiago, Cuba
CFQC 910	CKMC 1210	Havana, Cuba	CMKH 1327
Saskatoon, Sask.	Cobalt, Ont.	CMCH 1285	Santiago, Cuba
CFRB 960	CKMO 730	Havana, Cuba	CMQ 1150
Toronto, Ont.	Vancouver, B.C.	CMCJ 550	Havana, Cuba
CFRC 930	CKNC 580	Havana, Cuba	CMW 588
Kingston, Ont.	Toronto, Ont.	CMCM 1500	Havana, Cuba
CHCA 690	CKOC 1120	Havana, Cuba	CMX 890
Calgary, Alta.	Hamilton, Ont.	CMCN 1225	Havana, Cuba
CHCK 960	CKPC 1210	Havana, Cuba	CNRA 630
Ch'lotet'n,P.E.I.	Preston, Ont.	CMCO 660	Moncton, N.B.
CHCS 1120	CKPR 890	Havana, Cuba	CNRC 690
Hamilton, Ont.	Port Arthur, Ont.	CMCQ 1150	Calgary, Alta.
CHCT 840	CKUA 580	Havana, Cuba	CNRD 840
Red Deer, Alta.	Edmonton, Alta.	CMCR 1285	Red Deer, Alta.
CHGS 1120	CKWX 730	Havana, Cuba	CNRE 930
Sum'rside,P.E.I.	Vancouver, B.C.	CMCT 1500	Edmonton, Alta.
CHLS 730	CKX 540	Havana, Cuba	CNRH 910
Vancouver, B.C.	Brandon, Man.	CMCU 1345	Halifax, N. S.
CHMA 580	CKY 780	Havana, Cuba	CNRL 910
Edmonton, Alta.	Winnipeg, Man.	CMCX 1010	London, Ont.
CHML 880	CMAA 1090	Havana, Cuba	CNRM 730
Hamilton, Ont.	Guanajay, Cuba	CMCY 1345	Montreal, Que.
CHNS 910	CMAB 1249	Havana, Cuba	CNRO 600
Halifax, N.S.	Pinar del Rio, Cu.	CMGA 834	Ottawa, Ont.
CHRC 645	CMBA 1345	Colon, Cuba	CNRQ 880
Quebec, Que.	Havana, Cuba	CMGB 1185	Quebec, Que.
CHWC 960	CMBC 955	Matanzas, Cuba	CNRR 960
Regina, Sask.	Havana, Cuba	CMGC 1315	Regina, Sask.
CHWK 665	CMBD 955	Matanzas, Cuba	CNRS 910
Chilliwack, B.C.	Havana, Cuba	CMGD 1140	Saskatoon, Sask.
CHYC 730	CMBF 1345	Matanzas, Cuba	CNRT 840
Montreal, Que.	Havana, Cuba	CMGE 1375	Toronto, Ont.
CJBR 960	CMBG 1070	Cardenas, Cuba	CNRV 1030
Regina, Sask.	Havana, Cuba	CMGF 977	Vancouver, B.C.
CJCA 930	CMBH 1500	Matanzas, Cuba	CNRW 780
Edmonton, Alta.	Havana, Cuba	CMGH 1249	Winnipeg, Man.
CJCB 880	CMBI 1405	Matanzas, Cuba	CNRX 960
Sydney, N.S.	Havana, Cuba	CMGI 1094	Toronto, Ont.
CJCJ 690	CMBJ 1285	Matanzas, Cuba	CPRY 690
Calgary, Alta.	Havana, Cuba	CMHA 1154	Toronto, Ont.
CJGC 910	CMBK 1405	Cienfuegos, Cuba	HHK 920
London, Ont.	Havana, Cuba	CMHB 1500	Port au Prince, H.
CJGX 630	CMBL 1500	Sagua la Grande	KBPS 1420
Yorkton, Sask.	Havana, Cuba	CMHC 790	Portland, Ore.
CJOC 1120	CMBM 1285	Tuinucu, Cuba	KBTM 1200
Lethbridge, Alta.	Havana, Cuba	CMHD 920	Paragould, Ark.
CJOR 1210	CMBN 1405	Caibarien, Cuba.	KCRC 1370
Sea Island, B.C.	Havana, Cuba	CMHE 1429	Enid, Okla.
CJRM 600	CMBP 1500	Santa, Clara Cu.	KCRJ 1310
Moose Jaw, Sask.	Havana, Cuba	CMHH 870	Jerome, Ariz.
CJRW 600	CMBQ 1405	Cifuentes, Cuba	KDB 1500
Fleming, Sask.	Havana, Cuba	CMHI 1110	S. Barbara, Cal.
		Santa Clara, Cu.	

KDFN 1210 Casper, Wyo.	KFPF 1310 Greenville, Tex.	KGDM 1100 Stockton, Cal.	KGW 620 Portland, Ore.
KDKA 980 Pittsburgh, Pa.	KFPW 1340 Ft. Smith, Ark.	KGDY 1200 Huron, S. D.	KGY 1200 Lacey, Wash.
KDLR 1210 Devils Lake, N.D.	KFPY 1340 Spokane, Wash.	KGEF 1300 Los Angeles, Cal.	KHJ 900 Los Angeles, Cal.
KDYL 1290 Salt Lake City	KFQD 1230 Anchorage, Alas.	KGEK 1200 Yuma, Colo.	KHQ 590 Spokane, Wash.
KECA 1430 Los Angeles, Cal.	KFQU 1420 Holy City, Cal.	KGER 1360 Long Beach, Cal.	KICK 1420 Red Oak, Iowa.
KELW 780 Burbank, Cal.	KFQW 1420 Seattle, Wash.	KGEW 1200 Ft. Morgan, Colo.	KID 1320 Idaho Falls, Ida.
KEK 1180 Portland, Ore.	KFRC 610 San F'nisco, Cal.	KGEZ 1310 Kalispell, Mont.	KIDO 1250 Boise, Idaho
KFAB 770 Lincoln, Nebr.	KFRU 630 Columbia, Mo.	KGFF 1420 Shawnee, Okla.	KIT 1310 Yakima, Wash.
KFBB 1280 Great Fls., Mont.	KFSO 600 San Diego, Cal.	KGFG 1370 Oklahoma City	KJBS 1070 San F'nisco, Cal.
KFBK 1310 Sacramento, Cal.	KFSG 1120 Los Angeles, Cal.	KGFI 1500 Corpus Ch'sti, Tex	KJR 970 Seattle, Wash.
KFBL 1370 Everett, Wash.	KFUL 1290 Galveston, Tex.	KGFI 1200 Los Angeles, Cal.	KLCN 1290 Blytheville, Ark.
KFDM 560 Beaumont, Tex.	KFUM 1270 Col. Spgs., Colo.	KGFK 1500 Moorhead, Minn.	KLO 1400 Ogden, Utah
KFDY 550 Brookings, S.D.	KFUO 550 St. Louis, Mo.	KGFL 1370 Raton, N. M.	KLPM 1420 Minot, N. Dak.
KFEL 920 Denver, Colo.	KFUP 1310 Denver, Colo.	KGFW 1310 Ravenna, Nebr.	KLRA 1390 Little Rock, Ark.
KFEQ 680 St. Joseph, Mo.	KFVD 1000 Culver City, Cal.	KGFX 580 Pierre, S. D.	KLS 1440 Oakland, Cal.
KFGQ 1310 Boone, Iowa	KFVS 1210 Cape Gir'rd'u, Mo	KGGC 1420 San F'nisco, Cal.	KLX 880 Oakland, Cal.
KFH 1300 Wichita, Kansas	KFWB 950 Hollywood, Cal.	KGGF 1010 Coffeyville, Kans.	KLZ 560 Denver, Colo.
KFI 640 Los Angeles, Cal.	KFWF 1200 St. Louis, Mo.	KGGM 1230 Alb'q'rque, N.M.	KMA 930 Shenandoah, Ia.
KFIO 1120 Spokane, Wash.	KFWI 930 San F'nisco, Cal.	KGHF 1320 Pueblo, Colo.	KMAC 1370 San Antonio, Tex.
KFIU 1310 Juneau, Alaska	KFXD 1420 Nampa, Idaho	KGHI 1200 Little Rock, Ark.	KMBC 950 Kan. City, Mo.
KFIZ 1420 Fond du Lac, Wis	KFXF 920 Denver, Colo.	KGHL 950 Billings, Mont.	KMCS 1120 Ingewood, Cal.
KFJB 1200 Marshalltown, Ia.	KFXJ 1310 Edgewater, Colo.	KGIR 1360 Butte, Mont.	KMED 1310 Medford, Ore.
KFJF 1480 Oklahoma City	KFXM 1210 San Ber'd'no, Cal.	KGIW 1420 Trinidad, Colo.	KMJ 1210 Fresno, Cal.
KFJI 1370 Astoria, Ore.	KFXR 1310 Oklahoma City	KGIX 1420 Las Vegas, Nev.	KMLB 1200 Monroe, La.
KFJM 1370 Grd. Forks, N.D.	KFFY 1420 Flagstaff, Ariz.	KGIZ 1500 Grant City, Mo.	KMMJ 740 Clay Ctr., Nebr.
KFJR 1300 Portland, Ore.	KFYO 1420 Abilene, Texas	KGJF 890 Little Rock, Ark.	KMO 860 Tacoma, Wash.
KFJY 1310 Fort Dodge, Ia.	KFYR 550 Bismarck, N.D.	KGKB 1500 Brownwood, Tex.	KMOX 1090 St. Louis, Mo.
KFJZ 1370 Ft. Worth, Tex.	KGA 1470 Spokane, Wash.	KGKL 1370 San Angelo, Tex.	KMPC 710 Los Angeles, Cal.
KFKA 880 Greeley, Colo.	KGAR 1370 Tucson, Ariz.	KGKO 570 Wichita Fls., Tex	KMTR 570 Los Angeles, Cal.
KFKB 1050 Milford, Kansas	KGB 1330 San Diego, Cal.	KGKX 1420 Sand Point, Ida.	KNX 1050 Los Angeles, Cal.
KFKU 1220 Lawrence, Kans.	KGBU 900 Ketchikan, Al'ka.	KGKY 1500 Scottsbluff, Nebr.	KOA 830 Denver, Colo.
KFKX 1020 Chicago, Ill.	KGBX 1310 St. Joseph, Mo.	KGMB 1320 Honolulu, T. H.	KOAC 550 Corvallis, Ore.
KFLV 1410 Rockford, Ill.	KGBZ 930 York, Nebr.	KGMP 1210 Elk City, Okla.	KOB 1180 State Coll., N.M.
KFLX 1370 Galveston, Tex.	KGCA 1270 Decorah, Iowa	KGNF 1430 No. Platte, Neb.	KOCW 1400 Chickasha, Okla.
KFMX 1250 N'thfield, Minn.	KGCR 1210 Watertown, S.D.	KGNO 1210 Dodge City, Kans.	KOH 1380 Reno, Nevada
KFNF 890 Shenandoah, Ia.	KGCU 1200 Mandan, N.D.	KGO 790 San F'nisco, Cal.	KOIL 1260 Council Bluffs, Ia.
KFOR 1210 Lincoln, Nebr.	KGCV 1310 Wolf P't, Mont.	KGRS 1410 Amarillo, Texas	KOIN 940 Portland, Ore.
KFOX 1250 Long Beach, Cal.	KGDA 1370 Mitchell, S. D.	KGU 940 Honolulu, Hawaii	KOL 1270 Seattle, Wash.
KFPL 1310 Dublin, Texas	KGDE 1200 Ferg's F'ls, Minn	KGVO 1420 Missoula, Mont.	KOMO 920 Seattle, Wash.

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 Pittsburgh, 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 F'nisco, Cal.	KTSM 1310 El Paso, Texas		WACO 1240 Waco, Texas	WCAM 1280 Camden, N. J.
KPOF 880 Denver, Colo.	KTW 1270 Seattle, Wash.		WADC 1320 Akron, Ohio	WCAO 600 Baltimore, Md.
KPPC 1210 Pasadena, Cal.	KUJ 1500 Longview, Wash.		WAIU 640 Columbus, Ohio	WCAP 1280 Asbury Pk., N. J.
KPQ 1500 Wenatchee, Wash.	KUOA 1390 Fayetteville, Ark.		WALR 1210 Zanesville, Ohio	WCAT 1200 Rapid City, S. D.
KPRC 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	WCAZ 1070 Carthage, Ill.
KQW 1010 San Jose, Cal.	KVL 1370 Seattle, Wash.		WBAA 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.	KVOO 1140 Tulsa, Okla.		WBAL 1060 Baltimore, Md.	WCBM 1370 Baltimore, Md.
KRGV 1260 Harlingen, Texas	KVOS 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.	WCFL 970 Chicago, Ill.
KRSC 1120 Seattle, Wash.	KWJJ 1060 Portland, Ore.		WBBM 770 Chicago, Ill.	WCGU 1400 Brooklyn, N. Y.
KSAC 580 Manh'tt'n, Kans.	KWK 1350 St. Louis, Mo.		WBBR 1300 Brooklyn, N. Y.	WCHI 1490 Chicago, Ill.
KSCJ 1330 Sioux City, Ia.	KWKC 1370 Kansas City, Mo.		WBBZ 1200 Ponca City, Okla.	WCKY 1490 Covington, Ky.
KSD 550 St. Louis, Mo.	KWKH 850 Shreveport, La.		WBCM 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.	KXL 1420 Portland, Ore.		WBIS 1230 Boston, Mass.	WCOC 880 Meridian, Miss.
KSTP 1460 St. Paul, Minn.	KXO 1500 El Centro, Cal.		WBMS 1450 Hackensack, N. J.	WCOD 1200 Harrisburg, Pa.
KTAB 560 San F'nisco, Cal.	KXRO 1310 Aberdeen, Wash.		WBNX 1350 New York City	WCOH 1210 Yonkers, N. Y.
KTAP 1420 San Antonio, Tex.	KXYZ 1420 Houston, Texas		WBOQ 860 New York City	WCRW 1210 Chicago, Ill.
KTAR 620 Phoenix, Ariz.	KYA 1230 San F'nisco, 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
KTPI 1320 Twin Falls, Ida.	VAS 685 Glance Bay, N. S.		WBTV 1370 Danville, Va.	WDAH 1310 El Paso, Texas
KTBS 1040 Hot Spgs., Ark.	WAAF 920 Chicago, Ill.		WBZ-A 990 Springfield, Mass.	WDAY 940 Fargo, N. D.

WDBJ 930 Roanoke, Va.	WFDW 1420 Talladega, Ala.	WHDL 1420 TupperLake, 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.	WFIW 940 Hopkinsville, Ky.	WHFC 1420 Cicero, Ill.	WJBU 1210 Lewisburg, Pa.
WDGY 1180 Minneapolis, Minn.	WFLA 620 Clearwater, Fla.	WHIS 1410 Bluefield, W. Va.	WJBW 1200 New Orleans, La.
WDIX 1500 Tupelo, Miss.	WFOX 1400 Brooklyn, N. Y.	WHK 1390 Cleveland, Ohio	WJBY 1210 Gadsden, Ala.
WDOD 1280 Chattanooga, Tenn.	WGAL 1310 Lancaster, Pa.	WHN 1010 New York City	WJDX 1270 Jackson, Miss.
WDRG 1330 Hartford, Conn.	WGAR 1450 Cleveland, Ohio	WHO 1000 Des Moines, Ia.	WJJD 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.	WGBF 630 Evansville, Ind.	WIAS 1420 Ottumwa, Iowa	WJSV 1460 Alexandria, Va.
WEAF 660 New York City	WGBI 880 Scranton, Pa.	WIBA 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 1290 Superior, Wis.	WGES 1360 Chicago, Ill.	WIBR 1420 Steubenville, O.	WKAV 1310 Laconia, N. H.
WEBQ 1210 Harrisburg, Ill.	WGH 1310 Newsp't News, Va.	WIBU 1210 Poynette, Wis.	WKBB 1310 Joliet, Ill.
WEBR 1310 Buffalo, N. Y.	WGL 1370 Ft. Wayne, Ind.	WIBW 580 Topeka, Kansas	WKBC 1310 Birmingham, Ala.
WEDC 1210 Chicago, Ill.	WGN 720 Chicago, Ill.	WIBX 1200 Utica, N. Y.	WKBF 1400 Indianapolis, Ind.
WEDH 1420 Erie, Pa.	WGR 550 Buffalo, N. Y.	WICC 1190 Bridgeport, Conn.	WKBH 1380 La Crosse, Wis.
WEEI 590 Boston, Mass.	WGST 890 Atlanta, Ga.	WIL 1200 St. Louis, Mo.	WKBI 1420 Chicago, Ill.
WEHC 1200 Emory, Va.	WGY 790 Schenec'd'y, N. Y.	WILL 890 Urbana, Ill.	WKBN 570 Youngstown, O.
WEHS 1420 Cicero, Ill.	WHA 940 Madison, Wis.	WILM 1420 Wilmington, Del.	WKBO 1450 Jersey City, N. J.
WELK 1370 Philadelphia, Pa.	WHAD 1120 Milwaukee, Wis.	WIOD 1300 Miami, Fla.	WKBS 1310 Galesburg, Ill.
WELL 1420 Battle Creek, Mich.	WHAM 1150 Rochester, N. Y.	WIP 610 Philadelphia, Pa.	WKBV 1500 Connersville, Ind.
WENR 870 Chicago, Ill.	WHAP 1300 New York City	WIS 1010 Columbia, S. C.	WKBW 1480 Buffalo, N. Y.
WEPS 1200 Worcester, Mass.	WHAS 820 Louisville, Ky.	WISJ 780 Madison, Wis.	WKBZ 1500 Ludington, Mich.
WEVD 1300 New York City	WHAT 1310 Philadelphia, Pa.	WISN 1120 Milwaukee, Wis.	WKJC 1200 Lancaster, Pa.
WEW 760 St. Louis, Mo.	WHAZ 1300 Troy, N. Y.	WJAC 1310 Johnstown, Pa.	WKRC 550 Cincinnati, O.
WEXL 1310 Royal Oak, Mich.	WHB 860 Kansas City, Mo.	WJAG 1060 Norfolk, Nebr.	WKY 900 Oklahoma City
WFAA 800 Dallas, Texas	WHBC 1200 Canton, Ohio	WJAK 1310 Marion, Ind.	WKZO 590 Be'n Spgs., Mich.
WFAN 610 Philadelphia, Pa.	WHBD 1370 Mt. Orab, O.	WJAR 890 Providence, R. I.	WLAC 1470 Nashville, Tenn.
WFBC 1200 Knoxville, Tenn.	WHBF 1210 Rock Island, Ill.	WJAS 1290 Pittsburgh, Pa.	WLAP 1200 Louisville, Ky.
WFBE 1200 Cincinnati, Ohio	WHBL 1410 Sheboygan, Wis.	WJAX 900 Jacksonville, Fla.	WLB 1250 St. Paul, Minn.
WFBG 1310 Altoona, Pa.	WHBQ 1370 Memphis, Tenn.	WJAY 610 Cleveland, Ohio	WLBC 1310 Muncie, Ind.
WFBL 1360 Syracuse, N. Y.	WHBU 1210 Anderson, Ind.	WJAZ 1490 Chicago, Ill.	WLBW 1420 Kansas City, Ks.
WFBM 1230 Indianapolis, Ind.	WHBY 1200 Green Bay, Wis.	WJBC 1200 La Salle, Ill.	WLBG 1200 Ettrick, Va.
WFBR 1270 Baltimore, Md.	WHDF 1370 Calumet, Mich.	WJBI 1210 Red Bank, N. J.	WLBL 900 Stevens Pt., Wis.
WFDF 1310 Flint, Mich.	WHDH 830 Boston, Mass.	WJBK 1370 Detroit, Mich.	WLBW 1260 Oil City, Pa.
WFDV 1370 Rome, Ga.	WHDI 1180 Minneapolis, Minn.	WJBL 1200 Decatur, Ill.	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 SaranacLake, 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.	WSMK 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 Lawnce'g, Tenn.	WRAK 1370 Williamsport, Pa.	WSSH 1410 Boston, Mass.
WLVA 1370 Lynchburg, Va.	WOAX 1280 Trenton, N. J.	WRAP 1310 Reading, Pa.	WSUI 880 Iowa City, Ia.
WLW 700 Cincinnati, Ohio	WOBT 1310 Union City, Tenn.	WRAX 1020 Philadelphia, Pa.	WSUN 620 St. Petersb'g, Fla.
WLWL 1100 New York City	WOBU 580 Charlest'n, W.Va.	WRBI 1310 Tifton, Ga.	WSVS 1370 Buffalo, N. Y.
WMAC 570 Syracuse, N. Y.	WOC 1000 Davenport, Iowa	WRBJ 1370 Hattiesburg, Miss	WSYB 1500 Rutland, Vt.
WMAK 1040 Buffalo, N. Y.	WOCL 1210 Jamestown, N. Y.	WRBL 1200 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.
WMAQ 670 Chicago, Ill.	WODX 1410 Mobile, Ala.	WRBT 1370 Wilmington, N.C.	WTAG 580 Worcester, Mass.
WMAZ 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.	WRDW 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 Minneapolis, Minn.	WTEL 1310 Philadelphia, Pa.
WMBQ 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's'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.
WMC A 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.	WSAT 1330 Cincinnati, Ohio	WWJ 920 Detroit, Mich.
WMLJ 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.	WPG 1100 Atl'ntic City, N.J.	WSBC 1210 Chicago, Ill.	XEA 1000 Guad'l'jara, Mex.
WNB 1500 Bingh'm't'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.	WPSC 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 Agascal'ntes, M.
XEF 1000 Oaxaco, Mex.	XEM 730 Tampico, Mex.	XETF 680 Veracruz, Mex.	XFF 915 Chihuahua, Mex.
XEFA 1250 Mexico City	XEN 719 Mexico City	XETN 1310 Toluca, Mexico	XFG 638 Mexico City
XEFE 1000 Laredo, Mex.	XEO 940 Mexico City	XEU 1000 Veracruz, Mex.	XFI 818 Mexico City
XEG 840 Mexico City	XEP 1430 Laredo, Mex.	XEV 1000 Puebla, Mex.	XFJ 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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(Continued from page 55)

Havana W-23	50	CMBO	1405		250	CMO	1150
	15	CMBR	1500		700	CMW	588
	150	CMBS	790		500	CMX	890
	150	CMBT	1070	Holguin W-27	30	CMKF	1363
	150	CMBW	1010	Matanzas W-24	7.5	CMGB	1185
	30	CMBX	1405		30	CMGC	1315
	100	CMBY	1405		5	CMGD	1140
	150	CMBZ	1010		50	CMGF	977
	500	CMC	845		60	CMGH	1249
	150	CMCA	1225	Pinar del Rio W-22	30	CMGI	1094
	150	CMCB	1070	Sagua la Grande W-24	20	CMAB	1249
	15	CMCD	1345	Santa Clara W-25	20	CMHB	1500
	250	CMCF	900		20	CMHE	1425
	30	CMCG	1285		15	CMHI	1110
	15	CMCH	1285	Santiago X-28	20	CMKA	1450
	250	CMCJ	550		15	CMKB	1200
	15	CMCM	1500		150	CMKC	1034
	250	CMCN	1225		20	CMKD	1100
	225	CMCO	660		250	CMKE	1249
	600	CMCQ	1150		30	CMKG	1176
	20	CMCR	1285		250	CMKH	1327
	5	CMCT	1500	Tuinucu	500	CMHC	790
	50	CMCU	1345				
	250	CMCX	1010				
	15	CMCY	1345				
	3000	CMK	730	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:

W3XK	5,000	-----	Wheaton, Md.
W2XCR	5,000	-----	Jersey City, N. J.
W2XAP	250	-----	Portable
W2XCD	5,000	-----	Passiac, N. J.
W9XOA	500	-----	Chicago, Ill.
W2XBU	100	-----	Beacon, N. Y.
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
OCEANIA AND AFRICA				FRENCH INDO CHINA			
AUSTRALIA				Haiiphong	-----	3446	2500
Adelaide	5CL	730	2500	HONG KONG			
	5DN	960	100	Victoria Peak	ZBW	857	1500
	5KA	1200	200	INDIA			
Bathurst	2MK	1155	50	Bombay	VUB	840	3000
Brisbane	4QG	760	2500	Calcutta	VUC	810	3000
Hobart	7ZL	580	600	JAPAN			
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	Sendai	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	KWANGTUNG			
		665		Dairen	JQAK	759	5000
	2GB	950	600	NETHERLAND EAST			
	2KY	1070	750	INDIES			
	2ME	10520	-----	Bandoeng	IBR	5170	1000
	2UE	1025	50	Batavia	PK1AA	3998	500
	2UW	1125	100	Djakakarta	PK2AF	5996	500
NEW ZEALAND				Makassar	PK6KZ	7313	500
Auckland	1YA	900	500	Malabar	PLF	17640	-----
	1ZQ	1188	-----	Palembang	PK4PA	59964	240
Christchurch	3YA	980	500	Semarang	PK2AG	-----	250
	3ZC	5996	250	Surabaya	PH3CH	6662	-----
		1199				2142	500
		648	500	SOUTHERN EUROPE			
	4YA	1147	160	ALBANIA			
	2ZM	1049	150	Tirana	-----	-----	300
	2ZF	1049	150	AUSTRIA			
	2YA	718	5000	Graz	-----	851	7000
ALGERIA				Innsbruck	-----	1058	500
Algiers	8DB	825.3	100	Klagenfurt	-----	662	500
		824	2400	Linz	-----	1220	500
CANARY ISLANDS				Vienna	-----	581	15000
Las Palmas	EAR5	1071	500	FRANCE			
EGYPT				Agen	F2BD	963.1	480
Cairo	-----	869	-----			9761	-----
		909	-----	Angers	-----	1091	250
KENYA				Beziers	-----	1364.3	1500
Nairobi	7LO	9640	1000	Biarritz	-----	1313	250
		750		Bordeaux	-----	1260.4	5000
MOROCCO					-----	986	1500
Casablanca	AIN	5879	-----	Caen	-----	1080	200
Rabat	-----	6877	2500	Grenoble	-----	914.1	1500
		724		Juan les Pins	-----	1219	250
TUNISIA				Lille	-----	1130	500
Carthage	TNU	162	-----	Limoges	-----	1022	500
Constantine	8KR	7005	-----	Lyon	YN	644	3000
Tunis	TUA	240	500		YR	1029.9	500
UNION OF SOUTH AFRICA						7462.7	-----
Cape Town	ZTC	800	1000	Marsan	-----	750	250
Durban	ZTD	789	1000	Marseilles	-----	950	500
Johannesburg	ZTJ	9369	15000	Montpellier	-----	1049	200
		666		Nancy	-----	19355	-----
				Nice (see Juan les Pins)	-----	-----	-----
BRITISH MALAYA				Nimes	-----	1256	500
Singapore	VS1AB	7260	-----	Nogent-sur-Seine	F8AV	3750	-----
Johore	VS3AB	7055	-----	Paris	FL	9375	15000
CÉYLON						207.5	-----
Colombo	-----	375	1750			671	1000
CHINA						825	1500
Canton	CAB	689	1000			4262.3	-----
Hangchow	XGY	895	250			905.2	500
Harbin	COHB	674	1000			174	13500
Mukden	COMK	714	2000			967.8	2000
Nanking	XGZ	606	500			7317.1	-----
Peking	COPK	937	1000	Rennes	-----	1103	1500
Shanghai	KRC	887	250	Rheims	-----	777.2	500
Tientsin	CRC	1071	500	St. Etienne	-----	1363.6	250
	COTN	625	500	Toulon	-----	1200	500
CHOSEN (KOREA)				Toulouse	MRD	1175	1500
Heijo (Seoul)	JODK	714	1000			779	8000

Country and City	Call	Keys.	Watts	Country and City	Call	Keys.	Watts
HUNGARY				Nauen	AGC	17430	-----
Budapest	-----	545	20000		AGJ	5290	-----
ITALY				Norddeich	-----	167	1000
Bolzano	IBZ	662	200	Nuremberg	-----	1254	1000
Genoa	IGE	788	1200	Schaerbeck	-----	1304	-----
Milan	IMI	599	7000	Stettin	-----	1059	750
Naples	INA	905.2	1500	Stuttgart	-----	833	4000
Rome	IRO	680	3000	IRISH FREE STATE			
Turin	IRAX	6666.7	-----	Cork	6CK	1337	1000
	ITO	1031	7000	Dublin	2RN	940	1500
PORTUGAL				LUXEMBURG			
Lisbon	CT1AA	942	1000	Luxemburg	LOAA	1344	10000
	PIAA	983.6	500	NETHERLANDS			
RUMANIA				Hilversum	PFBI	1004	7000
Bucharest	-----	545	12000	Huizen	PHI	17778	40000
SPAIN						160	
Almeria	EAJ18	1193	200	Scheveningen	PCF	279	1500
Barcelona	EAJ1	860	7500	UNITED KINGDOM			
	EAJ13	1121	10000	Aberdeen	2BD	995	1000
Madrid	EAJ2	750	750	Belfast	2BE	1238	1000
	EAJ7	707.6	1500	Bournemouth	6BM	1040	1000
	EAM	9772	-----	Cardiff	5WA	968	1000
Salamanca	EAJ22	662	-----	Daventry	5XX	193	25000
San Sebastian	EAJ8	633	1000		5GB	626	25000
Seville	-----	815	-----	Dundee	2DE	1040	130
SWITZERLAND				Edinburgh	2EH	1040	350
Basel	-----	941	250	Glasgow	5SC	752	1000
Berne	-----	743	1000	Hull	6KH	1040	130
		9375		Leeds & Bradford	2LS	1500	130
Geneva	-----	395	250			1040	
Lausanne	-----	442	600	Liverpool	6LV	1040	130
Zurich	H9XD	3529.4	-----	London	2LO	842	30000
		9375				1150	
		653	630	Manchester	2ZY	797	1000
YUGOSLAVIA				Newcastle	5NO	1148	1000
Belgrade	-----	695	2500	Plymouth	5PY	1040	130
Ljubljana	-----	522	3000	Sheffield	6FL	1040	130
Zagreb	-----	973	700	Stoke on Trent	6ST	1040	130
				Swansea	5SX	1040	130
WESTERN EUROPE				NORTHERN EUROPE			
BELGIUM				CZECHOSLOVAKIA			
Brussels	ON4GT	887	100	Bratislava	OKR	1075	1250
	ON4RB	590	3600	Brunn	OKB	877	2500
Chatelineau	ON4CE	1388	200	Kosice	OKK	1023	2500
Ghent	ON4RG	1219	400	Prague	OKP	616	5000
Liege	ON4RW	1219	200		OKIMPI	5169	5000
DANZIG				DENMARK			
Danzig	PTB	689	500	Copenhagen	-----	1067	1000
GERMANY				Kalundborg	-----	260	7500
Aix la Chapelle	-----	662	700	Lyngby	-----	15300	500
Augsburg	-----	535	700			9488	
Berlin	AFT	717	4000	Soro	-----	6057	2000
		5552	10000	ESTONIA			
		231		Tallinn	-----	1013	10000
		1635			-----	250	100
		1059	2000	Tartu	-----	735	2200
		119	700	FINLAND			
Bremen	-----	950	700	Abo	-----	1219	-----
Breslau	-----	923	4000	Bjorenborg (Pori)	-----	1219	1500
Cologne	-----	1319	4000	Helsingfors	-----	1357	10000
Doberitz	-----	4434	-----	Jakobstad	-----	1219	750
		7963		Jyvaskyla	-----	1009	200
Flensburg	-----	1373	1500	Lahti	-----	166	40000
Frankfort on Main	-----	769	1500	Tammerfors	-----	-----	700
Freiburg	-----	527	1500	Vipuri	-----	1030	750
Gleiwitz	-----	1157	3000	ICELAND			
Hamburg	-----	806	4000	Akureyri	G2SH	1560	-----
Hanover	-----	535	750	Reykjavik	-----	8995	500
Kaiserslautern	-----	1110	4000	LATVIA			
Kassel	-----	1219	750	Riga	YLZ	571	10000
Kiel	-----	1292	700	LITHUANIA			
Konigsberg	-----	1086	4000	Kovno	RYK	155	7000
Langenburg	-----	635	8000	NORWAY			
Leipzig	-----	1184	4000	Aalesund	LKA	671	350
Ludwigshaven	-----	1471	1500	Bergen	LKB	824	1000
Magdeburg	-----	1059	-----		LGN	9994	-----
Muenster	-----	1319	1500	Fredrikstad	LKF	779	700
Munich	-----	563	4000	Hamar	LKH	526	700

Country and City	Call	Keys.	Watts	Country and City	Call	Keys.	Watts
Oslo	LKO	608	60000	Rio de Janeiro	PRAA	750	1000
Porsbrund	LKP	662	700		PRAB	937	500
Rjukan	LKR	671	-----		PRAC	1153	500
Trondhjem	-----	1229	1000		PRAD	857	500
POLAND				Sao Paulo	PRAE	833	1000
Katowice	-----	734	10000		PRAO	1330	1000
Krakow	-----	959	1500		PRAR	1071	500
Poznan	-----	896	1500	Sorocaba	-----	706	-----
Warsaw	-----	202.5	12000	CHILE			
Wilna	-----	779	500	Santiago	CMAB	625	1000
SWEDEN					CMAC	804	1000
Boden	SBE	250	600		CMAO	1016	250
Boras	SCA	1309	150		CMQA	1224	100
Eskilstuna	SCB	1220	200		CMAJ	1034	100
Falun	SCC	1004	500	Valparaiso			
Gavle	SCD	1470	200	COLOMBIA			
Goteborg	SBB	931	10000	Bogota	HJN	706	550
Halmsstad	SCE	1390	200	HONDURAS			
Horby	SBH	1167	10000	Tegucigalpa	HRB	6005	2300
Hudiksvall	SCF	1110	150	PERU			
Jonkoping	SCH	1484	250	Lima	OAX	789	1500
Kalmar	SCI	1211	200	SALVADOR			
Karlsborg	SAS	11760	-----	Salvador	RUS	664	500
Karlskrona	SCJ	1530	250	URUGUAY			
Karlstad	SCK	1375	250	Montevideo	CWOA	700	1000
Kiruna	SCL	1219	200		CWON	1169	200
Kristinehamn	SCM	1481	250		CWOR	857	500
Malmberget	SCN	689	250		CWOS	789	500
Motala	SBG	222	30000		CWOW	600	-----
Norrkoping	SCO	1110	250				
Orebro	SCV	1265	200	RUSSIA AND TURKEY			
Ormskoeldsvik	SCW	1373	200	Country and City	Call	Meters	Watts
Ostersund	SBF	389	600	RUSSIA			
Saffle	SCP	1220	400	Armavir	RA47	720	200
Stockholm	SBA	688	1000	Artemovsk	RA56	790	1200
Sundsvall	SBD	553	600	Astrakhan	RA26	700	1000
Trollhattan	SCQ	1129	250	Baku	RA45	750	4000
Umea	SCS	1301	200	Bogorodski	RA8	750	700
Uppsala	SCT	662	150	Dnepropetrovske	RA30	525	1000
Varberg	SCU	1059	300	Erivan	RA49	1050	1200
				Gomel	RA39	925	1200
				Irkutsk	RA57	1100	500
				Ivanovo-			
				Vosnesensk	RA7	800	180
				Kharkov	RA43	477	4000
						1700	
				Kiev	RA5	755	1200
				Kourak	RA34	575	1000
				Krasnodar	RA38	513	1000
				Leningrad	RA42	1000	10000
					RA51	150	350
				Minsk	RA18	860	1200
				Moscow	RA1	1450	40000
					RA2	450	500
					RA4	450	300
				Malchik	RA67	1075	1200
				Nizhni-Novgorod	RA13	840	1800
				Novorossisk	RA33	1117	4000
				Odessa	RA40	975	1200
				Orenburg	RA25	640	1000
				Petrozovodsk	RA46	765	2000
				Rostov-on-Don	RA14	820	4000
				Samara	RA22	900	1200
				Saratov	RA32	420	200
				Sevastopol	RA9	800	250
				Smolensk	RA72	150	800
				Stalino	RA77	730	1200
				Stavropol	RA20	550	1200
				Sverdlovsk	RA15	1050	500
				Tashkent	RA27	715	2000
				Tiflis	RA11	870	3000
				Tomsk	RA21	300	150
				Tver	RA44	690	1200
				Vel Ustjuk	RA16	650	1200
				Vladivostok	RA17	480	1500
				Vologda	RA41	875	1200
				Voronezh	RA12	950	1200
				TURKEY			
				Angora	-----	1600	5000
				Osmanie	-----	1200	6000

CENTRAL AND SOUTH AMERICA

ARGENTINA

Azul	E4	882	350
Bahia Blanca	D5	1050	-----
Buenos Aires	LR1	789	500
	LR2	870	3000
	LR3	949	1000
	LR4	990	2000
	LR5	828	2000
	LR6	909	1000
	LR7	750	1250
	LR8	1149	1500
	LR9	1030	2000
	LS1	706	5000
	LS2	1190	1000
	LS3	1270	1000
	LS4	1112	1000
	LS5	1076	1000
	LS6	1428	1000
	LS7	1351	1000
Concordia	J2	1330	400
LaPlata	LT2	685	1000
Mar del Plata	D4	1410	100
Mendoza	LT4	760	500
Rafaela	G4	1287	560
Rosario	LT3	1090	1500
Tucuman	K4	956	250
Venado Tuerto	G5	840	250

BOLIVIA

LaPaz	OPX	1000	1000
-------	-----	------	------

BRAZIL

Bahia	SQBE	12490	-----
Juiz de Fora	PRAJ	789	200
Manaos	-----	2998	1500
Para	-----	8818	-----
Pelotas	PRAD	-----	-----
Pernambuco	PRAP	967	300
Porto Alegre	PRAG	1199	500

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National Radio Institute, Dep. 1CO
Washington, D. C.**

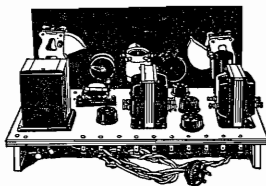
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Jumped from \$35 to \$100 a week
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