

**THE SEPTEMBER, 1934**

# **RADIO** IN **D** **INDEX** <sup>B</sup>

**THE ALL-WAVE RADIO MAGAZINE**



**25<sup>c</sup>**

**A Study of the Superheterodyne  
The September Radio Programs  
One Thousand S. W. Stations  
Two Hundred Summer Changes  
Reallocation in Canada**

**No. 81**

**N. S. E.**

# THE SUMMER'S CHANGES IN STATION DATA

## FREQUENCIES

550	CFNB	Fredrickton, N. B., from 1030
630	CKOV	Kelowna, B. C., from 1210
630	WPRO	Providence, R. I., from 1210
681	VOWR	St. John's, Nfld., from 700
710	KPCB	Seattle, Wash., from 650
760	XEBC	Agua Caliente, L. C., from 1280
780	CMBS	Havana, Cuba, from 765
780	CMCF	Havana, Cuba, from 870
780	KFQD	Anchorage, Alaska, from 600
780	KGHL	Billings, Mont., from 950
800	WTBO	Cumberland, Md., from 1420
820	XEP	Mexico City, D. F., from 970
840	CFQC	Saskatoon, Sask., from 1230
840	CRCT	Toronto, Ont., from 960
840	VOGY	St. John's, Nfld., from 1050
880	CFJC	Kamloops, B. C., from 1310
880	KSEI	Pocatello, Idaho, from 890
880	WPHR	Petersburg, Va., from 1200
890	CMX	Havana, Cuba, from 875
900	KGA	Spokane, Wash., from 1470
910	CJAT	Trail, B. C., from 1200
910	CMHW	Cienfuegos, Cuba, from 1200
930	CHNS	Halifax, N. S., from 1050
930	CMJF	Camaguey, Cuba, from 910
950	CRCS	Chicoutimi, Que., from 1500
960	CKY	Winnipeg, Man., from 780
965	CMBY	Havana, Cuba, from 1230
980	XEOK	Tijuana, B. C., from 920
980	XEU	Veracruz, Ver., from 1200
987	CMGF	Matanzas, Cuba, from 971.5
990	XEK	Mexico City, C. F., from 1120
1010	CMBD	Havana, Cuba, from 965
1030	CKLW	Windsor, Ont., from 840
1030	XEB	Mexico City, D. F., from 1010
1037	CMHI	Santa Clara, Cuba, from 1007
1060	CMGB	Havana, Cuba, from 1048
1060	CMCB	Havana, Cuba, from 1048
1060	NEA	Guadalajara, Jal., from 1200
1080	XEMA	Tampico, Tams., from 1200
1090	WESG	Elmira, N. Y., from 680
1100	KWEH	Shreveport, La., from 850
1100	NETG	Mexico City, D. F., from 1040
1120	CHSJ	St. John, N. B., from 1370
1120	NENT	Nuevo Laredo, Tams., from 1340
1140	CMCG	Havana, Cuba, from 1300
1150	NEH	Monterrey, N. L., from 1130
1150	NEWZ	Mexico City, D. F., from 1230
1200	KOOS	Marshfield, Ore., from 1370
1200	WLYA	Lynchburg, Va., from 1370
1210	CMJI	Ciego de Avila, Cuba, from 1335
1230	CJOC	Edinburgh, Alta., from 840
1240	KJCB	Sedro, N. S., from 880
1240	XEAT	Mexico City, D. F., from 1420
1270	HIX	Santo Domingo, D. R., from 598
1270	XFB	Jalapa, Ver., from 1290
1300	WERH	Greenville, S. C., from 1200
1330	KTRH	Houston, Texas, from 630
1340	NFD	Orizaba, Ver., from 1240
1360	KGIR	Butte, Mont., from 1340
1360	WFBT	South Bend, Ind., from 1230
1370	KFGQ	Boone, Iowa, from 1310
1370	XEI	Morelia, Mich., from 1310
1375	CMCN	Havana, Cuba, from 1357
1375	CMCR	Havana, Cuba, from 1357
1380	WALA	Mobile, Ala., from 1410
1400	TGX	Guatemala City, Guat., from 1380
1420	KKNC	Toronto, Ont., from 1030
1500	CHGS	Summerside, P. E. I., from 1120
<b>POWER</b>		
570	KGKO	Wichita Falls, Texas, 250 to 500
570	KMTR	Hollywood, Calif., 500 to 1000
570	KVI	Tacoma, Wash., 500 to 1000
600	WICC	Bridgport, Conn., 500 to 250
600	WMT	Waterloo, Iowa, 500 to 1000
600	WREC	Memphis, Tenn., 500 to 1000
610	XFX	Mexico City, D. F., 1000 to 500
630	CKOV	Kelowna, B. C., 50 to 100
700	WIAV	Cincinnati, Ohio, 50000 to 500000
730	CJCA	Edmonton, Alta., 1000 to 250
800	WTBO	Cumberland, Md., 100 to 500
830	KOA	Denver, Colo., 12500 to 50000
840	CFQC	Saskatoon, Sask., 500 to 1000
840	VOGY	St. John's, Nfld., 75 to 400
850	KHVV	Glendale, Calif., 100 to 250
860	NEMO	Tijuana, L. C., 2500 to 2000
880	WPHR	Petersburg, Va., 100 to 500
890	WGST	Atlanta, Ga., 250 to 500
900	KGA	Spokane, Wash., 5000 to 1000
910	CJAT	Trail, B. C., 50 to 250
930	KGZB	York, Neb., 500 to 1000
930	KMA	Shenandoah, Iowa, 500 to 1000
930	KROW	Oakland, Calif., 500 to 1000
930	WBRC	Birmingham, Ala., 500 to 1000
930	WDBJ	Roanoke, Va., 500 to 1000
940	WAAAT	Jersey City, N. J., 300 to 500
940	WHA	Madison, Wis., 1000 to 2500
960	CKY	Winnipeg, Man., 5000 to 15000
980	XEU	Veracruz, Ver., 100 to 250
1010	KGGF	Coffeyville, Kans., 500 to 1000
1010	KQW	San Jose, Calif., 500 to 1000
1010	WIS	Columbia, S. C., 500 to 1000
1010	XEA	Guadalajara, Jal., 250 to 125
1070	KJBS	San Francisco, Calif., 100 to 500
1080	XEMA	Tampico, Tams., 100 to 50
1120	NENT	Nuevo Laredo, Tams., 30000 to 50000
1180	WINS	New York, N. Y., 500 to 1000
1180	WMAZ	Macon, Ga., 500 to 1000
1185	CMBX	Havana, Cuba, 500 to 250
1200	KOOS	Marshfield, Ore., 100 to 250
1200	10-BP	Wingham, Ont., 15 to 25
1200	10-BU	Canora, Sask., 15 to 25
1210	CMJI	Ciego de Avila, Cuba, 45 to 150
1210	XEE	Durango, Dgo., 100 to 50
1220	KFKU	Lawrence, Kans., 500 to 1000
1240	CJCB	Sydney, N. S., 50 to 1000
1240	KTFI	Twin Falls, Idaho, 1000 to 500
1250	WCAL	Northfield, Minn., 1000 to 2500
1260	WLBW	Erie, Pa., 500 to 1000
1260	WTOC	Savannah, Ga., 500 to 1000
1270	HIX	Santo Domingo, D. R., 1500 to 1000
1270	XFB	Jalapa, Ver., 1000 to 250
1280	WIBA	Madison, Wis., 500 to 1000
1310	WEBR	Buffalo, N. Y., 100 to 500
1310	XEFW	Tampico, Tams., 70 to 250
1310	XEX	Monterrey, N. L., 50 to 125
1330	XFA	Aguaascalientes, Ags., 100 to 5
1320	KSO	Des Moines, Iowa, 500 to 250
1320	WSMB	New Orleans, La., 500 to 1000
1330	KTRH	Houston, Texas, 250 to 1000
1360	KGIR	Butte, Mont., 500 to 1000
1400	TGX	Guatemala City, Guat., 75 to 150
1440	KNYZ	Houston, Texas, 250 to 500
1450	WSAR	Fall River, Mass., 500 to 250
1500	WJBK	Detroit, Mich., 50 to 100
<b>DELETED</b>		
630	XEZ	Merida, Yuc.
630	XFG	Mexico City, D. F.
710	XEPR	Mexico City, D. F.
750	XEMC	Merida, Yuc.
780	CJCS	Sudbury, Ont.
850	XETZ	Mexico City, D. F.
890	XETU	Pachuca, Ido.
930	KFWI	San Francisco, Calif.
980	XEAE	Tijuana, B. C.
1120	WHAD	Milwaukee, Wis.
1200	WNBW	Carbondale, Pa.
1200	XEY	Merida, Yuc.
1210	CFBO	St. John, N. B.
1210	XEAB	Nuevo Laredo, Tams.
1280	XFFW	Tampico, Tams.
1295	XEAC	San Luis Potosi, S. I. P.
1300	WQO	Kansas City, Mo.

(Continued on page 77)

# THE SEPTEMBER DX CALENDAR

of special programs for distant listeners arranged by the stations outside of their regular hours.  
All time is EST so that programs may be arranged in order.

## DAILY

12:00-12:05	VAS	685	2000	Glace Bay
12:00-1:00	WMC	780	1000	Memphis
12:00-6:00	KFAC	1300	1000	Los Angeles
12:00-8:00	KJBS	1070	100	San Francisco
1:00-7:00	WFDC	1210	100	Chicago
5:30-7:00	WSPA	1420	100	Spartanburg
6:00-7:00	KFBI	1050	5000	Abilene

## Monday Mornings

### September 3

2:00-2:15	WAVE	940	1000	Louisville
2:00-2:20	WJAC	1310	100	Johnstown
2:10-2:30	WVAS	1210	100	White Plains
2:10-2:30	WRAC	1370	100	Williamsport
2:30-2:50	WAGM	1420	100	Presque Isle
2:30-2:50	WBTM	1370	100	Denville
2:50-3:10	WHAT	1310	100	Philadelphia
3:10-3:30	WSYB	1500	100	Rutland
3:30-3:50	WKOK	1210	100	Sunbury
3:30-3:50	WQDM	1370	100	St. Albans
3:50-4:10	WBAX	1210	100	Wilkes-Barre
4:20-4:40	KGVO	1200	100	Missoula
4:30-4:50	KOOS	1200	100	Marshfield
4:30-5:00	WNBO	1200	100	Washington, Pa.
4:50-5:10	KRKO	1370	50	Everett
5:30-5:50	KUJ	1370	100	Walla Walla

### September 24

3:00-5:00	XED	1160	500	Guadalajara
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### Sept. 2, 9, 16, 23, 30

12:00-3:00	WCNW	1500	100	Brooklyn
2:30-4:30	CKMO	1410	100	Vancouver

## Tuesday Mornings

### September 4

2:30-2:50	WEED	1420	100	Rocky Mount
3:10-3:30	WNRA	1420	100	Muscle Shoals
3:50-4:10	WAGF	1370	100	Dethan
4:00-4:20	KWG	1200	100	Stekton
4:10-4:30	KPJM	1500	100	Prescott
4:20-4:40	KERN	1370	100	Bakersfield
4:20-4:40	WPFB	1370	100	Hartlesburg
4:30-4:50	KXO	1500	100	El Centro
4:40-5:00	WBNO	1200	100	New Orleans
5:00-5:20	WDNC	1500	100	Durham

### September 18

1:01-1:09	CFCY	630	500	Charlottetown
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### Sept. 4, 11, 18, 25

10:00-1:00	CMBX	1185	250	Havana
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## Wednesday Mornings

### September 5

1:00-2:00	KFYR	550	1000	Bismarck
1:30-2:00	WHBL	1410	500	Sheboygan
1:30-2:30	WSUI	880	500	Iowa City
2:30-2:50	WHIS	1410	250	Bluefield
2:40-3:00	WFBG	1310	100	Altoona
3:40-4:00	WGH	1310	100	Newport News
3:50-4:10	KBTM	1200	100	Jonesboro
3:50-4:10	WOCL	1210	50	Jamestown
3:50-4:10	WROK	1410	500	Rockford
4:00-4:20	WQAN	880	250	Scranton
4:10-4:30	KGFL	1370	100	Roswell
4:10-4:30	WOSU	570	750	Columbus
4:50-5:10	WACO	1420	100	Waco

### September 12, 19, 26

2:00-2:30	WROK	1410	500	Rockford
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### September 19

1:01-1:09	CFCY	630	500	Charlottetown
2:00-2:30	KWTO	560	1000	Springfield
3:01-3:09	CHSJ	1120	100	St. John
3:00-3:30	KSO	1320	250	Des Moines
3:00-5:00	WJAG	1060	1000	Norfolk
3:00-5:00	WOPI	1500	100	Bristol

### September 26

5:30-5:45	WFRG	1310	100	Altoona
2:30-4:30	CKMO	1410	100	Vancouver
6:00-6:30	WASH	1270	500	Grand Rapids

## Thursday Mornings

### September 6

2:00-2:20	WDAH	1310	100	El Paso
2:20-2:40	KTSM	1310	100	El Paso
3:00-3:15	KREG	1500	100	Santa Ana
3:00-3:20	WHBY	1200	100	Green Bay
3:00-3:20	WRDW	1500	100	Augusta
3:10-3:30	WJMS	1420	100	Ironwood
3:30-3:50	KGKL	1370	100	San Angelo
3:40-4:00	KFPM	1310	15	Greenville
4:00-4:20	WEBQ	1210	100	Harrisburg
4:10-4:30	KONO	1370	100	San Antonio
4:10-4:30	WNBR	1430	500	Memphis
4:20-4:40	WQAM	560	1000	Miami
4:40-5:00	WCBS	1210	100	Springfield
4:50-5:10	WKRV	1500	100	Richmond
5:00-5:20	KGBX	1310	100	Springfield

### September 27

5:30-6:00	WRAW	1310	100	Reading
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### Sept. 6, 13, 20, 27

10:00-1:00	CMBX	1185	250	Havana
12:00-3:00	WCNW	1500	100	Brooklyn
3:00-4:00	XEFI	720	250	Chihuahua

### September 20

3:01-3:09	CHSJ	1120	100	St. John
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## Friday Mornings

### September 7

3:10-3:30	KOTN	1500	100	Pine Bluff
3:30-3:50	WELL	1420	50	Battle Creek
3:40-4:00	KFPL	1310	100	Dublin
3:40-4:00	WALR	1210	100	Zanesville
3:50-4:10	WMBC	1420	100	Detroit
4:50-5:10	WJBL	1200	100	Decatur
5:20-5:40	WHDF	1370	100	Calumet
5:40-6:00	WMBH	1420	100	Joplin
2:30-4:30	CKMO	1410	100	Vancouver

### Sept. 7, 14, 21, 28

## Saturday Mornings

### September 1

1:00-2:00	WWAE	1200	100	Hammond
2:00-2:30	KVOA	1260	500	Tucson
2:30-3:30	CHWK	780	100	Chiliwack
3:00-3:20	WJBC	1200	100	LaSalle
3:00-3:20	WTMJ	1280	500	Trenton
3:20-3:40	KFXR	1310	100	Oklahoma City
3:40-4:00	WFAM	1200	100	South Bend
4:00-4:20	KGCA	1270	100	Decorah
4:00-4:20	WJAY	610	500	Cleveland
5:00-5:20	WAVE	940	1000	Louisville
5:15-6:15	WSUI	880	500	Iowa City
5:20-5:40	WEW	760	1000	St. Louis
5:40-6:00	WLAP	1420	130	Lexington
5:50-6:10	KGCM	1230	250	Albuquerque

### September 8

3:00-3:30	KSO	1320	250	Des Moines
1:00-1:30	WDNC	1500	100	Durham
5:00-5:10	KFNF	890	500	Sheandoah

### September 22

2:00-3:00	VE9EK	1195	10	Montmagny
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### September 29

12:00-8:00	KGIR	1360	1000	Butte
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### Sept. 8, 15, 22, 29

12:00-12:30	WGAR	1450	500	Cleveland
12:00-3:00	WGES	1360	500	Chicago
1:00-3:00	TGX	1400	150	Guatemala

## Sunday Mornings

### September 2

4:10-4:30	KGDY	1340	250	Huron
4:20-4:40	KRGM	1260	500	Weslaco
5:00-5:20	KGKO	570	500	Wichita Falls
6:20-6:40	WNAD	1010	500	Norman

### September 9

3:00-4:00	WOS	630	500	Jefferson City
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### September 16

3:00-3:30	KUMA	1420	100	Yuma, Ariz.
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(Continued on page 36)

September 1, 1934



# RADIO INDEX

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ELEVENTH YEAR

NUMBER 81

## CONTENTS

Frontispiece—Edith Murray  
*A Columbia Songstress*

	PAGE
The Season's Changes in Station Data.....	Inside Front Cover
The September DX Calendar of Special Programs.....	1
The Beginners' Story of Radio, <i>The Superheterodyne Receiver</i> .....	3
Little Sketches of the Big Stars, <i>by "Betty"</i> .....	8
The Summer on the Short Waves, <i>by Page Taylor</i> .....	11
When Good Sets Go Wrong, <i>by the Technical Editor</i> .....	16
Pioneer Radio Days, <i>by Raymond M. Bell</i> .....	22
The Calls of the Nations.....	23
Listening In with the Editor.....	24
Some DX the Summer Brought, <i>Letters from Readers</i> .....	26
The September Programs of the Networks.....	37
Classified Index to Chain Features.....	44
A List of the Short Wave Stations of the World.....	46
Index to Stations by Frequencies and Wave Lengths.....	47
Index by Countries, States and Cities.....	61
Index by Call Letters with Mail Addresses.....	66
Around the Clock on the Short Waves.....	78
The 100 Best Short Wave Stations by Calls.....	79

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# The BEGINNERS' STORY of RADIO

PART TEN

The Superheterodyne Receiver

• • • By B. FRANCIS DASHIELL

THE superheterodyne receiver is, without question, the world's most popular type of radio set. We can find its principles operating in practically every broadcast, all-wave and automobile radio now being manufactured. And, because of the constant stream of multi-purpose tubes and improved circuits, there appears to be no end to the possibilities of the superheterodyne receiver.

Previous chapters described the functions of many of the unit parts that go into the assembly of a radio set. A complete t.r.f. receiver was assembled in Chapter 9. And, by now, the reader should understand wave motion and frequency, and how the tuned-radio-frequency receiver just mentioned uses two different currents in its circuit—radio and audio frequencies. The superheterodyne set, to most persons, has been cloaked in mystery and considered a highly complicated type of receiver. But it really is very simple in its operation. So, at this time, we are prepared to take up some new principles of radio and, by the mere addition of two new units to the t.r.f. set described in Chapter 9, create a superheterodyne receiver.

## Defining the Set

The word *super* really is a nonentity in any description of the super-heterodyne circuit. This prefix is being attached to so many names in the commercial world that it seldom impresses the reader. Therefore, *super-heterodyne* means a *heterodyne* set having great power and sensitivity. The word hetero-dyne is derived from the Greek words *hetero*, meaning different or unlike, and *dyne*, meaning power or force.

From these definitions we assume that the super-heterodyne receiver operates because of different forces. Such actually is the case. Naturally these forces are electricity—two separate alternating currents. One is the radio signal that is picked up by the antenna, and the other is a locally generated current. These two forces are arranged to act at the same time on the same circuit, and, as a result, the frequency of the incoming signal will be *lowered* and held constant without impairing its audio-frequency characteristics or sound modulation. All subsequent amplifications within the receiver will be accomplished at this particular frequency.

These two currents, vibrating at high or radio frequencies, act *against* each other (for they must be produced simultaneously) and produce a third, or resultant current, which is used for the operation of the receiver. The new current vibrates at what is called the *beat frequency*. It becomes necessary, now, to turn to an elementary principle of sound and music to learn how a third and different radio frequency can be created, and why it is called a beat frequency.

## The Beat Frequency

If two closely adjacent piano keys are struck sharply at the same instant, the notes from each associated wire that is set into vibration cannot be heard separately. What we do hear is a peculiar sound having a tone that is different from those given off singly by either of the two wires. This new, or third, tone, is caused by the slow vibrations or beats set up by the interference created between the two original sound waves. Beats are usually

produced through interference or interaction between two sound or radio waves having slightly different periods of vibration.

In all cases, whether in music or radio, the number of beats per second, caused by this interaction between two slightly different wave vibrations, is equal to the *difference* between their respective vibration rates. For instance, if each of the two piano wires vibrates 5,000 and 6,000 times a second, then the resultant sound wave will have a beat frequency of 1,000 vibrations a second. An the pitch of its tone, of course, will be *lower* than the pitch of either of the two original sound waves.

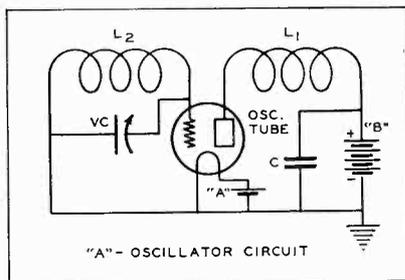
Now it is possible to apply this same principle to radio, and, instead of sound waves, we will make use of the terrific vibrations of radio-frequency currents. Should we apply two such currents simultaneously, as, for instance, one having a frequency of 1,000,000 cycles a second and the other a frequency of 1,100,000 cycles, a resultant electric wave will be created by the interference of the vibrations that do not coincide except at regular intervals, and which will have a frequency of 100,000 vibrations a second. This means there will be 100,000 beats a second—the difference between 1,000,000 cycles and 1,100,000 cycles. In this case the frequency of the resulting beat wave is 100 kilocycles (3,000 meters wave length), as against frequencies of 1,000 and 1,100 kilocycles (wave lengths of 300 and 275 meters, respectively) for the two separate radio waves which act to produce the beats.

The method of using two opposing radio frequencies to create a beat frequency is called the *heterodyne effect*. Quite frequently, when tuning in radio stations, the listener will notice a similar beat effect. The *heterodyning* of radio stations that are too close together on the dial to be tuned out is of common occurrence. All that can be heard is a throbbing sound, or beat, that rises and falls in waves, and

which renders the two programs meaningless.

### The Oscillator

To produce a beat frequency, a *local* radio-frequency current must be applied *simultaneously* with the radio-signal frequency that is coming in through the antenna. This current is obtained from a local oscillating circuit which is inductively coupled to the antenna input or radio-frequency amplification stage of the receiver. The antenna current meets in unison with the local current, which is of a slightly different frequency, being either higher or lower. This sets up a beat frequency. The oscillator of a superheterodyne receiver is the most complicated part of the circuit. The least abuse of its careful alignment will throw off the readings on the tuning dial, and frequently weaken or even prevent the reception of signals.



At "A" is shown a typical oscillator circuit. It is generally known that a radio tube will, in addition to its ability to amplify signals, generate a radio-frequency alternating current. Giant-size vacuum tubes are used in radio stations to create and broadcast powerful oscillating, or high frequency electric waves. In exactly the same manner a tiny receiving tube can be made to provide the local oscillations needed to beat against the incoming signal. To act as an oscillator it is necessary only to couple the plate or output circuit of the tube to its own grid or input circuit. A set of two coils, similar to a r.f. transformer, is used for the purpose.

## Generating the Oscillations

The action of an oscillator is not difficult to understand once the reader grasps how the current flows in and out of the circuit. The term "oscillate" means to swing back and forth, a movement like the pendulum in a clock, or vibration. The tube, shown in "A," starts to heat up the moment the radio set is turned on. An emission of electrons instantly flows, but becoming faster and faster as the filament and cathode gets hotter, and the stream attracted toward the positive plate quickly reaches its maximum density. Then, of course, the flow of plate current, as it passes through the circuit and its coil  $L_1$ , increases to its maximum potential. At this time, also, there is a magnetic field surrounding the coil, and it is building up in intensity. So, when the radio set is turned on, we have a condition of acceleration; the heating tube; an increasing flow of electrons; a mounting rise in the voltage of the plate current; and the spreading electromagnetic field around the coil  $L_1$ . These actions compare to the acceleration of a motor car as it reaches full speed from a standing position. It is this acceleration, created when the set is turned on, that gives the original *shock* to the oscillator and incites it into action.

During the tiny fraction of a second while the magnetic field of force about the coil  $L_1$  (see Part 3) is building up in strength, it is also inducing an *increasing* voltage in the grid coil  $L_2$ . But, as this coil is connected to the grid of the tube, the potential is being impressed on the grid. The grid, as we have learned, controls the flow of electrons within the tube and the plate current in the circuit. As the grid gains in its charge, due to the voltage being induced in  $L_2$ , it begins to slow down the flow of plate current and finally stops it entirely. Then, as no current is flowing through  $L_1$ , the surrounding magnetic field quickly collapses. The *inward* movement of the lines of force causes them again

to cut across coil  $L_1$ , but in a direction *opposite* to that which was taken when the plate current increased. So, a second surge of potential will be induced in  $L_2$ , but flowing in the opposite direction, and which immediately induces an opposite charge on the grid of the oscillator tube. This completes one cycle, or oscillation, in the current flowing through the coils  $L_1$  and  $L_2$ .

The charge now impressed on the grid is the same as the first charge. It permits the electrons again to flow and increases the plate current; the magnetic field builds up anew; a current surge of opposite direction is induced in  $L_2$ ; a new charge is impressed on the grid; the plate current is again shut off; and the process goes on and on as long as power is supplied to the tube and circuit. The action is very fast; faster indeed than any vibration the eye can imagine. It reaches radio-frequency proportions, which means that oscillations as frequent as 50,000,000 times a second can be created in an ultra-short wave circuit!

## The Intermediate Frequency

The rate or frequency of the oscillations set up in coil  $L_2$  depends upon the size of the inductances. And varying the capacity of the oscillator condenser VC changes the frequency at which the oscillations will occur. For instance, if the local current flowing through an oscillator is made to vibrate at a rate of 400,000 times a second, it, therefore, will have a frequency of that many cycles, or 400 kilocycles. When it is tuned *against* an incoming radio wave of 575,000 cycles, or 575 kilocycles, it will create a beat wave having a frequency of 175,000 cycles, or 175 kilocycles. This beat wave is called the *intermediate frequency*. It is *always lower* than either the transmitted radio wave or the locally generated oscillating wave, because it is equal to the arithmetical difference between the two original frequencies. An intermediate-frequency current can be amplified with less loss

than the original high signal frequency, and nearly as efficiently as the low audio frequencies.

The tuned-radio-frequency circuit shown in Chapter 9 was that of a receiver utilizing radio and audio frequencies and their amplification; in this chapter we shall place the intermediate frequency, as its name implies, *between* the radio and audio frequencies. The new circuit, then, will amplify all three of the frequencies, each separately—the radio, intermediate and audio, in the order indicated.

### The First Detector

The path followed by the three different frequencies as they flow through a superheterodyne receiver is shown at "B." At the left the intercepted r.f. signal passes through the radio-frequency amplification stage, as explained in previous chapters. The amplified output is sent into the first detector. Here the incoming r.f. signals are *combined* or *mixed* with the locally generated r.f. oscillating current. The resulting beat, or lowered, frequency, emerges from the output of the first detector as an intermediate frequency, ready for still further amplification.

The third tube is the oscillator, and its oscillating output is returned to the first detector for mixing with the incoming radio signals. The fourth tube is the intermediate-frequency amplifier that boosts up the output of the first detector. In some receivers there may be several i.f. stages and tubes.

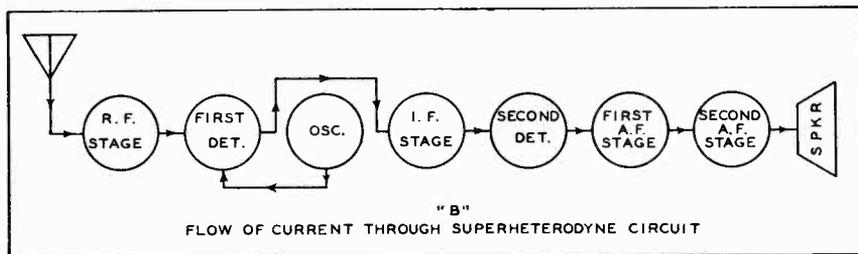
### The Second Detector

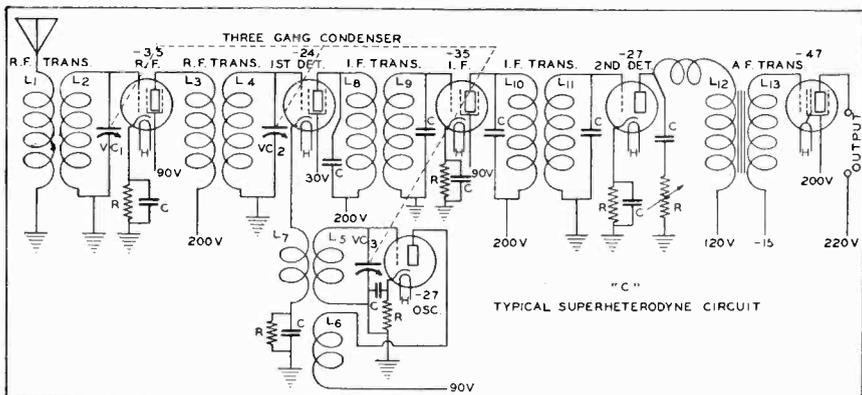
After the intermediate-frequency

current has been sufficiently amplified by passing through the fourth tube or stage, shown in "B," it becomes necessary to repeat the detecting or rectifying process, using what is called a *second detector*. This is the fifth tube in the diagram. The second detector is the same as any type of detector (see Part 6) in any receiver. The first detector is used to rectify the beat frequency and pass it along, at an intermediate frequency to the i.f. amplification stages. The second detector simply rectifies the amplified intermediate frequency and changes it to a pulsating, audio current for further amplification. The sixth and seventh tubes, shown in "B," amplify the audio currents in the conventional manner.

Amplification of intermediate frequencies is obtained in much the same manner as that for radio frequencies. Intermediate-frequency transformers are similar in detail to r.f. transformers (see Part 3), but are designed to operate only on one frequency—the intermediate frequency of the set. For instance, if this intermediate frequency happens to be 175 kilocycles, it is said to be the *peak frequency* of the receiver. And intermediate-frequency transformers constructed to pass only 175 kilocycles are said to be *peaked* at this particular frequency.

Since these transformers pass but the one frequency it is not necessary to tune them with variable condensers as is the case with radio-frequency transformers. More wire is used in winding the i.f. transformer because it must have a higher reactance against a lower frequency. The reso-





nance of the i.f. transformer is set at the frequency at which the maker decides to peak the receiver, and sometimes small fixed or adjustable trimmer condensers are used to balance the circuit and make resonance at the peak frequency sharper. The transformer must be shielded carefully, otherwise it may pick up unwanted signals and cause no end of interference and trouble.

The tuning and circuit adjustment of the oscillator must be such that there will be a constant difference between its own frequency and that of any incoming signal. For instance, if a receiver is peaked at 175 kilocycles, the following must be the case: At one end of the dial a station is tuned in on 1,400 kilocycles, and the oscillator must generate a current having a frequency of 1,575 kilocycles if the intermediate frequency of 175 kilocycles is to be maintained; at the center of the dial a station broadcasting on 950 kilocycles is tuned in, and the oscillator must generate a current of 1,125 kilocycles; and at the other end of the dial a station on 600 kilocycles is tuned in, and the oscillator must generate 775 kilocycles.

This relationship, between the oscillator tuning and the r.f. circuit tuning, must be constant throughout the entire range of the receiver if the dial is to read correctly. In modern receivers a constant difference is easily

maintained, and the r.f. tuning condensers and the oscillator tuning condenser are mounted on a single shaft for one-knob control. Perfect *tracking* of all the condensers is obtained by carefully adjusting the resonance of the circuits with small trimmers.

### A Typical Circuit

A typical superheterodyne circuit is shown at "C." The antenna coil, with primary  $L_1$  and secondary  $L_2$ , couples the antenna to the grid of the radio-frequency tube. The output is further amplified by a r.f. transformer, using coils  $L_3$  and  $L_4$ . This increased signal is then impressed upon the control-grid of the first detector. The secondaries,  $L_2$  and  $L_4$ , are tuned simultaneously by the variable tuning condensers  $VC_1$  and  $VC_2$ . Up to now this portion of the circuit is similar to the t.r.f. circuit given in Part 9.

The oscillator tube creates a local r.f. current in the coils  $L_5$  and  $L_6$ . This energy is transferred to the first detector by means of a third coil wound close to  $L_5$ . The third coil is called the *pickup coil*, and is indicated at  $L_7$ . The point of contact with the first detector is the cathode of the tube, but other contacts, such as the control-grid, screen-grid, etc., are used by different circuit designs.

The unidirectional output of the first detector tube then passes through the primary  $L_8$  of the first i.f. trans-

(Continued on page 34)

# LITTLE SKETCHES

## of the Big Stars

• • • By "BETTY"

**B**EHIND the scenes with Johnny Green, youthful conductor and composer, and his weekly broadcast, "In the Modern Manner." For these presentations, which originate in the Columbia Radio Playhouse and are heard over the CBS network each Friday at 9:30 p.m. EDST, Green uses forty musicians—a mixture of dance orchestra and symphony men.

Early each Friday afternoon these two-score men headed by Johnny assemble on the stage of the Playhouse, ready to rehearse right up to air time. After outlining the program, the young maestro takes his baton in hand and the actual rehearsal begins. It isn't long before everybody is in shirt sleeves!

Young, dynamic, and knowing ex-



A Youthful Conductor

actly what he wants. Johnny commands the respect and attention of every man in the organization. After a number has been rehearsed to his satisfaction, he grants his men a five or ten minute respite for a smoke. But there is no rest for Johnny. Recess time always finds him at the piano going over the various piano solos or passages he is to play that evening.

When some individual or group of instrumentalists have a hard time getting the right interpretation of a number, Johnny waits and works with them until every note comes out just as he wants it.

An hour before air time the program is timed and any necessary cuts are made by Johnny and the production man. On the air, Johnny always announces his own programs, introduces his guest performers, and explains the significance of the various numbers, graciously giving credit to the composers and arrangers who have helped make the broadcast possible. When a number demands that he be at the piano, Johnny turns his baton over to his 23-year old assistant, Bernard Hermann. And by 10:00 p.m., when the final down-beat of his baton brings the show to a close, Johnny, as producer, conductor, arranger and soloist of his program, has concluded as busy a day as anyone in radio is likely to spend.

Johnny Green is composer of such popular hits as "Body and Soul," "Out of Nowhere," "I Cover the Waterfront" and "Easy Come, Easy Go."

### A Star at Fifteen

Vivienne Segal was born in Philadelphia and received her early vocal training and education in that city.



*Her Nickname is "Fagin"*

She attended George Washington primary school, William Penn and Girls High School, the Academy of Sisters of Mercy, and an art school. When she was eight years old she became president of her school dramatic club. Even then she dreamed of becoming a famous actress and her mother, who had cherished the same ambition as a child, encouraged her. Vivienne's father, a famous diagnostician and specialist in children's diseases, disapproved of a career on the dramatic stage but approved of her study of music with an operatic future in view.

At the age of 12, she was proficient as a pianist and was appearing in the ballet of the Philadelphia Operatic Society. That same year she played "Puck" in "Midsummer Night's Dream." For this performance she received her first newspaper criticism, which stated that "the role fit her better than her tights." A year later, she sang in splendid soprano voice, in numerous amateur productions. One of the highlights of this period of her training came when she was taken out of the ballet

to sing the title role in "Carmen." She was hailed as a prodigy, and her parents permitted her to take an intensive course in voice culture.

Then came her first big contract—her chance to star, at the age of 15, in the Shubert production of "Blue Paradise." With only four days of rehearsal for her part, she made her debut with the opening of the show in the Casino Theatre in New York.

In quick succession she met with success in numerous musical productions, including "Oh, Lady, Lady," "The Desert Song," several editions of the Ziegfeld Follies, "Chocolate Soldier," "Merry Widow," etc.

Vivienne has auburn hair and dark brown eyes . . . is five feet, three inches in height . . . weighs 105 pounds . . . the theatre and all its branches is her hobby . . . likes to travel in ships or airplanes . . . sport preferences are walking and dancing, and those to watch are races, fights, hockey and football . . . prefers modern classical music. Her present nickname is "Fagin" . . . birthdate is April 19.

Vivienne may be heard with Abe Lyman's orchestra over the CBS network every Tuesday at 8:30 p.m. EDT; and over the NBC (Red) network each Friday at 9:00 p.m. EDT.

### **He Fits His Part**

Known to millions of radio listeners as Captain Henry, veteran skipper who has been at the helm of the Maxwell House Show Boat since it started its voyage over the NBC (Red) network a year and a half ago, Charles Winninger fits his role to perfection.

Had he been born a few years earlier, the celebrated actor, who came to the microphone after a long and successful stage career, might have been just such a jovial Show Boat skipper as Captain Henry.

He wears his hair picturesquely long, a bit below the ears, and his manner away from the microphone is as individual as his famous chuckle, his childlike gurgle of laughter, or



*"It's Only the Beginnin' "*

his cheerful roar of "It's only the beginnin' folks—only the beginnin'." What's more, his hair is as white as that of Santa Claus. Possessed of a full, ruddy face, he bears a strong resemblance to the major domo of the Christmas season.

At rehearsals, Winninger is almost surrounded by a group of the younger members of the cast. Generally, he is telling them a story—a screamingly funny one. He likes to laugh and provoke laughter. No actor is as ready to get into a costume, at the last moment, as the pilot of "Show Boat." He'd just as soon dress for a broadcast as for a performance in the theatre.

Morning finds Charles Winninger at his desk in a Madison Avenue office in New York. Not content with being a star of the stage and air, he has gone into the business of producing radio shows himself. His offices include a completely equipped radio studio.

\* \* \*

If you see any of the actors from the Columbia program, "Forty-Five Minutes in Hollywood," dashing into

movie theatres along Broadway these afternoons, don't get the idea that it's for entertainment. It's all part of their jobs. Once they get inside they listen attentively to the voices of one or two film stars, and that's the way they learn to mimic those stars when they do a radio "preview" of a new picture in their broadcasts.

Marion Hopkinson, who has imitated the voices of Dorothea Wieck, Constance Bennett, Katharine Hepburn, Mae Clarke and Wynne Gibson; and Arlene Francis, who has been the radio "ghost" of Evelyn Venable, Lupe Valez, Constance Cummings, Anita Louise and Bette Davis, have been record-breaking movie fans since last winter. They even go around to neighborhood theatres in Brooklyn and the Bronx to "catch" old pictures featuring stars they are supposed to imitate. Jack Smart, Elizabeth Day and Dwight Wiest spend a lot of their afternoons in the movies, too, and the whole bunch take a couple of days off from the cinema as a "vacation" after every broadcast.

\* \* \*

The sponsor who once had Eddie Cantor (whose contract still has eight more weeks to run) has been reported as trying to lure Bing Crosby into turning into another Rudy Vallee type of showman, and in the event that fails, may present some mysterious "big name" in the dramatic field. It is whispered that the statement attributed to George Arliss, wherein the grand gentleman of the theatre admitted he might be interested in radio if he got \$100,000 for 13 broadcasts, is being taken at face value by this very sponsor.

\* \* \*

Al Jolson and his wife, Ruby Keeler, the film star, are spending their first summer in their home at Scarsdale, N. Y. They have had the house for several years, but this is the first time that Miss Keeler's film engagements and Jolson's own screen and

*(Continued on page 34)*

# The Summer on the

# SHORT WAVES

• • • By PAGE TAYLOR

**S**HORTWAVE listening, like some other hobbies, has its dull times; last spring was about as dull a time as veteran listeners have known in many moons, so it was with very little regret that radios were laid aside this summer to make way for boats and fishing tackle, mountains and seashore and the open road. During these few too-short weeks, however, several new stations appeared and some old ones became active again. Returning vacation-goers found that their sets had taken on new life, and a casual twirl of the dials in the mornings brought to light some strange stations. Faithful members of the Clan who remained by their sets have patiently logged and identified a large number of these new stations; one of these is George W. Acker, 267 N. Lyman St., Wadsworth, Ohio, whose letter follows.

### Some New Japs

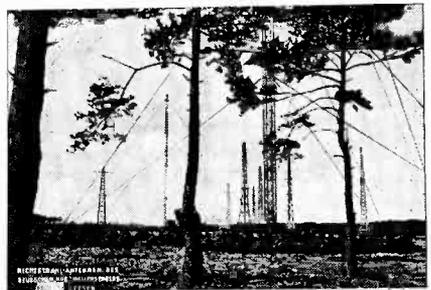
"I have had a little luck with the Japanese stations here of late," writes Mr. Acker. "They are JVN and JVM, about 10,650 and 10,750 kilos. respectively. These call letters are according to the KDKA DX Club. Both are broadcast stations. JVM seems to be the best. One or the other of them operates from about midnight to 7:45 am every morning (EST). When I first hit this strange station sometime ago, I knew that it was no European, the language sounding strange and wierd to me, and the music of the old sing-song Oriental type. I therefore concluded that it was a Japanese. However, I was discouraged in this belief many a time, because several times the station came in

very clear and somewhat loud. The week before last JVM was used every morning. At 4:55 am, EST, English news bulletins are given. I have also had JYS (9.840 megs.) several times lately, although I can just get it and that's all. I have had JYK several times lately. JVN and JVM begin to come through here at about 4:30 am, but I find them best around 6:30 and 7 am.

"VK2ME and VK3ME are very good at times, and again, I have hit them several mornings when they were very poor. There is another Australian, VK3LR, 9580 kilocycles, at Melbourne. This station is on the air every morning except Sunday, from about three to about 8 am. Nearly any morning it is as good as either of the other two Aussie stations."

### A Report from California

William C. Vestal, 1120 Cedar Ave., Redlands, Calif., learned from the A. T. & T. at San Francisco, that the JV- series of stations is located at Nazaki, Japan, and that the JY-stations are at Kemikawa-Cho, Chi-



Here we have a glimpse of the Antennae system of "Deutschen Kurswellensenders" Station in Zeesen, Germany

ba-Ken, Japan. That is, the JY-stations are on the four frequencies formerly used by JIAA. The Nazaki stations are owned by the International Telephone Co. "I have heard JVT, in Nazaki, on about 6750 kc/s.," he writes. "The other morning over JVM I heard the broadcast of a baseball game. . . . English was used at times for some of the baseball terms, and I could hear the yelling of the crowd. I have listened to CEC in Santiago, Chile, talking to OCJ, Lima, Peru, but couldn't pick up the latter. The best South American now is HJ1ABB, which comes in with a powerful signal. CJRX in Winnipeg is regular on 11720. For some reason I have never been able to pick up a single European. I'd like to ask a few questions about stations I have heard. Here they are: 1. On about 6.000 I heard a station at 1 am, EDST, playing records, and using an interval call of three cuckoo calls. Speaks Spanish. 2. Is the Cruise of the Seth Parker still on the air; I'd like to try for KNRA."

#### A New Mexican

"I suppose by now you have all the dope on what is evidently a new Mexican station," postcards Dan Davis of Maud, Oklahoma. "The call is XEBT and they relay XEB. Their interval signal is a cuckoo call repeated three times rapidly and they announce frequently in Spanish and occasionally in English. They are full of CW interference but last night I got their program from 8:00 until 11:00 pm, when they signed off. They invited comments on the program."

Sr. Sancristobal, General Manager of Stations XEB and XEBT, tells us that XEBT works on 6010 kilocycles with 1 kw. power, relaying the programs of XEB daily, commencing at 10 am. Sr. Sancristobal will be very pleased to receive reports from his American listeners and will acknowledge them. XEBT is owned by El Buen Tono, S. A., Apartado 79-44,

Mexico City, D. F.

#### The "Seth Parker"

The "around the world cruise" of the good ship Seth Parker reached the tropical shores of the Island of Jamaica in the West Indies, and, according to latest reports, is still there. Mr. Lord's leisurely two-year cruise of the world was dropped, for a while at least, so he could add to his laurels as broadcaster and globe-trotter, the distinction of being a movie star. Mr. Lord set out to explore the little known parts of the globe and perhaps even discover new lands, which he would claim for his country, a-la-Byrd, but when these plans gave way to the no doubt attractive but surely less interesting life of a Hollywood hero, the broadcasts were dropped.

Geo. W. Burns, 2466 Wahl Terrace, Cincinnati, Ohio, says that KWU works JYT between 4:45 and 7 pm occasionally. From KWU he learned that JYT is on 15.760 megacycles. KWU also works with Manila, Java, and sometimes the Empress of Britain.

#### Good Reception On 31 Meters

"I now have a Philco 16-B and find reception conditions rather good at this time on 31 meters and the shorter wavelengths," reports R. P. Sloan, 2550 Rogers Ave., Fort Worth, Texas. "There is plenty of static among the 49ers until late at night. England and Germany take all the honors for signal strength and clarity, with GSD and DJD on 25 meters. DJD is wonderfully clear and loud, QSA5, R9, almost every afternoon and night, and DJB provides fairly good reception on 19 meters in the mornings. GSD is good here on transmission No. 5, heard from 5-7 pm, CST, and the same station also is audible here on Transmission No. 1, beginning at 10:30 pm, and continuing until after midnight.

"I can hear Paris every day, but there is no comparison between their signal strength and Berlin's.

Since the hot weather commenced EAQ has shown a decided falling off in volume but it still is audible every day. The South Americans are mostly on the noisy wavelengths. There is a station among the 49ers which broadcasts in Spanish the call letters of XEB. The volume is very good."

### The CBS Arctic Station

The call letters KILS have been assigned to the Columbia Broadcasting System's temporary Arctic station in northwestern Alaska by the Federal Radio Commission. The transmitter will be the northern point of Columbia's attempt to link the Arctic and the Antarctic by radiophone. KILS, with its 1000 watt transmitter, will be the most powerful station in Alaska. Bob Flagler, song-writing announcer-engineer, is in the Arctic Circle, where he will start tests immediately to determine the best location for originating the broadcasts. A circuit of about seventeen thousand miles will carry voices from one end of the earth to the other. Flagler's voice, transmitted by KILS, will be picked up by the RCA at either Point Reyes, Calif. or Riverhead, L. I., for relay to Little America and simultaneously to the nationwide Columbia network. Unfortunately, we do not know yet the frequencies on which KILS will work.

### With the Venezuelans

We have received letters from Stations YV1BC and YV3BC advising us that their call letters have been changed, as follows:

YV1BC, 960 kc/s., to YV1RC.

YV1BC, 6112 kc/s., to YV2RC.

YV3BC, 6150 kc/s., to YV3RC.

Mr. Navat, writing for YV3RC, says that the object of the change is merely to give a better Spanish meaning to the call signs, the former "BC" meaning "Broadcasting Caracas," while the "RC" means "Radio-difusora Caracas."

We have not been officially notified of other changes, but believe



*Barbara Jo Allen, beautiful dramatic star of the NBC's San Francisco studios, plays Beth Holly in "One Man's Family," broadcast over the NBC-KGO net Saturday nights at 9:00 p.m. EDST. Miss Allen is KGO's candidate in the Radio Queen Contest of 1934.*

that similar changes were made in all Venezuelan call signs. Hence, YV5BMO is probably YV5RMO.

The present operating schedule of YV2RC follows: Sunday, 9 to 11:30 am and 1:30 to 10:30 pm, EST. Other days, 11:30 am to 1 pm and 5:30 to 9:30 pm, EST. The effect of American broadcasts is clearly seen in the programs scheduled for this Caracas station. On Mondays and Fridays, from 9:30 to 10:30 pm, a mystery serial called "Dr. Hook's Experiment" is presented, while "Dick Daring, a Detective Serial," is a Tuesday and Saturday presentation from 8:45 to 9 pm. Maristan, a crooner, is featured from 8:45 to 9 pm on Thursdays and a fifteen minute Hollywood talk on Wednesdays.

### Italians Improving

"Perhaps you will be interested in the following, which is quoted from

a letter from 12RO," surmises James T. Spalding, 2012 Alexander, Louisville, Ky. "Our Rome stations, above all, the short wave one, are going to be considerably improved as to power and range, so within a few months you will receive far better the Italian voices and sounds addressed to our overseas friends."

Some of our United States could well follow the idea recently adopted in little and often-times belittled Hungary, that all new electrical apparatus sold there must be properly filtered, and bear an official certificate stating that it will not interfere with radio reception. This suggestion is respectfully submitted to some gubernatorial candidates; it would be a sure-fire vote-getter among DX'ers.

Otto Rehak tells us that the station we have listed at HJ5ABB should be HJ5ABD. He has a verification from this station which states they use 100 watts power. Mr. Rehak uses an Atwater Kent 55 and invites correspondence from other owners of this receiver.

American amateur operators who are commissioned or enlisted members of the U. S. Naval Reserve, are now permitted to use the prefix "N" in lieu of the prefix "K" or "W", except that the "N" prefix must be used only in the frequency bands 1715-2000 and 3500-4000 kilocycles.

A change has been made in the Moscow schedule, according to information received from the station. RV59, 6,000 megs. (50 meters), works on Sunday, Monday, Wednesday and Friday, from 3-6 pm. A Sunday schedule is also given for RNE, despite the fact this station is now temporarily off the air.

#### Does J1AA Verify?

"I would like to know if J1AA has changed its policy of not verifying," requests Wade Chambers, whose address is withheld at his request. "I have always read in other



*Robert Simmons, popular young concert singer, was selected to replace Frank Parker as top tenor with the famous Revelers quartet over the NBC while Parker was absent in Hollywood. Simmons also substituted for Parker as featured soloist with the A & P Gypsies.*

magazines that J1AA would not verify. About two months ago I heard them well on 38.07 and wrote to them. Very much to my surprise they gave me a specific verification in English and also sent me a photo of the station. Am I just lucky in getting this verification or has J1AA changed its way of doing things?" As far as the Editors of this magazine know, J1AA has always answered letters, although recently, during the world tour of its chief-engineer, Mr. Kikutani, verifications came slowly. The well-known photo of the J1AA transmitter house, which appeared in this magazine in May, is a proud possession of thousands of shortwavers the world over.

#### Moving Improves Reception

"I have been enjoying very fine shortwave reception on my Model 250 Zenith. We just moved here from Los Angeles and I was pleased

to find that shortwave conditions are at least 25% improved. We live in the hills overlooking San Francisco Bay, and it certainly is fine for radioing. It seems that some California listeners complain that the D- stations cannot be heard. I cannot see why anyone out here cannot get DJD on their night transmission, for they are R8 here nearly every night at 8:30 pm, when they sign off. Soon after GSB comes roaring in at 9:15 followed by VK2ME on Saturday nights. After all, the westerners haven't much to kick about. HJ1ABB and Prado are usually enjoyable, and XEBT is very good." Jack Watrous, La Canada Road, Hillsborough, Calif. is the writer of the letter.

#### Reporting from Cuba

Tropical weather and other radio bugaboos don't seem to bother Harry W. Field of 789, 10 de Octubre, Havana, Cuba, as his list of stations heard on his Silver-Marshall 726 looks almost like the s.w. lists appearing in the back of this magazine. "My first interest in radio was back in 1922," writes Mr. Field. "In that year I built a four tube set, the parts of which cost me \$236.50, with a head-set. 201A's cost \$10 here in those days." He soon lost interest in this receiver when it failed to give better than "sickly reception of PWX," and sold the outfit for \$20. On his present receiver he notes that EAQ is a very poor station while I2RO is one of his best. His neighbors can all set their clocks by his time signals from Daventry at 6 o'clock, and by actual test, with the volume control at maximum, has heard the British stations a block and a half way from the receiver.

A check-list of European shortwave stations received from Robt. M. Pybus, 4 Highfield Rd., Chorltoncum-Hardy, Manchester, England, contains several interesting items. Among these is LKJ1, apparently a sister station to LCL. LKJ1 is on 31.41 meters with 500 watts, work-

ing at present on an irregular schedule. ORK, the Brussels, Belgium, telephone station, is broadcasting regularly on 29.04 meters from 2:45 to 4:15 pm daily. DJE, Zeezen, Germany, 16.89 meters, works irregularly in the mornings.

"The short waves are much better than usual," writes J. A. Shanks, Russellville, Tenn., "but the static is getting pretty bad on the 49 meter band. PHI is now heard on 16.88 meters and they are much better than they were at their best on 25.57; they were R8 volume last Sunday morning but fading was pretty bad. The new Aussie on 31.30, VK3LR is coming in about as well as 2ME and 3ME; fading is very light now and all three are heard most times R8. Am hearing two new Japanese phone stations; one on 38 meters between 4:30 and 6:00 a.m. CST, and the other one on about 51.2 meters between 5:00 and 7:00 a.m. My latest s. w. veries are RV59, CP5, Prado, COC, and TIGP. Am expecting a reply from YV5BMO and others."

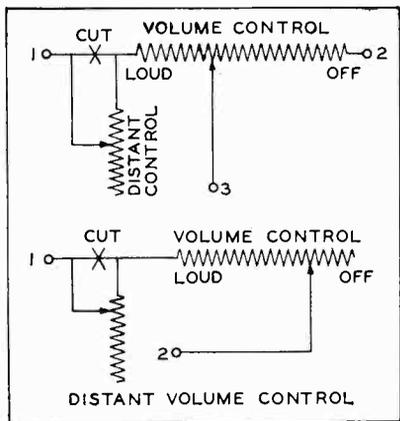
"On the s. w. I have heard all the German stations but DJD is about the best on the air with GSD a close second. France comes in with good volume but modulation seems poor. EAQ has good modulation while the volume is about R7. I hear the different English transmissions all day on different frequencies and volumes from R5 to R9. I held VK3ME this morning (July 15) till the W1XAZ carrier took away most of the volume. I heard London's relay of the Canadian Radio Commission's 'Empire Day' program at 2 a.m. EDST on Monday morning, July 2nd. That was on GSF on 19.81 m." From H. Arbie, Acton, Ontario.

We are on the threshold of a new DX season. What with the improvements in the transmitting apparatus of broadcasting stations, increases in power and the gradual betterment of receiving sets, our readers ought to set new records this coming winter.

*(Continued on page 34)*

# When GOOD SETS Go Wrong

• • • By the TECHNICAL EDITOR



*Can I turn down a radio set from a distance while the telephone is being used? Is there anything about a set that can be either shorted or grounded that would reduce the speaker volume to a minimum? I do not have to silence the speaker completely, but only to a low tone that will not interfere with hearing.*

You may go about this in several ways. But we believe that an additional rheostat or control placed in series with the control built in the receiver, and with long leads running to the point at which the unit is desired, can be used for this purpose. This secondary control—merely a variable unit of the same resistance as that of the volume control—should be kept at a zero setting and it will not interfere with the operation of the control in the receiver. Then, increasing the resistance of the new control would be the same as increasing the resistance of the regular control, and the volume of sound would be diminished. Practically all volume controls used in receivers are high resistance units with movable arms that slide over the resistor

surface. The additional resistance should be placed in series with the "loud" end of the volume control resistance—not the arm contact. The proper connections are shown in the accompanying illustration.

## Band Spread Coils

*I have an I. C. A. "Scout" short-wave converter which I use with a 29R Sonora receiver, but it does not pick up short-wave signals on the entire band. How does one go about placing band spread coils in a converter for better reception?*

Radiophone signals cannot be heard over the entire wave band. We suggest that you read the short-wave tuning articles published from time to time in the short-wave department of RADEX. This is a small converter, and we feel that the combination is about as satisfactory as you can expect.

The use of other types of coils in this converter is not to be recommended. Band-spread coils will not enable you to get much greater distance or bring in stations that are beyond the sensitivity of the receiver. Band-spread coils serve another, but very valuable purpose—they enable the operator to open up the tuning distance between otherwise closely tuned stations, and thus prevent interference and cause easier tuning of the dials.

## Revamping Old Receiver

*How can I increase the sensitivity of my Brunswick Panatropie with Radiola AR 746, eight tubes, and get more modern reception?*

Increasing the selectivity and sensitivity of this set can only be accomplished through a complete redesign, and in the light of many newer developments and inventions, together with new tubes and applica-

tions, it certainly would not pay to attempt to revise this old type circuit. Outside of making the set perform as well as it did when new, by cleaning, adjusting and replacing old tubes with new ones, there is nothing we can advise you to do.

### A "Blooping" Set

*I have a 1933 Pathe t.r.f. receiver. I wish to improve its reception. New tubes have not helped, and no matter how the trimmer condensers are adjusted a "bloop" occurs, usually at 940 kcs. When the trimmers are adjusted to a different capacity the bloop occurs at other points on the dial. Before this trouble appeared the set tuned in stations perfectly at all frequencies. Then, too, whistles appear at nearly every station.*

Your trouble seems to be one of self-oscillation of one of the radio-frequency stages. This is usually due to inadequate screen or by-passing, or poor contact of the rotors of the tuning condensers to the chassis. Defective contacts of the tube shields to their sockets as well as stray coupling of grid and plate leads will cause this trouble. The "bloop" which you mention when the stage goes into oscillation is likely due to one or more of the causes outlined above. This oscillation will quite naturally produce a whistle at every station tuned in on the dial.

### Adjusting Sparton 16-AW

*I have a combination broadcast and short-wave. 1933, Sparton model 16-W receiver. Will you please tell me how to neutralize and retune this outfit?*

This receiver does not require neutralizing because it is a superheterodyne set and not a tuned-radio-frequency type. It may be necessary, however, to adjust the trimmer or balancing condensers to line up the large tuning condensers.

Realignment is accomplished by adjusting the tiny balancing condensers (C2 on your circuit diagram if you have one). There are three of these, and they will be found at-



*Jimmy Melton's spare time is spent with his wife on his new yacht, "Melody," cruising along Long Island Sound and the Hudson River. The popular tenor is heard on "Ward's Family Theatre" program each Sunday at 9:00 p.m. EDST over the CBS net.*

tached to the tuning condenser gang unit. They should be realigned as explained in the April, 1934, issue of RADEX. The antenna equalizing condenser should also be adjusted. The primaries of the two i.f. transformers are tuned by tiny trimmers. The short-wave unit has three variable condensers on a single shaft for tuning the set. The alignment of this set is performed by two small condensers connected as a single unit. There is also an antenna equalizing condenser that must be adjusted.

### Hum and New Tubes

*I am using an Atwater Kent, model 93 short-wave converter with a Majestic 15 broadcast receiver. There is some hum that drowns out reception. Are there some tube substitutions that*

can be made to make this set more sensitive?

The Majestic should be tuned to 300 meters (1,000 kcs.) when used with the Atwater Kent converter. Hum may be due to broken down bypass condensers or defective resistors. All of these, particularly those associated with the audio end of the circuit and cathodes of the tubes, should be tested. Examine the power tubes, and check the filament resistors and center-tap unit.

The -51 tube in the Majestic can be replaced with a new -35, or a 58, if a suitable adapter is used. Have the -47 tested for hum. A 2A5 can be used in place of the -47 with a suitable adapter, and the hum might be reduced or eliminated entirely. The -27 in the converter is the oscillator and cannot be replaced with a 56. The -24 is the detector which may be replaced with a 57 and proper adapter unit.

#### **Tubes Didn't Work**

*I attempted to improve reception in my General Electric model S22A receiver by utilizing 56 type tubes in place of the -27s, but they did not give results. Why was this?*

The oscillator of your set is a -27 which should not be replaced with a 56. The -27 second detector can be changed over to a 56. The -35 r.f. tube can be replaced with a 58 by making use of an adapter made for the purpose. The -35 i.f. tube should not be replaced with another type.

#### **A Superfluous Condenser**

*Can I change my R.C.A. model 60 receiver from a 3-gang to a 4-gang condenser tuning unit? Also, which of the newer tubes should I use.*

We do not see why you should desire to use a 4-gang unit in the R.C.A. 60. That set has only three coils that are to be tuned simultaneously. You may use a type -47 tube in place of the -71A if a special type of adapter is used or the necessary changes in wiring are made. However, the filament of the -47 will

draw much more current than a -71A and may cause serious overheating. If so, a return to the -71A type is obvious. 56s may be used without adapters to replace all -27s in this receiver.

#### **Installing Tuning Meter**

*The tuning meter that I have tried to install in my Midwest 16-tube receiver does not work. What size meter should I get?*

Perhaps you have the meter reversed. As it is a direct current device it will operate only when properly inserted in series in the circuit from the plates of the power tubes. The positive end of the meter must be connected in the lead *away* from the plates of the power output tubes. The meter should have a rating of at least 100 millamperes.

#### **Transformer Ratios**

*The audio transformers in my Crosley 21-22 receiver have become dead. As they are burned out I wish to replace them with new ones but do not know what ratios to procure. Can you tell me?*

The two audio transformers in this set are likely 6 to 1 ratio. We should prefer, however, a first a.f. transformer having a 6 to 1 ratio and a second a.f. transformer having a ratio of 3 to 1. This will give you better tone without material reduction in volume of sound.

#### **A and B Eliminators**

*Why is it that I can never obtain perfectly quiet reception with my H. F. L. receiver when I use A and B eliminators? I have tried all makes, and they are the same. Will you please tell how to make a complete, quiet and powerful A and B eliminator that will work without hum?*

You could build a dozen A and B eliminators but they possibly would be no better than the ones you can buy. There is nothing that you can add to a homemade eliminator that would not be available in the factory product. New eliminators are



Henrietta Schumann, brilliant young pianist, is now heard regularly over the CBS as a principal of "Summer Interlude." Mondays at 9:30 p.m. EDST. Hailed in Russia as a child prodigy at the age of eight, Miss Schumann came to America at 15 to fulfill the glowing prophecies for her future.

not necessary for the following reasons.

An eliminator consists of a transformer to step up the voltage of the standard power line to a potential equal to that required by the receiver and its tubes. There is a rectifier tube that cuts off one side of the alternations of increased current and changes it to a pulsating or rippling direct current. Some eliminators use dry rectifiers and wet solution rectifiers instead of tubes for that purpose. Then you must use choke coils and filter condensers in order to smooth the ripples out and provide a steady, direct current. Such operations will eliminate practically all the hum or ripple due to rectification. This is all any eliminator will do, including those built into the best of radio receivers.

But, in an a.c. receiver, in addition to the eliminator that is built into it, there are many filter condensers,

chokes, and by-pass condensers and resistors, all of which reduce hum. Such a set will use cathode type of heaters in the tubes, and these tend to reduce power line hum. At least, it would not be practicable for you to rebuild the circuits and tube requirements of your receiver, in order to provide the additional features that tend to reduce hum in a.c. sets only.

### Phonograph Pickup

*I have tried connecting a phonograph pickup to my Silver Marshall, type 724 A.C. receiver, but cannot get any volume from it. The same pickup works fine with other sets. How can I get it to work properly?*

The second detector of this receiver feeds directly into the push-pull amplifier and thus provides very little gain from the plate of the second detector to the loud speaker. For such a circuit arrangement the pickup must be of the high impedance type, or it must be provided with a matching transformer. There are, of course, many methods of connecting a pickup to a receiver, as shown in the article in the January, 1934, issue of RADEX. If your pickup is not already provided with a transformer, one should be obtained with a primary equal to the pickup (from 200 to 2,000 ohms resistance) and a secondary impedance of 100,000 ohms. In very few cases can the pickup be operated directly into the detector of a receiver without the use of a transformer.

### Set Suddenly Stops

*My Midwest 9-tube set has developed a case of going dead. I will have a station tuned in on the 75 meter band and suddenly the entire goes dead up to 3.6 megacycles. The set works fine from 75 meters on up to the broadcast band.*

The oscillator circuits of all-wave sets are usually more or less critical on high frequencies. In many cases a new oscillator tube will remedy the condition. Sometimes when the

tube is used for a short time it will again stop oscillating on the high frequencies and will have to be replaced. We suggest that you also examine carefully the following points that will tend to make the oscillator oscillate more strongly if corrected. Increase the oscillator plate voltage; lower the value of the oscillator grid leak if one is used; reduce or eliminate the bias on the oscillator if one is used—this is accomplished by shortening the oscillator cathode resistor; clean thoroughly the sliding contacts of the oscillator coils, making sure than a perfect electrical contact is made; increase the coupling of the feedback coil to the grid coil (connecting the grid and plate of the oscillator tube) by mounting it closer to the grid coil or by increasing the number of turns; if the coil is tapped for the circuit, then move the tap closer to the grid end of the coil. It will not be necessary to make all of these changes, but you might try one after the other until some relief is obtained on the high frequency tuning end of the dial.

#### Double-Spot Tuning

*I have an eight-tube Columbia receiver that has double-spot tuning on the dial. Stations come in at two places on the dial about 5 points apart. They come in strong, then I move the dial about 2 points and they fade out. then move it another 2 points and the stations roar back in again. I changed all the tubes and that did not help. The trimmers were retuned, but my serviceman could not remedy the trouble after many tests and examinations.*

The receiver that is described above is a tuned-radio-frequency set having three screen-grid amplifiers. The trouble is characteristic of overloading of the detector tube. When the signal is tuned off its point of resonance just a slight degree, such as the two points you mention, the volume increases because the load on the detector has been reduced to a point where it can now operate at

maximum efficiency. In cases where the original signal has a low field intensity, such as a distant station, this effect probably does not occur. The same effect can be caused by the tuning condensers being out of line in a certain manner. This may be caused either by wear at the condenser shafts or incorrect alignment. The use of vario-mu tubes, such as types -35, in the r.f. stages, and a 20,000 to 30,000 ohm resistor in the detector cathode, in place of the 100,000 ohm value now in the circuit, will, we feel certain, remedy this trouble.

#### Intermittant Action

*I have a General Electric J-100 ten-tube receiver. If I turn it low the set sometimes goes dead. If I turn it off and then turn it back on the set resumes operation. Or, when it goes dead, if I turn up the volume control, the signal pops back in. After I had the set a week a condenser*



*When Emil Velazco opened with his orchestra in the grill room of the Hotel Taft, Florence Case was chosen from a group of vocalists as the featured singer. She sings alone and in boy-and-girl numbers with Jack Goodman in Velazco's sustaining programs over the CBS.*

*shorted and was replaced. Could this be the cause of the trouble? It seems that the a.v.c. is ineffective at low volume levels. How can I find the 250 volt lead in this set to use as a plate supply for a Stewart Warner short-wave converter?*

This trouble may be localized in the audio system of the circuit. We suspect the coupling condenser between the second detector and the first audio amplifier tubes. It joins chokes L-12 and L-13, and if you have a diagram, it is capacity C-28. Condensers C-25 and C-26 should also be carefully tested as they have considerable voltage across them. Condensers C-32 and C-33 have approximately 150 volts d.c. across them in addition to the signal peaks, and is possible that they may cause trouble through shorting.

The ineffectiveness of the a.v.c. at low volume levels may be due to gas in the a.v.c. tube, although it must be remembered that the a.v.c. is not intended to operate over the entire sensitivity range of the receiver as the signal must reach a definite minimum of volume before the a.v.c. goes into action. This signal must be sufficient to overcome the minimum bias of the a.v.c. tube.

The main plate feeder for the r.f. tube, the first detector, i.f. amplifier, the second detector, and the driver or first a.f. tube, carries 250 volts potential difference between it and the ground.

We suggest that you read the article on intermittent reception in the Mid-summer, 1934, issue of RADEX.

#### **That Buzzing Sound**

*My Crosley 158 receiver has a high pitched buzz that disappears when the set is turned off and then on again. The set seems to have lost some of its selectivity and sensitivity, yet all the tubes are perfect.*

A breakdown of the input filter condenser would give the symptoms noted above as this could affect the output signal by means of the speak-

er field without affecting the output tube to any great extent. The plate-to-heater capacity of the first audio-tube amplifier should be suspected as well as the coupling condenser from the plate of the first audio amplifier to the control grid of the output tube. Be sure also that the tone control unit (two condensers and a variable resistor) is in good shape. Although there are many possible sources of trouble of this kind, these will likely be confined to the resistors and fixed condensers of the audio system.

#### **Speaker Rattles**

*How can I take the rattle out of the speaker in my Colonial 400 type receiver?*

Speakers sometimes rattle if they are not centered properly. The remedy is to remove the cone from the speaker and paint the joints where the voice coil is attached to the cone with thick shellac, glue or rubber cement. Then make sure the cone is centered and does not touch any of the surrounding points when it vibrates on the low notes. A cone always vibrates with a greater movement from side to side and slowness of action on the low notes, and, therefore, has a tendency to rattle on these notes. Removal of the cone and speaker from the cabinet should be merely a mechanical problem and easily overcome.

*Editor's Note: While many of our readers are technically capable of making delicate adjustments, we recommend that those who have had little or no experience in radio-building, avail themselves of the services of a skilled radiotrician rather than attempt to make changes in wiring themselves.*

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Readers are invited to send reports of their radio difficulties to the Technical Editor. They will be answered by mail in the order received as well as published in RADEX.

# Pioneer Radio Days

By Raymond M. Bell

**R**ADIO broadcasting in the United States was largely experimental until the fall of 1921. There were a number of individuals and companies experimenting in radio telephony in 1920 and 1921; a comparatively few listeners were building receivers. In September 1921 WBZ Springfield and WJZ Newark, of the Westinghouse Company and WDY Roselle Park, N. J., of the R.C.A. were licensed. WJZ was opened on October 12, 1921 and the real radio boom began. In November two more Westinghouse stations were licensed, KDKA Pittsburgh and KYW Chicago. By December five regularly licensed broadcasters were on the air, all using 360 meters without interference. 485 meters could be used occasionally with special permission. The Westinghouse Company had been encouraged by the results obtained in the Pittsburgh area. On November 4, 1920 8ZZ (later KDKA) had broadcast election returns with 100 watts power. On December 1, 1920 a daily schedule of concerts, talks, news, and church services had been inaugurated. By August 1921 500 watts was used, by October 1000. Because KDKA was the first to inaugurate daily broadcasts as we have them today and has continued them without a break, it has gained the name of "Pioneer Broadcasting Station of the World." WWJ and WGY were other "early settlers."

In December 1921 twenty stations were licensed; only two remain, KQW and KWG. The radio boom was tremendous in 1922; by April there were 200 stations on the air and a 400 meter band was added for the better stations. At this time no other country had regular broadcasters; 2LO London was not opened

until November 1922. By 1923 there were 500 stations and during that year the present plan of 10 kc. allocation was inaugurated. The early receivers used were crystal and one tube sets. Most sets were homemade, although an early Westinghouse product could be bought for \$65. Chicago was real DX and a fan with a log of 25 stations was not easy to find. KDKA pioneered in short as well as medium waves. In 1923 transmissions were begun on 94 meters. The world was astonished to find their DX value. In 1925 a shift was made to 63 m. In the latter year WGY began broadcasting on 41.5 meters.

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## More Changes in Canada

**E**FFECTIVE September first, the Canadian Radio Broadcasting Commission is making a new allocation of frequencies affecting sixteen stations and likewise affecting indirectly the reception of many U. S. stations. In making these changes, which, the Commission states, are the result of field measurements and careful study, these principles have been followed:

Stations of 1000 watts and over have been given the lower frequency channels below 1000 kcs. Stations of 100 watts and under, serving local areas only, have, as a rule, been allocated channels above 1200 kcs. Low power stations in particularly isolated localities, have been given channels below 1000 kcs. Low power stations which are giving only an intermittent service, or which are used largely for experimental purposes, have been allocated channels between 1500 and 1600 kcs.

The changes are contained in the indices in this issue of RADEX.

# Calls of the Nations

Following are the initial call letters assigned to the countries of the world by international agreement. Some changes have recently been made in these assignments. This list therefore supersedes all others.

CAA-CEZ Chile  
 CFA-CKZ Canada  
 CLA-CMZ Cuba  
 CNA-CNZ Morocco  
 COA-COZ Cuba  
 CPA-CPZ Bolivia  
 CQA-CRZ Portuguese Colonies  
 CSA-CUZ Portugal  
 CVA-CYZ Uruguay  
 CYA-CZZ Canada  
 D Germany  
 EAA-EHZ Spain  
 EIA-EIZ Irish Free State  
 ELA-ELZ Liberia  
 EPA-EQZ Persia  
 ESA-ESZ Estonia  
 ETA-ETZ Ethiopia  
 EZA-EZZ Territory of Saar  
 F France and Colonies  
 G Great Britain  
 HAA-HAZ Hungary  
 HBA-HBZ Switzerland  
 HCA-HCZ Ecuador  
 HHA-HHZ Haiti  
 HIA-HIZ Dominican Republic  
 HJA-HKZ Colombia  
 HPA-HPZ Panama  
 HRA-HRZ Honduras  
 HSA-HSZ Siam  
 HVA-HVZ Vatican City  
 HZA-HZZ Arabia  
 I Italy and Colonies  
 J Japan  
 K U. S. A.  
 LAA-LNZ Norway  
 LOA-LWZ Argentine  
 LXA-LXZ Luxemburg  
 LYA-LYZ Lithuania  
 LZA-LZZ Bulgaria  
 M Great Britain  
 N U. S. A.  
 OAA-OCZ Peru  
 OEA-OEZ Austria  
 OFA-OHZ Finland  
 OIA-OKZ Czecho-Slovakia  
 ONA-OTZ Belgium and Colonies

OUA-OZZ Denmark  
 PAA-PIZ Netherlands  
 PJA-PJZ Curacao  
 PKA-POZ Dutch East Indies  
 PPA-PYZ Brazil  
 PZA-PZZ Surinam  
 R U. S. S. R.  
 SAA-SMZ Sweden  
 SOA-SRZ Poland  
 SSA-SSZ Egypt  
 STA-SZZ Greece  
 TAA-TCZ Turkey  
 TFA-TFZ Iceland  
 TGA-TGZ Guatemala  
 TIA-TIZ Costa Rica  
 TKA-TZZ France and Colonies  
 U U. S. S. R.  
 VAA-VGZ Canada  
 VHA-VMZ Australia  
 VOA-VOZ Newfoundland  
 VPA-VSZ British Colonies  
 VTA-VWZ British India  
 VXA-VYZ Canada  
 W U. S. A.  
 XAA-XFZ Mexico  
 XGA-XUZ China  
 XYA-XZZ British India  
 YAA-YAZ Afghanistan  
 YBA-YHZ Dutch East Indies  
 YIA-YIZ Iraq  
 YJA-YJZ New Hebrides  
 YLA-YLZ Latvia  
 YMA-YMZ Danzig Free City  
 YNA-YNZ Nicaragua  
 YOA-YRZ Roumania  
 YSA-YSZ El Salvador  
 YTA-YUZ Yugoslavia  
 YVA-YWZ Venezuela  
 ZAA-ZAZ Albania  
 ZBA-ZJZ British Colonies  
 ZKA-ZMZ New Zealand  
 ZPA-ZPZ Paraguay  
 ZSA-ZUZ Union of South Africa  
 ZVA-ZZZ Brazil

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Calls beginning LW are now assigned to Argentine. The letter U is taken from Austria and given to the USSR. The former gets OEA-OEZ. Canada loses UWA-UZZ and gains CYA-CZZ and VXA-VYZ. Czecho-Slovakia gets OI and OJ in addition to OK. Dutch East Indies lose UIA-UKZ and get YBA-YHZ.

# LISTENING IN *with the* EDITOR

• • • News and Notes on Radio

**A** POINT is raised by Ewing's Radio Service, 708 Williams Street, Lansing, Mich., which we have to admit has considerable merit. "Your 'First Aid Department, is a very good thing for the set user but I think that you should say at the bottom that the best thing in each case is to see a serviceman. I know of two cases where owners tried to repair their own sets and made a bad job of it." Naturally some of those who write to us in regard to their troubles, have had long experience in the building and remodeling of receivers. On the other hand many have no technical knowledge at all. Many of the inquiries we receive call for the simplest treatment such as changing tubes, etc., but on the contrary, many require technical knowledge and equipment. We strongly urge those who have not been through the set-building stage of radio not to attempt any changes in the wiring of their sets. This calls for a complete knowledge of the principles of radio. A receiver may very easily be thrown out of adjustment by an unskilled hand or completely ruined by short-circuits. We will give the advice as to what to do whenever possible but only the reader can be the judge as to whether he ought to attempt to make the correction himself. Better be safe than be sorry.

## Modern Stations in Egypt

From The Egyptian State Broadcasting, Radio House 5, Sharia Elwi, Cairo, Egypt, comes an interesting description of their studios and transmitting equipment. The studios are entirely modern in every respect, completely insulated from sound and artificially ventilated by refrigeration and air conditioning. The main transmission station is situated at

Abu-Zabal, about 19 miles from Cairo. The station is the property of the Government. A smaller transmitting station has been erected at Ras-el-Tin, Alexandria. The former has a carrier power of 20 kw. radiated from an aerial between two masts each 300 feet high. The transmitter embodies all the latest technique of the Marconi Company and was designed and built at their Chelmsford Works. The plant comprises seven stages of magnification, each of increasing power, the final one consisting of five large water-cooled valves. The second transmitter at Ras-el-Tin is known as a relay and its carrier output is one kilowatt. The Lucerne plan for wavelengths provides two channels for Cairo and two for Alexandria. In the initial stages only one in each city will be used. Cairo with a frequency of 620 kcs. will operate on a wavelength of 483.9 m., while Alexandria will operate on a wavelength of 267.4 m.

## New Stations in Japan

The Japan Broadcasting Corp. is planning some powerful stations. The Corporation has recently applied to the Department of Communications for permission to increase the transmitting capacity of its Tokyo station, JOAK, from 10 kw. to 150 kw. Just when the construction of the new station will be started is not yet known but inquiries have been sent to the leading Japanese electrical goods manufacturers for quotations on equipment. The Corporation also plans to increase the capacity of its Osaka station, JOBK, from 10 kw. to 100 kw. within the next two years. The present stations at Niigata and Nagasaki will also be enlarged during 1935-36, according to the Corporation's present plans. New b. c. stations at Kagoshima, Toyama and Kogu of 5000 watts are now under

construction and will be opened during the latter part of 1934.

### Marking for Frequencies

From aboard the M. V. White Flash, John B. Carver writes to tell us how he has fixed his set, the dial of which is marked only from 0 to 100, to indicate kilocycles. He removed the knob which operated the dial. To the underside of this knob he attached a minute hand from a clock. On the panel he pasted a semi-circle of silver paper then replaced the knob with the hand affixed. As the dial was turned this hand moved in a semi-circle over the silver paper. By tuning in stations on various frequencies, he was able to make an accurate mark on the silver paper indicating the exact spot at which that channel would be tuned in. When a sufficient number of channels had been marked, he was able to draw a scale on the paper and his troubles were over. While this idea would not work with a drum dial, it would be very great convenience to those using knobs. It would be equally valuable to those whose dials are marked from 0 to 100 and to those whose dials are marked inaccurately in kilocycles.

"I am writing this because the way you published a letter of mine recently, sort of puts me 'on the spot,'" complains Raymond C. Corbett, 619 12th St., Sacramento, Calif. "Here is a part of what you printed: 'The stations in N. A. that I consider my best are WEXL, WKAQ, CMQ, and CJCJ. The last three were received at 7:00 a. m.' I did not state it like that. I said that the above stations were verified and that CJCJ was heard at 7:00 in the morning. It would be quite a feat to hear Porto Rico and Havana at 7:00 a. m. out here even in the midst of winter. I would jump on the neck of any DXer who said such a thing." Sorry, Raymond. In boiling down our readers' letters, we sometimes spill something.

Nicholas J. Hock, 562 Nostrand



*Gladys Swarthout, renowned American contralto and star of the Voice of Firestone Garden Concerts, is now supported by her husband, Frank Chapman. Chapman is the baritone member of the vocal ensemble heard with Miss Swarthout and William Daly's Symphonic Orchestra each Monday evening on the NBC-WEAF chain at 8:30 p.m. EDT.*

Ave., Brooklyn, N. Y., passes on the following information he received from a correspondent in Japan, Minoni Nakamura: Japanese stations have the following schedule: 6:00 to 6:20 p. m. Children's program; 6:20-6:30 Current Topics; 6:30-6:55 Talks; 6:55-8:00 News, talks, ect.; 8:00-9:30 Music (one hour Oriental, half-hour Occidental) 9:30 time signals; 9:30-10:00 p. m. Weather forecast and news. The time is JST.

"From the Secretary of the NZRA comes word that the New Zealand government has started work on a new 10-kw. station in Auckland and expects to have it in operation by Christmas. Tenders are also called for a new one in Dunedin to replace the present 4YA with an increase in power to 2500 watts." This information is passed on by Albert Sandham, 99 Page St., St. Catharines, Ont.

The Federal Radio Commission is no more. It is succeeded by the FCC, the Federal Communications Commission, with broader powers and a greatly widened field. The new commission will have jurisdiction over not only radio but telephones and telegraphs as well. Chairman E. O.

*(Continued on page 34)*

# Some DX *the* SUMMER Brought

## ● ● ● Results in Spite of Static

**A**LTHOUGH the general opinion seems to be that the last radio season was not nearly as good as some that had preceded it, yet a great many of our readers have added numbers of new stations to their logs. Many, too, have reached across the oceans for the first time. Some good reports have come to us of excellent catches during the heat of summer. While it is not pleasant to try to tune in those distant stations in a crackle of static, it is doubly pleasing to log a new station in spite of it.

The summer has brought an unusually great number of changes in station data, so many that a RADEX of the summer months is practically obsolete and useless. All of the changes are printed elsewhere in this number. A description of the changes in Canada and the reasons therefore, will be found in another column. Official lists from Mexico continue to be (or at least to seem) contradictory to us.

Another questionnaire was sent to all stations this summer and our thanks go to the great majority of stations which returned our data prompt-

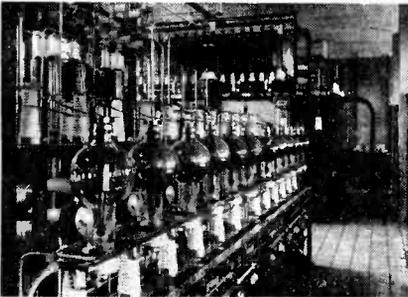
ly. This is being incorporated in the verification symbols in the Index by Frequencies and in the mail addresses now given in the Index by Calls. We feel that the street addresses are much more important than the owners' names.

A second questionnaire has been mailed to stations to ascertain their hours on the air. This has not been done sooner because we want the time on the air after the expiration of daylight saving. We hope to have this information in time for publication in the October issue.

Now let's see what happened while we were on vacation.

### Results in California

"Summer weather didn't stop me from DXING at all," comments Warren E. Winkley, P. O. Box 12, Hughson, Calif. "I am now at 594 logged and 140 verified with about 25 reports out. Latest veries are from JODK1 and 2, JOAK1, XENT, KGFI, KMAC, KOTN, and last and probably my best of the present season, CKTB, a 100-watter in St. Catharines, Ontario, on the crowded 1200 channel. Is XEPR on the air yet? I hear a station on 740 almost every night about midnight testing and playing records. It is too weak for either WSB or KMMJ. Also, has CMX been testing lately on 875? I've heard a station there playing records but failing to announce. The Aussies still come in. This morning 2BL was coming in about R4 QSA3 at 4:45 in broad daylight which is pretty good, I think. However, I do miss 2YA on their old frequency of 720. They used to be better than any other but now I can barely hear them." The latest official Mexican list does not show XEPR as operating and we are advised that CMX has moved to 890.



A view of the transmitter of HAL, Budapest, Hungary. This 120,000 watt station is picked up with considerable frequency in the United States. It will be found on 546 kcs.

XEMC also is no longer shown on 750.

### Gets Durban on West Coast

"For me there has been no end of DXing this season," states C. E. Lowe, Merced, Calif. "There have been very few mornings that DXers could not reach across and play from nine to eleven of the Oceanic stations. This morning, July 23rd, for instance, I received 2YA, 3YA, 1YA, 2CO, 3AR, 3LO, 4QG, 4RK, 5CL, 5CK, 6ML and 6WF. I have sent for veries for most of the above since July first. We did not have the usual summer static this year and reception has been clearer than at any time during the past winter. I have added a verie from Radio Normandie and from the Durban station since March 1st. My letter from the African Broadcasting Coy. Ltd., Durban, says:

"We beg to acknowledge receipt of your favor of the 26th March regarding reception of this station in California and have to inform you that we confirm this reception and congratulate you. This plant only radiates approximately 300 watts on 723 kes. and your report is the best received yet. We are heard regularly in Western Australia.' I consider this my best catch although KFPM gives me a better rating but I don't consider it so for Durban here at 7:00 a.m. PST is 5:00 p.m. Durban time. I would like to know if other Pacific Coast fans are getting the same results I am. I hear the wrestling matches from New Zealand and Australia on Friday mornings and China is also coming through."

### Now on the East Coast

"Summer DX has been fine here with the exception of a little static," is the optimistic report of James Blase, 855 Home St., Bronx, N. Y. "My verifications are growing every day. I have close to 200 now. My best catches already verified are

CKMO, LR5, KFPM, KF'BK, KLX, CJOC and KXL. I have had more luck in the last two months than all before in my two years' DX. I have already logged KZRM, EAJ1, PP, SBA and SI'TT and I expect to receive veries from them very soon. How's that for summertime DX? I own a Westinghouse WR5 and a Radiola 3. I expect to join the NNRC this coming season. The RADEX Time Converter has helped me a lot."

"During this past hot weather," remarks Richard J. Spencer, 2273 Tiebout Ave., Bronx, N. Y., "the European stations were pretty noisy and faded a bit but, for the past week, they are coming over almost as well as in spring. Would like to hear from fans in New York City or suburbs who are using a Philco all-wave 11-tube such as I own and which, I think, is second to none."

"Despite the summer static," reports Robert Hoffman, 306 West School Lane, Germantown, Philadelphia, "I have managed to add 30 stations to my log which is now 280. I still have my Crosley 173 and would like to hear from anyone owning one. Among my additions are KNJ, KWCR, KFEL, KFVS, KFKU and KGHL. On the 23rd of July, WPEN will move to 920 kc. with 500 watts."

### Selectivity on T.R.F.

"My log is now at 327 stations," states M. R. Billings, 785a Querbes Ave., Autremont, Montreal, Que. "My method of counting stations is as follows: I count only those stations which actually exist. If a station leaves the air, I just scratch it off and forget it. If the call is changed, I also erase it and try to pick up the new call. When a change in frequency is made, I cross off the station and try for it on its new frequency. I count phantom calls as they present a target which sometime is pretty hard to strike. I can't see any object in counting stations which can never be heard again

as in the case of deleted stations. Among the stations heard last season are LR5 (verified), KOIN, KALE, XES and CRCV. As I had little time for DX this past year, I consequently didn't boost my log much. I seldom verify. All of my stations have been logged with an RCA Radiola 46. I got new tubes last fall and re-balanced both gang condensers and trimmers. I get good 10-kc. selectivity from 540 to 1550. As an example of selectivity, using the local switch, I can get WEEI on 590 with CFCF only three miles away on 600 without interference from the local. When XER was on 735 I used to bring them in quite loud with CKAC, our 5000 watt local 40 miles away, on one side and WSB at Atlanta, on the other side. Outside of a slight whistle there was little interference. I never believed such results were possible with a t. r. f. set of five tubes. Would like to hear from other owners of either the RCA 44, 46 or 47. Has anyone used a s. w. converter with one of these sets? If so, will they please drop me a line as to the results they obtained?"

### Joining the Hams

This warning comes from Clement Van Velsor, 1033 Sanford Ave., Irvington, N. J. "Recently I wrote to the NBC relative to the April 30th program from Uppsala University of Sweden. The reply stated that they could not help me as the program was classed as private. They further said that generally most rebroadcasts by the NBC were classed as private message traffic and therefore they could not divulge information on them. It might be timely to warn fans not to mention what they hear before and after rebroadcasts from the relay stations as it might be private and therefore come under the FRC secrecy ruling on private messages.

"By the time the next issue of RADEX comes around," goes on Mr. Van Velsor, "I expect to be a full-

fledged amateur. I'm studying for the exam now and will go on the air with a phone and CW rig (if I get a license) for 160 m. and 80 and 40 m. CW. I may use about 50 watts output or so with a 59 tri-tet crystal oscillator, 46 buffer, pair of 46's final stage, using a double button mike with a single stage of speech on a 56 modulator working into the final stage.

"This past DX season was fine from a b. c. view. I began with 318, set a goal of 450 and ended with 454. Outside of Nevada, Wyoming and Arizona, I have at least one station in each state. Porto Rico, Canada, Cuba, Mexico and Argentina are in the log. KFAC and KFSD were about my two best catches. I have 201 s.w. stations including KFZ, KNRA, KJTY, DGU, and DAF. I save logged 29 countries if Antarctica may be classed as a country. JIAA permits me to claim Asia and 2ME and 3ME take care of Australia. I have a flock of SA's, Europeans and Radio Maroc on 32 and 37 m."

### Reception in Miquelon

From Leon Briand, Saint Pierre, Miquelon Islands, comes the following letter: "In the May RADEX I see both Fecamp on 1456 kc. and Radio Normandie. I have to tell you that Fecamp and Radio Normandie are only one station, Radio Normandie being located in Fecamp, France. Our station FQN, St. Pierre, Miquelon, having only 250 watts power, is heard in California, in Saskatchewan, in Texas, but it is not heard very well in Miquelon only 30 miles from St. Pierre! Here in St. Pierre we have very good reception, receiving in winter time many of the European stations as far as Prague, Burcarest, on broadcast band. I receive with a Lincoln SW DC 34 in this season by daylight morning or afternoon, about 10 to 15 American and Canadian stations located about 1200 miles from St. Pierre. By night every kilocycle I get a station. On

s.w. all around the world—Pontoise, Rome, Moscow, Australia, Germany, England, Canada, everywhere. On short waves with my Lincoln no fading at all."

### About LR-5

"Yesterday, May 25th, I got my LR5 verification," announces G. E. Jacques, 235 Greeley Ave., Hornell, N. Y. "I heard the station on March 11. The station was not satisfied with the reception of this program in N. A. and has decided that future DX programs will be commenced not sooner than November and not later than February. The towers are 700 feet high and are 1670 feet apart. The power is 25 kw. in the antenna which was built by the Marconi Corp. of England. The station is having a special diploma made given to those correctly reporting reception in the future."

Similar information comes from Robert W. Botzum, 633 Moss St., Reading, Pa. His letter from LR5 reads in part as follows: "Nevertheless, it is very gratifying to know that our station should have been picked up by you over a distance of close upon 6,500 miles. In the first place this speaks very highly of your ability to locate us on your set and we also think a certain amount of credit can be attached to our transmitter which has 25 kw. in antenna and is, at the time of writing, the most powerful station in the Argentine Republic. From reports received by us it would appear that we cover a far wider radius than that attained by any other local station."

### African Reader on Verifications

"The article in the April issue, 'Bad Practices in Verification,' has been of special interest to me here," writes A. C. Lyell, P. O. Box 2204, Cape Town, Union of South Africa. "Participating, as I am, in the foreign station contest of the IDA, I have been brought into touch with nearly every part of the world and I



Waiting to tee off on the links of the Metropolitan Club near New York, are Freddie Rich (left) and Nick Lucas (right). The center figure is Paul Runyon, professional golfer.

wish to associate myself with those who have stressed the importance of warning DXers seriously against any practices which may react detrimentally in the matter of procuring verifications. You very rightly emphasize that, after all is said and done, verification of a pick-up is purely a matter of courtesy on the part of a station.

"I believe it will be conceded, with the increase all over the world in the acquisition of all-wave sets, there is bound to be a corresponding increase in application for verifications, and the probabilities are that the problem is bound to assume enormous proportions in course of time. That being so, it seems to be all the more reason why the procedure should be limited to strictly proper and legitimate lines, in order to obviate the development of undesirable conditions for those genuinely in need of a verification certificate occasionally. Up to the present, I've had the most

courteous replies from those European countries to whom I have had occasion to apply for verifications. The only notable exception, much to my surprise, has been the British stations through the British Broadcasting Corp. In spite of several appeals my endeavours so far have met with no success. I picked up practically all the British stations. 'World Radio' will verify in their columns but, as I pointed out to them with no success, it is worse than useless for the purposes of this contest to have a reception mentioned in their columns."

Mr. Lyell sends us the log he has compiled during the IDA contest. Located as he is in the extreme southern part of the African continent, it follows that practically all b. c. stations are from 5500 to 8000 miles distant. Yet he submits a list of 59 broadcast stations pretty well covering the world. This seems to include practically all of the 50 kw. stations in America and even some 10,000-watters like WJR. On the short waves he heard stations in the USA, Spain, Italy, Morocco, Argentine, Kenya, Netherlands, Java, France, USSR, and Ecuador.

### How to Get Veries

Getting a station to verify is not a matter of luck as the unsuccessful seem to think. It is a matter of submitting a report to the station that is worthy of a report. "I have never been refused a QSL from any station in many years of listening," says C. H. Hodge, 3156 Olive St., Huntington Park, Calif. "I just received one yesterday of a test on April 9th by LSQ in Buenos Aires. It contained some nice comment and this was particularly gratifying because they are not a b. c. station. The great trouble with people who want QSL cards is that they think of themselves instead of the station. I am submitting a report today to Station PLE in Bandoeng, Dutch East Indies, and I am sending you a carbon copy." Mr.

Hodge opens his report by saying, "Having heard your station, PLE, consistently for the past two months testing with Tokyo and KWU, I wonder if you would care for the following report on your test with Tokyo on June 10, between the hours of 4:20 p.m. PST, when I first picked you up, to 6 p.m. PST. Station signal was strong at all times even when music was fading. Announcer's voice very clear and perfectly understandable. Static did not bother at all until about 5:55 and then fading was bad and at 6:05 p.m. the carrier was still heard. No QRM at any time." Then follows in great detail what was actually heard, minute by minute. He closes by telling them that he is using a Patterson 10, encloses an International Reply Coupon, and asks for QSL. "I'll take a reasonable bet that I get a reply," adds Mr. Hodge.

### From a New Reader

"The other day I picked up your May issue and now I'm all interested in becoming a DXer," writes Thos. F. Goodman, 1911 Harney St., Omaha, Nebr. "I have an 8-tube Zenith Superheterodyne 725. I have no aerial and the ground is connected to the radiator. I want some tips on a good aerial as I live across the street from a hospital and three blocks from an electrical power house. Often I get the rushing sound that indicates a station but can't get the station itself. These are the prize stations I have picked up in a few months of listening. HKF, Bogota; LSX, Buenos Aires; W1XAL, W9XAA, W8XK, VE9DN, W2XAD, W1XAZ, W2XAF, W2XE, CFRB, CKAC, CKY, XEB, XEF, XENT, XER. I haven't verified any of these but I'm going to start and make a collection. Does this list give me a worthwhile start? Would headphones help me get some of the call I often hear and can't understand?" We think what Mr. Goodman needs is a good aerial and a

good ground although of course phones will help to identify those weak stations. Articles on aerials in recent issues of this magazine include "New All-wave World-wide Antenna" in June; "A Little Debate on Aerials and Grounds," in January; "Static-Reducing Antenna Systems" and "Importance of a Good Ground," in October; "Help Yourself to Better Reception," in March.

### Results in Nova Scotia

From Halifax City, Nova Scotia, D. F. Mason (53 Atlantic Ave.,) writes: "I have discontinued my unverified log of 522 stations and started a new one. So far I have only 107 stations with some verified but hope to add more. I have already heard England and Germany and have sent for veri to Germany. I have never heard any TP's but I'll keep on trying until I do. I now have three grounds—one outdoors, one to the waterpipe and an 'Ollie Ross' under the cellar floor. The last works best with my 63 foot outdoor aerial. The Halifax short-waver, VE9HX, now relays all the programs of the parent station, CHNS. The station director will appreciate reports from listeners. The times are 10:30 a. m. to 2 p. m. and 5:30 p. m. to midnight on Mondays to Thursdays inclusive. Fridays 10:30 a. m. to 4 p. m. and 6:00 to midnight. On Saturdays and Sundays 6:00 p. m. to midnight. All times are AST. I wonder if anybody in the US receives the Halifax Lightship, VGX. This would be a good catch. They are on 710 kcs. and broadcast fishing reports at 2:00 p. m. and 8:00 a. m. In a recent veri from VONF, St. John's, I was informed that they will soon increase their power to 1250 watts."

### Gets HAL in Ohio

Richard W. Watts, 19695 Beach Cliff Boulevard, Rocky River, Ohio, contributes the picture of the transmitter of the Budapest station, HAL,



Arthur Allen (left) and Parker Fenellu, creators of down-east characters in the Soconlynd Sketches. On the air Tuesday nights at 9:30 EDST. These air dramas are composed of original radio sketches and dramatizations of well known short stories.

published elsewhere in this issue. Richard heard this station Sunday morning, February 19th at 8:00 a. m. EST on 546 kcs. over his Scott All-Wave. "I have had verifications from 66 stations with more on the way," writes Richard who confesses to "going on fifteen." "My best are KGDM, KGFG, WCLO, KFPY, WBNF, WMBH, WEDC, KRGV, KPCB, KMPC, KGFF, KUSD, KTAR, KOH. On short waves I have I2RO, DJD, HJ1AB1, VK3ME, GSD, YV1BC, HIZ, XETE, PHI, YV3BC, PRA3 and HC2RL, all verified. Have now heard every continent but not all verified. I hold the long-distance record for WATR, that is I did hold it, I don't know whether I still do or not. I consider WAGM my best eastern station. They are farthest east of all stations in the U. S. I have an aerial of about 50 yards with the ground attached to an iron rod in a hole which is kept filled with water. I would like to correspond with any

other 14-year old boys and will answer all letters."

### Selectivity on the Scott

"I have just purchased a new Scott all-wave 15 and thought I would write and give you some idea of what luck I have had with it in my first week," says Donald I. Cross, who does not give us his address. "I am using two antennae, one about 65 feet long in one piece including the leadin. This is for the b. c. b. For the s. w. I have a Lynch transposed-type antenna. It is about 65 feet high, 25 feet flat top on either side and I have a leadin of about 60 feet using 27 transposition blocks. I use two grounds, one to the coldwater pipe and one to a copper ground rod about four feet long. My leadins enter the house through glass tubes and are connected to porcelain beehive-type insulators in the room fastened to the window casing. In this first week, I have pulled in more than fifty broadcasting stations including JOAK-1, GSC-D, VE9JR, DJC, VE9GW, XEN, CT1AA, XETE, VK2-3ME, 12RO, EAQ, YV5BMO and HJ1ABB-3ABI-1ABD and 3ABF. I pulled in Seth Parker, KNRA in connection with the Seth Parker program from WJR. He was on 33.94 meters. On several places on the b. c. b. I can get 3-5 kc. selectivity even down along the 200 meter band and I believe that is going some."

### Uses a Monthly Log

"Up until a few months ago, my radio equipment was rather inadequate although I have been radioing for ten years," explains Harold L. Spies, 1217 Louisiana Ave., N. W., Canton, Ohio. "In November, 1933, however, I purchased a Midwest 10 and am here to state that I do not believe that this set can be equalled at the price. I am in an unfortunate location where I am unable to erect an outside aerial in order to get good s. w. reception. With just a large amount of wire in the attic, I am able regularly to receive EAQ,

12RO and the GS stations so conditions are pretty fair. How can I get the capacity necessary for far-reaching DX on the s. w.? Regarding logs, I have my own system of counting number of stations received. It consists of compiling a list of stations received during a month's time using the current RADEX. I can't see much use in counting those received years ago. For instance I can remember 'way back when KWKC, Kansas City, was received daily with an old battery set. Today KWKC is using the same power, in the same place and probably with improved equipment but try and get it in Ohio with the best set made, outside of the frequency checks."

### DX On Board Ship

A chatty letter from R. Lyn Conduit of the S. S. L. J. Drake, written from Key West, Fla., follows: "Just a note from a seagoing DX hound to lift his voice in praise of your most helpful and meaty magazine. It was responsible for my DXing. Your trouble column (or shall I say agony column?) is of great help and exceedingly interesting. In regard to my own DX, as we move coastwise most of the time, I count only inland stations unless we make a West Indies or Caribbean trip such as our last to Venezuela. My best catches from Caripito, Venez., were LR4 and LR1 in Buenos Aires. KGBZ was heard signing off May 25 at 3 a. m. MST. WHO, WHAM, WCCO, CRCM, CRCT, XEFO were heard in two nights. I have had my Philco 46 but one month and have logged 56 stations. I have a deadline every night at 10 p. m. Saturday, June 9, I heard XENT on their old wave length of 1110 instead of their new one of 1340." (The new Mexican list shows XENT on 1120. Ed.).

### Uses 700-Foot Aerial

"In a period that extends over only nine months, I have logged over 500 stations on my RCA-Victor R90 10-  
(Continued on page 36)

## Give 'Em Credit

A READER who signs himself "An 'OM' De-Exer" thinks that some of the "impossible" catches reported may merely be freak reception and that critics ought not to be too hard on those reporting the seemingly impossible. "I remember in 1925, a friend of mine had a De-Forest 3-tube set with a loop aerial. One night he came rushing over and asked me to come over as he had a station in Porto Rico. I believed him nuts but went and, sure enough, he did have it and held it for ten minutes after I arrived, about 25 minutes in all. That set would hardly reach out 1000 miles in best conditions, but there it was, plain and clear. There was a heavy carrier next to it and it was riding through.

"In those early days I had many stations of ten watts, some of them in Philadelphia, but most of them I never heard but once. At that time I lived in Long Beach, Calif. I used to get Clearwater, Fla., (WBHH, I think was the call) in the afternoon at 4 p.m. I moved just one block north, put up the same aerial, same direction, and never again.

"There was a party in San Pedro who lived on Mefflar Street who was bringing in the world on a Zenith. He was getting what seemed to be impossible stations and I know he was getting them. Experimenting on location, he took his set and aerial just two blocks north, put it up exactly as it was on his street—and he had an ordinary set. I remember picking up WDAY, Fargo, N. Dak., then a ten-watter, once but never again.

"Again I read of lots of ambitious but deluded DXers. Even saw one. Called me up and said he had Paris on s.w. Knowing his hook-up I doubted it. Immediately went to the freq. he gave me and it was CJRX. Now as Paris was close he might never have waited for the call letters



*These two deservedly-popular songsters are heard in the "Lavender and Old Lace" programs, featuring sentimental ballads and the beloved song favorites of older days. Tenor Frank Munn and soprano Muriel Wilson have leading parts in these unusually fine programs presented by Bayer's Aspirin. On the CBS-WABC net at 8 p. m. EDST each Tuesday.*

but took it for granted. I saw a letter not long ago in RADEX. Party had all stations in California but one. He was way back East. Now that would be a funny thing as we have some stations that operate only a few hours a day.

"We have a man in Chula Vista, near San Diego, Williams, by name—now if he would ever write telling what he gets, he would have to hire an extra postman to handle vitriolic letters. I think he has about a thousand stations on the b. c. band alone and this I know personally. He has had German stations at 4 p.m. PST so loud on the b. c. band that he has put the phone next to the receiver and they have been heard in radio stores so loud that crowds gathered to hear it. Many radio engineers I know go down there frequently to listen and try out hook-ups. It seems to make no difference

what make of set this man has, he can span the world.

"Now this is off my chest and you probably will never hear from me again. Your time converter is the best ever and if s. w. DXers would use it oftener, knowing that sending stations far distant come in better when they are sending after dark, they would have better luck."

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## On the Short Waves

*(Continued from page 15)*

We hope that readers will report their catches promptly. What may be more or less a regular to one is often a real prize to others. The fact that you are receiving such a station will give new hope and patience to others who are trying for it. Let's make this the greatest season ever on the short waves.

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## With the Editor

*(Continued from page 25)*

Sykes of the FRC is the new chairman of the FCC.

Two stations were destroyed by fire recently—WAAF in the Chicago Stock Yards fire and WAMC at Anniston, Ala. The former has again been licensed but the latter will not return to the air at present.

One official list from the Canadian Radio Commission gives the new station in Quebec as CRCQ and another gives it as CRCK. In such a case what is a poor editor to do? We are entering it as CRCK.

"When I was in Las Vegas, Nevada, a few weeks ago," points out Lloyd Rees of Ridgewood, N. J., "the people of that city said KGIX has been off the air for about two years." The published list of the FRC dated January 1, 1934, shows

this station as operating. Can any other readers confirm Mr. Rees' report?

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## The Beginners' Story

*(Continued from page 7)*

former. An alternating current having an intermediate or beat frequency is induced in the secondary  $L_9$ . This secondary is untuned. The amplified output from the i.f. tube passes into the primary of  $L_{10}$  of the second i.f. transformer, and induces a stronger current in the secondary coil  $L_{11}$ . The grid of the second detector is controlled by this amplified i.f. current, which is then rectified and passed out through the plate circuit as an audio-frequency pulsating direct current (see Part 7). This flows through the primary  $L_{12}$  of the first audio transformer. The amplified output from  $L_{13}$  passes into the last power tube in the audio-frequency amplifying circuit and emerges ready for conversion into sound at the loud speaker.

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*(Next month we shall begin a discussion of the behavior of short waves, and make a study of the functions of short-wave receivers, short-wave converters and all-wave sets.)*

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## Stories of the Stars

*(Continued from page 10)*

radio work have been so arranged that they could spend a summer together in Scarsdale.

\* \* \*

Frank Munn, the lyric tenor, is one of the most enthusiastic philatelists in the NBC studios. Some day when he retires he plans to go on a world cruise to remote regions collecting stamps first hand. Munn is more interested in seeing the postage-stamps of foreign lands than the people or the scenery.

## Russian Super Station

**E**QUALLED in power only by the new WLW, Cincinnati, Soviet Russia's new 500,000-watt "Komintern" broadcasting station in Moscow is now on the air 20 hours a day, employing the long wave of 174 kc. (1,724 meters). Advices from abroad state that the station's coverage extends as far as Vladivostok and Kamchatka to the east and all over Europe to the west. After 5,000 hours of operation, it has met all tests and may later be boosted to 1,000,000 watts, which would make it the most powerful broadcaster in the world.

Wholly of Soviet design and manufacture, the station is the first in Russia to employ directional antennas, radiating in an ellipse which is said to give its power the effect of 700,000 watts. A setup transformer of original design and a switchboard for one-button starting of the entire mechanism had to be invented for its operation. It requires only five men on a shift to operate.

that the carrier waves actually traversed the enormous distance of some 12,200 miles, half-way around the earth, was simply amazing. LSX has also been heard from several times since. Reception conditions have deteriorated, around QSA3, R5/S/X lately.

My set is a Patterson 8-tube all-wave. Little trouble is experienced in the reception of stations in Europe, Australia, Africa, Asia and, as you have noted, even in South America. But for reasons quite unknown, North American stations have been found quite impossible to get at; not even the high-powered W8XK has been heard from. It will be interesting if an explanation may be forthcoming. (We are sorry that we have no explanation to hazard. The distance from some of the powerful American stations to Shanghai is much less than half-way around the world provided the signals pass over the northern end of the world. We shall be interested to learn when Mr. Pao-Tung finally receives the USA, as we are sure he will some day. Ed.)

*\*576 Szechuen Road, Shanghai, China.*

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## Short Wave

### DX in China

By Tong Pao-Tung\*

**P**ERHAPS it will be of interest to you to learn something of my personal experience in DX reception. On the morning of the 8th of April at about 7:15 local time (6:15 p. m. EST) while dialing for EAQ, I came upon LSX 28.98 m. QSA5, R7/R/N and had it good for quite half an hour or until about 8 a. m. when fading rapidly took place. Reception consisted of calls for KFZ, talk and musical numbers apparently for Admiral Byrd's party in Little America. I had never before quite realized such large possibilities in radio reception—

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## Sets Are Defined

**T**HE Radio Manufacturers Association has adopted definitions for the classes of radio receiving sets to avoid confusion and misrepresentation. This supplies the need which has been pointed out repeatedly in these pages.

The "standard broadcast" receiver is defined to include sets having the regular frequency range from 540 to 1500 kcs. The definition of "all wave" receiver applies to sets with frequency ranges from 540 kcs. to at least 18,000 kcs. (16.6 to 555 meters)

The "standard and short wave" receiver will apply to sets having frequencies between 540 and 1500

kcs. together with a portion of the short wave spectrum. If manufacturers and dealers can be made to follow these definitions, no longer will people be offered "all wave" receivers that cover only a small portion of the high frequencies.

## September DX Calendar

(Continued from page 1)

September 30				
2:00-3:00	KGEK	1200	100	Yuma, Colo.
2:30-4:30	CKB1	1210	100	Pr. Albert
Sept. 2, 9, 16, 23, 30				
10:00-1:00	CMBX	1185	250	Havana
11:00-11:30	KDKA	980	50kw	Pittsburgh
12:00-1:00	WGAR	1450	500	Cleveland
12:00-2:00	WGES	1360	500	Chicago
1:00-1:15	KOMA	1480	5000	Okla. City
4:00-5:00	CFJC	880	100	Kamloops

## The Summer DX

(Continued from page 32)

tube superheterodyne," summarizes Walter C. Birch, 22 Oneida St., East Lynn, Mass. "I have recently erected an aerial nearly 700 feet in length and over 60 feet in height. Whatever directional characteristics it possesses, I have utilized for European reception as we are but a few feet from the ocean. Last season was one of the worst I have ever known in my 14 years' experience as a listener. The past two weeks have been very good—signals not extra strong but a minimum of noise and atmospheric disturbances. Boy, do the Cubans pound in here? Not only the 500-watters but the little fellows as well. There is a strange one on about 1135 and another on 1190. (CMBJ, CMBW and CMCJ are all now listed on 1140. Ed.) I am constructing a s. w. converter at the present time and hope to go exploring those intriguing wave lengths next week."

### Honolulu From England

"I must say that I am very pleased that the IDA, of which I am a member, brought RADEX to my notice. I only wish that it was published this side of the Atlantic," comments K.

Judd, 68, Mayfield Ave., Orpington, Kent, England. "During the 1933-34 DX season, I received the following, all being first reports from England: KDB, KERN, KGU, KMPC, NAA, 2UE and 5CL. I received 2UE, 10,500 miles away with 3000 watts, at midday. I received the first TP degree to be issued in Europe by the IDA. I will be pleased to help any reader of RADEX to verify European stations on receipt of report and a U. S. 5c stamp. Would like a correspondent in any country and will answer all letters." We hope Mr. Judd will describe his receiver in his next letter. Picking up Honolulu and 100-watt stations on our West Coast, is no small feat.

### Two Dollars for Reports!

"I have a Stewart-Warner 1109 and have had wonderful luck so far," states M. E. Smith, 528 High Street, Fairport Harbor, Ohio. "I have 42 states but don't seem to be able to get Maine, New Hampshire, Vermont, Rhode Island, Delaware and Wyoming. I have 243 stations logged but none verified. My best is CKOV, Kelowna, B. C., but the one that gave me my biggest kick I received at 1:30 this morning, JOHK!" Mr. Smith had a station on about 940 which he was trying to identify at 3:15 a. m. EST. on April 14th. He left the room for a moment and returned just in time to hear the announcement that any DXer reporting the program would receive two dollars. Naturally he is anxious to identify the station but at this late date, we fear our readers cannot help him. It sounds like one of the "Cuckoo" programs to us.

"Since purchasing my first copy of RADEX a little less than two years ago, I have increased my log from 305 to 601 stations on the b. c. b. with 100 verified. I consider my best verified catches are JOAK1, JODK1, 4BC, 2GB, 2UE, 2BL, 3LO, 4QG, 5CK, 2YA, 3YA, KGU, HIX, HJN.

(Continued on page 77)

# WHAT'S ON THE AIR TONIGHT

Fill in calls and dial numbers for those stations through which you best receive the three chains. You can then turn quickly to the one that has the feature you want.

COLUMBIA ..... (C)	
Call	Dial

NATIONAL, Red (R)	
Call	Dial

NATIONAL, Blue (B)	
Call	Dial

TIME: ED Eastern Daylight; E Eastern; C Central; M Mountain.  
For Pacific Time subtract one hour from Mountain.

RADEX is the only publication listing stations in alphabetical order for your convenience. While these programs are correct at the time of going to press changes are made from time to time.

## MONDAY

ED-6:00 p.m., E-5:00, C-4:00, M-3:00

C — Peter Biljo and Orchestra

CFRB CKLW KFAB KGKO KLRA  
KTRH WAAB WABC WADC WBBM  
WBT WCAO WCAU WDAE WDBJ  
WDRO WDOO WDSU WEAN WFBL  
WGST WHEC WHK WHP WJAS  
WJSV WKBW WLAC WLBW WNAX  
WNOX WOKO WORC WQAM WSFA  
WTOC

ED-6:45 p.m., E-5:45, C-4:45, M-3:45

B — Lowell Thomas

CFCF CRCT KDKA WBAL WBZ  
WBZA WFLA WGAR WHAM WIOD  
WJAX WJR WJZ WLW WMAL  
WSYR

ED-7:15 p.m., E-6:15, C-5:15, M-4:15

C — Nick Lucas, Songs

CFRB CKAC CKLW KFD KFAB  
KFH KGKO KLRA K LZ KMBC  
KOH KOMA KRLD KSCJ KSL  
KTRH K TSA KTUL KVOR WACO  
WADC WALA WDBJ WBRB WBT  
WCAO WCAU WCCO WDAE WDNC  
WDOO WDRC WDSU WEAN WFBL  
WFEA WGR WGST WHAS WHEC  
WHK WHP WIC WISN WJAS  
WKBW WLAC WLBW WLBZ WNAC  
WNAX WNOX WOKO WORC WQAM  
WREC WSBT WSFA WSJS WSPD  
WTOC

R — Gene and Glenn

WBEN WBSH WEAF WEEI WFBR  
WFLA WGY WIOD WIS WJAR  
WJAX WPTF WRC WTAG WWCN

ED-7:30 p.m., E-6:30, C-5:30, M-4:30

C — Silver Dust Serenaders

WABC WCAO WCAU WDRC WFBL  
WGR WHEC WHP WJAS WJSV  
WMAW WOKO WORC WVVV

ED-7:45 p.m., E-6:45, C-5:45, M-4:45

C — Boake Carter

CKLW KMBC KMOX WABC WBBM  
WBT WCAO WCAU WCCO WGR  
WHAS WHK WJAS WJSV WNAC

B — Frank Buck

CRCT KDKA WBAL WBZ WBZA  
WCKY WENR WFLA WGAR WHAM  
WIOD WJR WJZ WMAL WPTF  
WRVA

ED-8:00 p.m., E-7:00, C-6:00, M-5:00

C — Kate Smith

CFRB CKLW KDB KFH KGKO  
KLRA K LZ KMBC KOH KRLD  
KTRH K TSA KTUL KVOR WABC  
WACO WALA WBBM WBIG WBT

WCAO WCCO WDAE WDOO WDRC  
WDSU WEAN WFBL WGR WHK  
WHP WICC WISN WJAS WJSV  
WKRC WLAC WLBW WLBZ WMBG  
WMT WNAC WNOX WOKO WORC  
WOWO WQAM WSFA WSJS WVVV

R — Richard Himber and Orchestra

KSD WBEN WCAE WCSH WDAF  
WEAF WEEI WFRR WGY WHO  
WJAR WLIT WMAQ WOV WRC  
WSAI WTAG WTAM WTIC

B — Jan Garber and Orchestra

KDKA KDYL KFI KGO KGW  
KHQ KOA KOIL KOMO KSO KWCR  
KWK WBAL WBZ WBZA WGAR  
WHAM WJR WJZ WKBF WLS WLW  
WMAL WREN WSYR

ED-8:15 p.m., E-7:15, C-6:15, M-5:15

C — Howard Barlow's Orchestra

CFRB CKLW KGKO KMBC KMOX  
KOH WABC WADC WBIG WBT  
WCAO WCCO WDAE WDBJ WDNC  
WDRC WGST WHP WICC WLBZ  
WMT WNAC WORC WQAM WSFA  
WTOC WVVV

ED-8:30 p.m., E-7:30, C-6:30, M-5:30

C — Raffles; Amateur Cracksmen

CFRB CKAC CKLW KDB KFH  
KLRA K LZ KMBC KOH KOIN  
KOM A KRLD KSCJ KTRH K TSA  
KTUL WACO WADC WALA WBIG  
WBNS WBRB WBT WCAO WCAU  
WCCO WDAE WDBJ WDBO WDNC  
WDOO WDRC WDSU WEAN WFBL  
WFRM WFEA WGR WGST WHAS  
WHEG WHK WHP WIBW WICC  
WJAS WKBW WLAC WLBW WLBZ  
WMAW WMT WNAC WOKO WORC  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOC WVVV

R — Voice of Firestone

CFCF CRCT WBEN WCAE WCSH  
WDAF WEAF WEEI WFRR WGY  
WJAR WLIT WMAQ WRC WSAI  
WTAG WTAM WTIC WJZ

ED-9:00 p.m., E-8:00, C-7:00, M-6:00

C — Evan Evans, Baritone

CFRB CKAC KDB KERN KFBK  
KFH KFPY KFRK KGB KGKO  
KGMB KHJ KLRA K LZ KMJ  
KMOX KOH KOIN KOL KOMA  
KRLD KSCJ KSL KTRH K TSA  
KTUL KVI KWG WABC WACO  
WADC WALA WBIG WBNS WBRB  
WBT WCAO WCAU WCCO WDAE  
WDBJ WDBO WDNC WDOO WDSU  
WFBL WFEA WGST WHAS WHEC  
WHP WIBW WICC WISN WJAS  
WKRW WKRC WLAC WLBW WLBZ

WMAW WMBG WMBR WMT WNAC  
WNOX WOKO WORC WPG WQAM  
WREC WSFA WSJS WSPD WTOC

R — A. & P. Gypsies

KSD WBEN WCAE WCSH WDAF  
WEAF WEEI WGY WHO WJAR  
WLIT WMAQ WOC WOW WTAG  
WTAM WTIC WJZ

B — Sinclair Minstrels

KDKA KFYR KOA KOIL KPRC  
KSO KSTP KTBS KTHS KVOO  
KWK WAPI WBAL WBZ WBZA  
WDAY WEBC WFAA WFLA WGAR  
WTAM WIBA WIOD WIS WJAX  
WJDX WJR WJZ WKY WLS WLW  
WMC WOAI WPTF WREN WRVA  
WSB WSM WSNB WSOC WTMJ  
WWNC

ED-9:15 p.m., E-8:15, C-7:15, M-6:15

C — Roy Helton, Talks

CFRB CKAC CKLW KDB KERN  
KFBK KFH KFPY KFRK KGB  
KGKO KGMB KHJ KLRA K LZ  
KMJ KMOX KOH KOIN KOL KOMA  
KRLD KSCJ KSL KTRH K TSA  
KTUL KVI KVOR KWG WABC  
WACO WADC WALA WBBM WBIG  
WBNS WBRB WBT WCAO WCAU  
WCCO WDAE WDBJ WDBO WDNC  
WDOO WDRC WDSU WEAN WFBL  
WFBM WFEA WGST WHAS WHEC  
WHK WHP WIBW WICC WISN  
WJAS WJSV WKBW WKRC WLAC  
WLW WMAW WMBG WMBR WMT  
WNAC WNOX WOKO WORC WPG  
WQAM WREC WSFA WSJS WSPD  
WTOC

ED-9:30 p.m., E-8:30, C-7:30, M-6:30

C — Lud Gluskin and Orchestra

CKLW KMBC KMOX WABC WADC  
WBBM WCAO WCAU WDRC WEAN  
WFBL WFBM WHAS WHK WJAS  
WJSV WKRW WKRC WNAC WORO  
WOWO WSPD

R — Colgate House Party

KDYL KFI KFYR KGO KGW KHQ  
KOA KOMO KPRC KSD KSTP  
KTBS KVOO WBEN WCAE WCSH  
WDAF WDAY WEAF WEBC WEEI  
WFAA WFR WFLA WGY WHO  
WIBA WIOD WIS WJAR WJAX  
WJDX WKY WLIT WLW WMAQ  
WMC WOAI WOC WOW WPTF  
WRC WRVA WSAI WSB WSM  
WSMB WTAG WTAM WTMJ WJZ  
WWNC

B — Princess Pat Players

KDKA KOIL KSO KWCR KWK

## MONDAY (Continued)

WBAL WBZ WBZA WCKY WENR  
WGAR WHAM WJR WJZ WMAL  
WREN WYSR

**ED-10:00 p.m., E-9:00, C-8:00, M-7:00**  
**C — Wayne King and Orchestra**  
CKLW KDB KERN KFAB KFBK  
KFPY KFRK KGB KIJL KLZ KMBC  
KMJ KMOX KOIN KOL KRLD  
KSL KVI KWG WAAB WABC  
WADC WBBM WBNS WCAO WCAU  
WCCO WDRC WDSU WEAN WFBL  
WFBM WHAS WHK WISN WJAS  
WJSV WKBW WKRC WOKO WOWO  
WSPD

**R — Contented Program**  
KDYL KFI KGO KGW KHQ KOA  
KOMO KSD WBEN WCAE WCSI  
WDAF WDAF WEEI WFAA WFBR  
WGY WHO WJAR WLIT WLW  
WMAQ WOC WOW WRC WTAG  
WTAM WTIC WWJ

**ED-10:30 p.m., E-9:30, C-8:30, M-7:30**  
**C — Singin' Sam**  
KMBC KMOX KOMA KRLD KSCJ  
KTRH KTUL WBBM WDDO WFBM  
WHAS WLAC WMBD WMT WNAX  
WNOX

**ED-11:00 p.m., E-10:00, C-9:00, M-8:00**  
**C — Fats Waller, Songs**  
CKAC KDB KFH KGKO KLRA  
KLZ KMBC KOH KOIN KOMA  
KRLD KTRH KTSa KTUL KVOR  
WAAB WABC WACO WALA WBIG  
WBRC WBT WCAO WADC WDAE  
WDBJ WDBO WDNC WDDO WDSU  
WFBL WFBM WGST WHAS WHEC  
WHP WIP WIP WJAS WJSV  
WKBN WKBW WLAC WLBW  
WMBG WNOX WOKO WPG WQAM  
WREC WSBT WSFA WSJS WSPD  
WTOC

**B — Frank Buck**  
KDYL KFI KGO KGW KHQ KOA  
KOIL KOMO KPRC KSTP KTHS  
KWK WDAF WFAA WKY WMC  
WOAI WREN WSB WSM WSMB  
WTMJ

**ED-11:15 p.m., E-10:15, C-9:15, M-8:15**  
**C — Glen Gray and Orchestra**  
CFRB CKAC CKLW KDB KFH  
KGKO KLRA KLZ KMBC KMOX  
KOH KOMA KRLD KSL KTRH  
KTSa KVOR WABC WACO WADC  
WALA WBIG WBNS WBRB WBT  
WCAO WCAU WDAE WDBJ WDBO  
WDNC WDDO WDRC WDSU WEAN  
WFBL WFBM WFEA WGST WHAS  
WHEC WHK WIC WISN WJAS  
WJSV WKBN WKBW, WLAC WLBW  
WLBZ WMAS WMBG WNAC WNOX  
WOKO WORC WPG WQAM WREC  
WSBT WSFA WSJS WSPD WTOC

**R — Gene and Glenn**  
KDYL KFI KFSB EGO KGW KHQ  
KOA KOMO KPRC KSD KSTP  
KTAR KTBS KTHS WAVE WCAE  
WDAF WDBC WFAA WHO WIBA  
WJDX WKBF WKY WMAQ WMC  
WOAI WOC WOW WSAI WSB WSM  
WSMB WTAM WWJ

**ED-11:30 p.m., E-10:30, C-9:30, M-8:30**  
**R — Voice of Firestone**  
KDYL KFI KFSB KFYR KGHL  
KGIH KGO KGU KGW KHQ KOA  
KOMO KSD KSTP KTAR WDAF  
WDAF WDBC WHO WIBA WKBF  
WOC WOW WTMJ

**ED-11:45 p.m., E-10:45, C-9:45, M-8:45**  
**C — Jan Garber and Orchestra**  
CFRB CKAC CKLW KDB KFH  
KGKO KLRA KLZ KMBC KOH  
KOH KOMA KRLD KTRH KTSa  
KTUL KVOR WABC WACO WADC  
WALA WBIG WBNS WBRB WBT  
WCAO WCAU WDAE WDBJ WDBO  
WDNC WDDO WDSU WEAN WFBL  
WFBM WFEA WHEC WHK WHP  
WJAS WJSV WKBW WLAC WLBW  
WLBZ WMAS WMBG WNAC WOKO  
WPG WQAM WRC WSBT WSFA  
WSJ WSPD WTOC

## TUESDAY

**ED-6:00 p.m., E-5:00, C-4:00, M-3:00**  
**C — Charles Carllie, Tenor**  
CFRB CKLW KFAB KGKO KLRA  
KMOX KTRH WAAB WABC WADC  
WBBM WBT WCAO WCAU WDAE  
WDBJ WDBO WDDO WDRC WDSU  
WFBL WGST WHEC WHK WHP  
WISN WJAS WJSV WKBW WLBW  
WMT WNAX WNOX WOKO WQAM  
WSFA WSJS WTOC

**ED-6:15 p.m., E-5:15, C-4:15, M-3:15**  
**C — Edward Wurtzebach's Orchestra**  
CKLW KFAB KFH KGKO KLRA  
KLZ KOH KOMA KRLD KSCJ  
KTRH KTSa KTUL KVOR WBBM  
WBIG WBRC WCAO WCCO WDAE  
WDBJ WDBO WDDO WHP WIBW  
WISN WJSV WKRC WMT WNAX  
WNOX WSFA WSJS WSPD WTOC

**ED-6:45 p.m., E-5:45, C-4:45, M-3:45**  
**C — Sam Robbins and Orchestra**  
CKLW KGKO KLRA KLZ KMBC  
KMOX KOH KOMA KRLD KSCJ  
KSL KTRH KTSa KTUL KVOR  
WAAB WABC WBIG WBRB WDAE  
WDBJ WDBO WDNC WDDO WDRC  
WDSU WFEA WGST WHAS WHEC  
WHK WHP WIP WISN WJAS WJSV  
WKBW WLAC WLBW WLBZ WMAS  
WMT WNAX WNOX WOKO WORC  
WQAM WREC WSFA WSJS WSPD  
WTOC WVVVA

**B — Lowell Thomas, See Monday**

**ED-7:00 p.m., E-6:00, C-5:00, M-4:00**  
**C — Beale Street Boys**  
CFRB CKAC CKLW KFAB KGKO  
KLRA KOH KOMA KRLD KSCJ  
KSL KTRH KTSa KTUL KVOR  
WABC WACO WADC WALA WBIG  
WBNS WBRB WBT WCAU WDAE  
WDBJ WDBO WDNC WDDO WDRC  
WDSU WEAN WFEA WGR WGST  
WHAS WHK WHP WIC WISN  
WJAS WLAC WLBW WLBZ WMAS  
WMBG WMT WNAC WNAX WNOX  
WOKO WORC WQAM WREC WSFA  
WSJS WSPD WTOC

**ED-7:15 p.m., E-6:15, C-5:15, M-4:15**  
**C — Wayside Cottage, Drama**  
CFRB CKAC CKLW KFAB KFH  
KGKO KLRA KLZ KOH KOMA  
KRLD KSCJ KSL KTRH KTSa  
KTUL KVOR WABC WACO WADC  
WALA WBIG WBRB WBT WCAO  
WCAU WCCO WDAE WDBJ WDBO  
WDNC WDDO WDRC WDSU WFEA  
WGR WGST WHEC WHK WHP  
WIC WISN WJAS WKBW WLAC  
WLBW WLBZ WNAC WNAX WNOX  
WOKO WORC WQAM WREC WSFA  
WSJS WSPD WTOC

**R — Gene and Glenn, See Monday**

**ED-7:30 p.m., E-6:30, C-5:30, M-4:30**  
**C — Peter Biljo and Orchestra**  
KDB KFH KGKO KMOX KOMA  
DSCJ KTRH KVOR WABC WACO  
WCAO WCAU WCCO WDBJ WDRC  
WFBL WGR WHEC WHP WISN  
WJAS WJSV WMAS WNAX WOKO  
WORC WVVVA

**B — You and Your Government**  
KDKA KEX KFSB KFYR KGA  
KGHL KGIR KJR KOA KOIL KPRC  
KTAR KTBS KTHS KVQQ WPC  
KWK KYA WAPI WBZ WBZA  
WCKY WFLA WHAM WIBA WIS  
WJDX WJZ WMAL WOAI WPTF  
WREN WSMB WNNC

**ED-7:45 p.m., E-6:45, C-5:45, M-4:45**  
**C — Boake Carter, See Monday**  
**B — Frank Buck, See Monday**

**ED-8:00 p.m., E-7:00, C-6:00, M-5:00**  
**C — Frank Munn; Muriel Wilson**  
CKLW KMBC KMOX WABC WADC  
WBBM WCAO WCAU WDRC WEAN  
WFBL WFBM WGR WHAS WHK  
WJAS WJSV WKRC WNAC WOKO  
WOWO WSPD

**R — Leo Reisman and Orchestra**  
WBEN WCAE WCSI WDAF WEEI  
WFBF WFI WGY WJAR WKBF  
WMAQ WRC WTAG WTAM WTIC  
WWJ

**ED-8:30 p.m., E-7:30, C-6:30, M-5:30**  
**C — Abe Lyman; Vivienne Segal**  
CFRB CKLW KMBC KMOX WABC  
WBBM WCAO WCAU WCCO WDRC  
WEAN WFBL WFBM WGR WHEC  
WHK WJSV WKRC WNAC WOKO

**R — Wayne King and Orchestra**  
KPRC KSD KSTP WBEN WCAE  
WCSI WDAF WDAF WEEI WFAA  
WFI WGY WHO WJAR WKBF  
WKY WMAQ WMC WOAI WOC  
WOW WRC WSAI WSB WSM WSMB  
WTAG WTAM WTIC WTMJ WWJ

**ED-9:00 p.m., E-8:00, C-7:00, M-6:00**  
**C — George Givot**

CFRB CKAC KDB KFH KGKO  
KLRA KLZ KMBC KMOX KOIN  
KOMA KRLD KSCJ KTRH KTSa  
KVOR WABC WADC WBNS WBRB  
WBT WCAO WCAU WCCO WDAE  
WDBJ WDBO WDDO WDRC WDSU  
WEAN WFEA WGST WHAS WHEC  
WHK WHP WISN WJSV WLBW  
WLBZ WMT WNAC WNOX WOKO  
WORC WPG WSFA WSJS WTOC

**B — Household Musical Memories**  
KDKA KWK WBAL WJZ WLS  
WCKY WHAM WJZ WLS

**ED-9:30 p.m., E-8:30, C-7:30, M-6:30**  
**C — Richard Himber and Orchestra**  
CKLW KFH KMBC KMOX KOMA  
KRLD KTUL WABC WADC WBBM  
WBNS WBT WCAO WCAU WCCO  
WDRC WDSU WEAN WFBL WFBM  
WIK WJAS WJSV WKBN WKBW  
WKRC WNAC WOKO WSBT WSPD

**R — Soconyland Sketches**  
WBEN WCSI WDAF WEEI WGY  
WJAR WTAG WTIC

**ED-10:00 p.m., E-9:00, C-8:00, M-7:00**  
**C — Fray and Braggiotti**  
CKLW KDB KMBC KMOX KOIN  
KTRH WABC WADC WBBM WDBJ  
WDDO WDSU WHP WMT WSBT  
WSFA

## TUESDAY (Continued)

**R — Palmolive Beauty Box Theatre**  
CFCE CRCT KDYL KFI KFSD  
KFYR KGII, KGIR KGO KGW  
KHQ KOA KOMO KPRC KSD KSTP  
KTAR KTBS KVOO WAVE WBAP  
WBEN WCAE WCSH WDAF WDAY  
WEAF WEBC WEEL WFBR WFLA  
WGY WHO WIOD WIS WJAR WJAX  
WJDX WKBF WKY WLW WMAQ  
WMC WOAI WOC WOW WPTF  
WRC WRVA WSB WSM WWSB  
WSOC WTAG WTAM WTMJ WWJ  
WWNC

**ED-10:15 p.m., E-9:15, C-8:15, M-7:15**  
**C — The Troopers; Freddie Rich**  
CKLW KDB KGKO KTRH WABC  
WADC WBBM WDBJ WDDO WDSU  
WHP WMBD WMT WMAX WSBT  
WSFA

**ED-10:30 p.m., E-9:30, C-8:30, M-7:30**  
**C — Melodic Strings**  
KDB KGKO KOIN KSL KTRH  
WABC WADC WBBM WBG WBSN  
WCAO WDBJ WDDO WDSU WFBM  
WHEC WHK WHP WICC WMT  
WMAX WSBT WSFA

**ED-11:00 p.m., E-10:00, C-9:00, M-8:00**  
**C — Richard Himber and Orchestra**  
KDB KERN KFBK KFPY KPRC  
KGB KHJ KLZ KMJ KOIN KOL  
KSL KVI KWG

**B — Frank Buck, See Monday**

**ED-11:55 p.m., E-10:15, C-9:15, M-8:15**  
**C — Isham Jones and Orchestra**  
CKAC CKLW KDB KFAB KFH  
KGKO KLRA KLZ KMBC KOH  
KOMA KSCJ KTRH KTSa KTUL  
KVOR WABC WACO WADC WAlA  
WBBM WBSN WBRc WBT WCAO  
WCAU WCCO WDAE WDBJ WDBO  
WDNC WDDO WDRc WDSU WEAN  
WFBL WFBM WFEA WGST WHAS  
WHEC WHP WICC WISN WJAS  
WJSV WKBW WLAC WLbW WLbZ  
WMA5 WMBD WMRG WNAc  
WNAX WNOX WOKO WORC WQAM  
WRCB WSBT WSFA WSJS WSPD

**R — Gene and Glenn, See Monday**

**ED-11:30 p.m., E-10:30, C-9:30, M-8:30**  
**R — Leo Reisman and Orchestra**  
KDYL KFI KGO KGW KHQ KOA  
KOMO KSD WDAF WHO WLW  
WOC WOW WSB WSM WSMB  
WTMJ

## WEDNESDAY

**ED-6:00 p.m., E-5:00, C-4:00, M-3:00**  
**C — Tito Guizar**  
KFAB KGKO KTRH WABC WADC  
WBBM WBG WCAU WDAE WDBJ  
WDBO WDDO WDRc WDSU WGST  
WHEC WHP WJSV WLBW WMT  
WNAX WNOX WORC WQAM WSFA  
WSJS WTOC

**ED-6:15 p.m., E-5:15, C-4:15, M-3:15**  
**C — Edw. Wurtzebach, See Tuesday**

**ED-6:45 p.m., E-5:45, C-4:45, M-3:45**  
**C — Peter Biljo and Orchestra**  
CKLW KFH KGKO KLRA KLZ  
KMBC KMOX KOH KOMA KRLL  
KSCJ KSL KTRH KTSa KTUL  
KVOR WAAB WABC WBBM WBG  
WBSN WBRc WCAU WDAE WDBJ  
WDBO WDNC WDDO WDRc WDSU  
WFBL WFEA WGST WHAS WHEC  
WHP WIP WISN WJAS WKBW

WLAC WLbW WLbZ WMA5 WMT  
WNAX WNOX WOKO WORC WQAM  
WREc WSFA WSJS WSPD WTOC  
WWVA

**B — Lowell Thomas, See Monday**

**ED-7:00 p.m., E-6:00, C-5:00, M-4:00**  
**C — Gene Kardos and Orchestra**  
CFRB CKAC CKLW KFAB KFH  
KGKO KLRA KOH KOMA KRLL  
KSCJ KSL KTRH KTSa KTUL  
KVOR WABC WADC WAlA WBG  
WBSN WBRc WBT WCCO WDAE  
WDBJ WDBO WDNC WDDO WDRc  
WDSU WEAN WFEA WGR WGST  
WHK WHP WISN WJAS WLAC  
WLbW WLbZ WMA5 WMBG WMT  
WNAX WNOX WOKO WORC  
WQAM WREc WSFA WSJS WSPD  
WTOC

**ED-7:15 p.m., E-6:15, C-5:15, M-4:15**  
**C — Vera Van, Songs**

CFRB CKAC CKLW KFAB KFH  
KGKO KLRA KLZ KOH KOMA  
KRLL KSCJ KSL KTRH KTSa  
KTUL KVOR WABC WACO WADC  
WAlA WBG WBRc WBT WCAO  
WCAU WCCO WDAE WDBJ WDBO  
WDNC WDDO WDRc WDSU WEAN  
WFEA WGR WGST WHEC WHK  
WHP WJAS WKBW WLAC WLbW  
WLbZ WMBG WNAc WNAX WNOX  
WOKO WORC WQAM WREc WSFA  
WSJS WSPD WTOC

**R — Gene and Glenn, See Monday**

**ED-7:30 p.m., E-6:30, C-5:30, M-4:30**  
**B — Irene Rich for Welch**  
KDKA KOIL KSO KWCR WAVE  
WBAL WBZ WBA WCKY WENR  
WJZ WML WML WMC WREN WSB  
WSM WSYR

**C — Silver Dust, See Monday**

**ED-7:45 p.m., E-6:45, C-5:45, M-4:45**  
**C — Boake Carter, See Monday**

**B — Frank Buck, See Monday**

**ED-8:00 p.m., E-7:00, C-6:00, M-5:00**  
**C — Maxine; Phil Spitaingy**  
CKLW WABC WBBM WCAO WCAU  
WDRc WGR WHK WJAS WJSV  
WNAC

**R — Jack Pearl with Cliff Hall**  
CFCE CRCT KDYL KFI KFYR  
KGO KGW KHQ KOA KOMO KPRC  
KSD KTAR KTBS KTHS KVOO  
WAVE WBAP WBEN WCAE WCKY  
WCSH WDAF WDAY WEAF WEBC  
WEEL WFBR WFLA WGY WHO  
WBA WIOD WIS WJAR WJAX  
WJDX WKY WLIT WMAQ WMC  
WOAI WOC WOW WPTF WRC  
WRVA WSAI WSB WSM WWSB  
WTAG WTAM WTIC WWJ WWNC

**ED-8:15 p.m., E-7:15, C-6:15, M-5:15**  
**C — Emery Deutsch and Orchestra**

CFRB CKAC CKLW KFH KGKO  
KLRA KLZ KMBC KSCJ KSL  
KTRH KTSa KVOR WABC WACO  
WADC WAlA WBBM WBG WBSN  
WCAO WCAU WDNC WDDO WDRc  
WDSU WEAN WFBL WFBM WFEA  
WHEC WHP WJAS WLbW WLbZ  
WMBG WMT WNAc WOKO WORC  
WSFA WTOC WWVA

**ED-8:30 p.m., E-7:30, C-6:30, M-5:30**  
**C — Everett Marshall and Vanities**

CFRB CKAC CKLW KDB KERN  
KFBK KFPY KPRC KGB KHJ  
KLZ KMBC KMJ KMOX KOIN

KOL KOMA KRLL KSL KVI KWG  
WABC WBBM WBT WCAO WCAU  
WCCO WDSU WGR WHAS WHK  
WJAS WJAS WJSV WKRC WLAC  
WNAC

**R — Wayne King, See Tuesday**

**ED-9:00 p.m., E-8:00, C-7:00, M-6:00**

**C — Detroit Symphony Orchestra**  
CFRB CKAC CKLW KDB KERN  
KFAB KFBK KFI KFPY KPRC  
KGB KGKO KGMBC KHJ KLRA  
KLZ KMBC KMJ KMOX KOH  
KOIN KOL KOMA KRLL KSCJ  
KSL KTRH KTSa KTUL KVI KWG  
WABC WACO WADC WAlA WBBM  
WBG WBSN WBRc WBT WCAO  
WCAU WCCO WDBJ WDDO WDNC  
WDDO WDRc WDSU WEAN WFBL  
WFBM WFEA WGST WHEC WHK  
WHP WIBW WICC WISN WJAS  
WKBW WKRC WLAC WLbW WLbZ  
WMA5 WMBG WMBR WMT WNAc  
WNAX WNOX WOKO WORC WPG  
WQAM WREc WSFA WSJS WSPD  
WTOC

**R — Fred Allen; Lennie Hayton**

KPRC KSD KSTP KTHS KVOO  
WBEN WCAE WCSH WDAF WEAF  
WEBC WEEL WFAA WFBW WGY  
WHO WIOD WIS WJAR WJAX WKY  
WLIT WLW WMAQ WMC WOAI  
WOC WOW WPTF WRC WRVA  
WSB WSM WSMB WTAG WTAM  
WTIC WTMJ WWJ

**ED-10:00 p.m., E-9:00, C-8:00, M-7:00**

**C — Byrd Expedition Broadcast**  
CKLW KDB KERN KFAB KFBK  
KFI KFPY KPRC KGB KHJ KLRA  
KLZ KMBC KMJ KMOX KOIN KOL  
KOMA KRLL KSL KTRH KTSa  
KVI KWG WABC WACO WADC  
WBBM WBSN WBT WCAO WCAU  
WCCO WDAE WDRc WDSU WEAN  
WFBL WFBM WGST WHAS WHEC  
WHK WHP WIBW WJAS WJSV  
WKBW WKRC WLAC WLbZ WMBG  
WMT WNAc WNAX WOKO WORC  
WOWO WQAM WREc

**R — Guy Lombardo and Orchestra**

KPRC KSD KTBS KTHS KVOO  
WAVE WBEN WCAE WCSH WDAF  
WEAF WEEL WFAA WFBW WFLA  
WGY WHO WIOD WIS WJAR WJAX  
WJDX WKBF WKY WLIT WLW  
WMAQ WMC WOAI WOC WOW  
WPTF WRC WRVA WSB WSM  
WSMB WTAG WTAM WTIC WWJ  
WWNC

**B — Dennis King; Louis Katzman**

KDKA KDYL KFI KFYR KGO KGW  
KHQ KOA KOIL KOMO KSO KSTP  
KWCR KWK WBAL WBZ WBZA  
WCKY WDAY WBEc WENR WGAR  
WHAM WIBA WJR WJZ WMAI  
WREN WSYR WTMJ

**ED-10:30 p.m., E-9:30, C-8:30, M-7:30**

**C — Mary Eastman; Howard Barlow**  
CFRB CKAC KFH KGKO KLZ  
KMOX KOIN KRLL KTRH KTSa  
KVOR WABC WACO WADC WBBM  
WBG WBSN WBT WCCO WDAE  
WDBJ WDBO WDDO WDRc WDSU  
WFEA WGST WHAS WHEC WHP  
WJSV WLbW WLSB WMBD WNAX  
WNOX WSBT WSFA WSJS

**B — Harry Richman; Jack Denny**

KDYL KFYR KOA KOIL KPRC  
KSO KVOO KWCR KWK WBAL  
WCKY WDAY WBEc WENR WFAA

## WEDNESDAY (Cont'd)

WGAR WHAM WJR WJZ WKY  
WMAL WREN WRVA WSJR WTMJ

**ED-11:00 p.m., E-10:00, C-9:00, M-8:00**  
C — Nick Lucas, Songs

CKAC CKLW KFH KGKO KLRA  
KLZ KMBC KOH KOIN KOMA  
KRLD KSL KTRH KTSa KTUL  
KVOR WAAB WABC WACD WADc  
WALA WBIG WBNS WBT WDAE  
WDBJ WDBO WDNC WDDC WDRC  
WDSU WFBL WFBM WFGT WHcC  
WHP WIBW WIP WJAS WJSV  
WKbW WLAC WLbW WMBG  
WNOX WOKO WQAM WRcC WSBT  
WSFA WSJS WSPD WTCC

B — Frank Buck, See Monday

**ED-11:15 p.m., E-10:15, C-9:15, M-8:15**  
C — Little Jack Little

CFRB CKAC CKLW KDB KFh  
KGKO KLRA KLZ KOH KOMA  
KTRH KTSa KTUL KVOR WABC  
WAcO WALA WBIG WBRc WBT  
WCAO WCAU WDAE WDBJ WDBO  
WDNC WDDC WDRc WDSU WEAN  
WFBL WFBM WFEA WGSr WHcC  
WHK WHP WICc WJSV WKbW  
WLAC WLbW WLbZ WMAc WMBG  
WNOX WOKO WORc WPG  
WREc WSBT WSFA WSJS WSPD  
WTCC

R — Gene and Glenn, See Monday

**ED-12:00p.m., E-11:00, C-10:00, M-9:00**  
R — Fred Allen; Lennie Hayton  
KDYL KFI KGO KGW KHQ KOA  
KOMO

## THURSDAY

**ED-6:00 p.m., E-5:00, C-4:00, M-3:00**  
C — Mischka Raginsky and Orchestra  
CFRB KFAB KGKO KLRA KTRH  
WAAB WABC WAcO WADc WBBM  
WBT WCAU WDAE WDBJ WDBO  
WDDC WDSU WGSr WHcC WHK  
WHP WJSV WLAC WLbW WMT  
WNAX WNOX WOKO WORc WQAM  
WSFA WSJS

**ED-6:15 p.m., E-5:15, C-4:15, M-3:15**  
C — Edw. Wurtzebach, See Tuesday

**ED-6:45 p.m., E-5:45, C-4:45, M-3:45**  
C — Charles Barnet and Orchestra

CKLW KFh KGKO KLRA KLZ  
KMBC KMOX KOH KOMA KRLD  
KSCJ KSL KTRH KTSa KTUL  
KVOR WAAB WABC WBIG WBRc  
WCAO WDAE WDBJ WDBO WDNC  
WDDC WDRc WDSU WFL WFEA  
WGSr WHAS WHcC WHK WHP  
WIP WISN WJAS WJSV WKbW  
WLAC WLbW WLbZ WMAc WMT  
WNAX WNOX WOKO WORc WQAM  
WREc WSFA WSJS WSPD WTCC

B — Lowell Thomas, See Monday

**ED-7:00 p.m., E-6:00, C-5:00, M-4:00**  
C — Sylvia Froos, Songs

CFRB CKAC CKLW KFAB KFh  
KGKO KLRA KOH KOMA KRLD  
KSCJ KSL KTRH KTSa KTUL  
KVOR WABC WAcO WADc WALA  
WBIG WBNS WBRc WBT WCAO  
WCAU WDAE WDBJ WDBO WDNC  
WDDC WDRc WDSU WEAN WFEA  
WGR WGSr WHAS WHK WHP  
WICc WISN WJAS WLAC WLbW  
WLbZ WMAc WMBG WMT WNAC  
WNAX WNOX WOKO WORc WQAM  
WREc WSFA WSJS WSPD WTCC

**ED-7:15 p.m., E-6:15, C-5:15, M-4:15**  
C — Wayside Cottage, See Tuesday

R — Gene and Glenn, See Monday

**ED-7:30 p.m., E-6:30, C-5:30, M-4:30**  
C — Cliff Edwards "Ukelele Ike"

KDB KFh KGKO KOMA KSCJ  
KTRH KTSa KTUL KVOR WABC  
WAcO WCAU WCCO WDRc  
WFBL WFBM WGR WHAS WHcC  
WHP WIP WJAS WJSV WMAc  
WNAX WOKO WORc WVA

**ED-7:45 p.m., E-6:45, C-5:45, M-4:45**  
C — Boake Cartor, See Monday

B — Frank Buck, See Monday

**ED-8:00 p.m., E-7:00, C-6:00, M-5:00**  
R — Rudy Vallee and Orchestra

CFRC CRCT KDYL KFyR KHQ  
KPRC KSD KSTP KTAR KTHc  
KVoo WAPI WBAp WBen WCAE  
WCSH WDAF WDAY WEAF WEBC  
WEEL WFBF WFI WFLA WGY  
WHO WIOD WIS WJAR WJAX  
WJDX WKY WMAQ WMC WOAI  
WOC WOW WPTF WRC WRVA  
WSM WSMB WTAG WTAM WTIC  
WTMJ WJW WNC

C — Kate Smith, See Monday

**ED-8:15 p.m., E-7:15, C-6:15, M-5:15**  
C — Walter Pitkin

CFRB CKAC CKLW KDB KFAB  
KFH KGKO KLRA KLZ KMBC  
KSCJ KSL KTRH KVOR WABC  
WAcO WADc WALA WBIG WBNS  
WCAO WCAU WDNC WDDC WDRc  
WDSU WEAN WFBL WFBM WFEA  
WHP WISN WJAS WLbW WLbZ  
WMBG WMT WNAC WOKO WORc  
WSFA WVA

**ED-8:30 p.m., E-7:30, C-6:30, M-5:30**  
C — Leith Stevens Harmonies

CFRB CKAC CKLW KDB KFh  
KLRA KLZ KMBC KMOX KOH  
KOIN KOMA KSCJ KTRH KTSa  
KTUL KVOR WABC WAcO WADc  
WBIG WBNS WBRc WBT WCAU  
WCCO WDAE WDBJ WDBO WDDC  
WDRc WDSU WEAN WFBM WFEA  
WGR WGSr WHAS WHcC WHK  
WHP WIBW WICc WISN WJAS  
WJSV WKbN WKbW WLAC WLbW  
WLbZ WMAc WMBG WMT WNAC  
WNOX WOKO WORc WPG WQAM  
WREc WSBT WSFA WSJS WSPD  
WTCC

**ED-9:00 p.m., E-8:00, C-7:00, M-6:00**  
C — Bar X Days and Nights

CKLW KMBC KMOX WABC WBBM  
WCAO WCAU WDRc WEAN WFBL  
WFBM WHAS WHK WJAS WJSV  
WKbW WKRC WNAC

R — Maxwell House Show Boat

KDYL KFI KFSD KGHl KGIR  
KGO KGW KIQ KOA KOMO KPRC  
KSD KSTP KTAR KTHc WAPI  
WAVE WBAp WBen WCAE WCSH  
WDAF WEAF WEEL WFBF WFI  
WFLA WGY WHO WIOD WIS WJAR  
WJAX WJDX WKbF WKY WLW  
WMAQ WMC WOAI WOC WOW  
WRC WRVA WSAI WSB WSM  
WSMB WTAG WTAM WTIC WTMJ  
WJW WNC

B — Death Valley Days

KDKA KOHL KSO KWCR KWK  
WBAL WBZ WBZA WGAR WHAM  
WJR WJZ WLS WLW WMAL WREN  
WSYR

**ED-9:30 p.m., E-8:30, C-7:30, M-6:30**  
C — Tito Guizar and Orchestra

CFRB CKAC CKLW KDB KFAB  
KFH KGKO KLRA KLZ KMBC  
KMOX KOH KOIN KOMA KRLD  
KSCJ KSL KTRH KTSa KTUL  
KVOR WABC WAcO WADc WALA  
WBBM WBIG WBNS WBRc WBT  
WCAO WCAU WCCO WDAE WDBJ  
WDBO WDDC WDRc WDSU WEAN  
WFBL WFBM WFEA WGSr WHAS  
WHcC WHP WIBW WICc WISN  
WJSV WKbN WKbW WKRC WLAC  
WLbW WLbZ WMAc WMBG WMBR  
WMT WNAC WNAX WNOX WOKO  
WORc WOWO WPG WQAM WREc  
WSJS WSPD WTCC

**ED-9:45 p.m., E-8:45, C-7:45, M-6:45**  
C — Fats Waller's Rhythm Club

CFRB CKAC CKLW KDB KFAB  
KFH KGKO KLRA KLZ KMBC  
KMOX KOH KOIN KOMA KRLD  
KSCJ KSL KTRH KTSa KTUL  
KVOR WABC WAcO WADc WALA  
WBBM WBIG WBNS WBRc WBT  
WCAO WCAU WCCO WDAE WDBJ  
WDBO WDDC WDRc WDSU WEAN  
WFBL WFBM WFEA WGSr WHcC  
WHP WIBW WICc WISN WJSV  
WKbN WKbW WKRC WLAC  
WLbW WLbZ WMAc WMBG  
WMBR WMT WNAC WNAX WNOX  
WOKO WORc WOWO WPG WQAM  
WREc WSJS WSPD WTCC

**ED-10:00 p.m., E-9:00, C-8:00, M-7:00**  
C — 45 Minutes in Hollywood

CFRB CKAC CKLW KLZ KMBC  
KMOX KOMA KRLD KSL KTRH  
KTSa KTUL WABC WAcO WBBM  
WBNS WBT WCAO WCAU WCCO  
WDAE WDBO WDRc WDSU WEAN  
WFL WGSr WHcC WHK WJAS  
WJSV WKRC WLAC WMBR WNAC  
WOKO WQAM WSPD

R — Paul Whiteman; Al Jonson

CFRC CRCT KDYL KFI KFyR  
KGO KGW KHQ KOA KOMO KPRC  
KSD KSTP KTAR KTHc KTHS  
WBAp WBen WCAE WCSH WDAF  
WDAY WEAF WEBC WEEL WFBF  
WFI WGY WHO WHTA WJAR WKY  
WLW WMAQ WOAI WOC WOW  
WRC WTAG WTAM WTMJ WJW

**ED-10:30 p.m., E:9:30, C-8:30, M-7:30**  
B — Archer Gibson, Organist

KDKA KSO KWCR KYW WHAL  
WBZ WBZA WKCY WGAR WHAM  
WJZ WMAL WREN

**ED-10:45 p.m., E-9:45, C-8:45, M-7:45**  
C — Playboys; Piano Trio

CFRB CKLW KDB KFAB KFh  
KLRA KLZ KMBC KMOX KOH  
KOIN KOMA KRLD KSCJ KSL  
KTRH KTSa KTUL KVOR WAAB  
WABC WAcO WADc WALA WBBM  
WBIG WBNS WBRc WBT WCAO  
WCAU WCCO WDAE WDBJ WDBO  
WDNC WDDC WDRc WDSU WEAN  
WFBL WFBM WFEA WGSr WHP  
WIBW WICc WISN WJAS WJSV  
WKbN WKbW WLAC WLbW WLbZ  
WMAc WMBD WMBG WMT WNAX  
WNOX WOKO WORc WPG WQAM  
WREc WSBT WSFA WSJS WSPD  
WTCC

**ED-11:00 p.m., E-10:00, C-9:00, M-8:00**  
C — Vera Van, Songs

CKLW KDB KFh KGKO KLRA  
KLZ KMBC KOH KOIN KOMA  
KRLD KTRH KTSa WAAB WABC

## THURSDAY (Continued)

WACO WADC WALA WBIG WBRG  
WBT WCAO WDAE WDBJ WDBO  
WDNC WDDO WDRC WDSU WFBL  
WFHM WGST WHAS WHEC WHP  
WLBW WLP WJAS WJSV WKBW  
WLAC WLRF WMBG WNOX  
WOKO WQAM WREC WSBT WSFA  
WSJS WSPD WTOG

**B — Frank Buck, See Monday**

**ED-11:15 p.m., E-10:15, C-9:15, M-8:15**

**C — Ferde Grofe and Orchestra**  
CFRB CKLW KDB KFAB KFH  
KGKO KLRA KLZ KMBC KOH  
KOMA KRLD KSCJ KSL KTRH  
KTUL KVOR KVRB WABC WBBM  
WBIG WBNS WBRG WBT WCAO  
WCCO WDBJ WDBO WDNC WDDO  
WDRC WDSU WEAN WFBL WFLA  
WGST WHAS WHEC WHK WLBW  
WJAS WJAX WJSV WKBW  
WLBW WLAC WLRF WMBG WNAS  
WMBD WMBG WMT WNX WQAM  
WNOX WOKO WORC WORG WQAM  
WREC WSBT WSFA WSJS WSPD  
WTOG

**R — Gene and Glenn, See Monday**

## FRIDAY

**ED-6:00 p.m., E-5:00, C-4:00, M-3:00**

**C — Round Towners with Orchestra**  
CFRB CKLW KFAB KFH KGKO  
KLRA KLZ KMOX KOH KOMA  
KSCJ KSL KTRH KTRH KTRH  
KVOR WAAB WABC WADC WBBM  
WBIG WBNS WBRG WBT WCAO  
WCAO WDAE WDBJ WDBO WDNC  
WDDO WDRC WDSU WFBL WGST  
WHAS WHEC WHP WLBW WJAS  
WJAX WJSV WKBW WLAC WLBW  
WLP WMT WNX WOKO WORC  
WQAM WREC WSFA WSJS WSPD  
WTOG WYVA

**ED-6:15 p.m., E-5:15, C-4:15, M-3:15**

**C — Edw. Wurtzbeach, See Tuesday**

**ED-6:45 p.m., E-5:45, C-4:45, M-3:45**

**C — Esther Velas and Orchestra**  
CKLW KFH KGKO KLRA KLZ  
KMBC KMOX KOH KOMA KRLD  
KSCJ KSL KTRH KTRH KTRH  
KVOR WABC WADC WBBM WBIG  
WBNS WBRG WCAO WDAE WDBJ  
WDBO WDNC WDDO WDRC WDSU  
WEAN WFBL WFLA WGST WHAS  
WHEC WHP WISN WJAS WKBW  
WLAC WLBW WLBZ WMAS WMT  
WNAX WNOX WOKO WORG WQAM  
WREC WSFA WSJS WSPD WTOG  
WYVA

**B — Lowell Thomas, See Monday**

**ED-7:00 p.m., E-6:00, C-5:00, M-4:00**

**C — Sam Robbins and Orchestra**  
CFRB CKAC CKLW KDB KFAB  
KFH KGKO KLRA KOH KOMA KSCJ  
KSL KTRH KTRH KTRH KTRH  
KVOR WABC WADC WDAE WDBJ  
WDBO WDNC WDDO WDRC WDSU  
WEAN WFBL WFBM WFLA WGST  
WHAS WHEC WHP WLBW WJAS  
WJAX WJSV WKBW WLAC WLBW  
WMBG WNOX WOKO WORG WQAM  
WREC WSFA WSJS WSPD WTOG

**ED-7:15 p.m., E-6:15, C-5:15, M-4:15**

**R — Gene and Glenn, See Monday**

**ED-7:30 p.m., E-6:30, C-5:30, M-4:30**

**C — Silver Dust, See Monday**

**ED-7:45 p.m., E-6:45, C-5:45, M-4:45**

**C — Boake Carter, See Monday**

**B — Frank Buck, See Monday**

**ED-8:00 p.m., E-7:00, C-6:00, M-5:00**

**R — Cities Service Concert**

CRCT KDYL KOA KPRC KSD  
KSTP KTBS KTHS KVOO KYW  
WBAF WBNB WCAE WDFB WDAF  
WEAF WEBC WEEI WFLA WFBR  
WGY WHO WJAR WKY WLIT  
WQAI WOC WOW WRC WRVA  
WSAI WTAG WTAM WTIC WTMJ  
WWJ

**C — Kate Smith, See Monday**

**ED-8:15 p.m., E-7:15, C-6:15, M-5:15**

**C — Freddie Rich and Orchestra**

CKLW KFAB KGKO KLRA KLZ  
KMBC KSCJ KSL KTRH KVOR  
WABC WACO WADC WALA WBIG  
WBNS WCAU WDNC WDRC WDSU  
WEAN WFBL WFBM WFLA WHP  
WISN WJAS WLBW WLBZ WMT  
WNAC WORC WESA WYVA

**ED-8:30 p.m., E-7:30, C-6:30, M-5:30**

**C — True Story Court**

CKLW KMBC WABC WADC WBBM  
WCAO WCAU WCCO WDRC WEAN  
WFBL WHK WJAS WJSV WKBW  
WKRZ WNAC WOKO

**ED-9:00 p.m., E-8:00, C-7:00, M-6:00**

**R — Frank Munn; Abe Lyman**

KSD WHEN WCAE WCHS WDAF  
WEAF WEEI WFBR WGY WJAR  
WLIT WLW WMAQ WOW WRC  
WTAG WTAM WWJ

**B — Phil Harris and Orchestra**

KDKA KDYL KFLR KGO KGW KHQ  
KOA KOIL KOMO KSO KWRB KWK  
WAPI WBAR WRZ WBAZ WCKY  
WFLA WGAR WHAM WJZ WKY  
WLS WMAJ WQAI WREN WSB  
WSM WSMB WSYR

**ED-9:15 p.m., E-8:15, C-7:15, M-6:15**

**C — California Melodies**

CKAC KFAB KGKO KLZ KMBC  
KMOX KOH KOIN KRLD KSCJ  
KTRH KVOR WACO WADC WBIG  
WBNS WCAU WCCO WDDO WDRC  
WDSU WEAN WFLA WHEC WHK  
WHP WIC WISN WJSV WLAC  
WLBZ WMT WNAC WNAS WOKO  
WORC WSFA

**ED-9:30 p.m., E-8:30, C-7:30, M-6:30**

**C — Johnny Green and Orchestra**

CFRB CKAC CKLW KDB KFAB  
KFH KGKO KLRA KLZ KMBC  
KMOX KOH KOIN KOMA KRLD  
KSCJ KSL KTRH KTRH KTRH  
KVOR WABC WACO WADC WALA  
WBBM WBIG WBRG WBT WCAO  
WCAU WCCO WDAE WDBJ WDBO  
WDNC WDDO WDRC WDSU WEAN  
WFBL WFBM WFLA WGST WHAS  
WHEC WHK WHP WLBW WJAS  
WJAX WJSV WKBW WLAC WLBW  
WMBG WNOX WOKO WORG WQAM  
WREC WSFA WSJS WSPD WTOG

**R — Pick and Pat**

KSD WHEN WCAE WCHS WDAF  
WEAF WFBR WGY WHO WJAR  
WLIT WMAQ WOC WOW WRC  
WSAI WTAG WTAM WTIC WWJ

**B — Armour Program; Phil Baker**

KDKA KDYL KFLR KGO KGW KHQ  
KOA KOIL KOMO KPRC KSO KSTP

KFAR KWK WAPI WAVE WHAL  
WBZ WBZA WEBC WENR WFLA  
WFLA WGAR WHAM WIOD WJAX  
WJR WJZ WKY WMC WOAI WREN  
WRVA WSB WSM WSMB WTMJ  
WWNC

**ED-10:00 p.m., E-9:00, C-8:00, M-7:00**

**C — Spotlight Revue**

KFAB KLRA KLZ KMBC KMOX  
KOMA KRLD KSCJ KSL KTRH  
KTRH KTRH KTRH KTRH KTRH  
KTSA KTUL WABC WBBM WBNS  
WBT WCAO WCAU WCCO WDAE  
WDRC WDSU WEAN WFBM WHAS  
WHK WISN WJAS WJSV WLAC  
WMBR WMT WNAC WOWO WREC  
WSPD

**R — First Nighter, Drama**

KDYL KFLR KGO KGW KHQ KOA  
KOMO KPRC KSD KSTP WBNB  
WCAE WCHS WDAF WEAF WEBC  
WEEI WFLA WFBR WGY WHO  
WJAR WKY WLIT WMAQ WNAJ  
WQAI WOC WOW WRC WSAI WSB  
WSM WSMB WTAG WTAM WTIC  
WTMJ WWJ

**ED-10:30 p.m., E-9:30, C-8:30, M-7:30**

**R — Jack Benny; Don Bestor**

KDYL KFLR KFYR KGO KGW KHQ  
KOA KOMO KPRC KSD KTBS  
KTHS WAVE WBNB WCAE WCHS  
WDAF WDAY WEAF WEBC WEEI  
WFLA WFBR WFLA WGY WHO  
WIBA WIOD WIS WJAR WJAX  
WJDX WKY WLIT WLW WMAQ  
WMC WOAI WOC WOW WPTT  
WRC WRVA WSB WSM WSMB  
WTAG WTAM WTAR WTIC WTMJ  
WWJ WWNC

**ED-10:45 p.m., E-9:45, C-8:45, M-7:45**

**C — Carlisle, London, Warwick Sisters**

CFRB CKAC CKLW KDB KFH  
KGKO KLRA KLZ KMBC KMOX  
KOH KOMA KRLD KSCJ KSL  
KTRH KTRH KTRH KTRH KTRH  
KVOR WABC WADC WDAE WDBJ  
WDBO WDNC WDDO WDRC WDSU  
WEAN WFBM WFLA WGR  
WGST WHAS WHK WHP WJAS  
WJAX WJSV WLBW WLBW  
WMBG WNAS WMBD WMBG WMT  
WNAX WNOX WOKO WORC WQAM  
WREC WSFA WSJS WSPD WTOG

**ED-11:00 p.m., E-10:00, C-9:00, M-8:00**

**C — Edith Murray, Songs**

CKAC CKLW KDB KFH KGKO  
KLRA KLZ KMBC KOH KOMA  
KRLD KSL KTRH KTRH KTRH  
KVOR WAAB WABC WACO WADC  
WALA WBBM WBIG WBRG WBT  
WCAO WDAE WDBJ WDBO WDNC  
WDDO WDRC WDSU WFBL WFHM  
WGST WHAS WHP WLBW WLP  
WJAS WJSV WKBW WLAC WLBW  
WMBG WNOX WOKO WQAM  
WREC WSFA WSJS WSPD WTOG

**B — Frank Buck, See Monday**

**ED-11:15 p.m., E-10:15, C-9:15, M-8:15**

**C — Isham Jones, See Tuesday**

**R — Gene and Glenn, See Monday**

**ED-11:30 p.m., E-10:30, C-9:30, M-8:30**

**C — True Story Court**

KDB KERN KFBC KFPY KERC  
KGB KHJ KIZ KMBC KMJ KMOX  
KON KOL KSL KVI KWG WHAS  
WOKO

# SATURDAY

**ED-6:15 p.m., E-5:15, C-4:15, M-3:15**  
**C — Billy Hays and Orchestra**  
 CFRB CKAC CKLW KDB KFAB  
 KFH KGKO KLRA KMBC KMOX  
 KOH KOIN KOMA KRLD KSCJ  
 KTRH KTSK KTUL KVOR WAAB  
 WABC WBIG WBNS WBRC WBT  
 WCAO WCAU WDAE WDBJ WDBO  
 WDNC WDOO WDRC WDSU WFBL  
 WFEA WGR WGST WHAS WHEC WHK  
 WIBC WICC WISN WJAS WLAC  
 WLWB WLWZ WMAS WMBG WMT  
 WNOX WOKO WORC WQAM WRC  
 WSFA WSJS WSPD WTOG

**ED-6:45 p.m., E-5:45, C-4:45, M-3:45**  
**B — John Herrick, Baritone**  
 KDKA KOIL KSO KWCR KWK  
 WBAL WCKY WGAR WJZ WKBF  
 WMAL WMAQ

**C — Charles Barnet, See Thursday**

**ED-7:00 p.m., E-6:00, C-5:00, M-4:00**

**C — Mary Eastman, Soprano**  
 CFRB CKAC CKLW KDB KFAB  
 KFH KGKO KLRA KLZ KOH KOIN  
 KOMA KRLD KSCJ KTRH KTSK  
 KTUL KVOR WABC WACO WADC  
 WALA WBIG WBNS WBRC WBT  
 WCAO WCAU WCCO WDAE WDBJ  
 WDBO WDNC WDOO WDRC WDSU  
 WFEA WGR WGST WHAS WHEC  
 WHK WHP WIBW WICC WISN  
 WJAS WJSV WLAC WLWB WLWZ  
 WMAS WMBG WMT WNAX WNOX  
 WOKO WORC WQAM WREC WSFA  
 WSJS WSPD WTOG

**ED-7:15 p.m., E-6:15, C-5:15, M-4:15**

**C — Isham Jones and Orchestra**  
 CKAC CKLW KDB KFH KGKO  
 KMBC KMOX KOH KOMA KSCJ  
 KTRH KTSK KTUL KVOR WACO  
 WALA WBBM WBIG WBRC WBT  
 WCAO WCAU WCCO WDAE WDBJ  
 WDBO WDNC WDOO WDRC WDSU  
 WFBL WFBM WGR WGST WHAS  
 WHEC WIBW WICC WJAS WJSV  
 WLAC WLWB WLWZ WMAS WMBG  
 WNAX WNAX WNOX WOKO WORC  
 WQAM WSFA WSJS WSPD WTOG  
 WVVVA

**ED-7:30 p.m., E-6:30, C-5:30, M-4:30**

**B — Don Bestor and Orchestra**  
 KDKA KGIR KWCR KWK KYW  
 WBAL WBZ WBZA WCKY WGAR  
 WHAM WJAR WJR WJZ WMAL  
 WREN WRSYR

**ED-7:45 p.m., E-6:45, C-5:45, M-4:45**

**C — Fats Waller, Songs**  
 CFRB CKLW KDB KFAB KGKO  
 KLRA KLZ KMBC KMOX KOH  
 KOMA KRLD KSCJ KTRH KTSK  
 KTUL KVOR WABC WACO WADC  
 WALA WBBM WBNS WBRC WBT  
 WCCO WDAE WDBJ WDBO WDNC  
 WDOO WDRC WDSU WEAN WFBL  
 WFEA WGR WGST WHEC WHK  
 WICC WIP WJAS WJSV WLAC  
 WLWB WLWZ WMAS WMBG WMT  
 WNAX WNAX WNOX WOKO WORC  
 WQAM WREC WSFA WSJS WSPD  
 WVVVA

**ED-8:00 p.m., E-7:00, C-6:00, M-5:00**

**C — Manhattan Serenaders**  
 CFRB CKLW KDB KFAB KGKO  
 KLRA KLZ KMBC KMOX KOH  
 KOMA KRLD KSCJ KTRH KTSK  
 KTUL KVOR WABC WACO WADC  
 WALA WBBM WBNS WBRC WBT  
 WCCO WDAE WDBJ WDBO WDNC

WDOO WDRC WDSU WEAN WFBL  
 WFEA WGR WGST WHEC WHK  
 WICC WIP WJAS WJSV WLAC  
 WLWB WLWZ WMAS WMBG WMT  
 WNOX WNOX WOKO WORC  
 WQAM WREC WSFA WSJS WSPD  
 WVVVA

**ED-8:30 p.m., E-7:30, C-6:30, M-5:30**

**C — Philadelphia Summer Concerts**  
 CKAC CKLW KDB KFH KGKO  
 KLRA KLZ KMBC KMOX KOH  
 KOIN KOMA KRLD KSCJ KSL  
 KTRH KTSK KVOR WABC WADC  
 WALA WBBM WBIG WBNS WBRC  
 WBT WCAO WCAU WCCO WDAE  
 WDBJ WDBO WDNC WDOO WDRC  
 WDSU WEAN WFBL WFBM WFEA  
 WGR WGST WHC WHK WHP  
 WICC WISN WJAS WJSV WLAC  
 WLWB WLWZ WMBG WMT  
 WNAX WNOX WOKO WORC WPG  
 WQAM WREC WSFA WSJS WSPD  
 WTOG WVVVA

**ED-9:00 p.m., E-8:00, C-7:00, M-6:00**

**R — One Man's Family**  
 CPFC KDYL KFJR KOA KPO  
 KPRC KSD KSTP KTBS KTHS  
 KVOO WBN WCAE WDAF WDFW  
 WFAF WFBR WFI WFLA WGY  
 WHO WIBA WIOD WIS WJAR  
 WJAX WJDX WKY WMAQ WMC  
 WOAI WOC WOV WRC WRVA  
 WSAI WWSB WWSB WTAG WTAM  
 WWJ WWNC

**ED-10:00 p.m., E-9:00, C-8:00, M-7:00**

**R — Ray Knight and Cuckoos**  
 CPFC CHCT KDYL KFI KGHL  
 KGO KGW KHQ KOA KOMO KPRC  
 KSD KSTP KTAR KTHS WAPI  
 WDAY WBN WCAE WCHS WDAF  
 WDFW WFAF WFCB WEEI WBX  
 WFI WFLA WGY WHO WJAR  
 WKBK WKY WLW WMAQ WWSB  
 WOAI WOC WOV WRC WRVA  
 WSB WSM WWSB WWSB WTAG  
 WTAM WTMJ WTMJ WWJ WWNC

**ED-10:30 p.m., E-9:30, C-8:30, M-7:30**

**C — Elder Michaux and Congregation**  
 CFRB CKLW KDB KFH KGKO  
 KLRA KLZ KMBC KOH KOIN  
 KOMA KRLD KSCJ KTRH KTSK  
 KTUL KVOR WAAB WABC WADC  
 WADC WALA WBIG WBNS WBRC  
 WBT WCAO WCAU WCCO WDAE  
 WDBJ WDBO WDNC WDOO WDRC  
 WDSU WFBL WFBM WFEA WGR  
 WGST WHEC WHK WHP WIBW  
 WICC WJAS WJSV WLAC WLWB  
 WLWZ WMAS WMBG WMT  
 WNOX WOKO WORC WQAM WREC  
 WSFA WSJS WSPD WTOG WVVVA

**B — National Barn Dance**

KDKA KDYL KFI KGO KGW KHQ  
 KOA KOIL KOMO KSO KWCR KWK  
 WBAL WBZ WBZA WGAR WHAM  
 WJR WJZ WLS WLW WMAL WREN  
 WSYR

**ED-11:00 p.m., E-10:00, C-9:00, M-8:00**

**C — Sylvia Froos, Songs**  
 CFRB CKAC CKLW KDB KFH  
 KGKO KLRA KLZ KOH KOIN  
 KOMA KRLD KSL KTRH KTSK  
 KTUL WAAB WABC WADC WALA  
 WBRC WBT WDAE WDBJ WDBO  
 WDNC WDOO WDRC WDSU WFBL  
 WFBM WFEA WGST WHAS WHP  
 WIBW WIP WJAS WJSV WLAC  
 WLWB WMBG WNOX WOKO  
 WQAM WREC WSFA WSJS WSPD  
 WTOG

**ED-11:15 p.m., E-10:15, C-9:15, M-8:15**

**C — Glen Gray, See Monday**

**ED-11:45 p.m., E-10:45, C-9:45, M-8:45**

**C — Ferdie Grofe and Orchestra**  
 CFRB CKAC CKLW KDB KFAB  
 KFH KGKO KLZ KMBC KMOX  
 KOH KOIN KRLD KSCJ KSL KTRH  
 KTSK KTUL KVOR WABC WACO  
 WADC WALA WBBM WBRC WBT  
 WCAO WCAU WCCO WDAE WDBJ  
 WDBO WDNC WDOO WDRC WDSU  
 WEAN WFBL WFBM WFEA WGST  
 WHEC WHK WIBW WICC WISN  
 WJAS WJSV WKBW WLAC WLWB  
 WLWZ WMAS WMBG WMBG WMT  
 WNAX WNAX WNOX WOKO WORC  
 WQAM WREC WSFA WSJS WSPD

# SUNDAY

**ED-11:30 a.m., E-10:30, C-9:30, M-8:30**

**C — Sait Lake Tabernacle Choir**  
 CKLW KFAB KFH KGKO KLRA  
 KLZ KMBC KOMA KRLD KSCJ  
 KSL KTRH KTUL WACO WADC  
 WALA WBBM WBIG WBNS WBT  
 WCAO WCCO WDAE WDBJ WDBO  
 WDOO WDSU WFBL WFEA WGST  
 WHAS WHEC WHK WHP WIBW  
 WICC WISN WJAS WJSV WKBN  
 WLAC WLWB WLWZ WMAS WMBG  
 WMT WNAX WNOX WOKO WORC  
 WPG WQAM WREC WSFA WSJS  
 WSPD WTOG

**R — Major Bowes' Family**

KDYL KFJR KOA KPRC KSTP  
 KTBS KVOO WAPI WCAE WDAF  
 WDAY WFAF WFCB WFAA WFBR  
 WFLA WGY WHO WIOD WJAR  
 WJAX WKY WMAQ WMC WOAI  
 WOC WRC WRVA WSAI WWSB  
 WTAG WTAM WWNC

**ED-12:30 p.m., E-11:30, C-10:30, M-9:30**

**C — Romany Trail, Salon Music**  
 CFRB CKAC CKLW KDB KFAB  
 KFH KLRA KLZ KMBC KOH  
 KOIN KOMA KSCJ KSL KTRH  
 KTSK KTUL WABC WACO WADC  
 WALA WBBM WBRC WCAU WCCO  
 WDAE WDBO WDNC WDOO WDRC  
 WDSU WEAN WFBL WFEA WGR  
 WGST WHAS WHP WIBW WICC  
 WISN WJAS WJSV WKBN WLAC  
 WLWB WLWZ WMBG WMT WNAX  
 WNAX WNOX WOKO WORC WPG  
 WQAM WREC WSFA WSPD

**R — Chicago Round Table**

WBN WCHS WDAF WFAF WEEI  
 WFBW WFI WGY WHO WJAR  
 WOC WOV WRC WSAI WTAG  
 WTAM WWJ

**B — Radio City Symphony**

CPFC CHCT KDKA KDYL KFI  
 KFJR KGO KGW KHQ KOA KOIL  
 KOMO KPRC KSO KVOO WAPI  
 WBAL WBZ WBZA WCKY WDAY  
 WECB WGAR WHAM WIS WJDX  
 WJR WJZ WKY WMAL WOAI  
 WREN WWSB WSYR WWNC

**ED-1:00 p.m., E-12:00, C-11:00, M-10:00**

**C — Ann Leaf at Organ**  
 CFRB CKLW KFH KLRA KLZ  
 KMBC KOH KOMA KRLD KSCJ  
 KSL KTRH KTUL KVOR WAAB  
 WABC WACO WALA WBBM WBIG  
 WBNS WBRC WBT WCAO WCAU  
 WCCO WDAE WDBJ WDBO WDNC  
 WDOO WDRC WDSU WFBL WGR  
 WGST WHAS WHEC WHP WISN  
 WJSV WKBN WLAC WLWB WMBG  
 WMT WNAX WOKO WORC WPG

**SUNDAY (Continued)**

WQAM WREC WSBT WSJS WSPD  
WVVA

**ED-1:30 p.m., E-12:30, C-11:30, M-10:30**  
**C — Compinsky Trio**

CFRB CKAC CKLW KDB KFH  
KGKO KLRA KLZ KMBC KMOX  
KOH KOIN KOMA KRLD KSCJ KSL  
KTRH KTUL KVOR WAHC WACO  
WADC WALA WBBM WBIG WBNS  
WBRC WBT WCAO WCAU WCCO  
WDAE WDBJ WDBO WDNC WDDO  
WDRG WDSU WFBL WWRG WGST  
WHCC WHK WHF WJAS WJSV  
WKBN WLAC WLWB WMBD  
WMT WNAX WOKO WORC WPG  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOC WVVA

**R — Miss Bab-o's Surprise**  
WBEN WCAE WCHS WDAF WFAF  
WEFI WFBR WFI WGY WJAO  
WJAR WJAX WJW WRC WSAI  
WTAG WTAM WVVA

**ED-2:00 p.m., E-1:00, C-12:00, M-11:00**  
**R — Gene Arnold and Commodores**  
KOA KPRC KV00 WAFI WAVE  
WBEN WCAE WCHS WDAF WFAF  
WFAA WFBR WFLA WGF WHO  
WIS WJAR WJAX WKY WLW  
WMAQ WMC WOAI WOC WOW  
WPTF WRC WRVA WSMB WTAG  
WTAM WJW WVVA

**ED-2:30 p.m., E-1:30, C-12:30, M-11:30**  
**C — Windy City Review**

CFRB CKAC CKLW KDB KFH  
KLRA KLZ KMBC KMOX KOH  
KOMA KRLD KSCJ KSL KTRH  
KTSa KTUL KVOR WABC WACO  
WALA WBBM WBIG WBNS WBR  
WBT WCAO WCAU WCCO WDAE  
WDBJ WDBO WDNC WDDO WDRG  
WDSU WFAN WFBL WFBM WFEA  
WGR WGST WHAS WHCC WHK  
WHF WJAS WJSV WKBN WLAC  
WLWB WLWZ WNAS WMBG WMT  
WNAC WNOX WOKO WORC WPG  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOC WVVA

**ED-3:00 p.m., E-2:00, C-1:00, M-12:00**  
**C — Detroit Symphony Orchestra**

CFRB CKAC CKLW KFAB KFH  
KGKO KLRA KLZ KMBC KMOX  
KOH KOIN KOMA KRLD KSCJ  
KSL KTRH KTSa KTUL KVOR  
WABC WADC WALA WBIG WBNS  
WBRC WCAO WCAU WCCO WDAE  
WDBJ WDBO WDNC WDDO WDRG  
WDSU WFAN WFBL WFBM WFEA  
WGR WGST WHAS WHCC WHK  
WHF WJAS WJSV WKBN WLAC  
WLWB WLWZ WNAS WMBG WMT  
WNAC WNOX WOKO WORC WPG  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOC WVVA

**R — Talkie Picture Time**

WAPI WHEN WCAE WCHS WDAF  
WFAF WEFI WFBR WFI WGY WJAR  
WJAX WJWZ WLIT WMAQ WMC  
WOC WOW WRC WSAI WSJW WSM  
WSMB WTAG WTAM WVVA

**ED-4:00 p.m., E-3:00, C-2:00, M-1:00**  
**C — Buffalo Variety Workshop**

CFRB CKAC CKLW KDB KFH  
KLRA KLZ KMBC KMOX KOH  
KOMA KRLD KSCJ KSL  
KTRH KTUL KVOR WABC WADC  
WALA WBNS WBRG WBT WCAO  
WCAU WCCO WDAE WDBJ WDBO

WDNC WDOD WDRG WDSU WEAN  
WFBL WFBM WFEA WGR WGST  
WHCC WHF WHW WICW WISN  
WJAS WJSV WLWB WLWZ WNAS  
WMBD WMT WNAC WNOX WOKO  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOC

**ED-4:30 p.m., E-3:30, C-2:30, M-1:30**  
**C — Oregon on Parade**

CFRB CKAC CKLW KDB KFH  
KGKO KLRA KLZ KMBC KMOX  
KOH KOIN KOMA KRLD KSCJ  
KSL KTRH KTUL KVOR WABC  
WADC WALA WBIG WBNS WBRG  
WBT WCAO WCAU WCCO WDAE  
WDBJ WDBO WDNC WDOD WDSU  
WEAN WFBL WFBM WFEA WGR  
WGST WHAS WHEC WHK WHP  
WIBW WICW WISN WJAS WKBN  
WLAC WLWB WLWZ WNAS WMBD  
WMT WNAC WNOX WOKO WORC  
WPG WQAM WREC WSFA WSJS  
WSPD WTOC

**ED-5:00 p.m., E-4:00, C-3:00, M-2:00**  
**C — The Playboys; Piano Trio**

CKAC CKLW KDB KFH KGKO  
KLRA KLZ KMBC KMOX KOH  
KOHIN KOMA KRLD KSCJ KSL  
KTRH KTSa KTUL KVOR WABC  
WADC WBIG WBNS WBRG WBT  
WCAO WCAU WCCO WDAE WDBJ  
WDBO WDNO WDOD WDRG WDSU  
WEAN WFBL WFBM WFEA WGR  
WGST WHAS WHEC WHK WHF  
WIBW WICW WISN WJAS WJSV  
WKBN WLAC WLWB WLWZ WNAS  
WMBD WMT WNAX WOKO WORC  
WPG WQAM WREC WSBT WSFA  
WSJS WSPD WTOC WVVA

**B — National Vespers**

KDYL KFSD KFYR KGHL KGIR  
KGO KGW KHQ KOA KOIL KPRC  
KSO KSTP KTAR KTBS KV00  
KWCR KWK WAPI WBAL WBZ  
WBZA WCFE WCKY WDAY WECB  
WFLA WGAR WIAM WIBA WIOD  
WIS WJAX WJDX WJR WJZ WKY  
WMAL WMC WOAI WPTF WREN  
WRVA WSC WSM WSMB WSN

**ED-5:15 p.m., E-4:15, C-3:15, M-2:15**  
**C — Poets' Gold; David Ross**

CFRB CKAC KDB KFH KGKO  
KLRA KLZ KMBC KMOX KOH  
KOHIN KOMA KRLD KSCJ KTRH  
KTSa KTUL KVOR WAAB WABC  
WADC WBIG WBNS WBRG WBT  
WCAO WCAU WCCO WDAE WDBJ  
WDBO WDNC WDDO WDRG WDSU  
WEAN WFBL WFBM WFEA WGR  
WGST WHAS WHCC WHK WHP  
WIBW WICW WISN WJAS WJSV  
WKBN WLAC WLWB WLWZ WMBD  
WNOX WOKO WORC WOW WPG  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOC

**ED-5:30 p.m., E-4:30, C-3:30, M-2:30**  
**C — Frank Crumit; Julia Sanderson**

CKLW KFH KMBC KMOX KOMA  
KTUL WAAB WABC WADC WBNS  
WCAO WCAU WDRG WDSU WEAN  
WFBL WFBM WGR WHAS WHEC  
WHK WICG WJSV WNAS WOKO  
WOLC WSPD WVVA

**R — Sentinels Serenade**

WBEN WCAE WCHS WDAF WFAF  
WEFI WFBR WFI WGY WJAR  
WLW WMAQ WOW WRC WTAG  
WTAM WJW

**B — American Bosch Explorers Club**

KDKA KDYL KFI KFYR KGO

KGW KHQ KOA KOIL KOMO  
KSO KSTP KWCR KWK WAPI  
WAVE WBAL WBZ WBZA WCKY  
WDAY WECB WENR WGAR  
WIAM WIBA WJDX WJR WJZ  
WKBF WMAL WMC WREN WSB  
WSM WSYR

**ED-6:00 p.m., E-5:00, C-4:00, M-3:00**  
**C — Nick Lucas, Songs**

CFRB CKAC CKLW KDB KFAB  
KGKO KLRA KLZ KMBC KMOX  
KOH KOIN KOMA KRLD KSCJ  
KSL KTRH KTSa KTUL KVOR  
WABC WADC WBBM WBIG WBRG  
WBT WCAO WCAU WCCO WDAE  
WDBJ WDBO WDNC WDOD WDRG  
WDSU WFBL WHK WHF WIBW  
WJAS WJSV WKBN WKBW WLAC  
WMT WNOX WOKO WORC WPG  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOC WVVA

**R — Catholic Hour**

KDYL KFYR KGHL KGIR KGW  
KOA KOMO KPO KPRC KSTP  
KTAR KTBS KV00 WAPI WBAP  
WBEN WCAE WCHS WDAF WDAY  
WFAF WECB WEFI WENR WFRB  
WFLA WGY WHO WIBA WIOD  
WIS WJAR WJAX WJDX WKY  
WLIT WMC WOAI WOC WOW  
WRC WRVA WSAI WSB WSM  
WSMB WTAG WTAM WJW WVVA

**ED-6:15 p.m., E-5:15, C-4:15, M-3:15**  
**C — Summer Musicales**

CFRB CKAC CKLW KDB KFAB  
KFH KGKO KLRA KLZ KMBC  
KMOX KOH KOIN KOMA KRLD  
KSCJ KSL KTRH KTSa KTUL  
KVOR WABC WADC WBBM WBIG  
WBNS WBRG WBT WCAO WCAU  
WCCO WDBJ WDBO WDNC WDOD  
WDRG WDSU WEAN WFBL WFBM  
WFEA WGST WHAS WHP WIBW  
WICW WJAS WJSV WKBN WKBW  
WLAC WLWB WLWZ WNAS WMT  
WNAC WNAX WNOX WOKO WORC  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOC WVVA

**ED-6:45 p.m., E-5:45, C-4:45, M-3:45**  
**C — Carlie, London, Warwick Sisters**

CKLW KDB KFAB KFH KGKO  
KLRA KLZ KMBC KMOX KOH  
KOMA KRLD KSCJ KSL KTRH  
KTSa KTUL KVOR WABC WADC  
WBIG WBNS WBRG WBT WCAO  
WCAU WCCO WDAE WDBJ WDBO  
WDNC WDDO WDRG WDSU WEAN  
WFBL WFBM WFEA WGST WHAS  
WHEC WHF WIBW WICW WJAS  
WJSV WKBN WKBW WLAC WLWB  
WLWZ WNAS WMT WNAC WNAX  
WNOX WOKO WORC WQAM WREC  
WSFA WSJS WSPD WTOC WVVA

**ED-7:00 p.m., E-6:00, C-5:00, M-4:00**  
**B — Charles Previn and Orchestra**

KDKA KDYL KFI KGO KGW KHQ  
KOA KOIL KOMO KPRC KSO  
KSTP KWCR KWK WBAL WBAP  
WBZ WHZA WECB WGAR WIAM  
WIBA WJDX WJR WJZ WKY WLS  
WLW WMAL WMC WOAI WREN  
WSB WSM WSMB WSYR WTMJ

**ED-7:30 p.m., E-6:30, C-5:30, M-4:30**  
**C — Chicago Knights**

CKLW KDB KFAB KFH KGKO  
KLRA KLZ KMBC KMOX KOH  
KOHIN KOMA KRLD KSCJ KSL  
KTRH KTSa KTUL KVOR WABC  
WACO WADC WALA WBIG WBNS  
WBRG WBT WCAO WCAU WCCO

## SUNDAY (Continued)

WDAE WDBJ WDBO WDNC WDOJ  
WDRG WDSU WEAN WFBL WFBM  
WFEA WGR WGST WHAS WHEC  
WHP WBRN WICC WISN WJAS  
WJSV WKBN WLAC WLWB WLWB  
WMT WNAC WNAX WNOX WOKO  
WORC WPG WQAM WREC WSFA  
WSJS WSPD WTOG WWVA

**ED-7:45 p.m., E-6:45, C-5:45, M-4:45**  
**R — Fitch Program; Irene Beasley**  
CFCE KSD WBEN WCAE WCSH  
WEAF WFBR WGY WHO WJAR  
WKBF WLIT WMAQ WOC WOW  
WRC WSAI WTAG WTAM WTIC  
WWJ

**ED-8:00 p.m., E-7:00, C-6:00, M-5:00**  
**C — Columbia Variety Hour**  
CFRB CKLW KDB KFAB KFH  
KGKO KLRA KLZ KMBC KMOX  
KOH KOIN KOMA KRLD KSCJ  
KSL KTRH K TSA KTUL KVOR  
WABC WADC WALA WBIG WBNS  
WBRC WBT WCAO WCAU WCCO  
WDBJ WDNC WDOJ WDRG WDSU  
WEAN WFBL WFBM WFEA WGR  
WGST WHAS WHEC WHK WHP  
WIBW WICC WISN WJAS WKBN  
WLAC WLWB WLWB WMA5 WMT  
WNAC WNAX WNOX WOKO WORC  
WREC WSBT WSFA WSJS WTOG  
WWVA

**R — Chase and Sanborn Hour**  
CFCE CRCT KDYL KFI KFYR  
KGO KGW KHQ KOA KOMO KPRC  
KSD KSTP KTRH KTHS KVOO  
WAPI WAVE WBEN WBZ WBZA  
WCAE WCSH WDAF WDAY WEAF  
WEBC WFAA WFBR WFLA WGY  
WHO WIOD WIS WJAR WJAX  
WJDX WKY WLIT WLW WMAQ  
WMC WOI WOC WOW WPTF  
WRC WRVA WSB WSM WSMB  
WTAG WTAM WTIC WTMJ WWJ  
WWNC

**ED-9:00 p.m., E-8:00, C-7:00, M-6:00**  
**C — Buddy Rogers; Jeanie Lang**  
CKLW KMOX WABC WADC WBBM  
WBNS WBRC WCAO WCAU WDRG  
WEAN WFBL WFEA WHK WICC  
WJAS WKBN WLWB WMA5 WMBR  
WNAC WOKO WORC WSBT WSFA  
WWVA

**R — Manhattan Merry-Go-Round**  
CFCE KDYL KFI KGO KGW KHQ  
KOA KOMO KSD KSTP WDAF

WEAF WEBC WFBR WFI WGY  
WHO WJAR WMAQ WOC WOW  
WRC WSAI WTAG WTAM WTIC  
WTMJ WWJ

**B — Gulf Headliners**  
KDKA KPRC KTB5 WAVE WBAL  
WBZ WBZA WFAA WFLA WGAR  
WHAM WIOD WIS WJAX WJDX  
WJR WJZ WLW WMAL WOA1  
WRVA WSM WSMB WSYR WWNC

**ED-9:30 p.m., E-8:30, C-7:30, M-6:30**  
**C — Fred Waring's Pennsylvanians**  
CFRB CKAC CKLW KDB KERN  
KFAB KFBK KFH KFPY KPRC  
KGB KH\* KLRA KLZ KMBC KMJ  
KMOX KOH KOIN KOL KOMA  
KRLD KSCJ KSL KTRH K TSA  
KTUL KVI KVOR KWG WABC  
WACO WADC WALA WBBM WBNS  
WBRC WBT WCAU WCCO WDAE  
WDBJ WDBO WDNC WDOJ WDRG  
WDSU WEAN WFBL WFBM WFEA  
WGR WGST WHAS WHEC WHK  
WHP WIBW WICC WISN WJAS  
WJSV WKBN WKRC WLAC WLWB  
WLWB WMA5 WMBR WMT WNAC  
WNAX WNOX WOKO WORC WOWO  
WPG WQAM WREC WSFA WSJS  
WSPD WTOG

**R — Album of Familiar Music**  
CFCE CRCT KDYL KFI KGO KGW  
KHQ KOA KOMO KPRC KSD KSTP  
KVOO WBEN WCAE WCSH WDAF  
WEAF WEEI WFAA WFBR WFI  
WFLA WGY WHO WIOD WIS WJAR  
WJAX WJDX WKY WMAQ WMC  
WOAI WOC WOW WPTF WRC  
WRVA WSAI WSB WSMB WTAG  
WTAM WTMJ WWJ WWNC

**B — Tastyest Theatre**  
KDKA KOIL KSO KWCR KWK  
WBAL WBZ WBZA WCKY WENR  
WGAR WHAM WJR WJZ WMAL  
WREN WSYR

**ED-10:00 p.m., E-9:00, C-8:00, M-7:00**  
**R — Hall of Fame**  
CFCE CRCT KDYL KFI KGO KGW  
KHQ KOA KOMO KPRC KSD KSTP  
KTB5 KTHS WBEN WCAE WCSH  
WDAF WEAF WEEI WFAA WFBR  
WFI WGY WHO WJAR WJDX  
WKBF WKY WLW WMAQ WMC  
WOAI WOC WOW WRC WSB WSM  
WSMB WTAG WTAM WTIC WWJ

**B — Mme. Schumann-Heink**  
KDKA KOIL KSO KWCR KWK  
WBAL WBZ WBZA WCKY WENR

WGAR WHAM WJR WJZ WMAL  
WREN WSYR

**C — Wayne King, See Monday**

**ED-10:30 p.m., E-9:30, C-8:30, M-7:30**  
**C — Ferde Grofe's Orchestra**  
CFRB CKAC CKLW KGKO KLZ  
KMBC KMOX KOMA KRLD KSL  
KTRH K TSA KTUL WAAB WABC  
WACO WADC WBBM WBIG WBNS  
WBT WCAO WCAU WCCO WDAE  
WDBJ WDBO WDOJ WDRG WDSU  
WEAN WFBL WGR WGST WHEC  
WHK WHP WJAS WJSV WKRC  
WLAC WMBR WOKO WQAM WSJS  
WSPD WTOG

**ED-11:00 p.m., E-10:00, C-9:00, M-8:00**  
**C — Little Jack Little**  
CFRB CKAC CKLW KFAB KFH  
KGKO KLRA KLZ KMBC KMOX  
KOH KOMA KRLD KSCJ KSL  
KTRH K TSA KTUL KVOR WABC  
WACO WADC WALA WBBM WBIG  
WBNS WBRC WBT WCAO WCAU  
WCCO WDAE WDBJ WDBO WDNC  
WDOJ WDRG WDSU WEAN WFBL  
WFBM WFEA WGR WGST WHEC  
WHP WIBW WICC WISN WJAS  
WJSV WKBN WLAC WLWB WLZ  
WMA5 WMBD WMT WNAC WNAX  
WNOX WOKO WPG WQAM WREC  
WSBT WSFA WSPD WTOG

**R — Fitch Program; Irene Beasley**  
KDYL KFI KFYR KGO KGW KHQ  
KOA KOMO KPRC KSTP KTB5  
WAVE WBAP WDAF WDAY WECB  
WIBA WKY WOA1 WTMJ

**ED-11:15 p.m., E-10:15, C-9:15, M-8:15**  
**B — Mme. Schumann-Heink**  
KDYL KFI KGO KGW KHQ KOA  
KOMO KPRC WBAP WKY WOA1

**ED-11:30 p.m., E-10:30, C-9:30, M-8:30**  
**C — Glen Gray and Orchestra**  
CFRB CKAC CKLW KFAB KFH  
KGKO KLRA KLZ KMBC KOH  
KRLD KSCJ KTRH K TSA KTUL  
KVOR WABC WACO WADC WALA  
WBBM WBNS WBRC WBT WCAO  
WCAU WCCO WDAE WDBJ WDOJ  
WDOJ WDRG WDRG WDSU WEAN  
WFBL WFBM WFEA WGR WGST  
WHAS WHEC WHK WHP WLWB  
WICC WISN WJAS WJSV WKBN  
WLAC WLWB WLWB WMA5 WMBD  
WMT WNAC WNAX WNOX WPG  
WQAM WREC WSBT WSFA WSJS  
WSPD WTOG

## CLASSIFIED INDEX TO CHAIN PROGRAMS

*Time in Eastern Daylight Saving*

C—Columbia; R—National (Red); B—National (Blue)

### CONCERTS

Howard Barlow, 8:15 p.m. Monday; 10:30 p.m. Wednesday, C  
Peter Biljo, 6:00 p.m. Mon.; 7:30 p.m. Tues.; 6:45 p.m. Wed., C  
Compinsky Trio, 1:30 p.m. Sunday, C  
Detroit Symphony, 3:00 p.m. Sunday; 9:00 p.m. Wednesday, C  
Emery Deutsch, 8:15 p.m. Wednesday, C  
Ferde Grofe, 10:30 p.m. Sunday; 11:15 p.m. Thursday; 11:45 p.m. Sat., C  
Melodic Strings, 10:30 p.m. Tuesday, C  
Radio City Symphony, 12:30 p.m. Sunday, B  
Mischa Raginsky, 6:00 p.m. Thursday, C  
Romany Trail, 12:30 p.m. Sunday, C

Victor Arden, 8:30 p.m. Wednesday, C  
Charles Barnett, 6:45 p.m. Thurs. and Sat., C  
Don Bestor, 10:30 p.m. Friday, R; 7:30 p.m. Sat., B  
Jack Denny, 10:30 p.m. Wednesday, B  
Duke Ellington, 10:00 p.m. Sunday, R  
Jan Garber, 8:00 p.m. Monday, B; 11:45 p.m. Monday, C  
Lud Gluskin, 9:30 p.m. Monday, C  
Glen Gray, 11:30 p.m. Sunday; 11:15 p.m. Mon. and Sat., C  
Johnny Green, 9:30 p.m. Friday, C  
Phil Harris, 9:00 p.m. Friday, B  
Billy Hays, 6:15 p.m. Saturday, C  
Lennie Hayton, 9:00 and 12:00 p.m. Wednesday, R

### DANCE BANDS

Richard Humber, 8:00 p.m. and 1:00 a.m. Monday, R;  
9:30 and 11:00 p.m. Tuesday, C  
Isham Jones, 11:15 p.m. Tues. and Fri.; 7:15 p.m. Sat.,  
C  
Gene Kardos, 7:00 p.m. Wednesday, C  
Louis Katzman, 10:00 p.m. Wednesday, B  
Wayne King, 10:00 p.m. Sunday and Monday, C; 8:30  
p.m. Tues. and Wed., R  
Guy Lombardo, 10:00 p.m. Wednesday, R  
Abe Lyman, 9:00 p.m. Friday, R; 8:30 p.m. Tuesday, C  
Charles Previn, 7:00 p.m. Sunday, B  
Leo Reisman, 8:00 and 11:30 p.m. Tuesday, R  
Freddie Rich, 10:15 p.m. Tuesday; 8:15 p.m. Friday, C  
Sam Robbins, 6:45 p.m. Tuesday; 7:00 p.m. Friday, C  
Buddy Rogers, 9:00 p.m. Sunday, C  
Phil Spitalny, 8:00 p.m. Wednesday, C  
Rudy Vallee, 8:00 p.m. Thursday, R  
Eather Velas, 6:45 p.m. Friday, C  
Fred Waring, 9:30 p.m. Sunday, C  
Paul Whiteman, 10:00 p.m. Thursday, R  
Edward Wurtzebach, 6:15 p.m. Tues., Wed., Thurs.  
and Fri., C  
Victor Young, 10:00 p.m. Friday, C

#### DIALOG

Fred Allen, 9:00 and 12:00 p.m. Wednesday, R  
Phil Baker, 9:30 p.m. Friday, B  
Jack Benny, 10:30 p.m. Friday, R  
Joe Cook, 9:30 p.m. Monday, R  
Cuckoos, 10:00 p.m. Saturday, R  
George Givot, 9:00 p.m. Tuesday, C  
Jake and Lena, 7:15 and 11:15 p.m., Mon. to Fri., Inc., R  
Jack Pearl, 8:00 p.m. Wednesday, R  
Pieck and Pat, 9:30 p.m. Friday, R  
Stoopnagle and Budd, 10:00 p.m. Friday, C

#### DRAMA

Bar X Days, 9:00 p.m. Thursday, C  
Death Valley Days, 9:00 p.m. Thursday, B  
First Nighter, 10:00 p.m. Friday, R  
One Man's Family, 9:00 p.m. Saturday, R  
Princess Pat Players, 9:30 p.m. Monday, B  
Raffles, 8:30 p.m. Monday, C  
Irene Rich for Welch, 7:30 p.m. Wednesday, B  
Soconyland Sketches, 9:30 p.m. Tuesday, R  
Talkie Picture Time, 3:00 p.m. Sunday, R  
Tastyeast Theatre, 9:30 p.m. Sunday, B  
True Story Court, 8:30 and 11:30 p.m. Friday, C  
Wayside Cottage, 7:15 p.m. Tuesday and Thurs., C

#### PIANO AND ORGAN

Carlie and London, 6:45 p.m. Sunday; 10:45 p.m.,  
Friday, C  
Fray and Braggiotti, 10:00 p.m. Tuesday, C  
Archer Gibson, 10:30 p.m. Thursday, B  
Ann Leaf, 1:00 p.m. Sunday, C  
Ohman and Arden, 9:30 p.m. Sunday, R  
Playboys, 5:00 p.m. Sunday; 10:45 p.m. Thursday, C

#### POPULAR PROGRAMS

A. & P. Gypsies, 9:00 p.m. Monday, R  
Album of Familiar Music, 9:30 p.m. Sunday, R  
Armour Program, 9:30 p.m. Friday, B  
Gene Arnold and Commodores, 2:00 p.m. Sunday, R  
Miss Babo's Surprise, 1:30 p.m. Sunday, R  
Major Bowes' Family, 11:30 a.m. Sunday, R  
Buffalo Variety Workshop, 4:00 p.m. Sunday, C  
Byrd Expedition, 10:00 p.m. Wednesday, C  
California Melodies, 9:15 p.m. Friday, C  
Chase and Sanborn, 8:00 p.m. Sunday, R  
Chicago Knights, 7:30 p.m. Sunday, C  
Cities Service, 8:00 p.m. Friday, R  
Colgate House Party, 9:30 p.m. Monday, R  
Columbia Variety Hour, 8:00 p.m. Sunday, C  
Contented Program, 10:00 p.m. Monday, R  
Forty-Five Minutes in Hollywood, 10:00 p.m. Thurs., C  
Gulf Headliners, 9:00 p.m. Sunday, B  
Hall of Fame, 10:00 p.m. Sunday, R  
Household Musical, 9:00 p.m. Tuesday, B  
Manhattan Merry-Go-Round, 9:00 p.m. Sunday, R  
Maxwell House Show Boat, 9:00 p.m. Thursday, R  
National Barn Dance, 10:30 p.m. Saturday, B  
Oregon on Parade, 4:30 p.m. Sunday, C

Palmyra Theatre, 10:00 p.m. Tuesday, R  
Sentinels Serenade, 5:30 p.m. Sunday, R  
Silken Strings, 7:00 p.m. Sunday, B  
Silver Dust Serenaders, 7:30 p.m. Mon., Wed. and  
Fri., C  
Sineira Minstrels, 9:00 p.m. Monday, R  
Letha Stevens Harmonies, 8:30 p.m. Thursday, C  
Voice of Firestone, 8:30 and 11:30 p.m. Monday, R  
Windy City Revue, 2:30 p.m. Sunday, C

#### RELIGIOUS

Catholic Hour, 6:00 p.m. Sunday, R  
Elder Mechaux, 10:30 p.m. Saturday, C  
National Vespers, 5:00 p.m. Sunday, B  
Salt Lake Choir, 11:30 a.m. Sunday, C

#### SINGERS

Beale Street Boys, 7:00 p.m. Tuesday, C  
Irene Beasley, 7:45 and 11:00 p.m. Sunday, R  
Charles Carlie, 6:00 p.m. Tuesday, C  
Columbians, 8:15 p.m. Friday, C  
Frank Crumit, 10:00 p.m. Friday, C  
Edward Davies, 5:30 p.m. Sunday, R  
Jessica Gougonette, 8:00 p.m. Friday, R  
Phil Du... 8:00 and 11:30 p.m. Tuesday, R  
Mary... 10:30 p.m. Wednesday; 7:00 p.m.  
Saturday, C  
Cliff Edwards, 7:30 p.m. Thursday, C  
Evan Evans, 9:00 p.m. Monday, C  
 Sylvia Luos, 7:00 p.m. Thursday; 11:00 p.m. Sat., C  
Gene and Glenn, 7:15 and 11:15 p.m. Mon. to Fri.;  
Inclusive, R  
Tito Guizar, 6:00 p.m. Wednesday; 9:30 p.m. Thursday,  
C  
John Herrick, 6:45 p.m. Saturday, B  
Al Jolson, 10:00 p.m. Thursday, R  
Dennis King, 10:00 p.m. Wednesday, B  
Jeanie Lang, 9:00 p.m. Sunday, C  
Frances Langford, 9:30 p.m. Monday, R  
Elizabeth Lennox, 8:30 p.m. Wednesday, C  
Little Jack Little, 11:00 p.m. Sunday; 11:15 p.m.  
Wednesday, C  
Nick Lucas, 6:00 p.m. Sunday; 7:15 p.m. Monday;  
11:00 p.m. Wednesday, C  
Everett Marshall, 8:30 p.m. Wednesday; 10:00 p.m.  
Friday, C  
Moxine, 8:00 p.m. Wednesday, C  
Frank Munn, 9:30 p.m. Sunday; 9:00 p.m. Friday, R;  
8:00 p.m. Tuesday, C  
Edith Murray, 11:00 p.m. Friday, C  
Donald Novis, 9:30 p.m. Monday, R  
Frank Parker, 10:30 p.m. Friday, R  
Virginia Rea, 9:30 p.m. Sunday, R  
Harry Richman, 10:30 p.m. Wednesday, B  
Carson Robison, 9:00 p.m. Thursday, C  
Round Towners, 6:00 p.m. Friday, C  
Sanderson-Crumit, 5:30 p.m. Sunday, C  
Mme. Schumann-Heink, 10:00 and 11:15 p.m. Sunday, B  
Vivienne Segal, 8:30 p.m. Tuesday, C; 9:00 p.m. Fri-  
day, R  
Robert Simmons, 9:00 p.m. Monday, R  
Singin' Sam, 10:30 p.m. Monday, C  
Mary Small, 1:30 p.m. Sunday, R  
Kate Smith, 8:00 p.m. Mon., Thurs. and Fri., C  
Gladys Swarthout, 8:30 and 11:30 p.m. Monday;  
10:00 p.m. Tuesday, R  
Tanara, 9:00 p.m. Sunday, R  
Vera Van, 7:15 p.m. Wednesday; 11:00 p.m. Thurs-  
day, C  
Fats Waller, 11:00 p.m. Mon.; 9:45 p.m. Thurs-  
day; 7:45 p.m. Sat., C  
Muriel Wilson, 8:00 p.m. Tuesday, C

#### TALKS

American Bosch Explorers Club, 5:30 p.m. Sunday, B  
Frank Buck, 7:45 and 11:00 p.m. Mon. to Fri., Inc., B  
Boake Carter, 7:45 p.m. daily, except Sat. and Sun., C  
Chicago Round Table, 12:30 p.m. Sunday, R  
Roy Helton, 9:15 p.m. Monday, C  
Walter Pitkin, 8:15 p.m. Thursday, C  
Lowell Thomas, 6:45 p.m. Mon. to Fri., Inclusive, B  
You and Your Government, 7:30 p.m. Tuesday, B

# THE SHORTWAVE STATIONS OF THE WORLD BY FREQUENCIES

In the list of stations arranged by frequencies, the frequency is given first, in megacycles followed by the wavelength in meters. The location of each station given in the frequency list is given as it is announced over the air.

A complete list of station addresses appears in the May issue of RADEX.

## KEY TO SYMBOLS IN PARENTHESES:

Capital letters indicate type of service, as follows:

- A, Point-to-point, Condition A, Inverted modulation.
  - B, Point-to-point, Condition B, Intelligible speech.
  - E, Experimental.
  - F, Forestry service.
  - G, Airway ground station.
  - P, Police.
  - R, Relay (broadcasting).
  - SS, Ship to shore, or shore to ship, communication.
- Small letters following the hyphen concern verifications, as follows:
- a, verifies only occasionally.
  - b, verifies not verily.
  - c, address given alphabetically in address list.
  - y, address not given.
  - z, no information available.
- 1, 2, 3, figures indicate key numbers in address list.

### 1.510 198.56

CJD, Campbell River, B. C. (SS-z) (Minister of Lands for British Columbia)

CJK, Knight Inlet, B. C. (B-z) (Angle British Columbia Packing Co., Ltd.)

VAC, Cape Lazo, B. C. (SS-33) Daily exc. Sunday, 5 a.m. to 7:45 p.m. EST.

VAF, Alert Bay, B. C. (SS-33)

### 1.540 194.69

CJD, Campbell River, B. C. (Minister of Lands for British Columbia)

VBY, Lunenburg, N. S. (SS-z) (Lunenburg Sea Products, Ltd.)

### 1.558 192.43

KGPD, San Francisco, Calif. (Marine Fire)

### 1.566 191.46

WIED, Brcdst. pickup (B-a-37)

WIEK, Brcdst. pickup (B-a-37)

### 1.570 191.08

WPEQ, Baton Rouge, La. (P-z)

### 1.574 190.48

KGPY, Shreveport, La. (State Police)

### 1.596 187.84

CFC, Cub Lake, Sask. (B-z)\*

CGQ, Lac la Ronge, Sask. (B-z)\*

CGV, Emma Lake, Sask. (B-z)\*

CZJ, Isle-a-la-Crosse, Sask. (B-z)\*

VYP, Prince Albert, Sask. (B-z)\*

\*Dept. of Natural Resources, Govt. of the Province of Saskatchewan

WCF, New York, N. Y. (P-z)

WRDU, Brooklyn, N. Y. (P-z)

### 1.606 186.69

KIGA, Brcdst. pickup (KSTP)

WHER, Brcdst. pickup (KDKA)

WIEO, Brcdst. pickup (B-a-37)

WIEW, Brcdst. pickup (B-a-37)

WIEK, Brcdst. pickup (B-a-37)

WJER, Brcdst. pickup (WTMJ)

WMEF, Brcdst. pickup (B-a-37)

### 1.620 185.07

CFL, Tabouret, P. Q. (F-47)

### 1.622 184.85

KIED, Brcdst. pickup (KFWB)

KIEL, Brcdst. pickup (KJR)

KIEF, Brcdst. pickup (WIL)

KIFI, Brcdst. pickup (WDGY)

WIEH, Brcdst. pickup (WMCA)

WKEM, Brcdst. pickup (WINS)

WNEI, Brcdst. pickup (WFBM)

### 1.630 183.94

WEY, Boston, Mass. (Marine Fire)

WKDT, Detroit, Mich. (Marine Fire)

### 1.634 183.48

....., Marion County, Ind. (State Police)

....., Portable in Ind. (State Police)

### 1.642 182.59

WRDS, E. Lansing, Mich. (State Police)

### 1.646 182.15

WIEK, Brcdst. pickup (B-a-W2XE)

WIEL, Brcdst. pickup (B-a-W2XE)

WLEB, Brcdst. pickup (WOKO)

### 1.658 180.83

KSW, Berkeley, Calif. (P-z)

WPGC, S. Schenectady, N. Y. (State Police)

### 1.666 179.96

WMP, Framingham, Mass. (State Police)

WPEL, W. Bridgeport, Mass. (State Police)

WPEV, Portable in Mass. (State Police)

WPEW, Northampton, Mass. (State Police)

### 1.674 179.10

KGPM, San Jose, Calif. (P-z)

KGZT, Santa Cruz, Calif. (P-z)

WPSP, Harrisburg, Pa. (State Police)

### 1.682 178.25

KGHO, Des Moines, Ia. (State Police)

WPGG, Findlay, Ohio (State Police)

WPGQ, Columbus, Ohio (P-z)

W8XA, Portable in Ohio (Dept. of Highways, Division of State Highway Patrol)

....., Massillon, Ohio (P-z)

### 1.706 175.74

KGPC, St. Louis, Mo. (P-z)

WKDU, Cincinnati, Ohio (P-z)

WPET, Lexington, Ky. (P-z)

### 1.712 175.13

CZG, Prince Rupert, B. C. (British Columbia Provincial Police)

KGHY, Whittier, Calif. (P-z)

KGJX, Pasadena, Calif. (P-z)

KGPJ, Beaumont, Texas (P-z)

KGPL, Los Angeles, Calif. (P-z)

KGPR, Fort Worth, Texas (P-z)

KGZB, Houston, Texas (P-z)

KGZL, Shreveport, La. (P-z)

KGZQ, Waco, Texas (P-z)

KGZY, San Bernardino, Calif. (P-z)

KVP, Dallas, Texas (P-z)

VYR, Montreal, P. Q. (P-z)

WPDB, Chicago, Ill. (P-z)

WPDC, Chicago, Ill. (P-z)

WPDD, Chicago, Ill. (P-z)

WPDU, Pittsburgh, Pa. (P-z)

WPED, Arlington, Mass. (P-z)

WPEH, Somerville, Mass. (P-z)

WPEI, E. Providence, R. I. (P-z)

WPEJ, Brookline, Mass. (P-z)

WPPA, Newton, Mass. (P-z)

WPFN, Falhaven, Mass. (P-z)

WPGV, Boston, Mass. (P-z)

....., Medford, Mass. (P-z)

### 1.715 to 2.000

(149.91 to 174.82 meters)

Amateur band. Phones from 1.475 to 2.000 megs.

### 2.102 142.64

KIGA, Brcdst. pickup (KSTP)

KIGW, Brcdst. pickup

WHER, Brcdst. pickup (WHER)

WIEO, Brcdst. pickup (B-a-37)

WIEW, Brcdst. pickup (B-a-37)

WIEK, Brcdst. pickup (B-a-37)

WJER, Brcdst. pickup (WTMJ)

WMEF, Brcdst. pickup (B-a-37)

### 2.150 139.45

KIED, Brcdst. pickup (KFWB)

KIEF, Brcdst. pickup (WIL)

KIEL, Brcdst. pickup (KJR)

KIEO, Brcdst. pickup (KFSD)

KIFI, Brcdst. pickup (WDGY)

KIFT, Brcdst. pickup (KJBS)

KIIO, Brcdst. pickup (KMTR)

KILB, Brcdst. pickup (KWKH)

WIEG, Brcdst. pickup (WMCA)

WKEM, Brcdst. pickup (WINS)

WLEX, Brcdst. pickup (WJAG)

WNEI, Brcdst. pickup (WFBM)

### 2.190 136.90

KIHH, Brcdst. pickup (KFAB)

WIEK, Brcdst. pickup (B-a-W2XE)

WIEL, Brcdst. pickup (B-a-W2XE)

### 2.382 125.87

KGHT, Brownville, Tex. (P-z)

KGHU, Austin, Tex. (P-z)

INDEX BY FREQUENCIES AND DIAL NUMBERS

540 kilocycles 555.2 meters

CJRM ak 1000 F Moose Jaw, Sask.

550 kilocycles 545.1 meters

CFNB ak 500 F Fredericton, N. B.  
 KFUD ae 500 2 (1) St. Louis, Mo.  
 KFVR ae 1000 N (2.5) Bismarck, N. D.  
 KOAC ak 1000 ..... Corvallis, Ore.  
 KSD ak 500 2R (1) St. Louis, Mo.  
 TISO ak 250 ..... San Jose, C. R.  
 WDEV ae 500 D Waterbury, Vt.  
 WGR ae 1000 C Buffalo, N. Y.  
 WKRC ak 1000 C (2.5) Cincinnati, Ohio  
 WSWA z 500 P Staunton, Va.

560 kilocycles 535.4 meters

KFDM ak 500 (1) Beaumont, Texas  
 KLZ ae 1000 C (2.5) Denver, Colo.  
 KTAB ak 1000 ..... San Francisco, Calif.  
 KWTO ak 1000 D Springfield, Mo.  
 WFI ae 500 1R (1) Philadelphia, Pa.  
 WIND ak 1000 (2.5) Gary, Ind.  
 WLIT ak 500 1R (1) Philadelphia, Pa.  
 WNOX ak 1000 C (2) Knoxville, Tenn.  
 WQAM ae 1000 C Miami, Fla.  
 XEAO ak 250 (.15) Mexicali, B. C.

570 kilocycles 526.0 meters

FON z 250 574 St. Pierre, Miquelon  
 KGKO ak 250 C (1) Wichita Falls, Texas  
 KMTR ak 500 ..... Hollywood, Calif.  
 KVI ak 1000 ..... Tacoma, Wash.  
 WKBN ae 500 1C Youngstown, Ohio  
 WMCA ak 500 ..... New York, N. Y.  
 WMAX ak 1000 C (2.5) Yankton, S. D.  
 WOSU ak 750 1 (1) Columbus, Ohio  
 WSYR ak 250 B Syracuse, N. Y.  
 WWNC ae 1000 N Asheville, N. C.

580 kilocycles 516.9 meters

CHRC ak 100 F Quebec, Que.  
 CKCL ae 100 F Toronto, Ont.  
 CKUA ak 500 ..... Edmonton, Alta.  
 KMJ ak 500 C Fresno, Calif.  
 KSAC ak 500 2 (1) Manhattan, Kans.  
 WCHS ak 500 (1) Charleston, W. Va.  
 WDBO ae 250 C (1) Orlando, Fla.  
 WIBW ak 1000 C2 Topeka, Kans.  
 WTAG ae 500 R (1) Worcester, Mass.

590 kilocycles 508.2 meters

CMW ae 1400 595 Havana, Cuba  
 KHQ ak 1000 N (2.5) Spokane, Wash.  
 WEEL ak 1000 R Boston, Mass.  
 WKZO ae 1000 D Kalamazoo, Mich.  
 WOW ae 1000 R (2.5) Omaha, Neb.  
 XEPN ak 50000 ..... Piedras Negras, Coah.

600 kilocycles 499.7 meters

CFCF ae 500 ..... Montreal, Que.  
 CFCO ak 100 F Chatham, Ont.  
 CJOR ak 500 ..... Vancouver, B. C.  
 KFSD ae 1000 N San Diego, Calif.  
 WCAC ak 500 2 Storrs, Conn.  
 WCAO ae 500 C Baltimore, Md.  
 WICC ae 250 2 C (1) Bridgeport, Conn.  
 WMT af 1000 C (2.5) Waterloo, Iowa  
 WREC ak 1000 C (2.5) Memphis, Tenn.

610 kilocycles 491.5 meters

KFRK ak 1000 C (2.5) San Francisco, Calif.

Radio Stations  
Of The World

KGHV, Corpus Christi, Tex. (P-z)  
 KGZH, Klamath Falls, Tex. (P-z)  
 WPDN, Auburn, N. Y. (P-z)  
 WPEA, Syracuse, N. Y. (P-z)  
 WPFM, Birmingham, Ala. (P-z)  
 WPGW, Mobile, Ala. (P-z)  
 ..... Duluth, Minn. (P-z)

2.406 124.61

KGHZ, Little Rock, Ark. (P-z)  
 KGPW, Salt Lake City, Utah (P-z)

2.414 124.20

KGHW, Centralia, Wash. (P-z)  
 KGPA, Seattle, Wash. (P-z)  
 KGPF, Santa Fe, N. Mex. (P-z)  
 KGPS, Bakersfield, Calif. (P-z)  
 KGZA, Fresno, Calif. (P-z)  
 KGZM, El Paso, Tex. (P-z)  
 KGZN, Tacoma, Wash. (P-z)  
 KGZO, Santa Barbara, Calif. (P-z)  
 KGZV, Aberdeen, Wash. (P-z)  
 KGZX, Albuquerque, N. Mex. (P-z)  
 WCK, Detroit, Mich. (P-z)  
 WMO, Highland Park, Mich. (P-z)  
 WPPA, Tulare, Calif. (P-z)  
 WPDJ, Passaic, N. J. (P-z)  
 WPDX, Detroit, Mich. (P-z)  
 WPHY, Atlanta, Ga. (P-z)  
 WPFH, Baltimore, Md. (P-z)  
 WPFI, Columbus, Ga. (P-z)  
 WPGH, Albany, N. Y. (P-z)  
 WPGJ, Utica, N. Y. (P-z)  
 WPGM, La Grange, Ga. (P-z)  
 WRDR, Grande Pointe, Mich. (P-z)

2.416 124.09

CJW, St. John, N. B. (P-Dept. of Public Safety)  
 CZG, Prince Rupert, B. C. (British Columbia Provincial Police)  
 VYW, Winnipeg, Man. (Board of Police Commissioners)

2.422 123.79

KGPE, Kansas City, Mo. (P-z)  
 KGFG, Vallejo, Calif. (P-z)  
 KGZC, Topeka, Kans. (P-z)  
 KSW, Berkeley, Calif. (P-z)  
 WMJ, Buffalo, N. Y. (P-z)  
 WNFP, Niagara Falls, N. Y. (P-z)  
 WPDW, Rochester, N. Y. (P-z)  
 WPDW, Washington, D. C. (P-z)  
 WPFU, Portland, Me. (P-z)  
 ..... Leavenworth, Kans. (P-z)  
 ..... Nashua, N. H. (P-z)

2.430 123.45

KGHX, Santa Ana, Calif. (P-z)  
 KGPB, Minneapolis, Minn. (P-z)  
 KGJZ, Phoenix, Ariz. (P-z)  
 WPDJ, Columbus, Ohio (P-z)  
 WPDW, Dayton, Ohio (P-z)  
 WPKS, St. Paul, Minn. (P-z)  
 WPEK, New Orleans, La. (P-z)  
 WPFM, Highland Park, Ill. (P-z)  
 WPFK, Hackensack, N. J. (P-z)  
 WPGI, Portsmouth, Ohio (P-z)  
 ..... Long Beach, Calif. (P-z)

2.442 122.77

KGPP, Portland, Ore. (P-z)  
 KGPX, Denver, Colo. (P-z)  
 KGZR, Salem, Ore. (P-z)  
 WMDZ, Indianapolis, Ind. (P-z)

INDEX BY FREQUENCIES AND DIAL NUMBERS

KZEG ak 1000 618.5 Manila, P. I.  
 KZRM ak 50000 618.5 Manila, P. I.  
 TIXA z 7.5 614 San Jose, C. R.  
 WDAF ak 1000 R Kansas City, Mo.  
 WIP ae 500 C (1) Philadelphia, Pa.  
 WJAY ae 500 D Cleveland, Ohio  
 XFX ak 500 ..... Mexico City, D. F.

620 kilocycles 483.6 meters

KGW ak 1000 N (2.5) Portland, Ore.  
 KTAR ae 1000 N Phoenix, Ariz.  
 WFLA ae 1000 Na (2.5) Clearwater, Fla.  
 WHJB z 250 P Greensburg, Pa.  
 WLBZ ak 500 C Bangor, Maine  
 WSUN ae 1000 Na (2.5) St. Petersburg, Fla.  
 WTMJ ae 1000 N (2.5) Milwaukee, Wis.  
 ..... 2 250 P Pittsburgh, Pa.

630 kilocycles 475.9 meters

CFCY ae 500 F Char't'w'n, P.E.I.  
 CJGX ck 500 F Yorkton, Sask.  
 CKOV ak 100 F Kelowna, B. C.  
 KFRU ak 500 I Columbia, Mo.  
 KGFX ak 200 D Pierre, S. D.  
 WGBF ae 500 I Evansville, Ind.  
 WMAL ck 250 B (.5) Washington, D. C.  
 WOS ak 500 1D Jefferson City, Mo.  
 WPRO ak 100 ..... Providence, R. I.

640 kilocycles 468.5 meters

CMQ z 500 645 Havana, Cuba  
 KFI ck 50000 N Los Angeles, Calif.  
 WAIU ae 500 ..... Columbus, Ohio  
 WOI ae 5000 D Ames, Iowa  
 XEOX ak 250 ..... Saltillo, Coah.

650 kilocycles 461.3 meters

WSM ae 50000 N Nashville, Tenn.

660 kilocycles 454.3 meters

WAAW ak 500 D Omaha, Neb.  
 WEAF ak 50000 R New York, N. Y.  
 XEAL z 1000 ..... Mexico City, D. F.

670 kilocycles 447.5 meters

WMAQ ck 50000 N Chicago, Ill.

680 kilocycles 440.9 meters

CMAF ak 1000 ..... Havana, Cuba  
 CMQZ z 1000 ..... Havana, Cuba  
 HJN ak 500 681 Bogota, Colombia  
 KFEQ ae 2500 D St. Joseph, Mo.  
 KPO ak 50000 N San Francisco, Calif.  
 RDN z 500 ..... San Salvador, E. S.  
 VAS ak 2000 685 Glace Bay, N. S.  
 YOWR ck 500 681 St. John's, Nfld.  
 WPTF ae 1000 DnN Raleigh, N. C.

690 kilocycles 434.5 meters

CFRB ae 10000 C Toronto, Ont.  
 CJCJ ak 100 F Calgary, Alta.  
 NAA ak 1000 ..... Arlington, Va.  
 XET ck 500 ..... Monterrey, N. L.

700 kilocycles 428.3 meters

WLW ak 500000 N Cincinnati, Ohio

710 kilocycles 422.3 meters

KMPC ae 500 Dn Beverly Hills, Calif.

WPDE, Louisville, Ky. (P-z)  
 WPDF, Flint, Mich. (P-z)  
 WPDH, Richmond, Ind. (P-z)  
 WPDL, Lansing, Mich. (P-z)  
 WPED, Grand Rapids, Mich. (P-z)  
 WPES, Saginaw, Mich. (P-z)  
 WPEC, Muskegon, Mich. (P-z)  
 WPEF, Reading, Pa. (P-z)  
 WPFJ, Jacksonville, Fla. (P-z)  
 WPFX, Palm Beach, Fla. (P-z)  
 WPFY, Yonkers, N. Y. (P-z)  
 WPGZ, Miami, Fla. (P-z)  
 WPLG, Binghamton, N. Y. (P-z)  
 WPGP, Muncie, Ind. (P-z)  
 2.450 122.40

KGHN, Hutchinson, Kans. (P-z)  
 KGPB, Oklahoma City, Okla. (P-z)  
 KGPO, Tulsa, Okla. (P-z)  
 KGPQ, Honolulu, Hawaii (P-z)  
 KGPZ, Wichita, Kans. (P-z)  
 KGZF, Chanute, Kans. (P-z)  
 KGZP, Coffeyville, Kans. (P-z)  
 WPDK, Milwaukee, Wis. (P-z)  
 WPEE, Brooklyn, N. Y. (P-z)  
 WPEF, Bronx, N. Y. (P-z)  
 WPEG, New York City (P-z)  
 ..... Kenosha, Wisc. (P-z)  
 2.452 122.27

CGZ, Vancouver, B. C. (Police)  
 CJZ, Verdun, P. Q. (P-z)  
 2.458 121.97

KGHS, Spokane, Wash. (P-z)  
 KGZI, Wichita Falls, Tex. (P-z)  
 KGZW, Lubbock, Texas (P-z)  
 WPDG, Youngstown, Ohio (P-z)  
 WPDO, Akron, Ohio (P-z)  
 WPDV, Charlotte, N. C. (P-z)  
 WPF5, Asheville, N. C. (P-z)  
 WPGD, Rockford, Ill. (P-z)  
 WRBH, Cleveland, Ohio (P-z)  
 ..... Idaho Falls, Ida. (P-z)  
 ..... Steubenville, Ohio (P-z)

2.466 121.58

KGHP, Lawton, Okla. (P-z)  
 KGOZ, Cedar Rapids, Ia. (P-z)  
 KGPB, San Francisco, Calif. (P-z)  
 KGPI, Omaha, Nebr. (P-z)  
 KGPK, Sioux City, Ia. (P-z)  
 KGPB, Davenport, Ia. (P-z)  
 KGZG, Des Moines, Ia. (P-z)  
 WPEC, Memphis, Tenn. (P-z)  
 WPEM, Woonsocket, R. I. (P-z)  
 WPFV, Pawtucket, R. I. (P-z)  
 WPFW, Bridgeport, Conn. (P-z)  
 WPGA, Bay City, Mich. (P-z)  
 WPGB, Port Huron, Mich. (P-z)  
 WPGK, Cranston, R. I. (P-z)  
 WPGX, Worcester, Mass. (P-z)  
 WPHA, Fitchburg, Mass. (P-z)

2.470 121.40

KGHK, Palo Alto, Calif. (P-z)

2.474 121.19

KGHG, Las Vegas, Nev. (P-z)  
 KGHM, Reno, Nev. (P-z)  
 WPDF, Philadelphia, Pa. (P-z)  
 WPF0, Knoxville, Tenn. (P-z)  
 WPFQ, Swarthmore, Pa. (P-z)  
 WPF5, Asheville, N. C. (P-z)  
 WPGZ, Johnson City, Tenn. (P-z)  
 WRDQ, Toledo, Ohio (P-z)

2.482 120.80

KGZE, San Antonio, Tex. (State and City Police)  
 ..... New Castle, Pa. (P-z)

## INDEX BY FREQUENCIES AND DIAL NUMBERS

<p>KPCB ae 250 .....                      TIFB z 30 714                      WOR ak 5000 .....                      XEN ak 1000 711</p>	<p>Seattle, Wash.                      San Jose, C. R.                      Newark, N. J.                      Mexico City, D. F.</p>	<p>2.490 120.41</p>
<p><b>720 kilocycles 416.4 meters</b></p>		
<p>WGN ck 50000 .....                      XEFI ae 250 .....</p>	<p>Chicago, Ill.                      Chihuahua, Chih.</p>	
<p><b>730 kilocycles 410.7 meters</b></p>		
<p>CFPL ak 100 F                      CJCA ah 500 F                      CKAC ak 5000 C                      CMK ae 2000 .....</p>	<p>London, Ont.                      Edmonton, Alta.                      Montreal, Que.                      Havana, Cuba</p>	
<p><b>740 kilocycles 405.2 meters</b></p>		
<p>KMMJ ae 1000 D                      KTRB ak 250 D                      WHEB ak 250 D                      WSB ah 5000 N</p>	<p>Clay Center, Neb.                      Modesto, Calif.                      Portsmouth, N. H.                      Atlanta, Ga.</p>	
<p><b>750 kilocycles 399.8 meters</b></p>		
<p>KGU aj 2500 N                      WJR ak 10000 B</p>	<p>Honolulu, T. H.                      Detroit, Mich.</p>	
<p><b>760 kilocycles 394.5 meters</b></p>		
<p>CMCO z 1000 767                      KXA ae 250 (.5)                      WBAL ae 10000 BSy                      WEW ae 1000 D                      WJZ ck 50000 BSy                      XEBC ak 5000 .....</p>	<p>Havana, Cuba                      Seattle, Wash.                      Baltimore, Md.                      St. Louis, Mo.                      New York, N. Y.                      Agua Caliente, L. C.</p>	
<p><b>770 kilocycles 389.4 meters</b></p>		
<p>KFAB ae 5000 CSy                      WBBM ae 25000 CSy</p>	<p>Lincoln, Neb.                      Chicago, Ill.</p>	
<p><b>780 kilocycles 384.4 meters</b></p>		
<p>CHWK ak 100 F                      CMBS ak 200 .....                      CMCf ak 250 .....                      KELW ae 500 2                      KFDY ae 1000 D                      KFQD ck 250 .....                      KGHL ak 1000 N (2.5)                      KTM ak 500 2 (1)                      WEAN ae 500 C (.25)                      WMC aj 1000 N (2.5)                      WYAR ae 500 N                      XEYZ z 10000 .....</p>	<p>Chilliwack, B. C.                      Havana, Cuba                      Havana, Cuba                      Burbank, Calif.                      Brookings, S. D.                      Anchorage, Alaska                      Billings, Mont.                      Los Angeles, Calif.                      Providence, R. I.                      Memphis, Tenn.                      Norfolk, Va.                      Mexico City, D. F.</p>	
<p><b>790 kilocycles 379.5 meters</b></p>		
<p>GMJK ak 500 .....                      KGO ak 7500 N                      WGY ak 50000 R</p>	<p>Camaguey, Cuba                      San Francisco, Calif.                      Schenectady, N. Y.</p>	
<p><b>800 kilocycles 374.8 meters</b></p>		
<p>TIGP z 75 .....                      WBAP ak 50000 Na                      WFAA ak 50000 Na                      WTBO ae 250 .....</p>	<p>San Jose, C. R.                      Fort Worth, Tex.                      Dallas, Tex.                      Cumberland, Md.</p>	
<p><b>810 kilocycles 370.2 meters</b></p>		
<p>WCCO ae 50000 C                      WNYC ak 500 N                      XFC z 350 .....</p>	<p>Minneapolis, Minn.                      New York, N. Y.                      Aguascalientes, Ags.</p>	
<p><b>2.522 118.88</b></p>		
<p><b>KOW, Edmonds, Wash. (SS-z)</b>                      (Pacific Telephone &amp; Telegraph Co.)</p>		
<p><b>2.550 117.58</b></p>		
<p><b>WMES, Lorain, Ohio (Pub. Coastal)</b></p>		
<p><b>2.566 116.84</b></p>		
<p><b>KOU, Wilmington, Calif. (SS-z)</b>                      (Southern Calif. Telephone Co.)</p>		
<p><b>2.590 115.76</b></p>		
<p><b>WOU, Marshfield, Mass. ((SS-z)</b>  <b>WOX, St. George, Staten Island,</b>  <b>N. Y. (SS-z) (New York Telephone</b>  <b>Co.)</b></p>		
<p><b>2.604 115.14</b></p>		
<p><b>WVD, Seattle, Wash. (B-ax) (Phones</b>  <b>Ketchikan)</b></p>		
<p><b>2.612 114.79</b></p>		
<p><b>Aeronautical point-to-point stations.</b></p>		
<p><b>2.636 113.34</b></p>		
<p><b>Aeronautical point-to-point stations.</b></p>		
<p><b>2.720 110.23</b></p>		
<p><b>Aeronautical point-to-point stations.</b></p>		
<p><b>2.728 109.90</b></p>		
<p><b>KIJY, Hood River, Ore.</b>  <b>KIJZ, Portable. (Stations owned by</b>  <b>"Crag Rats, Inc.")</b></p>		
<p><b>2.732 109.74</b></p>		
<p><b>Aeronautical stations.</b></p>		
<p><b>2.748 109.10</b></p>		
<p><b>Aeronautical stations.</b></p>		
<p><b>2.906 103.17</b></p>		
<p><b>Aeronautical stations.</b></p>		
<p><b>2.922 102.61</b></p>		
<p><b>Aeronautical stations.</b></p>		
<p><b>2.930 102.33</b></p>		
<p><b>WMEP, Suffield, Ohio (G-z)</b>  <b>WMEU, St. Petersburg, Fla. (G-z)</b>  <b>WMEV, Opa Locka, Fla. (G-z)</b>  <b>(Goodyear Zeppelin Base)</b></p>		
<p><b>2.946 101.77</b></p>		
<p><b>Aeronautical stations.</b></p>		

INDEX BY FREQUENCIES AND DIAL NUMBERS

820 kilocycles 365.6 meters

CMGC	z	30	.....	Matanzas, Cuba
WHAS	aj	50000	C	Louisville, Ky.
XEP	z	500	.....	Mexico City, D. F.
XETW	dk	500	.....	Mexico City, D. F.

830 kilocycles 361.2 meters

CMC	ae	500	835	Havana, Cuba
CMGA	z	100	834	Colon, Cuba
KOA	ak	50000	N	Denver, Colo.
TIEA	z	7.5	833	San Jose, C. R.
WEUU	ak	1000	D	Reading, Pa.
WHDH	ae	1000	Dn	Boston, Mass.
WRUF	ae	5000	Dn	Gainesville, Fla.

840 kilocycles 356.9 meters

CFQC	z	1000	F	Saskatoon, Sask.
CRCT	ak	5000	F	Toronto, Ont.
VOGY	ak	400	.....	St. John's, Nfld.

850 kilocycles 352.7 meters

KIEV	aj	250	D	Glendale, Calif.
WWL	ae	10000	.....	New Orleans, La.
XEXX	z	500	.....	Mexico City, D. F.

860 kilocycles 348.6 meters

TIVL	z	30	869	San Jose, C. R.
WABC	ae	50000	C	New York, N. Y.
WHB	ae	500	D	Kansas City, Mo.
XEMO	ak	2000	865	Tijuana, B. C.

870 kilocycles 344.6 meters

WENR	ak	50000	Na	Chicago, Ill.
WLS	ae	50000	Na	Chicago, Ill.

880 kilocycles 340.7 meters

CFJC	ak	100	F	Kamloops, B. C.
CRCO	ak	1000	F	Ottawa, Ont.
KFKA	ak	500	2 (1)	Greeley, Colo.
KLX	ae	1000	.....	Oakland, Calif.
KPOF	ak	500	2	Denver, Colo.
KSEI	ck	250	(.5)	Pocatello, Idaho
WCOC	ae	500	(1)	Meridian, Miss.
WGBI	ae	500	1	Scranton, Pa.
WPHR	z	500	.....	Petersburg, Va.
WQAN	ae	250	1	Scranton, Pa.
WSUI	ae	500	.....	Iowa City, Iowa
YV2RC	z	100	882	Caracas, Venez.

890 kilocycles 336.9 meters

CJIC	z	100	D	S. Ste. Marie, Ont.
CMX	ae	1000	.....	Havana, Cuba
KARK	ak	250	(.5)	Little Rock, Ark.
KFNF	ak	500	2 (1)	Shenandoah, Iowa
KFPY	ak	1000	C	Spokane, Wash.
KUSD	ae	500	2	Vermillion, S. D.
WGST	ach	250	C (1)	Atlanta, Ga.
WILL	ak	250	2 (1)	Urbana, Ill.
WJAR	ae	500	R	Providence, R. I.
WMMN	ae	250	(.5)	Fairmont, W. Va.
XEW	ak	50000	.....	Mexico City, D. F.

900 kilocycles 333.1 meters

KGA	ak	5000	N	Spokane, Wash.
KGBU	ak	500	.....	Ketchikan, Alaska
KHJ	ae	1000	C (2.5)	Los Angeles, Calif.
WBEN	ae	1000	R	Buffalo, N. Y.
WJAX	ach	1000	N	Jacksonville, Fla.

2.980 100.61

CZA, Drummondville, P. Q. (55-a-6)

2.994 100.14

KGXU, Port Armstrong, Alaska (Buchan & Heinen)

KIEJ, Poorman, Alaska (W. N. Growden)

KIHK, Circle, Alaska\*

KILL, Fort Yukon, Alaska\*

KILM, Hot Springs, Alaska\*

KIIN, Eagle, Alaska\*

KIIO, McGrath, Alaska (B-z)

KIJO, Port Herbert, Alaska (B-z)

KIJS, Baranoff, Island, Alaska (B-z)

KIJV, Deep Cove, Alaska (B-z)

KILY, Excursion Inlet, Alaska (B-z)

..... Cape Pole, Alaska (A. R. Brueger)

\*Owned by Northern Commercial Co. Point to point with WXP at Fairbanks and WXE at Anchorage.

3.040 98.62

Aeronautical stations.

3.070 97.66

CJU, Winnipeg, Man. (G-45)

3.073 97.57

Aeronautical stations.

3.088 97.09

Aeronautical stations.

3.093 96.94

KGGM, Ketchikan, Alaska (B-z) (Alaska Pacific Salmon Co.) (KIAX-KIAY)

KICI, View Cove, Dall Island, Alaska (B-z)

KIIP, Willow Creek Mines, Alaska (W. E. Dunkle).

KIJP, Uganik Bay, Alaska (B-z)

3.128 95.85

Aeronautical stations.

3.163 94.79

Aeronautical stations

3.183 94.19

Aeronautical stations

3.190 93.99

KIGP, Egushik, Alaska (55-z) (Libby McNeill & Libby)

KIHK, Circle, Alaska\*

KILL, Fort Yukon, Alaska\*

KILM, Hot Springs, Alaska\*

KIIN, Eagle, Alaska\*

KIIO, McGrath, Alaska (B-z)

KIIN, Peril Straits, Alaska (B-z)

\*Phone Fairbanks and Anchorage.

Owned by Northern Commercial Co.

3.233 92.74

Aeronautical stations.

3.258 92.03

Aeronautical stations

3.265 91.83

KIIT, St. Michael, Alaska (B-z)

(Territorial Govt. of Alaska)

KIJI, Port Conclusion, Alaska (B-z)

## INDEX BY FREQUENCIES AND DIAL NUMBERS

WKY ae 1000 N Oklahoma City, Ok.  
 WLBL ak 2500 D Stevens Point, Wis.

### 910 kilocycles 329.6 meters

CJAT ak 250 F Trail, B. C.  
 CMDE z 150 915 Havana, Cuba  
 CMHW z 100 ..... Cienfuegos, Cuba  
 CRCM ak 5000 F Montreal, Que.  
 TICR z 75 911 San Jose, C. R.

### 920 kilocycles 325.9 meters

CMCD ah 500 925 Havana, Cuba  
 HHK ae 1000 ..... Port-au-Prince, Haiti  
 KFEL ak 500 1 Denver, Colo.  
 KOMO ak 1000 N Seattle, Wash.  
 KPRC ae 1000 N (2.5) Houston, Texas  
 KVOB ae 500 1 Denver, Colo.  
 WAAF ak 500 D Chicago, Ill.  
 WBSO ae 500 D Babson Park, Mass.  
 WPEN ak 100 (.25) Philadelphia, Pa.  
 WRAX ak 250 D Philadelphia, Pa.  
 WWJ ak 1000 R Detroit, Mich.  
 XEAA z 200 ..... Mexicali, B. C.  
 XEKL z 500 ..... Leon, Guan.  
 XEOK z 2500 ..... Tijuana, B. C.

### 930 kilocycles 322.4 meters

CFAC ak 100 F Calgary, Alta.  
 CFCH ak 100 F North Bay, Ont.  
 CFLC ae 100 ..... Prescott, Ont.  
 CHNS ae 500 F Halifax, N. S.  
 CKPC ae 100 F Brantford, Ont.  
 CKPR ak 50 F Fort William, Ont.  
 CMJF z 200 ..... Camaguey, Cuba  
 KGBZ ak 1000 2 (2.5) York, Neb.  
 KMA ak 1000 2 (2.5) Shenandoah, Iowa  
 KROW ak 500 (1) Oakland, Calif.  
 WBRG ak 1000 C Birmingham, Ala.  
 WDBJ ae 1000 C Roanoke, Va.

### 940 kilocycles 319.0 meters

KOIN ak 1000 C (2.5) Portland, Ore.  
 VOAS ak 100 ..... St. John's, Nfld.  
 WAAT ae 500 D Jersey City, N. J.  
 WAVE ak 1000 N Louisville, Ky.  
 WCSH ae 1000 R (2.5) Portland, Maine  
 WDAY ae 1000 N (2.5) Fargo, N. D.  
 WHA ak 1000 D (2.5) Madison, Wis.  
 XEFO ak 5000 ..... Mexico City, D. F.

### 950 kilocycles 315.6 meters

CMHD dk 500 ..... Caibarien, Cuba  
 CRCS z 100 F Chicoutimi, Que.  
 KFWB ak 1000 (2.5) Hollywood, Calif.  
 KMBC ae 1000 C (2.5) Kansas City, Mo.  
 WRC ae 500 R (1) Washington, D. C.  
 XEAW ak 10000 ..... Reynosa, Tams.

### 960 kilocycles 312.3 meters

CKY ak 15000 F Winnipeg, Man.  
 CMBY z 250 ..... Havana, Cuba  
 CMCW dk 150 965 Havana, Cuba  
 CMJL z 50 ..... Camaguey, Cuba  
 YVIRC ak 5000 ..... Caracas, Venez.

### 970 kilocycles 309.1 meters

KJR z 5000 N Seattle, Wash.  
 WCFL ae 1500 B Chicago, Ill.  
 WIBG ak 100 D Glenside, Pa.  
 XES dk 250 ..... Tampico, Tams.

KIJK, Washington Bay, Kulu Isl., Alaska

KIJW, Shearwater Bay, Alaska (B-z)  
 KIJX, Kodiak Island, Alaska (B-z)  
 ..... Afognak, Alaska (B-z)  
 ..... Skowl Arm, Alaska (B-z)

3.268 91.74

CGP, Prince Rupert, B. C. (B-46)

3.385 88.57

KIUU, Marshall, Alaska (Territorial Govt. of Alaska)

3.423 87.59

WOZ, New York, N. Y. (American Telephone & Telegraph Co.)

3.452 86.85

CJU, Winnipeg, Man. (G-45)

3.468 86.45

Aeronautical stations

3.500 to 4.000

(74.96 to 85.66 meters),

Amateur band. Phone band from 3.900 to 4.000 megs.

3.750 79.95

CT1CT, Lisbon, Portugal (R-ax)

(Radio Eddystone) 9 to 11 a.m.  
 I3RO, Rome, Italy (R-address I2RO)

4.098 73.16

WND, Hialeah, Fla. (B-cy)

4.107 73.00

HCJB, Quito, Ecuador (R-ax)

4.124 72.70

KIFM, Fairbanks, Alaska (G-z) (Pacific Alaskan Airways, Inc.)

4.250 70.55

Ship stations

4.253 70.50

WKF, Lawrenceville, N. J. (A-cy)

WOG, Ocean Gate, N. J.

4.273 70.65

RV15, Khabarovsk, USSR. (R-cy)

WOO, Ocean Gate, N. J. (SS-cy)

WOY, Lawrenceville, N. J.

4.276 70.11

WIR, Rocky Point, N. Y. (E-cy)

4.280 70.05

Italian ships

4.283 70.00

HC2JSB, Guayaquil, Ecuador (R-by)

4.307 69.60

WTDV, Virgin Island (ax)

WTDW, Virgin Island (ax)

4.320 69.40

DAF, Norden, Germany (SS-a-15)

G6RX, Rugby, England (E-ax)

GDB, Rugby, England (A-a-16)

4.348 68.96

CGA9, Drummondville, P. Q. (A-c-6)

INDEX BY FREQUENCIES AND DIAL NUMBERS

980 kilocycles 303.9 meters

CMGF ak 100 987  
 KDKA bk 50000 B  
 XEAE ak 200 .....  
 XEU ak 250 .....

Matanzas, Cuba  
 Pittsburgh, Pa.  
 Mexicala, B. C.  
 Veracruz, Ver.

990 kilocycles 302.8 meters

TITV z 7.5 999  
 WBZ ak 50000 B5y  
 WBZA ak 1000 B5y  
 WJEM z 500 DP  
 XEK ak 100 .....

San Jose, C. R.  
 Boston, Mass.  
 Springfield, Mass.  
 Tupelo, Miss.  
 Mexico City, D. F.

1000 kilocycles 299.8 meters

CMBZ ak 150 1005  
 KFVD ak 250 Dn  
 WHO ak 50000 R  
 WORK ak 1000 D

Havana, Cuba  
 Los Angeles, Calif.  
 Des Moines, Iowa  
 York, Pa.

1010 kilocycles 296.9 meters

CHML ael 50 F  
 CHWC ak 500 3F  
 CKCD ak 100 .....  
 CKCK ak 500 3F  
 CKCO z 100 .....  
 CKIC ak 50 .....  
 CKWX ak 100 .....  
 CMBD z 250 .....  
 CMJO ak 50 .....  
 KGGF ak 1000 2  
 KQW ae 1000 .....  
 TIGA z 30 1014  
 WHN ae 1000 .....  
 WIS ae 1000 N (2.5)  
 WNAD ae 500 2

Hamilton, Ont.  
 Regina, Sask.  
 Vancouver, B. C.  
 Regina, Sask.  
 Ottawa, Ont.  
 Wolfville, N. S.  
 Vancouver, B. C.  
 Ciego de Avila, Cuba  
 Ciego de Avila, Cuba  
 Coffeyville, Kans.  
 San Jose, Calif.  
 Cartago, C. R.  
 New York, N. Y.  
 Columbia, S. C.  
 Norman, Okla.

1020 kilocycles 293.9 meters

KYW ak 10000 NY  
 XEJ ak 250 .....

Chicago, Ill.  
 Juarez, Chih.

1030 kilocycles 291.1 meters

CFCN ak 10000 F  
 CKLW ae 5000 C  
 CMHI ak 250 .....  
 CMKC z 150 1034  
 XEB ak 10000 .....

Calgary, Alta.  
 Windsor, Ont.  
 Santa Clara, Cuba  
 Santiago, Cuba  
 Mexico City, D. F.

1040 kilocycles 288.3 meters

CMGH ak 15 .....  
 KRLD ae 10000 C  
 KWJJ ak 500 .....  
 WKAR ak 1000 D  
 WTIC ak 50000 R

Matanzas, Cuba  
 Dallas, Texas  
 Portland, Ore.  
 East Lansing, Mich.  
 Hartford, Conn.

1050 kilocycles 285.5 meters

CMJG z 50 .....  
 CRCK z 1000 .....  
 KFBI ak 5000 Dn  
 KNX ak 50000 .....

Camaguey, Cuba  
 Quebec, Que.  
 Abilene, Kans.  
 Hollywood, Calif.

1060 kilocycles 282.8 meters

CMBG z 225 .....  
 CMCB ak 150 .....  
 KTHS ae 10000 N  
 WBAL ae 10000 B  
 WJAG ak 1000 D  
 XEA ak 125 .....

Havana, Cuba  
 Havana, Cuba  
 Hot Springs, Ark.  
 Baltimore, Md.  
 Norfolk, Neb.  
 Guadalajara, Jal.

4.465 67.14

CFA2, Drummondville, P. Q. (B-b-6)

4.505 66.55

CGO, Ocean Falls, B. C. (B-46)  
 CZO, Prince George, B. C. (B-46)  
 CZP, Claydon Bay, B. C. (B-46)

4.513 66.43

ZFS, Nassau, Bahamas (B-ax)

4.550 65.89

WDN, W2XBJ Rocky Point, N. Y. (E-cy)

4.740 63.25

Aeronautical stations

4.745 63.18

Aeronautical stations

4.753 63.08

WOO, Ocean Gate, N. J. (55-cy)  
 WOY, Lawrenceville, N. J.

4.755 63.05

CFU, Rossland, B. C. (B-z) (Consolidated Mining & Smelting Co. of Canada, Ltd.)

4.785 66.66

CZA, Drummondville, P. Q. (55-c-6)

4.835 62.00

GDW, Rugby, England (A-a-16)

4.865 61.63

CGT, Campbell River, B. C. (B-46)

4.972 60.30

G6RX, Rugby, England (E-ax)

4.975 60.27

GBC, Rugby, England (55-a-16)

4.988 60.11

Aeronautical stations

5.045 59.42

ZFA, Hamilton, Bermuda (A-cy)

5.143 58.30

PMY, Bandoeng, Java (R-a-22)

5.263 56.96

WQN, Rocky Point, N. Y. (E-cy)

5.378 55.75

Aeronautical stations

5.405 55.47

CGP, Prince Rupert, B. C. (B-46)  
 CZQ, Anyox, B. C. (B-46)

5.505 54.46

WQN, Rocky Point, N. Y. (E-cy)

5.573 to 5.633

Aeronautical stations

5.660 51.21

CFD, Kenora, Ont. (F-z) (Ont. Dept. of Lands and Forests)  
 CFJ, Red Lake, Ont. (Ont. Dept. of Lands and Forests)

## INDEX BY FREQUENCIES AND DIAL NUMBERS

<p><b>1070 kilocycles</b></p> <p>KJBS ak 100 Dn WCAZ dk 100 D WDZ ak 100 D WTAM ck 5000 R</p>	<p><b>280.2 meters</b></p> <p>San Francisco, Calif. Carthage, Ill. Tuscola, Ill. Cleveland, Ohio</p>	<p>CFU, Rossland, B. C. (B-z) (Consolidated Mining &amp; Smelting Co. of Canada, Ltd.) 5.678 52.80</p> <p>VK3LR, Melbourne, Australia (R-ax) 5.765 52.01</p> <p>KZGF, Manila, P. I. (Philippine Long Distance Telephone Co.) 5.766 52.00</p> <p>XAM, Merida, Yucatan, Mexico (B-bx) Phones, Mexico City 5.795 51.74</p> <p>KZGH, Iloilo, P. I. (Philippine Long Distance Telephone Co.) 5.825 51.47</p> <p>HJA2, Bogota, Colombia (B-cy) KZGG, Cebu, P. I. (Philippine Long Distance Telephone Co.) WQN, Rocky Point, N. Y. (E-cy) 5.850 51.25</p> <p>WOB, Lawrenceville, N. J. (A-cy) 5.879 51.00</p> <p>HJ2ABA, Tunja, Colombia (R-ax) (La Voz del Pais) HJ2ABD, Cucuta, Colombia (La Voz de Cucuta) XDA, Mexico City, D. F. (B-cy) 5.900 50.82</p> <p>CMB-1, Havana, Cuba (B-a-31) HJ4ABE, Medellin, Colombia (R-ax) 5.940 50.47</p> <p>TGW, Guatemala City, Guat. (R-ay) 5.948 50.40</p> <p>HIX, Santo Domingo, D. R. (R-ax) 5.968 50.26</p> <p>HVJ, Vatican City (R-ax) 5.975 50.18</p> <p>HJ2ABC, Cucuta Colombia (R-ax) 5.995 50.01</p> <p>WVD, Seattle, Wash. (B-ax) 5.996 50.00</p> <p>RV59, Moscow, USSR. (R-ax) Signs off with Kremlin Chimes and L'Internationale ZGE, Kuala Lumpur, FMS. (R-ax) 6.005 49.93</p> <p>VE9DN, Drummondville, P. Q. (R-a-6) Relays CFCF VE9DR, Montreal, P. Q. (R-a-6) Relays CFCF 6.010 49.72</p> <p>COC, Havana, Cuba (R-ay) (P. O. Box 98) XEBT, Mexico City, D. F. (R-ay) Interval signal, 3 cuckoo calls. Apartado 7344. 6.020 49.80</p> <p>CQN, Macao, Macao (R-) DJC, Zeesen, Germany (R-a-14)</p>
<p><b>1080 kilocycles</b></p> <p>VOKW z 30 1085 WBT ae 5000 C WCBF ak 5000 1Dn WMBI ae 5000 1Dn XEAF z 750 ..... XEMA z 50 .....</p>	<p><b>277.6 meters</b></p> <p>St. John's Nfld. Charlotte, N. C. Zion, Ill. Chicago, Ill. Nogales, Son. Tampico, Tams.</p>	
<p><b>1090 kilocycles</b></p> <p>KMOX ak 5000 C WESG ak 1000 .....</p>	<p><b>275.1 meters</b></p> <p>St. Louis, Mo. Elmira, N. Y.</p>	
<p><b>1100 kilocycles</b></p> <p>CMHA z 500 1103 CMCU ak 500 ..... CRCV ak 1000 F KGDM ak 250 D KWKH ae 10000 ..... TIRCA ak 500 ..... WLWL ae 5000 1 WPG ak 5000 1C XEFG ak 250 1105</p>	<p><b>272.6 meters</b></p> <p>Sagua la Grande, C. Havana, Cuba Vancouver, B. C. Stockton, Calif. Shreveport, La. San Jose, C. R. New York, N. Y. Atlantic City, N. J. Mexico City, D. F.</p>	
<p><b>1110 kilocycles</b></p> <p>KSOO ak 1000 Dn (2.5) WRVA ae 5000 N</p>	<p><b>270.1 meters</b></p> <p>Stoux Falls, S. D. Richmond, Va.</p>	
<p><b>1120 kilocycles</b></p> <p>CHLP z 100 ..... CHSJ ae 100 F CKOC ae 500 F (1) CMHJ ae 60 1125 KFIO ak 100 D KFSG ag 500 a KRKD ae 500 a KRSC ck 100 D WDEL ak 250 (.5) WISN ak 250 (1) WTAW ae 500 ..... XENT ck 50000 .....</p>	<p><b>267.7 meters</b></p> <p>Montreal, Que. St. John, N. B. Hamilton, Ont. Cienfuegos, Cuba Spokane, Wash. Los Angeles, Calif. Los Angeles, Calif. Seattle, Wash. Wilmington, Del. Milwaukee, Wis. College Station, Tex. Nuevo Laredo, Tams.</p>	
<p><b>1130 kilocycles</b></p> <p>KSL ae 50000 C TGW ak 500 X WJJD ak 20000 Dn WOV ag 1000 D</p>	<p><b>265.3 meters</b></p> <p>Salt Lake City, Utah Guatemala City, G. Chicago, Ill. New York, N. Y.</p>	
<p><b>1140 kilocycles</b></p> <p>CMBJ z 500 1147 CMBW ak 600 ..... CMCG z 500 ..... CMCO z 500 1145 KVOO ak 25000 1N WAPI ae 5000 1N</p>	<p><b>263.0 meters</b></p> <p>Havana, Cuba Havana, Cuba Havana, Cuba Havana, Cuba Tulsa, Okla. Birmingham, Ala.</p>	
<p><b>1150 kilocycles</b></p> <p>CMJH ak 50 ..... WHAM ae 50000 B XEH ak 250 ..... XEWZ z 100 .....</p>	<p><b>260.7 meters</b></p> <p>Ciego de Avila, Cuba Rochester, N. Y. Monterrey, N. L. Mexico City, D. F.</p>	
<p><b>1160 kilocycles</b></p> <p>WOWO ae 10000 1C</p>	<p><b>258.5 meters</b></p> <p>Fort Wayne, Ind.</p>	

INDEX BY FREQUENCIES AND DIAL NUMBERS

WWVA ak 5000 1C	Wheeling, W. Va.	6.040 49.64
XED ck 500	Guadalajara, Jal.	W1XAL, Boston, Mass. (R-ax) Relays
<b>1170 kilocycles</b>	<b>256.3 meters</b>	WEEL
CMJE z 50	Camaguey, Cuba	W4XB, Miami, Fla. (R-cy) Relays
WCAU ae 50000 C	Philadelphia, Pa.	W10D
<b>1180 kilocycles</b>	<b>254.1 meters</b>	6.045 49.60
CMBN ak 150 1185	Havana, Cuba	HJ3ABI, Bogota, Colombia (Apartado 513)
CMBX ak 250 1185	Havana, Cuba	6.050 49.56
CMCJ ak 500	Havana, Cuba	GSA, Daventry, England (R-a-17)
KEX ak 5000 2N	Portland, Ore.	6.057 49.50
KOB ae 10000 2	Albuquerque, N. M.	PK1WK, Bandoeng, Java (R-ax)
WDGY ak 1000 D (2.5)	Minneapolis, Minn.	6.060 49.48
WINS ae 1000	New York, N. Y.	W3XAU, Philadelphia, Pa. (R-ax) Relays WCAU
WMAZ ak 1000	Macon, Ga.	W8XAL, Cincinnati, Ohio (R-ax) Relays WLW
XEFA z 500	Mexico City, D. F.	6.070 49.39
<b>1190 kilocycles</b>	<b>252.0 meters</b>	VE9CS, Vancouver, B. C. (R-ax)
H1J z 15 1195	Santo Domingo, D. R.	YV5BMO, Maracaibo, Venezuela (R-x)
VE9EK ak 10 1195	Montmagny, Que.	6.075 49.35
VONF ak 5000 1195	St. John's Nfld.	OER2, Vienna, Austria (R-cx)
WATR ak 100 D	Waterbury, Conn.	OXY, Skamlebaek, Denmark (R-ax)
WOAI ak 50000 N	San Antonio, Texas.	6.081 49.30
WSAZ ak 1000	Huntington, W. Va.	CP5, La Paz, Bolivia (R-ax)
<b>1200 kilocycles</b>	<b>249.9 meters</b>	6.090 49.23
CHAB ak 100	Moose Jaw, Sask.	VE9BJ, St. John, N. B. (R-ax)
CKTB ak 100 F	St. Catharines, Ont.	YV14BC, Caracas, Venezuela
CMGB z 30 1205	Matanzas, Cuba	6.095 49.19
KBTM ak 100 D	Jonesboro, Ark.	VE9GW, Bowmanville, Ont. (R-ax) Relays CRCT
KFJB ak 100 (.25)	Marshalltown, Iowa	6.100 49.15
KFXD ae 100	Nampa, Idaho	W3XAL, Boundbrook, N. J. (R-a-37)
KFXJ ak 100	Grand Junction, Col.	W9XF, Chicago, Ill. (R-ax)
KGDE ak 100 (.25)	Fergus Falls, Minn.	6.110 49.07
KGEK ak 100	Yuma, Colo.	VE9CG, Calgary, Alta. (R-a-34)
KGFJ ae 100	Los Angeles, Calif.	VE9HX, Halifax, N. S. (R-ax)
KGHI ak 100 (.25)	Little Rock, Ark.	6.112 49.10
KGVO ak 100	Missoula, Mont.	YV2RC, Caracas, Venez. (R-ax)
KMLB ak 100	Monroe, La.	6.116 49.02
KOOS ae 100	Marshfield, Ore.	HJ1ABD, Cartagena, Colombia
KSUN ck 100 D	Lowell, Ariz.	6.120 48.99
KVOS ak 100	Bellingham, Wash	W2XE, New York, N. Y. (R-ax) Relays WABC
KWVG ak 100 C	Stockton, Calif.	6.140 48.83
WABI ak 100	Bangor, Maine	W8XK, Pittsburgh, Pa. (R-ax) Relays KDKA
WBBZ ak 100	Ponca City, Okla.	6.150 48.75
WBHS z 100	Huntsville, Ala.	CJRO, Winnipeg, Man. (R-a-33)
WBNO ck 100 1	New Orleans, La.	YV3RC, Caracas, Venezuela (R-ax)
WCAT ak 100 D	Rapid City, S. D.	6.160 48.67
WCAX ak 100	Burlington, Vt.	KNRA, "Seth Parker" (B-a-37)
WCLO ak 100	Janesville, Wis.	6.200 48.36
WFAM ak 100 8	South Bend, Ind.	HJ3ABF, Bogota, Colombia (R-cy)
WFBE ak 100 (.25)	Cincinnati, Ohio	
WHBC ak 100 2	Canton, Ohio	
WHBY ak 100	Green Bay, Wis.	
WIBX ak 100 (.3)	Utica, N. Y.	
WIL ak 100 (.25)	St. Louis, Mo.	
WJBC ak 100 6	LaSalle, Ill.	
WJBL ae 100 6	Decatur, Ill.	
WJBW ak 100 1	New Orleans, La.	
WKBO ak 100 3	Harrisburg, Pa.	
WKJC ae 100 3 (.25)	Lancaster, Pa.	
WLVA ck 100	Lynchburg, Va.	
WMPC ak 100	Lapeer, Mich.	
WNBO ae 100 2	Washington, Pa.	
WRBL ak 100	Columbus, Ga.	
WWAE ae 100 8	Hammond, Ind.	
YV3BC ak 1000	Caracas, Venez.	
10-AK ak 15	Stratford, Ont.	
10-BP ak 25	Wingham, Ont.	
10-BO ak 15	Brantford, Ont.	
10-BU ak 50	Canora, Sask.	
..... z 100 P	Ada, Okla.	
<b>1210 kilocycles</b>	<b>247.8 meters</b>	
CHNC ak 100 F	New Carlisle, Que.	
CKBI ak 100 F	Prince Albert, Sask.	

## INDEX BY FREQUENCIES AND DIAL NUMBERS

CKCH	ak	100	F	Hull, Que.
CKMC	ak	50	.....	Cobalt, Ont.
CMJI	ak	150	.....	Ciego de Avila, Cuba
KASA	ck	100	.....	Elk City, Okla.
KDLR	ak	100	.....	Devils Lake, N. D.
KFJI	ak	100	.....	Klamath Falls, Ore.
KFOR	ak	100	(.25)C	Lincoln, Neb.
KFPW	ak	100	.....	Fort Smith, Ark.
KFVS	ae	100	6 (.25)	Cape Girardeau, Mo.
KFXM	ak	100	9	San Bernardino, Cal.
KGY	ak	100	.....	Olympia, Wash.
KIEM	ak	100	.....	Eureka, Calif.
KPPC	ak	50	9	Pasadena, Calif.
KWEA	z	100	.....	Shreveport, La.
KWVZ	z	100	.....	Hilo, Hawaii
KWTN	ak	100	.....	Watertown, S. D.
WALR	ak	100	.....	Zanesville, Ohio
WBAX	ae	100	1	Wilkes Barre, Pa.
WBBL	ak	100	7S	Richmond, Va.
WCBS	ak	100	2	Springfield, Ill.
WCRW	ae	100	4	Chicago, Ill.
WEBQ	ae	100	6 (.25)	Harrisburg, Ill.
WEDC	ae	100	4	Chicago, Ill.
WFAS	ak	100	3	White Plains, N. Y.
WGBB	ae	100	3	Freeport, N. Y.
WGCM	ae	100	(.25)	Gulfport, Miss.
WGNV	ak	100	3	Chester, N. Y.
WHBF	ak	100	.....	Rock Island, Ill.
WHBU	ak	100	.....	Anderson, Ind.
WIBU	ak	100	.....	Poynette, Wis.
WJBI	ak	100	3	Red Bank, N. J.
WJBY	ak	100	.....	Gadsden, Ala.
WJEJ	ah	100	D	Hagerstown, Md.
WJIM	z	100	P	Lansing, Mich.
WJW	ak	100	.....	Akron, Ohio
WKFI	ak	100	Y	Greenwood, Miss.
WKOK	ak	100	1P	Sunbury, Pa.
WMBG	ak	100	7C	Richmond, Va.
WOCL	ak	50	.....	Jamestown, N. Y.
WOMT	ae	100	.....	Manitowoc, Wis.
WQDX	ae	100	.....	Thomasville, Ga.
WSBC	ae	100	4	Chicago, Ill.
WSEN	ak	100	.....	Columbus, Ohio
WSIX	ak	100	.....	Springfield, Tenn.
WSOC	ak	100	N (.25)	Charlotte, N. C.
WTAX	ak	100	2	Springfield, Ill.
XEC	z	50	.....	Toluca, D. F.
XEE	z	50	.....	Durango, Dgo.
XEFJ	ak	100	.....	Monterrey, N. L.
XEFV	ae	100	.....	Juarez, Chih.
XEMZ	z	30	.....	Tijuana, B. C.
XETH	ak	100	.....	Puebla, Pue.

**La Voz de Bogota.** Interval signal: chimes similar to those used by NBC

6.233 48.10

**OCM, Lima, Peru (R-All America Cables, Inc., 677 Calle de San Antonio, Lima, Peru)**

6.272 47.80

**H11A, Santiago de los Caballeros, D. R. (R-ax)**

6.285 47.70

**CZA, Drummondsville, P. Q. (SS-a-6)**

6.379 47.50

**H1Z, Santo Domingo, D. R. (R-ax)**

6.425 46.66

**CZC, Prince Rupert, B. C. (Police) W3XL, Boundbrook, N. J. (NBC Control station, and cue station for nearly all stunt broadcasts) W9XF, Chicago, Ill. (E-ax)**

6.451 46.47

**HJ1ABB, Barranquilla, Colombia (R-ax)**

6.500 46.13

**HJ5ABB, Cali, Colombia (R-ax), La Voz de Valle. Interval signal: rooster crow.**

6.615 45.32

**WMEP, Suffield, Ohio (G-z) WMEU, St. Petersburg, Fla. (G-z) WMEV, Opa Locka, Fla. (G-z) (Goodyear Zeppelin Base)**

6.618 45.31

**PRADO, Riobamba, Ecuador (R-ax) WVD, Seattle, Wash. (B-ax) Phones Alaska**

6.648 45.10

**IAC, Coitano, Italy (SS-a-19)**

6.650 45.09

**KFY, Forward Base, Little America (B-cy)**

**KFZ, Main Base, Little America (B-cy)**

6.659 45.02

**HC2RL, Guayaquil, Ecuador (R-ax)**

6.660 45.02

**KFY, Forward Base, Little America (B-cy)**

**KFZ, Main Base, Little America (B-cy)**

6.662 45.00

**KNRA, "Seth Parker" (B-a-37)**

**WXH, Ketchikan, Alaska (B-z) Phones Seattle**

6.670 44.95

**KFY, Forward Base, Little America (B-cy)**

**KFZ, Main Base, Little America (B-cy)**

**KNRA, "Seth Parker" (B-a-37)**

### 1220 kilocycles 245.8 meters

CMHK	z	5	1225	Cruces, Cuba
KFKU	ae	1000	a	Lawrence, Kas.
KTW	ak	1000	S2	Seattle, Wash.
KWSC	ae	1000	2 (2)	Pullman, Wash.
WGAD	ak	500	D	Canton, N. Y.
WCAE	ak	1000	R	Pittsburgh, Pa.
WDAE	ae	1000	C (2.5)	Tampa, Fla.
WREN	ak	1000	Ba	Lawrence, Kas.

### 1230 kilocycles 243.8 meters

CJOC	ak	100	F	Lethbridge, Alta.
CMCA	z	150	2	Havana, Cuba
KGGM	ak	250	(.5)	Albuquerque, N. M.
KYA	ae	1000	N	San Francisco, Calif.
WFBM	ae	1000	1C	Indianapolis, Ind.
WNAC	ak	1000	C (2.5)	Boston, Mass.

### 1240 kilocycles 241.8 meters

CJCB	ak	1000	F	Sydney, N. S.
CMAB	z	20	1249	Pinar del Rio, Cuba
CMJN	z	50	.....	Camaguey, Cuba
KGCU	ak	250	1	Mandan, N. D.
KLPM	ak	250	1	Mlnot, N. D.
KTAT	ak	1000	C	Fort Worth, Texas

## INDEX BY FREQUENCIES AND DIAL NUMBERS

<p>KTFI ae 1000 .....                      WKAQ ae 1000 .....                      WXYZ ak 1000 .....                      XEAI z 100 .....</p>	<p>Twin Falls, Idaho                      San Juan, P. R.                      Detroit, Mich.                      Mexico City, D. F.</p>		<p>6.672 44.94                      YVQ, Maracay, Venezuela (B-c-35)                      6.675 44.91                      DGK, Nauen, Germany (B-a-13)                      6.710 44.68                      YNCRG, Granada, Nicaragua (Radio Club of Granada)                      6.718 44.62                      WDB, Rocky Point, N. Y. (E-cy)                      6.720 44.62                      CFU, Rossland, B. C. (Consolidated Mining &amp; Smelting Co. of Canada, Ltd.)                      6.725 44.57                      WQO, Rocky Point, N. Y. (E-cy)                      6.733 44.53                      KEQ, Kahuku, Hawaii (B-cy)                      6.740 44.48                      WEJ, Rocky Point, N. Y. (E-cy)                      6.755 44.38                      WOA, Lawrenceville, N. J. (A-cy)                      6.790 44.16                      CMB, Havana, Cuba (B-c-31)                      GDB, Rugby, England (A-a-16)                      6.860 43.71                      KEL, Bolinas, Calif. (E-cy)                      6.880 43.58                      CGA7, Drummondville, P. Q. (A-c-6)                      6.900 43.45                      GDS, Rugby, England (A-a-16)                      6.928 43.27                      WEZ, Rocky Point, N. Y. (E-cy)                      6.935 43.23                      WEB, Rocky Point, N. Y. (E-cy)                      6.950 43.13                      WKP, Rocky Point, N. Y. (E-cy)                      6.958 43.09                      WEO, Rocky Point, N. Y. (E-cy)                      6.966 43.04                      EDO, Madrid, Spain (B-a-28)                      EDQ, Madrid, Spain (B-a-28)                      6.990 42.89                      LCL, Jeloy, Norway (R-ax)                      7.000 to 7.300                      (41.07 to 42.83 meters), Amateur Band. Foreign amateurs use phone in this band; USA and Canada, code only.                      7.000 42.83                      HJ1ABE, Cartagena, Colombia (Laboratories Fuentes L., Apartado 31)                      7.055 42.50                      HIH, San Pedro de Macoris, D. R. (R-a) La Voz del Higuamo. Sr. Domingo Dominguez, owner.</p>
<b>1250 kilocycles 239.9 meters</b>			
<p>KFOX ae 1000 .....                      WCAL ah 1000 2 (2.5)                      WDSU ak 1000 C                      WGCP ak 1000 1 (2.5)                      WLB ak 1000 2                      WNEW ae 1000 1 (2.5)                      WRHM ak 1000 2</p>	<p>Long Beach, Calif.                      Northfield, Minn.                      New Orleans, La.                      Newark, N. J.                      Minneapolis, Minn.                      Newark, N. J.                      Minneapolis, Minn.</p>		
<b>1260 kilocycles 238.0 meters</b>			
<p>CFTP ak 100 .....                      KOIL ak 1000 R (2.5)                      KRGV ak 500 .....                      KUOA ak 1000 D                      KVOA ak 500 .....                      KWWG z 500 D                      WLBW ae 1000 C                      WNBX ak 500 D                      WTOC ae 1000 C</p>	<p>Edmonton, Alta.                      Council Bluffs, Iowa                      Weslaco, Texas                      Fayetteville, Ark.                      Tucson, Ariz.                      Brownsville, Tex.                      Erie, Pa.                      Springfield, Vt.                      Savannah, Ga.</p>		
<b>1270 kilocycles 236.1 meters</b>			
<p>CMBC ae 150 1                      CMCP z 150 1                      HIX ak 1000 .....                      KCGA ak 100 2D                      KOL ae 1000 C (2.5)                      KFOR ae 1000 C                      KWLC ak 100 2D                      WASH ak 500 a                      WFBR ae 500 R                      WJDX ae 1000 N (2.5)                      WOOD ak 500 a                      XFB ak 1000 .....</p>	<p>Havana, Cuba                      Havana, Cuba                      Santo Domingo, D.R.                      Decorah, Iowa                      Seattle, Wash.                      Colorado Spgs., Colo.                      Decorah, Iowa                      Grand Rapids, Mich.                      Baltimore, Md.                      Jackson, Miss.                      Grand Rapids, Mich.                      Jalapa, Ver.</p>		
<b>1280 kilocycles 234.2 meters</b>			
<p>KFBB ae 1000 (2.5)                      WCAM ae 500 1                      WCAP ae 500 1                      WDOJ ae 1000 C (2.5)                      WIBA ae 500 N (1)                      WORC ak 500 C                      WRR ak 500 .....                      WTNJ ak 500 1</p>	<p>Great Falls, Mont.                      Camden, N. J.                      Asbury Park, N. J.                      Chattanooga, Tenn.                      Madison, Wis.                      Worcester, Mass.                      Dallas, Texas                      Trenton, N. J.</p>		
<b>1290 kilocycles 232.4 meters</b>			
<p>CMHL ak 20 .....                      KDYL ak 1000 N                      KLCN z 100 D                      K TSA ak 1000 C                      WEBC ae 1000 N (2.5)                      WJAS ak 1000 C (2.5)                      WNBZ z 50 D                      WNEL z 500 P</p>	<p>Cienfuegos, Cuba                      Salt Lake City, Utah                      Blytheville, Ark.                      San Antonio, Texas                      Superior, Wis.                      Pittsburgh, Pa.                      Saranac Lake, N. Y.                      San Juan, P. R.</p>		
<b>1300 kilocycles 230.6 meters</b>			
<p>CMKJ z 20 .....                      HIZ z 10 .....                      KALE ak 500 3C                      KFAC ak 1000 .....                      KFH ak 1000 C2                      KFJR ag 500 3                      VOAC z 40 .....                      WBBR ae 1000 1                      WEVD ak 1000 1                      WFAB ae 1000 1                      WFBC ak 250 .....                      WHAZ ae 500 1                      WIOD ae 1000 N</p>	<p>Guantanamo, Cuba                      Santo Domingo, D.R.                      Portland, Ore.                      Los Angeles, Calif.                      Wichita, Kans.                      Portland, Ore.                      St. John's, Nfld.                      Brooklyn, N. Y.                      New York, N. Y.                      New York, N. Y.                      Greenville, S. C.                      Troy, N. Y.                      Miami, Fla.</p>		

INDEX BY FREQUENCIES AND DIAL NUMBERS

1310 kilocycles 228.9 meters

CHCK	ak	50	.....	Charlottetown, P.E.I.
CJKL	z	100	.....	Kirkland Lake, Ont.
CJLS	z	100	.....	Yarmouth, N. S.
CKCV	ak	50	.....	Quebec, Que.
CMCY	ak	500	1316	Havana, Cuba
KCRJ	ak	100	D	Jerome, Ariz.
KFBK	ak	100	C	Sacramento, Calif.
KFPL	dkh	100	.....	Dublin, Texas
KFPM	ae	15	.....	Greenville, Texas
KFXX	ak	100	(.25)	Oklahoma City, Ok.
KFYO	ak	100	(.25)	Lubbock, Texas
KGBX	ak	100	.....	Springfield, Mo.
KGCX	ak	100	(.25)	Wolf Point, Mont.
KGEZ	aj	100	.....	KallsPELL, Mont.
KGFW	ak	100	.....	Kearney, Neb.
KIT	ak	100	.....	Yakima, Wash.
KMED	ck	100	(.25)	Medford, Ore.
KRMD	ak	100	.....	Shreveport, La.
KTSM	ak	100	.....	El Paso, Texas
KXRO	ak	100	.....	Aberdeen, Wash.
WAML	ak	100	.....	Laurel, Miss.
WBEO	ae	100	.....	Marquette, Mich.
WBOW	ak	100	.....	Terre Haute, Ind.
WBRE	ak	100	.....	Wilkes Barre, Pa.
WCLS	ae	100	.....	Joliet, Ill.
WDAH	ak	100	S	El Paso, Texas
WEBR	ae	500	.....	Buffalo, N. Y.
WEXL	ak	50	.....	Royal Oak, Mich.
WFBG	ae	100	3	Altoona, Pa.
WDFD	am	100	.....	Flint, Mich.
WGH	ae	100	.....	Newport News, Va.
WHAT	ak	100	4	Philadelphia, Pa.
WIAC	ae	100	3	Johnstown, Pa.
WLBC	ak	50	6 (.1)	Muncie, Ind.
WLNH	ak	100	.....	Laconia, N. H.
WMBO	ak	100	.....	Auburn, N. Y.
WNBH	ae	100	(.25)	New Bedford, Mass.
WOL	ae	100	(.25)	Washington, D. C.
WRAW	ak	100	.....	Reading, Pa.
WROL	ak	100	.....	Knoxville, Tenn.
WSAJ	ae	100	.....	Grove City, Pa.
WSGN	ak	100	(.25)	Birmingham, Ala.
WSJS	ak	100	C	Winston-Salem, N.C.
WTEL	ah	100	4	Philadelphia, Pa.
WTJS	ak	100	(.25)	Jackson, Tenn.
WTRC	ak	50	6 (.1)	Elkhart, Ind.
XECW	z	10	.....	Mexico City, D. F.
XEFC	ak	100	.....	Merida, Yuc.
XEFW	ak	250	.....	Tampico, Tams.
XETB	z	125	.....	Torreón, Coah.
XEX	ak	125	.....	Monterrey, N. L.
XFA	z	5	.....	Agua Calientes, Aga.

1320 kilocycles 227.1 meters

KGHF	ak	500	.....	Pueblo, Colo.
KGMB	ak	250	C	Honolulu, T. H.
KID	ae	250	(.5)	Idaho Falls, Idaho
KSO	ak	250	.....	Des Moines, Iowa
WADC	ae	1000	C (.25)	Akron, Ohio
WSMB	ak	1000	N	New Orleans, La.

1330 kilocycles 225.4 meters

KGB	ag	1000	C (.25)	San Diego, Calif.
KMO	ak	250	.....	Tacoma, Wash.
KSCJ	aj	1000	1C (.25)	Stour City, Iowa
KTRH	z	500	C (.25)	Houston, Texas
WDRC	ae	1000	C	Hartford, Conn.
WSAL	ak	1000	R (.25)	Cincinnati, Ohio
WTAQ	ae	1000	1	Eau Claire, Wis.

1340 kilocycles 223.7 meters

KGDY	ak	250	D	Huron, S. D.
KGNO	ak	250	.....	Dodge City, Kans.
WCOA	ak	500	.....	Pensacola, Fla.
WSPD	ae	1000	C (.25)	Toledo, Ohio
XFD	z	250	.....	Orizaba, Ver.

7.090 42.29

HKE, Bogota, Colombia (Observatorio de San Bartolome)

7.138 42.00

HJ4AB, Manizales, Colombia (R-ax) La Voz de Caldas

HKN, Medellin, Colombia

7.205 41.61

EA8CF, Santa Cruz de Tenerife, Canary Islands (R-ax)

7.220 43.86

HAT, Budapest, Hungary (E-a-39)

7.370 40.67

KEB, Bollnas, California (E-cy)

WJN, Rocky Point, N. Y. (E-cy)

7.384 40.60

ZLT, Wellington, N. Z. (A-a-24)

7.400 40.51

WEM, Rocky Point, N. Y. (E-cy)

7.402 40.50

HJ3AB, Bogota, Colombia (R-b-x) ("Colombia Broadcasting")

HKI, Bogota, Colombia

7.415 40.43

WEG, Rocky Point, N. Y. (E-cy)

7.465 40.16

HJP, Bogota, Colombia (B-cy) Phones Hialeah

7.520 39.87

KDK, Kahuku, Hawaii (A-cy) Phones Dixon

KKH, Kahuku, Hawaii (A-cy) Phones Dixon

RKI, Moscow, USSR (B-cy)

7.565 39.63

KWY (W6XN), Dixon, California (A-cy) Phones Hawaii

7.575 39.58

XGO, Shanghai, China (B-a-8)

7.610 39.40

KWX, Dixon, California (A-cy)

7.620 39.34

RIM, Irkutsk, USSR (B-cy)

7.685 39.01

TIR, Cartago, Costa Rica (B-b-9) Phones Hialeah

7.715 38.86

KEE, Bollnas, Calif. (E-cy)

7.797 38.47

HBP, Geneva, Switzerland (R-b-30) "Radio Nations"

7.830 38.29

PDV, Kootwijk, Holland (A-c-18)

7.880 38.05

JYR, Kemikawa-Cho, Chiba-Ken, Japan (B-z)

## INDEX BY FREQUENCIES AND DIAL NUMBERS

### 1350 kilocycles 222.1 meters

KIDO	ak	1000	(2.5)	Boise, Idaho
KWK	ae	1000	B (2.5)	St. Louis, Mo.
WAWZ	ae	250	1	Zarephath, N. J.
WBNX	ae	250	1	New York, N. Y.
WEHC	ae	500	D	Charlottesville, Va.

### 1360 kilocycles 220.4 meters

CMJP	ak	75	.....	Moron, Cuba
KGER	ak	1000	.....	Long Beach, Calif.
KGIR	ak	1000	N	Butte, Mont.
WCSC	ae	500	(1)	Charleston, S. C.
WFBL	ak	1000	C (2.5)	Syracuse, N. Y.
WGES	ae	500	.....	Chicago, Ill.
WQBC	ak	500	(1)	Vicksburg, Miss.
WSBT	ak	500	.....	South Bend, Ind.

### 1370 kilocycles 218.8 meters

CKCW	z	100	.....	Moncton, N. B.
CMCN	z	250	1375	Havana, Cuba
CMCR	z	150	1375	Havana, Cuba
CMGE	z	30	1375	Cardenas, Cuba
KCRC	ak	100	2 (2.5)	Enid, Okla.
KERN	ak	100	.....	Bakersfield, Calif.
KFGO	ak	100	.....	Boone, Iowa
KFJM	ak	100	.....	Grand Forks, N. D.
KFJZ	ae	100	.....	Fort Worth, Texas
KGAR	ae	100	(.25)	Tucson, Ariz.
KGFG	bk	100	2	Oklahoma City, Ok.
KGFL	ak	100	4	Roswell, N. M.
KGKL	ak	100	(.25)	San Angelo, Texas
KICA	ak	100	4	Clovis, N. M.
KLUF	z	100	(.25)	Galveston, Texas
KMAC	ak	100	5	San Antonio, Texas
KONO	ak	100	5	San Antonio, Texas
KRE	ak	100	.....	Berkeley, Calif.
KRKO	ak	50	.....	Everett, Wash.
KSLM	z	100	.....	Salem, Ore.
KUJ	ak	100	.....	Walla Walla, Wash.
KVL	ak	100	.....	Seattle, Wash.
KWKC	z	100	.....	Kansas City, Mo.
KWYO	z	100	.....	Sheridan, Wyo.
WAGF	ak	100	D	Dothan, Ala.
WBTM	ak	100	.....	Danville, Va.
WCBM	ae	100	(.25)	Baltimore, Md.
WDAS	ae	100	(.25)	Philadelphia, Pa.
WGL	ak	100	C	Fort Wayne, Ind.
WGLC	ak	100	.....	Hudson Falls, N. Y.
WHBD	ak	100	.....	Mount Orab, Ohio
WHBQ	ak	100	.....	Memphis, Tenn.
WHDF	ak	100	(.25)	Calumet, Mich.
WIBM	ak	100	.....	Jackson, Mich.
WJTL	ae	100	.....	Atlanta, Ga.
WLEY	ak	100	(.25)	Lexington, Miss.
WMBR	ak	100	C	Jacksonville, Fla.
WPFB	ak	100	.....	Hattiesburg, Miss.
WQDM	ae	100	D	St. Albans, Vt.
WRAK	ak	100	.....	Williamsport, Pa.
WRDO	ae	100	.....	Augusta, Maine
WRJN	ak	100	.....	Racine, Wis.
WSVS	ak	50	D	Buffalo, N. Y.
XEFE	z	100	.....	Nuevo Laredo, Tams.
XEFZ	ae	100	.....	Mexico City, D. F.
XEL	ak	125	.....	Morelia, Mch.
XEZZ	z	100	.....	San Luis Potosi, SLP

### 1380 kilocycles 217.3 meters

CMJC	z	100	1382	Camaguey, Cuba
KOH	ak	500	C	Reno, Nev.
KOV	ak	500	2C	Pittsburgh, Pa.
WALA	ae	500	C	Mobile, Ala.
WKBH	ae	1000	.....	LaCrosse, Wis.
WSMK	ak	200	2	Dayton, Ohio

7.940 37.76

VK2ME, Sydney, Australia (A-a-3)

7.960 37.67

CMB, Havana, Cuba (B-b-31)

XGL, Shanghai, China (B-b-3)

7.980 37.57

HSJ, Bangkok, Siam (E-a-27)

8.015 37.40

Aeronautical stations

8.017 37.40

EDQ, Madrid, Spain (B-a-28)

8.180 36.65

PSK, Rio de Janeiro, Brazil (A-b-4)

PSK, Rio de Janeiro, Brazil (R-a-38)

Relays PRA3

8.218 36.36

....., Rabat, Morocco (R-ax)

8.230 36.43

KNRA, "Seth Parker" (B-a-37)

8.464 35.42

DAF, Norden, Germany (SS-a-15)

8.510 35.23

Ship stations

8.515 35.21

CZA, Drummondville, P. Q. (SS-c-6)

8.560 35.03

WOO, Ocean Gate, N. J. (SS-cy)

WOY, Lawrenceville, N. J.

8.630 34.74

CMA, Havana, Cuba (B-b-31)

8.646 34.56

GBC, Rugby, England (SS-a-16)

8.770 34.19

RSZ, Irkutsk, USSR (B-cy)

8.820 33.99

KFY, Forward Base, Little America (B-cy)

KFZ, Main Base, Little America (B-cy)

KNRA, "Seth Parker" (B-a-37)

8.840 33.92

KFY, Forward Base, Little America (B-cy)

KFZ, Main Base, Little America (B-cy)

KNRA, "Seth Parker" (B-a-37)

8.930 33.57

WAD, Rocky Point, N. Y. (E-cy)

WEC, Rocky Point, N. Y. (E-cy)

8.940 33.54

KZGG, Cebu, P. I. (Philippine Long Distance Telephone Co.)

WKL, Rocky Point, N. Y. (E-cy)

8.950 33.50

WEL, Rocky Point, N. Y. (E-cy)

INDEX BY FREQUENCIES AND DIAL NUMBERS

1390 kilocycles 215.7 meters

CJRC	ck	100	.....	Winnipeg, Man.
HHH	ak	15		1395 San Ped. de Macoris, DR
KLRA	ae	1000	C (2.5)	Little Rock, Ark.
KOY	ae	500	(1)	Phoenix, Ariz.
WHK	ae	1000	C (2.5)	Cleveland, Ohio

1400 kilocycles 214.2 meters

CMCM	z	50	1405	Havana, Cuba
KLO	ae	500	C	Ogden, Utah
KTUL	ak	250	(.5) C	Tulsa, Okla.
TGX	ak	150	.....	Guatemala City, Gt.
WARD	ak	500	2	Brooklyn, N. Y.
WBAA	z	500	.....	W. Lafayette, Ind.
WBBC	ae	500	2 (1)	Brooklyn, N. Y.
WKBF	ak	500	N (1)	Indianapolis, Ind.
WLTH	ak	500	2	Brooklyn, N. Y.
WVFW	ak	500	2	Brooklyn, N. Y.

1410 kilocycles 212.6 meters

CKFC	ak	50	5	Vancouver, B. C.
CKMO	ag	100	5	Vancouver, B. C.
CMCH	ak	50	.....	Havana, Cuba
KGRS	ae	1000	1	Amarillo, Texas
WAAB	ak	500	C	Boston, Mass.
WBCM	ae	500	.....	Bay City, Mich.
WDAG	ae	1000	1 (2.5)	Amarillo, Texas
WHBL	ae	500	4	Sheboygan, Wis.
WHIS	ak	250	2	Bluefield, W. Va.
WRBX	ae	250	2 (.5)	Roanoke, Va.
WROK	ak	500	4	Rockford, Ill.
WSFA	ak	500	C	Montgomery, Ala.

1420 kilocycles 211.1 meters

CKGB	ak	100	.....	Timmins, Ont.
CKNC	ak	100	F	Toronto, Ont.
KABC	ak	100	.....	San Antonio, Texas
KBPS	aj	100	4	Portland, Ore.
KCMC	ak	100	.....	Texarkana, Ark.
KFIZ	ak	100	.....	Fond du Lac, Wis.
KGFF	ak	100	.....	Shawnee, Okla.
KGGC	ak	100	.....	San Francisco, Cal.
KGIW	ak	100	1	Alamosa, Colo.
KGIX	ak	100	.....	Las Vegas, Nev.
KICK	z	100	.....	Carter Lake, Iowa
KIDW	z	100	1	Lamar, Colo.
KORE	ae	100	.....	Eugene, Ore.
KUMA	ak	100	.....	Yuma, Ariz.
KXL	ae	100	4 (2.5)	Portland, Ore.
WACO	ak	100	C	Waco, Texas
WAGM	ae	100	.....	Presque Isle, Maine
WAZL	ak	100	2	Hazleton, Pa.
WEED	ak	100	D	Rocky Mount, N. C.
WEHS	ak	100	a	Cicero, Ill.
WELL	ak	50	.....	Battle Creek, Mich.
WGPC	ak	100	D	Albany, Ga.
WHDL	ak	100	D	Tupper Lake, N. Y.
WHFC	ae	100	a	Cicero, Ill.
WILM	aj	100	2	Wilmington, Del.
WJBO	z	100	D	Baton Rouge, La.
WJMS	ak	100	.....	Ironwood, Mich.
WKBI	ak	100	a	Cicero, Ill.
WLAP	ak	100	(.25)	Lexington, Ky.
WLBFB	ak	100	.....	Kansas City, Kans.
WLEU	z	100	DP	Erie, Pa.
WMAS	ak	100	C (2.5)	Springfield, Mass.
WMBC	ae	100	(.25)	Detroit, Mich.
WMBH	ak	100	(.25)	Joplin, Mo.
WNRA	ak	100	D	Muscle Shoals, Ala.
WPAD	ak	100	.....	Paducah, Ky.
WSPA	ae	100	(.25)	Spartanburg, S. C.

1430 kilocycles 209.7 meters

KECA	ak	1000	(2.5)	Los Angeles, Calif.
KGNF	ak	500	D	North Platte, Neb.

8.980 33.59

VWY, Kirkee, Poona, India (B-z)

9.010 33.28

KEJ, Bolinas, Calif. (E-cy)

9.014 33.26

GCS, Rugby, England (A-a-16)

9.120 32.88

CP5, La Paz, Bolivia (R-ax)

9.168 32.70

YVR, Maracay, Venezuela (B-cy)

9.170 32.70

KZGF, Manila, P. I. (Philippine Long Distance Telephone Co.)

WNA, Lawrenceville, N. J. (A-cy)

9.273 32.33

GCB, Rugby, England (A-a-16)  
Phones Canada

9.332 32.13

CGA4, Drummondville, P. Q. (A-a-6)

9.340 32.10

XDC, Mexico City, Mexico (B-cy)

9.375 31.97

XDA, Mexico City, Mexico (B-cy)

9.410 31.86

PLV, Bandoeng, Java (A-a-22),  
Phones Australia

9.448 31.74

WES, Rocky Point, N. Y. (E-cy)

9.460 31.79

WKJ, New Brunswick, N. J. (A-cy)

9.470 31.55

WET, Rocky Point, N. Y. (E-cy)

9.480 31.63

PLW, Bandoeng, Java (A-a-22),  
Phones Australia

WDA, Rocky Point, N. Y. (E-cy)

9.490 31.59

KZGH, Iloilo, P. I. (Philippine Long Distance Telephone Co.)

WEF, Rocky Point, N. Y. (E-cy)

9.503 31.55

VK3ME, Braybank (Melbourne),  
Australia (R-ax)

9.510 31.53

GSB, Daventry, England (R-a-17)

9.520 31.49

OXY, Skamiebaek, Denmark (R-ax),  
Chimes strike midnight at 6 p.m.,  
EST.

9.530 31.46

W2XAF, Schenectady, N. Y. (R-ax),  
Relays WGY

9.555 31.38

VE9DN, Drummondville, P. Q.  
(R-a-6)



## INDEX BY LOCATIONS

WRDW ak 100 ..... WRGA ak 100 ..... WSYB ak 100 ..... WWRL ak 100 1 (.25) WWSW ae 100 (.25)	Augusta, Ga. 10.060 29.80 Rome, Ga. ZFB, Hamilton, Bermuda (B-cy) Rutland, Vt. 10.135 29.58 Woodside, N. Y. Pittsburg, Pa. OPM, Leopoldville, Belgian Congo (B-ax)	1510 kilocycles 198.6 meters Kington, Ont. 10.164 29.79 Waterloo, Ont. EHY, Madrid, Spain (B-a-28), Phones Klamath Falls, Ore. Venezuela	10.212 29.35 PSH, Rio de Janeiro, Brazil (B-b-5) 10.250 29.25 PMN, Bandaeng, Java (A-a-22) 10.285 29.15 DIQ, Zeesen, Germany (E-a-13)
1530 kilocycles 196.0 meters Waterbury, Conn. WIXBS z 1000 ..... Kansas City, Mo. W9XBY z 1000 .....	(Continued next month)		
1550 kilocycles 193.4 meters Long Isl. City, N. Y. W2XR z 1000 ..... Bakersfield, Calif. W6XAI z 1000 .....			

## INDEX BY LOCATIONS

*Frequency in kilocycles in second column. Night power in watts in third column. Net work affiliations in fourth column: C Columbia, K National Red, B National Blue, N National Red and Blue. F Canadian.*

<b>ALABAMA</b> Birmingham WAPI 1140 5000 N WBRC 930 1000 C WSGN 1310 100 Dothan WAGE 1370 100 Gadsden WJBY 1210 100 Huntsville WBHS 1200 100 Mobile WALA 1380 500 C Montgomery WSFA 1410 500 C Muscle Shoals WNRA 1420 100	Jonesboro KBTM 1200 100 Little Rock KARK 890 250 KGH1 1200 100 KLR4 1390 1000 C Pine Bluff KOTN 1500 100 Texarkana KCMC 1420 100 <b>CALIFORNIA</b> Bakersfield KERN 1370 100 C W6XAI 1550 1000 Berkeley KRE 1370 100 Beverly Hills KMPC 710 500 Burbank KELW 780 500 El Centro KXO 1500 100 Eureka KIEM 1210 100 Fresno KMJ 580 500 C Glendale KIEV 850 250 Hollywood KFVB 950 1000 KMTR 570 1000 KNX 1050 50000 Long Beach KFOX 1250 1000 KGER 1360 1000 Los Angeles KECA 1430 1000 KFAC 1300 1000 KFI 640 50000 N KFSG 1120 500 KFVD 1000 250 KGfJ 1200 100 KHJ 900 1000 C KRKD 1120 500 KTM 780 500 Modesto KTRB 740 250 Oakland KLS 1440 250	KLX 880 1000 KROW 930 1000 Pasadena KPPC 1210 50 Sacramento KFBK 1310 100 C San Bernardino KFXM 1210 100 San Diego KPSD 600 1000 N KGB 1330 1000 C San Francisco KERC 610 1000 C KGGC 1420 100 KGO 790 7500 N KJBS 1070 100 KPO 680 50000 N KTAB 560 1000 KYA 1230 1000 N San Jose KQW 1010 1000 Santa Ana KREG 1500 100 Santa Barbara KDB 1500 100 C Stockton KGDM 1100 250 KWG 1200 100 C <b>COLORADO</b> Alamosa KGIW 1420 100 Colorado Springs KVOR 1270 1000 C Denver KFEL 920 500 KLZ 560 1000 C KOA 830 50000 N KPOF 880 500 KVOD 920 500 Grand Junction KFXJ 1200 100 Greeley KFKA 880 500 Lamar KIDW 1420 100 Pueblo KGHF 1320 500 Yuma KGEK 1200 100	<b>CONNECTICUT</b> Bridgeport WICC 600 250 C Hartford WDRG 1330 1000 C WTRC 1040 50000 R Storrs WCAC 600 500 Waterbury WATR 1190 100 WIXBS 1530 1000 <b>DELAWARE</b> Wilmington WDEL 1120 250 WILM 1420 100 <b>DISTRICT OF COLUMBIA</b> Washington WJSV 1460 10000 C WMAL 630 250 B WOL 1310 100 WRC 950 500 R <b>FLORIDA</b> Clearwater WFLA 620 1000 N Gainesville WRUF 830 5000 Jacksonville WJAX 900 1000 N WMBR 1370 100 C Miami WIOD 1300 1000 N WQAM 560 1000 C Orlando WDBO 580 250 C Pensacola WCOA 1340 500 St. Petersburg WSN 620 1000 N Tampa WDAE 1220 1000 C <b>GEORGIA</b> Albany WGPC 1420 100 Athens WTFI 1450 500
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# INDEX BY LOCATIONS

<b>Atlanta</b>		<b>Tuscola</b>		<b>Wichita</b>		<b>Calumet</b>	
WGST 890 500 C		WDZ 1070 100		KFH 1300 1000 C		WHDF 1370 100	
WJTL 1370 100		<b>Urbana</b>		<b>KENTUCKY</b>		<b>Detroit</b>	
WSB 740 50000 N		WILL 890 250		<b>Covington</b>		WJBK 1500 100	
<b>Augusta</b>		Zion		WCKY 1490 5000 B		WJR 750 10000 B	
WRDW 1500 100		WCB D 1080 5000		Lexington		WMBC 1420 100	
<b>Columbus</b>		<b>INDIANA</b>		WLAP 1420 100		WWJ 920 1000 R	
WRBL 1200 100		<b>Anderson</b>		Louisville		WXYZ 1240 1000	
<b>LaGrange</b>		WHBU 1210 100		WAVE 940 1000 N		<b>East Lansing</b>	
WKEU 1500 100		Elkhart		WHAS 820 50000 C		WKAR 1040 1000	
<b>Macon</b>		WTRC 1310 50		<b>Paducah</b>		<b>Flint</b>	
WMAZ 1180 1000		Evansville		WPAD 1420 100		WFDF 1310 100	
<b>Rome</b>		WGBF 630 500		<b>LOUISIANA</b>		<b>Grand Rapids</b>	
WRGA 1500 100		Fort Wayne		<b>Baton Rouge</b>		WASH 1270 500	
<b>Savannah</b>		WGL 1370 100 C		WJBO 1420 100		WOOD 1270 500	
WTOC 1260 1000 C		WOWO 1160 10000 C		<b>Monroe</b>		<b>Ironwood</b>	
Thomasville		Gary		KMLB 1200 100		WJMS 1420 100	
WQDX 1210 100		WIND 560 1000		<b>New Orleans</b>		Jackson	
<b>HAWAII</b>		<b>Hammond</b>		WBNO 1200 100		WIBM 1370 100	
<b>Hilo</b>		WAAE 1200 100		WDSU 1250 1000 C		<b>Kalamazoo</b>	
KWFV 1210 100		Indianapolis		WJBW 1200 100		WKZO 590 1000	
<b>Honolulu</b>		WFBM 1230 1000 C		WSMB 1320 1000 N		<b>Lansing</b>	
KGMB 1320 250 C		WKBF 1400 500 N		WWL 850 10000		WJIM 1210 100	
KGU 750 2500 N		<b>Muncie</b>		<b>Shreveport</b>		<b>Lapeer</b>	
<b>IDAHO</b>		WLBC 1310 100		KRMD 1310 100		WMP C 1200 100	
<b>Boise</b>		<b>Richmond</b>		KTBS 1450 1000 N		<b>Marquette</b>	
KIDO 1350 1000		WKBV 1500 100		KWEA 1210 100		WBFO 1310 100	
<b>Idaho Falls</b>		<b>South Bend</b>		KWKH 1100 10000		<b>Muskegon</b>	
KID 1320 250		WFAM 1200 100		<b>MAINE</b>		WKBZ 1500 100	
<b>Nampa</b>		WSBT 1360 500 C		<b>Augusta</b>		<b>Royal Oak</b>	
KFXD 1200 100		<b>Terre Haute</b>		WRDO 1370 100		WEXL 1310 50	
<b>Pocatello</b>		WBOW 1310 100		<b>Bangor</b>		<b>MINNESOTA</b>	
KSEI 900 250		<b>West Lafayette</b>		WABI 1200 100		<b>Fergus Falls</b>	
<b>Twin Falls</b>		WBAA 1400 500		WLBZ 620 500 C		KGDE 1200 100	
KTFI 1240 500		<b>IOWA</b>		<b>Portland</b>		<b>Minneapolis</b>	
<b>ILLINOIS</b>		<b>Ames</b>		WCSH 940 1000 R		WCCO 810 50000 C	
<b>Bloomington</b>		WOI 640 5000		<b>Presque Isle</b>		WDGY 1180 1000	
WJBC 1200 100		<b>Boone</b>		WAGM 1420 100		WLB 1250 1000	
<b>Carthage</b>		KFGQ 1370 100		<b>MARYLAND</b>		WRHM 1250 1000	
WCAZ 1070 100		<b>Carter Lake</b>		<b>Baltimore</b>		<b>Moorhead</b>	
<b>Chicago</b>		KICK 1420 100		WBAL 1060 10000 B		KGFK 1500 100	
KYW 1020 10000 N		<b>Cedar Rapids</b>		WCAO 600 500 C		<b>Northfield</b>	
WAAF 920 500		KWCR 1430 250 B		WCBM 1370 100		WCAI 1250 2500	
WBMM 770 25000 C		<b>Council Bluffs</b>		WFBR 1270 500 R		<b>St. Paul</b>	
WCFL 970 1500 B		KOIL 1260 1000 B		<b>Cumberland</b>		KSTP 1460 10000 N	
WCRW 1210 100		<b>Decorah</b>		WTBO 800 250		<b>MISSISSIPPI</b>	
WEDC 1210 100		KGCA 1270 100		<b>Hagerstown</b>		<b>Greenwood</b>	
WENR 870 50000 N		KWLC 1270 100		WJEJ 1210 100		WKFI 1210 100	
WGES 1360 500		<b>Des Moines</b>		<b>MASSACHUSETTS</b>		<b>Gulfport</b>	
WGN 720 50000		KSO 1320 250 B		<b>Babson Park</b>		WCCM 1210 100	
WJDD 1130 20000		WHO 1000 50000 R		WBSO 920 500		WFFB 1370 100	
WLS 870 50000 N		<b>Iowa City</b>		<b>Boston</b>		<b>Jackson</b>	
WMAQ 670 50000 N		WSUI 880 500		WAAB 1410 500 C		WJDX 1270 1000 N	
WMBI 1080 5000		<b>Marshalltown</b>		WBZ 990 50000 B		<b>Kosciusko</b>	
WSBC 1210 100		KFJB 1200 100		WEEI 590 1000 R		WHEF 1500 100	
<b>Cicero</b>		<b>Shenandoah</b>		WHDH 830 1000		<b>Laurel</b>	
WEHS 1420 100		KFNF 890 500		WNAC 1230 1000 C		WAML 1310 100	
WHFC 1420 100		KMA 930 1000		<b>Chelsea</b>		<b>Meridian</b>	
WKBI 1420 100		<b>Sioux City</b>		WMEX 1500 100		WCOG 880 500	
<b>Decatur</b>		KSCJ 1330 1000 C		<b>Fall River</b>		<b>Tupelo</b>	
WJBL 1200 100		Waterloo		WSAR 1450 250		WJEM 990 500	
<b>East Dubuque</b>		WMT 600 1000 C		<b>Lexington</b>		<b>Vicksburg</b>	
WKBB 1500 100		<b>KANSAS</b>		WLEY 1370 100		WQBC 1360 500	
<b>Harrisburg</b>		<b>Abilene</b>		<b>New Bedford</b>		<b>MISSOURI</b>	
WEBQ 1210 100		KFBI 1050 5000		WNBH 1310 100		<b>Cape Girardeau</b>	
<b>Joliet</b>		<b>Coffeyville</b>		<b>Springfield</b>		KFVS 1210 100	
WCLS 1310 100		KGGF 1010 1000		WBZA 990 1000 B		<b>Columbia</b>	
<b>Peoria</b>		<b>Dodge City</b>		WMAS 1420 100 C		KFRU 630 500	
WMBD 1440 500 C		KGNO 1340 250		<b>Worcester</b>		<b>Jafferson City</b>	
<b>Quincy</b>		<b>Kansas City</b>		WOCR 1280 500 C		WOS 630 500	
WTAD 1440 500		WLB F 1420 100		WTAG 580 500 R		<b>Joplin</b>	
<b>Rockford</b>		<b>Lawrence</b>		<b>MICHIGAN</b>		<b>WMBH 1420 100</b>	
WROK 1410 500		KFKU 1220 1000		<b>Battle Creek</b>		<b>Kansas City</b>	
<b>Rock Island</b>		WREN 1220 1000 B		WELL 1420 50		<b>KMBC 950 1000 C</b>	
WHBF 1210 100		<b>Manhattan</b>		<b>Bay City</b>		<b>KWKG 1370 100</b>	
<b>Springfield</b>		KSAC 580 500		WBCM 1410 500		<b>WDAF 610 1000 R</b>	
WCBS 1210 100		<b>Topeka</b>					
WTAX 1210 100		WIBW 580 1000 C					

## INDEX BY LOCATIONS

WHB 860 500	Zarephath	NORTH CAROLINA	Tulsa
W9XB 1530 1000	WAWZ 1350 250	Asheville	KTUL 1400 250 C
St. Joseph	NEW MEXICO	WVNC 570 1000 N	KVOO 1140 25000 N
KFEQ 680 2500	Albuquerque	Charlotte	OREGON
St. Louis	KGGM 1230 250	WBTF 1080 50000 C	Corvallis
KFOU 550 500	KOB 1180 10000	WSOC 1210 100 N	KOAC 550 1000
KMOX 1090 50000 C	Clovis	Durham	Eugene
KSD 550 500 R	KICA 1370 100	WDNC 1500 100 C	KORE 1420 100
KWK 1350 1000 B	Roswell	Greensboro	Klamath Falls
WEW 760 1000	KGFL 1370 100	WBIC 1440 500 C	KFJI 1210 100
WIL 1200 100	NEW YORK	Raleigh	KIFS 1518 100
Springfield	Albany	WPTE 680 5000 N	Marshfield
KGBX 1310 100	WOKO 1430 500 C	Rocky Mount	KOOS 1200 250
KWTO 560 1000	Auburn	WED 1420 100	Medford
MONTANA	WMBW 1310 100	Winston-Salem	KMED 1310 100
Billings	Binghamton	WSJS 1310 100 C	Portland
KGHL 780 1000 N	WNBW 1500 100	NORTH DAKOTA	KALE 1300 500 C
Butte	Brooklyn	Bismarck	KBPS 1420 100
KGIR 1360 1000 N	WARD 1400 500	KFYR 550 1000 N	KEX 1180 5000 N
Great Falls	WBBC 1400 500	Devils Lake	KFJR 1300 500
KFB 1280 1000	WBBR 1300 1000	KDLR 1210 100	KGW 620 1000 N
Kalispell	WCNW 1500 100	Fargo	KOIN 940 1000 C
KGEZ 1310 100	WLTH 1400 500	WDAY 940 1000 N	KWJJ 1040 500
Missoula	WMBQ 1500 100	Grand Forks	KXL 1420 100
KGVO 1200 100	WVFW 1400 500	KFJM 1370 100	Salem
Wolf Point	Buffalo	Mandan	KSLM 1370 100
KGCX 1310 100	WBEN 900 1000 R	KGCU 1240 250	PENNSYLVANIA
NEBRASKA	WEBR 1310 500	Minot	Allentown
Clay Center	WGR 550 1000 C	KLPM 1240 250	WCBA 1440 250
KMMJ 740 1000	WKBW 1480 5000 C	OHIO	WSAN 1440 250
Kearney	WWSV 1370 50	Akron	Altoona
KGFW 1310 100	Canton	WADC 1320 1000 C	WFBG 1310 100
Lincoln	WCAD 1220 500	WJW 1210 100	Erie
KFAB 770 5000 C	Chester	Canton	WLBW 1260 1000 C
KFOR 1210 100 C	WGNV 1210 100	WBBC 1200 100	WLEU 1420 100
Norfolk	Elmira	Cincinnati	Glenside
WJAG 1060 1000	WESG 1090 1000	WBE 1200 100	WBG 970 100
North Platte	Freeport	WKRC 550 1000 C	Greensburg
KGNF 1430 500	WGBB 1210 100	WLW 700 500000 N	WHJB 620 250
Omaha	Hudson Falls	WSAI 1330 1000 R	Grove City
WAAW 660 500	WGLC 1370 100	Cleveland	WSAJ 1310 100
WOW 590 1000 R	Jamestown	WGAR 1450 500 B	Harrisburg
Scottsbluff	WOCL 1210 50	WHK 1390 1000 C	WHP 1430 500 C
KGKY 1500 100	Long Island City	WJAY 610 500	WKBO 1200 100
York	W2XR 1550 1000	WTAM 1070 50000 R	Hazleton
KGBZ 930 1000	New York	Columbus	WAZL 1420 100
NEVADA	WABC 860 50000 C	WAIU 640 500	Johnstown
Las Vegas	WBNX 1350 250	WBNS 1430 500 C	WJAC 1310 100
KGIX 1420 100	WBOQ 860 50000	WOSU 570 750	Lancaster
Reno	WEAF 660 50000 R	WSEN 1210 100	WGAL 1500 100
KOH 1380 500 C	WEVD 1300 1000	Dayton	WKJC 1200 100
NEW HAMPSHIRE	WFAB 1300 1000	WSMK 1380 200	Philadelphia
Laconia	WHN 1010 1000	Mount Orab	WCAU 1170 50000 C
WLNH 1310 100	WINS 1180 1000	WBHD 1370 100	WDAS 1370 100
Manchester	WJZ 760 50000 B	Toledo	WFI 560 500 R
WFEA 1430 500 C	WLWL 1100 5000	WSPD 1340 1000 C	WHAT 1310 100
Portsmouth	WMCA 570 500	Youngstown	WIP 610 500 C
WHEB 740 250	WNYC 810 500	WKBN 570 500 C	WLIT 560 500 R
NEW JERSEY	WOV 1130 1000	Zanesville	WLEN 920 500
Asbury Park	Rochester	WALR 1210 100	WRAX 920 500
WCAP 1280 500	WHAM 1150 50000 B	OKLAHOMA	WTEL 1310 100
Atlantic City	WHFC 1430 500 C	Ada	Pittsburgh
WPG 1100 5000 C	Saranac Lake	Ada 1200 100	KDKA 980 50000 B
Camden	WNBZ 1290 50	Elk City	KQV 1380 500 C
WCAM 1280 500	Schenectady	KASA 1210 100	WCAE 1220 1000 R
Jersey City	WGY 790 50000 R	Enid	WJAS 1290 1000 C
WAAT 940 500	Syracuse	KCRC 1370 100	WWSW 1500 100
WHOM 1450 250	WFBL 1360 1000 C	Norman	... 620 250
Newark	WSYR 570 250 B	WNAD 1010 500	Reading
WGCP 1250 250	Troy	Oklahoma City	WEEU 830 1000
WNEW 1250 1000	WHAZ 1300 500	KFXR 1310 100	WRAW 1310 100
WOR 710 5000	Tupper Lake	KGFG 1370 100	Scranton
Red Bank	WHDL 1420 100	KOMA 1480 5000 C	WGBI 880 500
WJBI 1210 100	Utica	WKY 900 1000 N	WQAN 880 250
Trenton	WIBX 1200 100	Poca City	Sunbury
WTNJ 1280 500	White Plains	WBBZ 1200 100	WKOK 1210 100
	WFAS 1210 100	Shawnee	Washington
	Woodside	KGFF 1420 100	WNBO 1200 100
	WRLL 1500 100		

# INDEX BY LOCATIONS

<p><b>Wilkes-Barre</b> WBAX 1210 100 WBRE 1310 100 Williamsport WRAC 1370 100 York WORK 1000 1000</p> <p><b>PHILIPPINES</b> Manila KZEG 618.5 1000 KZRM 618.5 50000</p> <p><b>PORTO RICO</b> San Juan WKAQ 1240 1000 WNEL 1290 500</p> <p><b>RHODE ISLAND</b> Providence WEAN 780 500 C WJAR 890 500 R WPRO 630 100</p> <p><b>SOUTH CAROLINA</b> Charleston WCSC 1360 500 Columbia WIS 1010 1000 N Greenville WFBG 1300 250 Spartanburg WSPA 1420 100</p> <p><b>SOUTH DAKOTA</b> Brookings KFDY 780 1000 Huron KGDY 1340 250 Pierre KGFX 630 200 Rapid City WCAT 1200 100 Sioux Falls KSOO 1110 1000 Vermillion KUSD 890 500 Watertown KWTN 1210 100 Yankton WNAX 570 1000 C</p> <p><b>TENNESSEE</b> Bristol WOPI 1500 100 Chattanooga WDOD 1280 1000 C Jackson WTJS 1310 100 Knoxville WNOX 560 1000 C WROL 1310 100 Memphis WHBQ 1370 100 WMC 780 1000 N WNBR 1430 500 WREC 600 1000 C Nashville WLAC 1470 5000 C WSM 650 50000 N Springfield WSIX 1210 100</p> <p><b>TEXAS</b> Amarillo KGRS 1410 1000 WDAG 1410 1000 Austin KNOW 1500 100 Beaumont KFDM 560 500</p>	<p><b>College Station</b> WTAW 1120 500 Corpus Christi KGFJ 1500 100 Dallas KRLD 1040 10000 C WFAA 800 50000 N WRR 1280 500 Dublin KFPL 1310 100 El Paso KTSM 1310 100 WDAH 1310 100 Fort Worth KFJZ 1370 100 KTAT 1240 1000 C WBAP 800 50000 N Galveston KLUF 1370 100 Greenville KFFM 1310 15 Houston KPRC 920 1000 N KTRH 1330 1000 C KXYZ 1440 500 Lubbock KFYO 1310 100 Port Arthur KWWG 1260 500 San Angelo KGKL 1370 100 San Antonio KABC 1420 100 KMAC 1370 100 KONO 1370 100 K TSA 1290 1000 C WOAI 1190 50000 N Tyler KGKB 1500 100 Waco WACO 1420 100 C Weslaco KRGV 1260 500 Wichita Falls KGKO 570 500 C</p> <p><b>UTAH</b> Ogden KLO 1400 500 C Salt Lake City KDYL 1290 1000 N KSL 1130 50000 C</p> <p><b>VERMONT</b> Burlington WCAX 1200 100 Rutland WSYB 1500 100 St. Albans WQDM 1370 100 Springfield WNBX 1260 500 Waterbury WDEV 550 500</p> <p><b>VIRGINIA</b> Arlington NAA 690 1000 Charlottesville WEHC 1350 500 Danville WB TM 1370 100 Lynchburg WLVA 1200 100 Newport News WGH 1310 100 Norfolk WTAR 780 500 N Petersburg WPHR 880 500</p>	<p><b>Richmond</b> WBBL 1210 100 WMBG 1210 100 C WRVA 1110 5000 N Roanoke WDBJ 930 1000 C WRBX 1410 250 Staunton WSVA 550 500</p> <p><b>WASHINGTON</b> Aberdeen KXRO 1310 100 Bellingham KVOZ 1200 100 Everett KRKO 1370 50 Olympia KGY 1210 100 Pullman KWSC 1220 1000 Seattle KJR 970 5000 N KOL 1270 1000 C KOMO 920 1000 N KPCB 710 250 KRSC 1120 100 KTW 1220 1000 KVL 1370 100 KXA 760 250 Spokane KFIO 1120 100 KFPY 890 1000 C KGA 900 1000 N KHQ 590 1000 N Tacoma KMO 1330 250 KVI 570 1000 C Walla Walla KUJ 1370 100 Wenatchee KPO 1500 100 Yakima KIT 1310 100</p> <p><b>WEST VIRGINIA</b> Bluefield WHIS 1410 250 Charleston WCBS 580 500 Fairmont WMMN 890 250 Huntington WSAZ 1190 1000 Wheeling WWVA 1160 5000 C</p> <p><b>WISCONSIN</b> Eau Claire WTAQ 1330 1000 Fond du Lac KFIZ 1420 100 Green Bay WHBY 1200 100 Janesville WCLO 1200 100 LaCrosse WKBH 1380 1000 Madison WHA 940 2500 WBA 1280 1000 N Manitowoc WOMT 1210 100 Milwaukee WISN 1120 250 C WTMJ 620 1000 N Poynette WIBU 1210 100 Racine WRJN 1370 100</p>	<p><b>Sheboygan</b> WHBL 1410 500 Stevens Point WLBL 900 2500 Superior WEBC 1290 1000 N</p> <p><b>WYOMING</b> Casper KDFN 1440 500 Sheridan KWYO 1370 100</p> <p><b>CANADA</b> <b>ALBERTA</b> Calgary CFAC 930 100 F CFGN 1030 10000 F CJJC 690 100 F Edmonton CFTF 1260 100 CJCA 730 500 F CKUA 580 500 Lethridge CJOC 1230 100 F</p> <p><b>BRITISH COLUMBIA</b> Chilliwack CHWK 780 100 F Kamloops CFJC 880 100 F Kelowna CKOV 630 100 F Trail CJAT 910 250 F Vancouver CJOR 600 500 CKCD 1010 100 CKFC 1410 50 CKMO 1410 100 CKWX 1010 100 GRCV 1100 1000 F Victoria CFCT 1450 50</p> <p><b>MANITOBA</b> Brandon CKX 1450 500 F Winnipeg CJRC 1390 100 CKY 960 15000 F</p> <p><b>NEW BRUNSWICK</b> Fredericton CFNB 550 500 F Moncton CKCW 1370 100 St. John CHSJ 1120 100 F</p> <p><b>NOVA SCOTIA</b> Glace Bay VAS 685 2000 Halifax CHNS 930 500 F Sydney CJCB 1240 1000 F Wolfville CKIC 1010 50 Yarmouth CJLS 1310 100</p> <p><b>ONTARIO</b> Brantford CKPC 930 100 F 10-BQ 1200 15 Chatham CFCO 600 100 F Cobalt CKMC 1210 50</p>
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## INDEX BY LOCATIONS

Fort William CKPR 930 50 F	<b>NEWFOUNDLAND</b>	XEFO 940 5000	<b>Cardenas</b>
Hamilton	St. John's	XEFZ 1370 100	CMGE 1375 30
CHML 1010 50 F	VOAC 1300 40	XEK 990 100	<b>Ciego de Avila</b>
CKOC 1120 500 F	VOAS 940 100	XEN 710 1000	CMJH 1150 50
Kingston	VOGY 840 400	XEO 940 5000	CMJT 1210 150
CFRC 1510 100	VOKW 1085 30	XEP 820 500	CMJO 1010 50
Kirkland Lake	VONF 1195 5000	XETW 820 500	<b>Cienfuegos</b>
CJKL 1310 100	VOWR 681 500	XEW 890 50000	CMHJ 1125 60
London	<b>MIQUELON</b>	XEWZ 1150 100	CMHL 1290 20
CFPL 730 100 F	St. Pierre	XEXX 850 500	CMHW 910 100
North Bay	FQN 574 250	XEYZ 780 1000	<b>Colon</b>
CFCH 930 100 F		XFX 610 1000	CMGA 834 100
Ottawa	<b>CENTRAL AMERICA</b>		<b>Cruces</b>
CKCO 1010 100	<b>COSTA RICA</b>	<b>DURANGO</b>	CMHK 1225 50
CRCO 880 1000 F	Cartago	Durango	<b>Guantanamo</b>
Prescott	TIFS 1441 7.5	XEE 1210 50	CMKJ 1300 20
CFLC 930 100	TIGA 1014 30	<b>GUANAJUATO</b>	<b>Havana</b>
St. Catharines	San Jose	Leon	CMAF 680 1000
CKTB 1200 100 F	TIGR 912 75	XEAZ 1420 7	CMBC 1270 150
Sault Ste. Marie	TIEA 833 7.5	XEKL 920 500	CMBD 1010 250
CJIC 890 100	TIEP 1450 7.5	<b>JALISCO</b>	CMBG 1060 225
Stratford	TIFB 714 30	Guadalajara	CMBJ 1147 500
10-AK 1200 15	TIGP 800 75	XEA 1060 125	CMBK 1485 15
Timmins	TIRCA 1100 500	XED 1160 500	CMBL 1445 200
CKGB 1420 100	TISO 550 250	<b>MICHOACAN</b>	CMBN 1185 150
Toronto	TITV 999 7.5	Morelia	CMBS 780 200
CFRB 690 10000 C	TIVL 869 30	XEI 1370 125	CMBW 1140 600
CKCL 580 100 F	TIXA 614 7.5	<b>NUEVO LEON</b>	CMBX 1185 250
CKNG 1420 100 F	<b>GUATEMALA</b>	Monterrey	CMBY 965 250
CRCT 840 5000 N	Guatemala City	XEFB 1420 100	CMCZ 1005 150
Waterloo	TGW 1350 500	XEFJ 1210 100	CMC 835 500
CKCR 1510 100	TGX 1400 150	XEH 1150 250	CMCA 1230 150
Windsor	<b>EL SALVADOR</b>	XET 690 500	CMCB 1060 150
CKLW 1030 5000 C	San Salvador	XEX 1310 125	CMCD 925 500
Wingham	RDN 680 500	<b>PUEBLA</b>	CMCF 780 250
10-BP 1200 25		Puebla	CMCG 1140 500
<b>PRINCE EDWARD ISLAND</b>		XETH 1210 100	CMCH 1410 50
Charlottetown	<b>MEXICO</b>	<b>SAN LUIS POTOSI</b>	CMCJ 1185 500
CFGY 630 500 F	AGUASCALIENTES	San Luis Potosi	CMCM 1405 50
CHCK 1310 50	Agua Calientes	XEZT 1370 100	CMCN 1375 250
Summerside	XFA 1310 5	<b>SONORA</b>	CMCO 1145 500
CHGS 1500 50 F	XFC 810 350	Nogales	CMCP 1270 150
<b>QUEBEC</b>	<b>BAJA CALIFORNIA</b>	XEAF 1080 250	CMCQ 680 1000
Chicoutimi	Agua Caliente	<b>TAMAULIPAS</b>	CMCR 1375 150
CRCS 950 100 F	XEBC 760 5000	Nuevo Laredo	CMCU 1100 500
Hull	Mexicali	XEF 1370 100	CMCV 965 150
CKKH 1210 100 F	XEAA 920 200	XENT 1120 50000	CMDE 915 150
Montmagny	XEAO 560 250	Reynosa	CMK 730 2000
VE9EK 1195 10	Tijuana	XEAW 950 10000	CMO 645 500
Montreal	XEAE 980 250	Tampico	CMW 595 1400
CFCF 600 500 N	XEMO 860 2000	XEFW 1310 250	CMX 890 1000
CHLP 1120 100	XEMZ 1210 30	XEMA 1080 50	<b>Matanzas</b>
CKAK 730 5000 C	XEOK 920 2500	XES 970 250	CMGB 1205 30
CRCM 910 5000 F	<b>CHIHUAHUA</b>	<b>VERACRUZ</b>	CMGC 820 30
New Carlisle	Chihuahua	Jalapa	CMGF 987 100
CHNC 1210 100 F	XEFI 720 250	XFB 1270 250	CMGH 1040 15
Quebec	Juarez	Orizaba	<b>Moron</b>
CHRC 580 100 F	XEFV 1210 100	Veracruz	CMJP 1360 75
GKCV 1310 50	XEJ 1020 250	XEU 980 250	<b>Pinar del Rio</b>
CRCK 1050 1000	<b>COAHUILA</b>	<b>YUCATAN</b>	CMAB 1249 20
<b>SASKATCHEWAN</b>	Piedras Negras	Merida	<b>Sagua la Grande</b>
Canora	XEPN 590 50000	XEFC 1310 100	CMHA 1103 500
10-BU 1200 50	Saltitillo	<b>WEST INDIES</b>	<b>Santa Clara</b>
CHAB 1200 100	XEOX 640 250	<b>CUBA</b>	CMHI 1037 250
CJRM 540 1000 F	Torreon	Caibarien	<b>Santiago</b>
Prince Albert	XETB 1310 125	CMHD 950 500	CMKC 1034 150
CKBI 1210 100 F	<b>D. F.</b>	Camaguey	<b>DOMINICAN REPUBLIC</b>
Regina	Mexico City	CMJC 1382 150	San Pedro de
CHWC 1010 500 F	XEAI 1240 100	CMJE 1170 50	Marcoris
CKCK 1010 500 F	XEAL 660 1000	CMJF 930 200	HII 1395 15
Saskatoon	XEB 1030 10000	CMJG 1050 50	<b>Santo Domingo</b>
CFOC 840 1000 F	XECW 1310 10	CMJK 790 500	HIJ 1195 15
Yorkton	XEFA 1180 500	CMJL 960 50	HIX 1270 1000
CJGX 630 500 F	XEFG 1100 250	CMJN 1240 50	HIZ 1300 10

## INDEX BY CALL LETTERS

<b>CFAC</b>	930	100	Calgary, Alta. Calgary Herald, Southam Bldg.
<b>CFCF</b>	600	500	Montreal, Que. Mt. Royal Hotel
<b>CFCH</b>	930	100	North Bay, Ont. Capitol Theatre Bldg.
<b>CFCN</b>	1030	10000	Calgary, Alta. Toronto Gen. Trust Bldg.
<b>CFCO</b>	600	100	Chatham, Ont. Wm. Pitt Hotel
<b>CFCT</b>	1450	50	Victoria, B. C. 620 View St.
<b>CFCY</b>	630	500	Charlottetown, P.E.I. 143 Great George St.
<b>CFJC</b>	880	100	Kamloops, B. C. Wilcox-Hall Bldg.
<b>CFLC</b>	930	100	Prescott, Ont. Victoria Hall
<b>CFNB</b>	550	500	Fredericton, N. B. York St.
<b>CFPL</b>	730	100	London, Ont. Richmond St.
<b>CFQC</b>	840	1000	Saskatoon, Sask. 216 First Ave., No.
<b>CFRB</b>	690	10000	Toronto, Ont. 37 Bloor St. W.
<b>CFRC</b>	1510	100	Kingston, Ont. Queens University
<b>CFTP</b>	1260	100	Edmonton, Alta. Birks Bldg.
<b>CHAB</b>	1200	100	Moose Jaw, Sask. Grant Hall Hotel
<b>CHCK</b>	1310	50	Charlottetown, P.E.I. 36 Upper Hillsboro St.
<b>CHGS</b>	1500	50	Summerside, P. E. I. 190 Water St.
<b>CHLP</b>	1120	100	Montreal, Que. Sun Lite Bldg.
<b>CHML</b>	1010	50	Hamilton, Ont. 47 Main St. E.
<b>CHNC</b>	1210	100	New Carlisle, Que. Dr. Charles Houde
<b>CHNS</b>	930	500	Halifax, N. S. Lord Nelson Hotel
<b>CHRC</b>	580	100	Quebec, Que. CHRC, Ltd., Victoria Hotel
<b>CHSJ</b>	1120	100	St. John, N. B. Admiral Beatty Hotel
<b>CHWC</b>	1010	500	Regina, Sask. Kitchener Hotel
<b>CHWK</b>	780	100	Chilliwack, B. C. Wellington Ave.
<b>CJAT</b>	910	250	Trill, B. C. Trill Amateur Radio Assn.
<b>CJCA</b>	730	500	Edmonton, Alta. 10122-100A St.
<b>CJCB</b>	1240	1000	Sydney, N. S. 318 Charlotte St.
<b>CJCJ</b>	690	100	Calgary, Alta. New Albertan Bldg.
<b>CJGX</b>	630	500	Yorkton, Sask. 188 Grain Exchange Bldg.
<b>CJIC</b>	890	100	S. Ste. Marie, Ont. 72 Pine St.
<b>CJKL</b>	1310	100	Kirkland Lake, Ont. O. J. Thorpe
<b>CJLS</b>	1310	100	Yarmouth, N. S. Laurie L. Smith, Grand Hotel
<b>CJOC</b>	1230	100	Lethbridge, Alta. Marquis Hotel
<b>CJOR</b>	600	500	Vancouver, B. C. G. C. Chandler, Hotel Grosvenor

<b>CJRC</b>	1390	100	Winnipeg, Man. Royal Alexandra Hotel
<b>CJRM</b>	540	1000	Moose Jaw, Sask. 311 Main St. No.
<b>CKAC</b>	730	5000	Montreal, Que. 980 St. Catherine St. W.
<b>CKBI</b>	1210	100	Prince Albert, Sask. Canada Bldc.
<b>CKCD</b>	1010	100	Vancouver, B. C. 142 Hastings St. W.
<b>CKCH</b>	1210	100	Hull, Que. Standish Hall Hotel
<b>CKCK</b>	1010	500	Regina, Sask. 1853 Hamilton St.
<b>CKCL</b>	580	100	Toronto, Ont. 444 University Ave.
<b>CKCO</b>	1010	100	Ottawa, Ont. 272 Somerset St. W.
<b>CKCR</b>	1510	100	Waterloo, Ont. 24 King St. So.
<b>CKCV</b>	1310	50	Quebec, Que. 254 Ave. Marguerite
<b>CKCW</b>	1370	100	Moncton, N. B. Moncton Brdstg. Co., Ltd.
<b>CKFC</b>	1410	50	Vancouver, B. C. Hemlock & 12th Ave.
<b>CKGB</b>	1420	100	Timmins, Ont. R. H. Thompson, Press Bldg.
<b>CKIC</b>	1010	50	Wolfville, N. S. Acadia University
<b>CKLW</b>	1030	5000	Windsor, Ont. Guaranty Trust Bldg.
<b>CKMK</b>	1210	50	Cobalt, Ont. R. L. MacAdam
<b>CKMO</b>	1410	100	Vancouver, B. C. 1604 Bekins Bldg.
<b>CKNC</b>	1420	100	Toronto, Ont. 805 Davenport Road
<b>CKOC</b>	1120	500	Hamilton, Ont. Wentworth Bldg.
<b>CKOV</b>	630	100	Kelowna, B. C. Okanagan Broadcasters, Ltd., Box 243
<b>CKPC</b>	930	100	Brantford, Ont. Arcade Bldg.
<b>CKPR</b>	930	50	Fort William, Ont. Royal Edward Hotel
<b>CKTB</b>	1200	100	St. Catharines, Ont. E. T. Sandell, Welland House
<b>CKUA</b>	580	500	Edmonton, Alta. University of Alberta.
<b>CKWX</b>	1010	100	Vancouver, B. C. Hotel Georgia
<b>CKX</b>	1450	500	Brandon, Man. Rosser Ave.
<b>CKY</b>	960	15000	Winnipeg, Man. Sherbrooke St.
<b>CMAB</b>	1249	20	Pinar del Rio, Cuba Jose Silvera, Marti No. 101
<b>CMAF</b>	680	1000	Havana, Cuba P. O. Box 66
<b>CMBC</b>	1270	150	Havana, Cuba Domingo Fernandez, Maximo Gomez No. 139
<b>CMBD</b>	1010	250	Havana, Cuba Luis Perez Garcia, Enamorados y Flores
<b>CMBG</b>	1060	225	Havana, Cuba John L. Stowers, Hospital No. 100
<b>CMBJ</b>	1147	500	Havana, Cuba Emilio Perera, Consulado y Virtudes
<b>CMBK</b>	1485	15	Havana, Cuba Alberto Alvarez, Paula y Oficios
<b>CMBL</b>	1445	200	Havana, Cuba Julio C. Hidalgo, Zapata 150, 6 y 8, Vedado

INDEX BY CALL LETTERS

<b>CMBN 1185</b>	150	Havana, Cuba
G. de Sequeira, Agrimonte No. 32		
<b>CMBS 780</b>	200	Havana, Cuba
Enrique Artalejo, Calzada y H. St.		
<b>CMBW 1140</b>	600	Havana, Cuba
Alvarez, Moris y Cia, Obrapia No. 13		
<b>CMBX 1185</b>	250	Havana, Cuba
San Miguel 194		
<b>CMBY 965</b>	250	Havana, Cuba
Callejas-Estefani, Principe No. 33		
<b>CMBZ 1005</b>	150	Havana, Cuba
Manuel y G. Salas, San Rafael No. 14		
<b>CMC 835</b>	500	Havana, Cuba
Agulla y Dragones		
<b>CMCA 1230</b>	150	Havana, Cuba
J. M. Gonzales Ave. de Italia No. 102		
<b>CMCB 1060</b>	150	Havana, Cuba
Metropolitan Bldg.		
<b>CMCD 925</b>	500	Havana, Cuba
Hotel Palace, Vedado		
<b>CMCF 780</b>	250	Havana, Cuba
Raoul Karman, P. O. Box 647		
<b>CMCG 1140</b>	500	Havana, Cuba
<b>CMCH 1410</b>	50	Havana, Cuba
88 Primellas St., Verro		
<b>CMCJ 1180</b>	500	Havana, Cuba
Rafael Rodriguez, Estevez No. 4		
<b>CMCM 1405</b>	50	Havana, Cuba
Aurelio Balino, Belas Coaln No. 639		
<b>CMCN 1375</b>	250	Havana, Cuba
Antonio Ginard, Reina y Ave. Buen Retiroe		
<b>CMCO 1145</b>	500	Havana, Cuba
<b>CMCP 1270</b>	150	Havana, Cuba
Jose A. Yaniz		
<b>CMCQ 680</b>	1000	Havana, Cuba
Andres Martinez, Vista Alegre No. 80		
<b>CMCR 1375</b>	150	Havana, Cuba
Milagros No. 35, Vibora		
<b>CMCU 1100</b>	500	Havana, Cuba
San Francisco No. 13, Vibora		
<b>CMCW 965</b>	150	Havana, Cuba
Gallano y San Lazaro Sts.		
<b>CMCY 1316</b>	500	Havana, Cuba
Manuel D. Autran, Ave. de La Pdt s. 215		
<b>CMDE 915</b>	150	Havana, Cuba
Radio Aerial Ad.		
<b>CMGA 834</b>	100	Colon, Cuba
L. Valdes Figueroa, Marti No. 19		
<b>CMGB 1205</b>	30	Matanzas, Cuba
Jose Anorga, Magdalena No. 1		
<b>CMGC 820</b>	30	Matanzas, Cuba
Oscar S. Meehoso, Independencia No. 56		
<b>CMGE 1375</b>	30	Cardenas, Cuba
Genaro Sebater, Cespedes No. 180		
<b>CMGF 987</b>	100	Matanzas, Cuba
G. Betancourt No. 105		
<b>CMGH 1040</b>	15	Matanzas, Cuba
B. Byrne No. 113		
<b>CMHA 1103</b>	500	Sagua la Grande, Cuba
<b>CMHD 950</b>	500	Caibarien, Cuba
Manuel Alvarez, M. Escobar 17		
<b>CMHI 1037</b>	250	Santa Clara, Cuba
Lavis y Paz, Independencia No. 34		
<b>CMHJ 1125</b>	60	Cienfuegos, Cuba
Victorino Lopez Hontanon, Apdo. 57		
<b>CMHK 1225</b>	50	Cruces, Cuba
Heredia No. 61		
<b>CMHL 1290</b>	20	Cienfuegos, Cuba
Oscar Zayas, San Carlos 143		

<b>CMHW 910</b>	100	Cienfuegos, Cuba
San Carlos No. 106		
<b>CMJ3 1382</b>	150	Camaguey, Cuba
Feliciano Isaac, Cisneros y G. Gomez		
<b>CMJE 1170</b>	50	Camaguey, Cuba
Manuel Fernandez, Plaza de Maceo		
<b>CMJF 930</b>	200	Camaguey, Cuba
John L. Stowers, Hotel Plaza		
<b>CMJG 1050</b>	50	Camaguey, Cuba
Jose Antonio Lefran, Martires 133		
<b>CMJH 1150</b>	50	Ciego de Avila, Cuba
Independencia No. 89		
<b>CMJI 1210</b>	150	Ciego de Avila, Cuba
Gilberto Gessa Lopez, Independencia 95		
<b>CMJK 790</b>	500	Camaguey, Cuba
Compania Cubana Nacional de Radio S. A.		
<b>CMJL 960</b>	50	Camaguey, Cuba
Enrique Artime, Cuba No. 27		
<b>CMJN 1240</b>	50	Camaguey, Cuba
Ernesto de Ugarriza, Martires 11		
<b>CMJO 1010</b>	50	Ciego de Avila, Cuba
Jose M. Rey, C. Central & Maceo		
<b>CMJP 1360</b>	75	Moron, Cuba
Cesar Canali, Callejas No. 28		
<b>CMK 730</b>	2000	Havana, Cuba
Hotel Plaza		
<b>CMKC 1034</b>	150	Santiago, Cuba
J. A. Saco, Alta 23		
<b>CMKJ 1300</b>	20	Guantanamo, Cuba
Luis Morlote, East Giro 11		
<b>CMQ 645</b>	500	Havana, Cuba
Jose Fernandez, 25 Numero 445		
<b>CMW 595</b>	1400	Havana, Cuba
Troncoso y Gil, Paseo de Marti 103		
<b>CMX 890</b>	1000	Havana, Cuba
Casa "Lavin," Ave. de la Republica 99A		
<b>CRCK 1050</b>	1000	Quebec, Que.
Chateau Frontenac Hotel		
<b>CRCM 910</b>	5000	Montreal, Que.
1231 St. Catherine St. W.		
<b>CRCO 880</b>	1000	Ottawa, Ont.
Chateau Laurier Hotel		
<b>CRCS 950</b>	100	Chicoutimi, Que.
4 Rue Larouche		
<b>CRCT 840</b>	5000	Toronto, Ont.
805 Davenport Road		
<b>CRCV 1100</b>	1000	Vancouver, B. C.
C. N. R. Station Bldg.		
<b>FQN 574</b>	250	St. Pierre, Miq.
<b>HHK 920</b>	1000	Port-au-Prince, Haiti
Haitian Government		
<b>HIH 1395</b>	15	San Pedro de M., D.R.
Domingo Dominguez		
<b>HIJ 1195</b>	15	Santo Domingo, D. R.
Tuto Baez, Hostos 34		
<b>HIX 1270</b>	1000	Santo Domingo, D. R.
J. R. Saladin, Director General		
<b>HIZ 1300</b>	10	Santo Domingo, D. R.
Abbes and Garcia		
<b>KABC 1420</b>	100	San Antonio, Texas
Texas Theatre Bldg.		
<b>KALE 1300</b>	500	Portland, Ore.
Kale, Inc., New Heathman Hotel		
<b>KARK 890</b>	250	Little Rock, Ark.
N. S. L. Bldg.		
<b>KASA 1210</b>	100	Elk City, Okla.
E. M. Woody, Casa Grande Hotel		
<b>KBPS 1420</b>	100	Portland, Ore.
E. 12th & Hoyt Sts.		
<b>KBTM 1200</b>	100	Jonesboro, Ark.
Jay P. Beard		

## INDEX BY CALL LETTERS

<b>KCMC 1420 100</b> Texarkana, Ark. M. P. Mims, Box 865	<b>KFPL 1310 100</b> Dublin, Texas C. C. Baxter, Box 176
<b>KCRC 1370 100</b> Enid, Okla. Enid Radio-Phone Co., Oxford Hotel	<b>KFPM 1310 15</b> Greenville, Texas New Furniture Co.
<b>KCRJ 1310 100</b> Jerome, Ariz. Chas. C. Robinson, Drawer D.	<b>KFPW 1210 100</b> Fort Smith, Ark. Goldman Hotel
<b>KDB 1500 100</b> Santa Barbara, Calif. 15-17 E. Haley St.	<b>KFPY 890 1000</b> Spokane, Wash. Symons Bldg.
<b>KDFN 1440 500</b> Casper, Wyo. Donald Lewis Hathaway	<b>KFQD 780 250</b> Anchorage, Alaska 411—4th Ave.
<b>KDKA 980 50000</b> Pittsburgh, Pa. Hotel Wm. Penn	<b>KKFC 610 1000</b> San Francisco, Calif. 1000 Van Ness Ave.
<b>KDLR 1210 100</b> Devils Lake, N. D. KDLR, Inc., 1025 3rd Street	<b>KFRU 630 500</b> Columbia, Mo. KFRU, Inc., 9th and Elm Sts.
<b>KDYL 1290 1000</b> Salt Lake City, Utah Ezra Thompson Bldg.	<b>KFSD 600 1000</b> San Diego, Calif. U. S. Grant Hotel
<b>KECA 1430 1000</b> Los Angeles, Calif. 1000 S. Hope St.	<b>KFSG 1120 500</b> Los Angeles, Calif. 1100 Glendale Blvd.
<b>KELW 780 500</b> Burbank, Calif. 3702 Magnolia Park Blvd.	<b>KFUO 550 500</b> St. Louis, Mo. 801 De Mun St.
<b>KERN 1370 100</b> Bakersfield, Calif. Elk's Club	<b>KFVD 1000 250</b> Los Angeles, Calif. E. L. Cord, 645 S. Mariposa
<b>KEX 1180 5000</b> Portland, Ore. Oregonian Bldg.	<b>KFVS 1210 100</b> Cape Girardeau, Mo. Oscar C. Hirsch, Box 275
<b>KFAB 770 5000</b> Lincoln, Neb. Cornhusker Hotel	<b>KFWB 950 1000</b> Hollywood, Calif. Warner Bros. Motion Pictures, Inc.
<b>KFAC 1300 1000</b> Los Angeles, Calif. E. L. Cord, 645 So. Mariposa	<b>KFXD 1200 100</b> Nampa, Idaho Frank E. Hurt, 1024 12th Ave., S.
<b>KFBB 1280 1000</b> Great Falls, Mont. Buttrey Broadcast., Inc.	<b>KFXJ 1200 100</b> Grand Jct., Colo. Hillcrest Manor
<b>KFBI 1050 5000</b> Abilene, Kans. Box 345	<b>KFXM 1210 100</b> San Bernardino, Calif. California Hotel
<b>KFBK 1310 100</b> Sacramento, Calif. Sacramento Bee	<b>KFXR 1310 100</b> Oklahoma City, Okla. 541 Hightower Bldg.
<b>KFDM 560 500</b> Beaumont, Texas Beaumont Hotel, P. O. Box 2950	<b>KFYO 1310 100</b> Lubbock, Texas Kirksey Bros., Hotel Lubbock
<b>KFDY 780 1000</b> Brookings, S. D. South Dakota State College	<b>KFYR 550 1000</b> Bismarck, N. D. 320 Broadway
<b>KFEL 920 500</b> Denver, Colo. Albany Hotel	<b>KGA 900 1000</b> Spokane, Wash. 1023 W. Riverside Ave.
<b>KFEQ 680 2500</b> St. Joseph, Mo. Schneider Bldg.	<b>KGAR 1370 100</b> Tucson, Ariz. 142 S. 6th Ave.
<b>KFGQ 1370 100</b> Boone, Iowa 924 W. 2nd St.	<b>KGB 1330 1000</b> San Diego, Calif. 1012—1st St.
<b>KFH 1300 1000</b> Wichita, Kans. 124 1/2 S. Market St.	<b>KGBU 900 500</b> Ketchikan, Alaska Mile 5, Ward's Cove Rd.
<b>KFI 640 50000</b> Los Angeles, Calif. 1000 S. Hope St.	<b>KGBX 1310 100</b> Springfield, Mo. KGBX, Inc., C. of C. Bldg.
<b>KFIO 1120 100</b> Spokane, Wash. 213 Riverside Ave.	<b>KGBZ 930 1000</b> York, Neb. KGBZ Broadcasting Co., 715 Grant Ave.
<b>KFIZ 1420 100</b> Fond du Lac, Wis. 18 W. 1st St.	<b>KGCA 1270 100</b> Decorah, Iowa Charles W. Greenley, 201 Water St.
<b>KFJB 1200 100</b> Marshalltown, Iowa 1603 W. Main St.	<b>KGCU 1240 250</b> Mandan, N. D. 404 W. Main St.
<b>KFJI 1210 100</b> Klamath Falls, Ore. KFJI Broadcasters, Inc., Willard Hotel	<b>KGCX 1310 100</b> Wolf Point, Mont. E. E. Krebsbach.
<b>KFJM 1370 100</b> Grand Forks, N. D. University of North Dakota	<b>KGDE 1200 100</b> Fergus Falls, Minn. C. L. Jaren
<b>KFJR 1300 500</b> Portland, Ore. 622 Lumbermen's Bldg.	<b>KGDM 1100 250</b> Stockton, Calif. E. F. Peffer, 42 S. Calif. St.
<b>KFJZ 1370 100</b> Fort Worth, Texas Texas Hotel	<b>KGDY 1340 250</b> Huron, S. D. Voice of S. D., Inc., 347 Dakota Ave.
<b>KFKA 880 580</b> Greeley, Colo. Box 735	<b>KGEE 1200 100</b> Yuma, Colo. Elmer G. Beehler, 109 W. 2nd St.
<b>KFKU 1220 1000</b> Lawrence, Kans. University of Kansas	<b>KGER 1360 1000</b> Long Beach, Calif. 435 Pine Ave.
<b>KFNF 890 500</b> Shenandoah, Iowa 407 Sycamore St.	<b>KGEZ 1310 100</b> Kalispell, Mont. Donald C. Treloar, Box 1
<b>KFOR 1210 100</b> Lincoln, Neb. Howard Shuman, Hotel Lincoln	<b>KGFF 1420 100</b> Shawnee, Okla. 9th & Bell Sts.
<b>KFOX 1250 1000</b> Long Beach, Calif. 220 E. Anaheim St.	<b>KGFG 1370 100</b> Oklahoma City, Okla. Okla. Broadcasting Co., 1113 N. Broadway

## INDEX BY CALL LETTERS

<b>KGFI 1500 100</b>	<b>Corpus Christi, Texas</b> Eagle Broadcasting Co., Inc., P. O. Box 1508	<b>KIEV 850 250</b>	<b>Glendale, Calif.</b> Cannon System, Ltd., Glendale Hotel
<b>KGfJ 1200 100</b>	<b>Los Angeles, Calif.</b> Ben S. McGlashan, 1417 S. Figueroa.	<b>KIFS 1518 100</b>	<b>Klamath Falls, Ore.</b> Care KFJI Willard Hotel
<b>KGfK 1500 100</b>	<b>Moorhead, Minn.</b> 722 Center Ave.	<b>KIT 1310 100</b>	<b>Yakima, Wash.</b> 109 1/2 E. Yakima Ave.
<b>KGfL 1370 100</b>	<b>Roswall, N. M.</b> KGfL, Inc., 507 N. Main St.	<b>KJBS 1070 100</b>	<b>San Francisco, Calif.</b> 1380 Bush St.
<b>KGfW 1310 100</b>	<b>Kearney, Neb.</b> Midway Hotel	<b>KJR 970 5000</b>	<b>Seattle, Wash.</b> Skinner Bldg.
<b>KGfX 630 200</b>	<b>Pierre, S. D.</b> Dana McNeil, 510 Summit Ave.	<b>KLcN 1290 100</b>	<b>Blytheville, Ark.</b> C. L. Lintzenich, Main and Division St.
<b>KGgC 1420 100</b>	<b>San Francisco, Calif.</b> 230 Eddy St.	<b>KLD 1400 500</b>	<b>Ogden, Utah</b> 405 — 25th St.
<b>KGgF 1010 1000</b>	<b>Coffeyville, Kans.</b> Coffeyville Journal Bldg.	<b>KLPM 1240 250</b>	<b>Minot, N. D.</b> John B. Cooley, Box 707
<b>KGgM 1230 250</b>	<b>Albuquerque, N. M.</b> Franciscan Hotel	<b>KLRA 1390 1000</b>	<b>Little Rock, Ark.</b> Arkansas Broadcasting Co., Box 550
<b>KGhF 1320 250</b>	<b>Pueblo, Colo.</b> C. P. Ritchie, 113 Broadway	<b>KLS 1440 250</b>	<b>Oakland, Calif.</b> Warner Bros., 2201 Telegraph Ave.
<b>KGhI 1200 100</b>	<b>Little Rock, Ark.</b> Lloyd Judd Co., Marion Hotel	<b>KLUF 1370 100</b>	<b>Galveston, Texas</b> Geo. R. Clough, 3327 Ave. P.
<b>KGhL 780 1000</b>	<b>Billings, Mont.</b> 5th & N. Broadway	<b>KLX 880 1000</b>	<b>Oakland, Calif.</b> Tribune Tower
<b>KGIR 1360 1000</b>	<b>Butte, Mont.</b> KGIR, Inc., 121 W. Broadway	<b>KLZ 560 1000</b>	<b>Denver, Colo.</b> Shirley-Savoy Hotel
<b>KGIW 1420 100</b>	<b>Alamosa, Colo.</b> Leonard E. Wilson, 326 N. Commercial	<b>KMA 930 500</b>	<b>Shenandoah, Iowa</b> Earl E. May Seed & Nursery Co.
<b>KGIX 1420 100</b>	<b>Las Vegas, Nev.</b> J. M. Heaton, Box 656	<b>KMAC 1370 100</b>	<b>San Antonio, Texas</b> W. W. McAllister, Blue Bonnet Hotel
<b>KGKB 1500 100</b>	<b>Tyler, Texas</b> 115 S. College	<b>KMBC 950 1000</b>	<b>Kansas City, Mo.</b> Pickwick Hotel
<b>KGKL 1370 100</b>	<b>San Angelo, Texas</b> KGKL, Inc., St. Angelus Hotel	<b>KMED 1310 100</b>	<b>Medford, Ore.</b> Mrs. W. J. Virgin, Sparta Bldg.
<b>KGKD 570 500</b>	<b>Wichita Falls, Texas</b> 9th St. & Indiana Ave.	<b>KMJ 580 500</b>	<b>Fresno, Calif.</b> Van Ness & Calaveras Sts.
<b>KGKY 1500 100</b>	<b>Scottsbluff, Neb.</b> Hilliard Co., Inc., 1517 1/2 Broadway	<b>KMLB 1200 100</b>	<b>Monroe, La.</b> Francis Hotel
<b>KGMB 1320 250</b>	<b>Honolulu, T. H.</b> Honolulu Broadcasting Co., Box 2663	<b>KMMJ 740 1000</b>	<b>Clay Center, Neb.</b> The M. M. Johnson Co.
<b>KGNF 1430 500</b>	<b>North Platte, Neb.</b> Great Plains Broadcasting Co., W. 12th St.	<b>KMO 1330 250</b>	<b>Tacoma, Wash.</b> KMO, Inc., Hotel Winthrop
<b>KGNO 1340 250</b>	<b>Dodge City, Kans.</b> First Natl. Bank Bldg.	<b>KMOX 1090 50000</b>	<b>St. Louis, Mo.</b> 401 S. 12th St.
<b>KGO 790 7500</b>	<b>San Francisco, Calif.</b> 111 Sutter St.	<b>KMPC 710 500</b>	<b>Beverly Hills, Calif.</b> 9631 Wilshire Blvd.
<b>KGRS 1410 1000</b>	<b>Amarillo, Texas</b> E. B. Gish, Bellaire Park	<b>KMTR 570 500</b>	<b>Hollywood, Calif.</b> KNTR Radio Corp., 915 N. Formosa Ave.
<b>KGU 750 2500</b>	<b>Honolulu, T. H.</b> Kaplan at South St.	<b>KNOW 1500 100</b>	<b>Austin, Texas</b> Driskill Hotel
<b>KGVO 1200 100</b>	<b>Missoula, Mont.</b> Mosbys, Inc., 240 N. Higgins	<b>KNX 1050 25000</b>	<b>Hollywood, Calif.</b> West. Broadcast Co., Inc., 1558 N. Vine St.
<b>KGW 620 1000</b>	<b>Portland, Ore.</b> 325 Adler St.	<b>KOA 830 50000</b>	<b>Denver, Colo.</b> General Electric Co., 1370 Kramerla St.
<b>KGY 1210 100</b>	<b>Olympia, Wash.</b> KGY, Inc., 11th and Capitol Way	<b>KOAC 550 1000</b>	<b>Corvallis, Ore.</b> Oregon State Agricultural College
<b>KHJ 900 1000</b>	<b>Los Angeles, Calif.</b> 7th at Bixel	<b>KOB 1180 10000</b>	<b>Albuquerque, N. M.</b> Albuquerque Journal, Box 667
<b>KHQ 590 1000</b>	<b>Spokane, Wash.</b> Sprague Ave. & Post St.	<b>KOH 1380 500</b>	<b>Reno, Nev.</b> 440 N. Virginia St.
<b>KICA 1370 100</b>	<b>Clovis, N. M.</b> Southwest Broadcasting Co.	<b>KOIL 1260 1000</b>	<b>Council Bluffs, Iowa</b> Mona Motor Oil Co.
<b>KICK 1420 100</b>	<b>Carter Lake, Iowa</b> Red Oak Radio Corp.	<b>KOIN 940 1000</b>	<b>Portland, Ore.</b> KOIN, Inc., New Heathman Hotel
<b>KID 1320 250</b>	<b>Idaho Falls, Idaho</b> Park Ave. & Broadway	<b>KOL 1270 1000</b>	<b>Seattle, Wash.</b> Northern Life Tower
<b>KIDO 1350 1000</b>	<b>Boise, Idaho</b> Hotel Boise	<b>KOMA 1480 5000</b>	<b>Oklahoma City, Okla.</b> Biltmore Hotel
<b>KIDW 1420 100</b>	<b>Lamar, Colo.</b> Lamar Broadcasting Co., Box 688	<b>KOMO 920 1000</b>	<b>Seattle, Wash.</b> Skinner Bldg.
<b>KIEM 1210 100</b>	<b>Eureka, Calif.</b> Harold H. Hanseth, Vance Hotel	<b>KONO 1370 100</b>	<b>San Antonio, Texas</b> Mission Broadcast. Co., St. Anthony Hotel

## INDEX BY CALL LETTERS

<b>KOOS 1200 250</b> Marshfield, Ore. H. H. Hanseth, Hall Bldg.	<b>KTFI 1240 1000</b> Twin Falls, Idaho Radio Broadcasting Corp., Box 521
<b>KORE 1420 100</b> Eugene, Ore. 733 Willamette St.	<b>KTHS 1060 10000</b> Hot Springs, Ark. Chamber of Commerce, Box 886
<b>KOTN 1500 100</b> Pine Bluff, Ark. William H. Chaplin, Hotel Pines	<b>KTM 780 500</b> Los Angeles, Calif. 214 S. Vermont St.
<b>KOY 1390 500</b> Phoenix, Ariz. 621 N. Central Ave.	<b>KTRB 740 250</b> Modesto, Calif. McTammany & Bates
<b>KPCB 710 100</b> Seattle, Wash. Tower Bldg.	<b>KTRH 1330 1000</b> Houston, Texas KTRH Broadcasting Co., Rice Hotel
<b>KPJM 1500 100</b> Prescott, Ariz. Scott & Sturm, P. O. Box 782	<b>KTSA 1290 1000</b> San Antonio, Texas Southwest Broadcasting Co., Plaza Hotel
<b>KPO 680 50000</b> San Francisco, Calif. 111 Sutter St.	<b>KTSM 1310 100</b> El Paso, Texas P. O. Box 1976
<b>KPOF 880 500</b> Denver, Colo. Pillar Of Fire, 1845 Champa St.	<b>KTUL 1400 250</b> Tulsa, Okla. National Bank of Tulsa Bldg.
<b>KPPC 1210 50</b> Pasadena, Calif. 585 E. Colorado St.	<b>KTW 1220 1000</b> Seattle, Wash. 77th Ave. & Spring St.
<b>KPQ 1500 100</b> Wenatchee, Wash. KPQ Bldg.	<b>KUJ 1370 100</b> Walla Walla, Wash. KUJ, Inc., Marcus Whitman Hotel
<b>KPRC 920 1000</b> Houston, Texas 2204 Shell Bldg.	<b>KUMA 1420 100</b> Yuma, Ariz. Dr. A. H. Schermann, Box 267
<b>KQV 1380 500</b> Pittsburgh, Pa. KQV Broadcasting Co., Investment Bldg.	<b>KUOA 1260 1000</b> Fayetteville, Ark. KUOA, Inc., Washington Hotel
<b>KQW 1010 1000</b> San Jose, Calif. 87 E. San Antonio St.	<b>KUSD 890 500</b> Vermillion, S. D. University of South Dakota
<b>KRE 1370 100</b> Berkeley, Calif. 2345 Channing Way	<b>KVI 570 1000</b> Tacoma, Wash. W. R. Rust Bldg.
<b>KREG 1500 100</b> Santa Ana, Calif. 3rd & Sycamore Sts.	<b>KVL 1370 100</b> Seattle, Wash. KVL, Inc., 5th and Virginia St.
<b>KRGV 1260 500</b> Weslaco, Texas KRGV, Inc.	<b>KVOA 1260 500</b> Tucson, Ariz. Cons. Natl. Bank Bldg.
<b>KRKD 1120 500</b> Los Angeles, Calif. 815 Spring Arcade Bldg.	<b>KVOD 920 500</b> Denver, Colo. Continental Oil Bldg.
<b>KRKO 1370 50</b> Everett, Wash. Lee Mudgett, 2814 Rucker Ave.	<b>KVOO 1140 25000</b> Tulsa, Okla. Wright Bldg.
<b>KRLD 1040 10000</b> Dallas, Texas KRLD Radio Corp., Adolphus Hotel	<b>KVOR 1270 1000</b> Colorado Spg., Colo. Mining Exchange Bldg.
<b>KRMD 1310 100</b> Shreveport, La. Jefferson Hotel	<b>KVOS 1200 100</b> Bellingham, Wash. 115 W. Magnolia St.
<b>KROW 930 500</b> Oakland, Calif. 1803 Franklin St.	<b>KWCR 1430 250</b> Cedar Rapids, Iowa Hotel Montrose
<b>KRSC 1120 100</b> Seattle, Wash. Radio Sales Corp., Washington Athletic Club	<b>KWEA 1210 100</b> Shreveport, La. Spring & Fannin Sts.
<b>KSAC 580 500</b> Manhattan, Kans. State College of Agriculture	<b>KWFF 1210 100</b> Hilo, Hawaii Hilo Broadcasting Co., Ltd.
<b>KSCJ 1330 1000</b> Sioux City, Iowa Perkins Bros. Co., 415 Douglas St.	<b>KWG 1200 100</b> Stockton, Calif. Medico-Dental Bldg.
<b>KSD 550 500</b> St. Louis, Mo. 12th & Olive Sts.	<b>KWJJ 1040 500</b> Portland, Ore. 622 S. W. Salmon St.
<b>KSEI 900 250</b> Pocatello, Idaho Radio Service Corp., 141 S. 6th Ave.	<b>KWK 1350 1000</b> St. Louis, Mo. Thomas Patrick, Inc., Hotel Chase
<b>KSL 1130 50000</b> Salt Lake City, Utah Vermont Bldg.	<b>KWKC 1370 100</b> Kansas City, Mo. 39th & Main Sts.
<b>KSLM 1370 100</b> Salem, Ore. Oregon Radio, Inc.	<b>KWKH 1100 10000</b> Shreveport, La. Spring & Fannin Sts.
<b>KSO 1320 250</b> Des Moines, Iowa Des Moines Register & Tribune	<b>KWLC 1270 100</b> Decorah, Iowa Luther College
<b>KSOO 1110 1000</b> Sioux Falls, S. D. Sioux Falls Brdcast. Assn., Carpenter Hotel	<b>KWSC 1220 1000</b> Pullman, Wash. State College of Washington
<b>KSTP 1460 10000</b> St. Paul, Minn. St. Paul Hotel	<b>KWTN 1210 100</b> Watertown, S. D. Citizens Bank Bldg.
<b>KSUN 1200 100</b> Lowell, Ariz. Copper Electrical Co., Drawer C	<b>KWTO 560 1000</b> Springfield, Mo. KGBX Inc.
<b>KTAB 560 1000</b> San Francisco, Calif. 5th & Mission Sts.	<b>KWWG 1260 500</b> Port Arthur, Texas Frank P. Jackson
<b>KTAR 620 1000</b> Phoenix, Ariz. 116 N. Central Ave.	<b>KWYO 1370 100</b> Sheridan, Wyo. Big Horn Brdcastg. Co.
<b>KTAT 1240 1000</b> Fort Worth, Texas Ft. Worth Natl. Bank Bldg.	<b>KXA 760 250</b> Seattle, Wash. American Radio Tel. Co., 218 Bigelow Bldg.
<b>KTBS 1450 1000</b> Shreveport, La. Box 1642	<b>KXL 1420 100</b> Portland, Ore. KXL Broadcasters, Multnomah Hotel

## INDEX BY CALL LETTERS

<b>KXO</b> 1500 100 El Centro, Calif. F. M. Bowles, Box 140	<b>WACO</b> 1420 100 Waco, Texas Amicable Bldg.
<b>KXRO</b> 1310 100 Aberdeen, Wash. KXRO, Inc., Hotel Norck.	<b>WADC</b> 1320 1000 Akron, Ohio Allen T. Simmons, P. O. Box 29
<b>KXYZ</b> 1440 250 Houston, Texas Fannin & Rusk Sts.	<b>WAGF</b> 1370 100 Dothan, Ala. P. O. Box 25
<b>KYA</b> 1230 1000 San Francisco, Calif. 988 Market St.	<b>WAGM</b> 1420 100 Presque Isle, Me. Aroostook Broadcasting Corp., Main St.
<b>KYW</b> 1020 10000 Chicago, Ill. 310 S. Michigan Ave.	<b>WAJU</b> 640 500 Columbus, Ohio Deshler-Wallick Hotel
<b>KZRM</b> 618.5 50000 Manila, P. I. 601 Escolta	<b>WALA</b> 1380 500 Mobile, Ala. Battle House
<b>NAA</b> 690 1000 Arlington, Va. United States Navy	<b>WALR</b> 1210 100 Zanesville, Ohio First Trust & Sava. Bank Bldg.
<b>RDN</b> 680 500 San Salvador, E. S. Republic of El Salvador	<b>WAML</b> 1310 100 Laurel, Miss. Southland Radio Corp., Box 25
<b>TGW</b> 1350 500 Guatemala, Gua. Gobierno de Guatemala	<b>WAPI</b> 1140 5000 Birmingham, Ala. Protective Life Bldg.
<b>TGX</b> 1400 150 Guatemala City	<b>WARD</b> 1400 500 Brooklyn, N. Y. 427 Flatbush Ave., Ext.
<b>TICR</b> 912 75 San Jose, C. R. Government of Costa Rica	<b>WASH</b> 1270 500 Grand Rapids, Mich. Grand Rapids Natl. Bank Bldg.
<b>TIEA</b> 833 7.5 San Jose, C. R.	<b>WATR</b> 1190 100 Waterbury, Conn. 47 Grand St.
<b>TIEP</b> 1450 7.5 San Jose, C. R.	<b>WAVE</b> 940 1000 Louisville, Ky. WAVE, Inc., 1525 Brown Hotel
<b>TIFB</b> 714 30 San Jose, C. R.	<b>WAWZ</b> 1350 250 Zarephath, N. J. Pillar of Fire.
<b>TIFS</b> 1441 7.5 Cartago, C. R.	<b>WAZL</b> 1420 100 Hazleton, Pa. Hazleton Broadcasting Service, Inc.
<b>TIGA</b> 1014 30 Cartago, C. R.	<b>WBAA</b> 1400 500 West Lafayette, Ind. Purdue University
<b>TIGP</b> 800 75 San Jose, C. R. Gonzalo Pinto H. Apt. 225	<b>WBAL</b> 1060 10000 Baltimore, Md. Lexington Bldg.
<b>TIRCA</b> 1100 500 San Jose, C. R. Perry Girton, Apt. 225	<b>WBAP</b> 800 50000 Fort Worth, Texas Blackstone Hotel
<b>TISO</b> 550 250 San Jose, C. R. P. F. Saborio, Apt. 1354	<b>WBAX</b> 1210 100 Wilkes-Barre, Pa. John H. Stenger, Jr., 70 S. Main St.
<b>TITV</b> 999 7.5 San Jose, C. R.	<b>WBBC</b> 1400 500 Brooklyn, N. Y. 552-54 Atlantic Ave.
<b>TIVL</b> 869 30 San Jose, C. R.	<b>WBBL</b> 1210 100 Richmond, Va. 1627 Monument Ave.
<b>TIXA</b> 614 7.5 San Jose, C. R.	<b>WBBM</b> 770 25000 Chicago, Ill. WBMM Broadcasting Corp., Wrigley Bldg.
<b>VAS</b> 685 2000 Glisco Bay, N. S. Canadian Marconi Co., Ltd.	<b>WBRR</b> 1300 1000 Brooklyn, N. Y. 124 Columbia Heights
<b>VESEK</b> 1195 10 Montmagny, Que. J. A. Marquis, P. O. Box 52	<b>WBBZ</b> 1200 100 Ponca City, Okla. C. L. Carrell, 407 W. South Ave.
<b>VOAC</b> 1300 40 St. John's, Nfld.	<b>WBCEM</b> 1410 500 Bay City, Mich. James E. Davidson, Hotel Wenonah
<b>VOAS</b> 940 100 St. John's N. F. Ayre & Sons, Ltd., Water St.	<b>WBEN</b> 900 1000 Buffalo, N. Y. WBEN, Inc., Hotel Statler
<b>VOGY</b> 840 400 St. John's, N. F. Newfoundland Hotel	<b>WBEO</b> 1310 100 Marquette, Mich. 146 W. Washington St.
<b>VOKW</b> 1085 30 St. John's, N. F. Cyril L. Parkins, Box 5039 East	<b>WBHS</b> 1200 100 Huntsville, Ala. Radio Station WBHS, Inc.
<b>VONF</b> 1195 5000 St. John's N. F. Dominion Broadcasting Co., Ltd., Box 135	<b>WBIG</b> 1440 500 Greensboro, N. C. Box 408
<b>VOWR</b> 681 500 St. John's, N. F. Wesley United Church, Box 157	<b>WBNO</b> 1200 100 New Orleans, La. Hotel Marbero
<b>WAAB</b> 1410 500 Boston, Mass. 21 Brookline Ave.	<b>WBNS</b> 1430 500 Columbus, O. 33 N. High St.
<b>WAAF</b> 920 500 Chicago, Ill. 836 Exchange Ave.	<b>WBNX</b> 1350 250 New York, N. Y. 260 E. 161st St.
<b>WAAT</b> 940 300 Jersey City, N. J. Bremer Broadcasting Corp., 50 Journal Sq	<b>WBOQ</b> 860 50000 New York, N. Y. Atlantic Broadcasting Corp.
<b>WAAW</b> 660 500 Omaha, Neb. Omaha Grain Exchange	<b>WBOW</b> 1310 100 Terre Haute, Ind. Banks of Wabash, Inc., 19 Beach Block
<b>WABC</b> 860 50000 New York, N. Y. 485 Madison Ave.	<b>WBRC</b> 930 1000 Birmingham, Ala. Bankhead Hotel
<b>WABI</b> 1200 100 Bangor, Maine First Universalist Society, Park St.	<b>WBRE</b> 1310 100 Wilkes-Barre, Pa. Louis G. Baltimore, 16 N. Main

INDEX BY CALL LETTERS

<b>WBSO</b> 920 500 Babson Park, Mass. Drawer B
<b>WBT</b> 1080 5000 Charlotte, N. C. Station WBT, Inc., Wilder Bldg.
<b>WBTM</b> 1370 100 Danville, Va. Miller Bldg.
<b>WBZ</b> 990 50000 Boston, Mass. Hotel Bradford
<b>WBZA</b> 990 1000 Springfield, Mass. Hotel Kimball
<b>WCAC</b> 600 500 Storrs, Conn. Connecticut State College
<b>WCAD</b> 1220 500 Canton, N. Y. St. Lawrence University
<b>WCAE</b> 1220 1000 Pittsburgh, Pa. 6th Ave. & Smithfield St.
<b>WCAL</b> 1250 1000 Northfield, Minn. St. Olaf College
<b>WCAM</b> 1280 500 Camden, N. J. City of Camden, City Hall
<b>WCAO</b> 600 500 Baltimore, Md. 811 W. Lanvale St.
<b>WCAP</b> 1280 500 Asbury Park, N. J. Convention Hall
<b>WCAT</b> 1200 100 Rapid City, S. D. South Dakota State School of Mines
<b>WCAU</b> 1170 50000 Philadelphia, Pa. WCAU Broadcasting Co., 1622 Chestnut
<b>WCAX</b> 1200 100 Burlington, Vt. 203 College St.
<b>WCAZ</b> 1070 100 Carthage, Ill. 97 1/2 Adams St.
<b>WCBA</b> 1440 250 Allentown, Pa. B. Bryan Musselman, 39-41 10th St.
<b>WCBD</b> 1080 5000 Zion, Ill. 75 E. Wacker Drive, Chicago
<b>WCBM</b> 1370 100 Baltimore, Md. Keith Theatre Bldg.
<b>WCBS</b> 1210 100 Springfield, Ill. WCBS, Inc., 208 1/2 S. 5th.
<b>WCCO</b> 810 50000 Minneapolis, Minn. Nicollet Hotel
<b>WCFL</b> 970 1500 Chicago, Ill. 666 Lake Shore Drive
<b>WCHS</b> 580 500 Charleston, W. Va. WOBU, Inc., Ruffner Hotel
<b>WCKY</b> 1490 5000 Covington, Ky. 6th & Madison Sts.
<b>WCLO</b> 1200 100 Janesville, Wis. 200 E. Milwaukee St.
<b>WCLS</b> 1310 100 Joliet, Ill. WCLS, Inc., 301 E. Jefferson St.
<b>WCNW</b> 1500 100 Brooklyn, N. Y. Arthur Faske, 1525 Pitkin Ave.
<b>WCOA</b> 1340 500 Pensacola, Fla. San Carlos Hotel
<b>WCOC</b> 880 500 Meridian, Miss. Box 603
<b>WCRW</b> 1210 100 Chicago, Ill. Clinton R. White, 2756 Pine Grove Ave.
<b>WCSC</b> 1360 500 Charleston, S. C. Francis Marion Hotel
<b>WCSH</b> 940 1000 Portland, Me. 579 Congress St.
<b>WDAE</b> 1220 1000 Tampa, Fla. Tampa Times Co., Tampa Terrace
<b>WDAF</b> 610 1000 Kansas City, Mo. 1729 Grand Ave.
<b>WDAG</b> 1410 1000 Amarillo, Texas Box 306
<b>WDAH</b> 1310 100 El Paso, Texas Box 1978

<b>WDAS</b> 1370 100 Philadelphia, Pa. WDAS Brdestg. Co., Inc., Broadwood Hotel
<b>WDAY</b> 940 1000 Fargo, N. D.
<b>WDAY</b> , Inc., Black Bldg., 118 Broadway
<b>WDBJ</b> 930 1000 Roanoke, Va. Times World Corp., P. O. Box 150
<b>WDBO</b> 580 250 Orlando, Fla. 555 N. Orange Ave.
<b>WDEL</b> 1120 250 Wilmington, Del. WDEL, Inc., 10th and King Sts.
<b>WDEV</b> 550 500 Waterbury, Vt. Harry C. Whitehill, Stowe St.
<b>WDGY</b> 1180 1000 Minneapolis, Minn. Dr. Geo. W. Young, 909 W. Broadway
<b>WDNC</b> 1500 100 Durham, N. C. Washington Duke Hotel
<b>WDOD</b> 1280 1000 Chattanooga, Tenn. WDOD Broadcasting Corp., Hotel Patten
<b>WDRC</b> 1330 1000 Hartford, Conn. WDRC, Inc., Cornlng Bldg., 11 Asylum St.
<b>WDSU</b> 1250 1000 New Orleans, La. Jos. H. Uhalt, Hotel Monteleone
<b>WDZ</b> 1070 100 Tuscola, Ill. James L. Bush, Star Store Bldg.
<b>WEAF</b> 660 50000 New York, N. Y. 30 Rockefeller Plaza
<b>WEAN</b> 780 500 Providence, R. I. New Crown Hotel
<b>WEBC</b> 1290 1000 Superior, Wis. Spaulding Hotel, Duluth, Minn.
<b>WEBQ</b> 1210 100 Harrisburg, Ill. 100 E. Poplar St.
<b>WEBR</b> 1310 100 Buffalo, N. Y. Howell Broadcasting Co., Inc., 735 Main
<b>WEDC</b> 1210 100 Chicago, Ill. Emil Denemark, 3860 Ogden Ave.
<b>WEED</b> 1420 100 Rocky Mount, N. C. Wm. Avera Wynne, Box 221
<b>WEEL</b> 590 1000 Boston, Mass. 182 Tremont St.
<b>WEUU</b> 830 1000 Reading, Pa. Berks Broadcasting Co., 533 Penn.
<b>WEHC</b> 1350 500 Charlottesville, Va. 7th & Main Sts.
<b>WEHS</b> 1420 100 Cicero, Ill. WEHS, Inc., 6138 W. Cermak Rd.
<b>WELL</b> 1420 50 Battle Creek, Mich. Enquirer News, 38 W. State St.
<b>WENR</b> 870 50000 Chicago, Ill. 222 N. Bank Drive
<b>WESG</b> 1090 1000 Elmira, N. Y. Mark Twain Hotel
<b>WEVD</b> 1300 500 New York, N. Y. Jewish Daily Forward, Hotel Claridge
<b>WEW</b> 760 1000 St. Louis, Mo. St. Louis University, 221 N. Grand Blvd.
<b>WEXL</b> 1310 50 Royal Oak, Mich. 212 W. 6th St.
<b>WFAA</b> 800 50000 Dallas, Texas Baker Hotel
<b>WFAB</b> 1300 1000 New York, N. Y. Fifth Avenue Broadcasting Corp.
<b>WFAM</b> 1200 100 South Bend, Ind. South Bend Tribune, 225 W. Colfax Ave.
<b>WFAS</b> 1210 100 White Plains, N. Y. Hotel Roger Smith
<b>WFBC</b> 1300 250 Greenville, S. C. Imperial Hotel
<b>WFBE</b> 1200 100 Cincinnati, Ohio WFBE, Inc., Hotel Sinton
<b>WFBG</b> 1310 100 Altoona, Pa. Gable Broadcasting Co. 12th Av. & 13th St.

INDEX BY CALL LETTERS

<b>WFBL</b> 1360 1000 Syracuse, N. Y. Onondaga Hotel	<b>WHBY</b> 1200 100 Green Bay, Wis. WHBY, Inc., Bellin Bldg.
<b>WFBM</b> 1230 1000 Indianapolis, Ind. 48 Monument Circle	<b>WHDF</b> 1370 100 Calumet, Mich. Box 643
<b>WFBR</b> 1270 500 Baltimore, Md. 7 St. Paul St.	<b>WHDH</b> 830 1000 Boston, Mass. Matheson Radio Co., 62 Boylston
<b>WFDF</b> 1310 100 Flint, Mich. Union Industrial Bldg.	<b>WHDL</b> 1420 100 Tupper Lake, N. Y. Iroquois Hotel
<b>WFEA</b> 1430 600 Manchester, N. H. Carpenter Hotel	<b>WHEB</b> 740 250 Portsmouth, N. H. Box 522, 39 Congress St.
<b>WFI</b> 560 500 Philadelphia, Pa. WFI Broadcasting Co., 801 Market	<b>WHEC</b> 1430 500 Rochester, N. Y. WHEC, Inc., 40 Franklin St.
<b>WFLA</b> 620 1000 Clearwater, Fla. Box 119	<b>WHEF</b> 1500 100 Kosciusko, Miss. 417 W. Adams St.
<b>WGAL</b> 1500 100 Lancaster, Pa. WGAL, Inc., 8 W. King St.	<b>WHFC</b> 1420 100 Cicero, Ill. WHFC, Inc., 6138 W. Cermak Road
<b>WGAR</b> 1450 500 Cleveland, Ohio WGAR Broadcasting Co., Hotel Statler	<b>WHIS</b> 1410 250 Bluefield, W. Va. Bland St.
<b>WGBB</b> 1210 100 Freeport, N. Y. H. H. Carman, 64 S. Grove St.	<b>WHJB</b> 620 250 Greensburg, Pa. Penna. Radio Supply House
<b>WGBF</b> 630 500 Evansville, Ind. 519 Vine St.	<b>WHK</b> 1390 1000 Cleveland, Ohio 1311 Terminal Tower
<b>WGBI</b> 880 500 Scranton, Pa. 116 N. Washington Ave.	<b>WHN</b> 1010 1000 New York, N. Y. 1540 Broadway
<b>WGCM</b> 1210 100 Gulfport, Miss. Great Southern Hotel	<b>WHO</b> 1000 50000 Des Moines, Iowa Central Brdcastg. Co., 914 Walnut St.
<b>WGCP</b> 1250 1000 Newark, N. J. 609 Broad St.	<b>WHOM</b> 1450 250 Jersey City, N. J. 2870 Boulevard
<b>WGES</b> 1360 500 Chicago, Ill. 128 N. Crawford Ave.	<b>WHP</b> 1430 500 Harrisburg, Pa. WHP, Inc., 216 Locust St.
<b>WGH</b> 1310 100 Newport News, Va. 2813 Washington Ave.	<b>WIBA</b> 1280 1000 Madison, Wis. 111 King St.
<b>WGL</b> 1370 100 Fort Wayne, Ind. F. C. Zieg, 213 W. Main St.	<b>WIBG</b> 970 100 Glenside, Pa. WIBG, Inc., Keswick Bldg.
<b>WGLC</b> 1370 100 Hudson Falls, N. Y. Colonial Display House	<b>WIBM</b> 1370 100 Jackson, Mich. WIBM, Inc., 306 W. Michigan Ave.
<b>WGN</b> 720 50000 Chicago, Ill. WGN, Inc., Tribune Tower	<b>WIBU</b> 1210 100 Poynette, Wis. Wm. C. Forrest, R. F. D. No. 3
<b>WGNV</b> 1210 100 Chester, N. Y. Peter Goelet (Orange County)	<b>WIBW</b> 580 1000 Topeka, Kans. 11th & Topeka Blvd.
<b>WGPC</b> 1420 100 Albany, Ga. Rylander Theatre Bldg.	<b>WIBX</b> 1200 100 Utica, N. Y. WIBX, Inc., 1st Natl. Bank Bldg.
<b>WGR</b> 550 1000 Buffalo, N. Y. Rand Bldg.	<b>WICC</b> 600 250 Bridgeport, Conn. Southern Conn. Broadcasting Corp.
<b>WGST</b> 890 250 Atlanta, Ga. Ansley Hotel	<b>WIL</b> 1200 100 St. Louis, Mo. Melbourne Hotel
<b>WGY</b> 790 50000 Schenectady, N. Y. 1 River Road	<b>WILL</b> 890 250 Urbana, Ill. University of Illinois
<b>WHA</b> 940 2500 Madison, Wis. University of Wisconsin	<b>WILM</b> 1420 100 Wilmington, Del. 920 King St.
<b>WHAM</b> 1150 50000 Rochester, N. Y. 100 Carlson Road	<b>WIND</b> 560 1000 Gary, Ind. 504 Broadway
<b>WHAS</b> 820 50000 Louisville, Ky. 300 W. Liberty St.	<b>WINS</b> 1180 1000 New York, N. Y. 110 E. 58th St.
<b>WHAT</b> 1310 100 Philadelphia, Pa. Public Ledger Bldg.	<b>WIOD</b> 1300 1000 Miami, Fla. Herald Bldg.
<b>WHAZ</b> 1300 500 Troy, N. Y. 8th St.	<b>WIP</b> 610 500 Philadelphia, Pa. Gimbel Bldg.
<b>WHB</b> 860 500 Kansas City, Mo. WHB Broadcasting Co., Scarritt Bldg.	<b>WIS</b> 1010 1000 Columbia, S. C. Station WIS, Inc., 1811 Main St.
<b>WHBC</b> 1200 100 Canton, Ohio Edw. P. Graham, 319 Tusc. St., W.	<b>WISN</b> 1120 250 Milwaukee, Wis. 123 W. Michigan St.
<b>WHBD</b> 1370 100 Mount Orab, Ohio F. P. Moler	<b>WJAC</b> 1310 100 Johnstown, Pa. WJAC, Inc., Locust St.
<b>WHBF</b> 1210 100 Rock Island, Ill. Hotel Harms	<b>WJAG</b> 1060 1000 Norfolk, Neb. Norfolk Daily News
<b>WHBL</b> 1410 500 Sheboygan, Wis. Press Publishing Co., Press Bldg.	<b>WJAR</b> 890 500 Providence, R. I. Outlet Co., Weybossett St.
<b>WHBQ</b> 1370 100 Memphis, Tenn. Brdcastg. Sta. WNBQ, Inc., Hotel Claridge	<b>WJAS</b> 1290 1000 Pittsburgh, Pa. Chamber of Commerce Bldg.
<b>WHBU</b> 1210 100 Anderson, Ind. Anderson Broadcasting Corp., Box 816	<b>WJAX</b> 900 1000 Jacksonville, Fla. City of Jacksonville

## INDEX BY CALL LETTERS

<b>WJAY 610 500</b>	<b>Cleveland, Ohio</b>
1224 Huron Road	
<b>WJBC 1200 100</b>	<b>Bloomington, Ill.</b>
Kaskaskia Broadcasting Co.	
<b>WJBI 1210 100</b>	<b>Red Bank, N. J.</b>
63 Broad St.	
<b>WJBK 1500 100</b>	<b>Detroit, Mich.</b>
6559 Hamilton Ave.	
<b>WJBL 1200 100</b>	<b>Decatur, Ill.</b>
Gushard Bldg.	
<b>WJBO 1420 100</b>	<b>Baton Rouge, La.</b>
Baton Rouge Broadcasting Co., Inc.	
<b>WJBW 1200 100</b>	<b>New Orleans, La.</b>
C. C. Carlson, 2743 Dumaine St.	
<b>WJBY 1210 100</b>	<b>Gadsden, Ala.</b>
Gadsden Broadcasting Co., 112 N. 8th St.	
<b>WJDX 1270 1000</b>	<b>Jackson, Miss.</b>
Lamar Life Bldg.	
<b>WJEJ 1210 100</b>	<b>Hagerstown, Md.</b>
Lovely Dame Bldg.	
<b>WJEM 990 500</b>	<b>Tupelo, Miss.</b>
Britt A. Rogers, Jr.	
<b>WJIM 1210 100</b>	<b>Lansing, Mich.</b>
Capital City Brdstg. Co.	
<b>WJJD 1130 20000</b>	<b>Chicago, Ill.</b>
WJJD, Inc., 201 N. Wells St.	
<b>WJMS 1420 100</b>	<b>Ironwood, Mich.</b>
WJMS, Inc., St. James Hotel	
<b>WJR 750 10000</b>	<b>Detroit, Mich.</b>
WJR, Inc., Fisher Bldg.	
<b>WJSV 1460 10000</b>	<b>Washington, D. C.</b>
Shoreham Bldg.	
<b>WJTL 1370 100</b>	<b>Atlanta, Ga.</b>
Oglethorpe University	
<b>WJW 1210 100</b>	<b>Akron, Ohio</b>
WJW, Inc., 41 S. High St.	
<b>WJZ 760 50000</b>	<b>New York, N. Y.</b>
30 Rockefeller Plaza	
<b>WKAQ 1240 1000</b>	<b>San Juan, P. R.</b>
Radio Corp. of Porto Rico, P. O. Box 358	
<b>WKAR 1040 1000</b>	<b>East Lansing, Mich.</b>
Michigan State College	
<b>WKBB 1500 100</b>	<b>East Dubuque, Ill.</b>
Richard W. Hoffman	
<b>WKBF 1400 500</b>	<b>Indianapolis, Ind.</b>
540 N. Meridian St.	
<b>WKBH 1380 1000</b>	<b>LaCrosse, Wis.</b>
WKBH, Inc., 409 Main St.	
<b>WKBI 1420 100</b>	<b>Cicero, Ill.</b>
WKBI, Inc., 6138 W. Cermak Road	
<b>WKBN 570 500</b>	<b>Youngstown, Ohio</b>
17 N. Champion St.	
<b>WKBO 1200 100</b>	<b>Harrisburg, Pa.</b>
Penn Harris Hotel	
<b>WKBV 1500 100</b>	<b>Richmond, Ind.</b>
Wm. O. Knox, Box 308	
<b>WKBW 1480 5000</b>	<b>Buffalo, N. Y.</b>
Rand Bldg.	
<b>WKBZ 1500 100</b>	<b>Muskegon, Mich.</b>
Karl L. Ashbacher & Sons	
<b>WKEU 1500 100</b>	<b>LaGrange, Ga.</b>
Radio Station WKEU, 906 Hill St.	
<b>WKFI 1210 100</b>	<b>Greenwood, Miss.</b>
J. Pat Scully, Box 302	
<b>WKJC 1200 100</b>	<b>Lancaster, Pa.</b>
16 W. King St.	
<b>WKOK 1210 100</b>	<b>Sunbury, Pa.</b>
1150 N. Front St.	
<b>WKRC 550 1000</b>	<b>Cincinnati, Ohio</b>
WKRC, Inc., Hotel Alms	
<b>WKY 900 1000</b>	<b>Oklahoma City, Okla.</b>
Plaza Court Bldg.	

<b>WKZO 590 1000</b>	<b>Kalamazoo, Mich.</b>
John E. Fetzer, Burdick Hotel	
<b>WLAC 1470 5000</b>	<b>Nashville, Tenn.</b>
159—4th Ave. No.	
<b>WLAP 1420 100</b>	<b>Lexington, Ky.</b>
Main & Esplanade	
<b>WLB 1250 1000</b>	<b>Minneapolis, Minn.</b>
University of Minnesota	
<b>WLBC 1310 100</b>	<b>Muncie, Ind.</b>
D. A. Burton, Anthony Bldg.	
<b>WLBK 1420 100</b>	<b>Kansas City, Kans.</b>
WLBK Broadcasting Co., Huron Bldg.	
<b>WLBL 900 2500</b>	<b>Stevens Point, Wis.</b>
Wisconsin Dept. of Agriculture and Markets	
<b>WLBW 1260 1000</b>	<b>Erie, Pa.</b>
Broadcasters of Pennsylvania, Inc.	
<b>WLBZ 620 500</b>	<b>Bangor, Me.</b>
Maine Broadcasting Co., Inc., 100 Main	
<b>WLEU 1420 100</b>	<b>Erie, Pa.</b>
<b>WLEY 1370 100</b>	<b>Lexington, Mass.</b>
Albert S. Moffat, Box D	
<b>WLIT 560 500</b>	<b>Philadelphia, Pa.</b>
8th & Market Sts.	
<b>WLNH 1310 100</b>	<b>Laconia, N. H.</b>
523 Main St.	
<b>WLS 870 50000</b>	<b>Chicago, Ill.</b>
1230 W. Washington Blvd.	
<b>WLTH 1400 500</b>	<b>Brooklyn, N. Y.</b>
305 Washington St.	
<b>WLVA 1200 100</b>	<b>Lynchburg, Va.</b>
915 Main St.	
<b>WLW 700 50000</b>	<b>Cincinnati, Ohio</b>
1329 Arlington St.	
<b>WLWL 1100 5000</b>	<b>New York, N. Y.</b>
415 W. 50th St.	
<b>WMAL 630 250</b>	<b>Washington, D. C.</b>
712—11th St., N. W.	
<b>WMAQ 670 5000</b>	<b>Chicago, Ill.</b>
Merchandise Mart	
<b>WMAS 1420 100</b>	<b>Springfield, Mass.</b>
WMAS, Inc., 70 Chestnut St.	
<b>WMAZ 1180 1000</b>	<b>Macon, Ga.</b>
211 Cotton Ave.	
<b>WMBC 1420 100</b>	<b>Detroit, Mich.</b>
7310 Woodward Ave.	
<b>WMBD 1440 500</b>	<b>Peoria, Ill.</b>
114 N. Madison St.	
<b>WMBG 1210 100</b>	<b>Richmond, Va.</b>
914 W. Broad St.	
<b>WMBH 1420 100</b>	<b>Joplin, Mo.</b>
1334 Roosevelt St.	
<b>WMBI 1080 5000</b>	<b>Chicago, Ill.</b>
153 Institute Place	
<b>WMBO 1310 100</b>	<b>Auburn, N. Y.</b>
WMBO, Inc., Metcalf Bldg.	
<b>WMBQ 1500 100</b>	<b>Brooklyn, N. Y.</b>
Paul J. Gollhofer, 95 Leonard St.	
<b>WMBR 1370 100</b>	<b>Jacksonville, Fla.</b>
F. J. Reynolds, Carling Hotel	
<b>WMC 780 1000</b>	<b>Memphis, Tenn.</b>
WMC, Inc., Hotel Gayoso	
<b>WMCA 570 500</b>	<b>New York, N. Y.</b>
1697 Broadway	
<b>WMEX 1500 100</b>	<b>Chelsea, Mass.</b>
The Northern Corp.	
<b>WMMN 890 250</b>	<b>Fairmount, W. Va.</b>
A. M. Rowe, Inc., 325 Main St.	
<b>WMPC 1200 100</b>	<b>Lapeer, Mich.</b>
81 Liberty St.	
<b>WMT 600 500</b>	<b>Waterloo, Iowa</b>
3rd & Lafayette Sts.	

## INDEX BY CALL LETTERS

<b>WNAC</b> 1230 1000 Boston, Mass. 21 Brookline Ave.	<b>WPTF</b> 680 5000 Raleigh, N. C. 324 Fayetteville St.
<b>WNAD</b> 1010 500 Norman, Okla. University of Oklahoma	<b>WQAM</b> 560 1000 Miami, Fla. Miami Brdcastg. Co., Inc., 327 N. E. 1st Ave.
<b>WNAX</b> 570 1000 Yankton, S. D. House of Gurney, Inc., 2nd and Capital St.	<b>WQAN</b> 880 250 Scranton, Pa. Scranton Times, 149 Penn Ave.
<b>WNBK</b> 1500 100 Binghamton, N. Y. Arlington Hotel	<b>WQBC</b> 1360 500 Vicksburg, Miss. Delta Broadcasting Co., Hotel Vicksburg
<b>WNBH</b> 1310 100 New Bedford, Mass. 251 Union St.	<b>WQDM</b> 1370 100 St. Albans, Vt. 42 N. Main St.
<b>WNBO</b> 1200 100 Washington, Pa. 319 E. Beau St.	<b>WQDX</b> 1210 100 Thomasville, Ga. Stevens Luke, 135 E. Jackson St.
<b>WNBR</b> 1430 500 Memphis, Tenn. Memphis Broadcasting Co., Hotel DeVoy	<b>WRAK</b> 1370 100 Williamsport, Pa. WRAK, Inc., 244 W. 4th St.
<b>WNBX</b> 1260 500 Springfield, Vt. WNBX Broadcasting Corp., 39 Main St.	<b>WRAW</b> 1310 100 Reading, Pa. Reading Broadcasting Co., 533 Penn St.
<b>WNBZ</b> 1290 50 Saranac Lake, N. Y. Smith & Mace, 70 Broadway	<b>WRAX</b> 920 250 Philadelphia, Pa. WRAX Broadcasting Co., 217 S. Broad St.
<b>WNEL</b> 1290 500 San Juan, P. R. Box 1252	<b>WRBL</b> 1200 100 Columbus, Ga. Royal Theatre Bldg.
<b>WNEW</b> 1250 1000 Newark, N. J. Wodaam Corp., 1060 Broad	<b>WRBZ</b> 1410 250 Roanoke, Va. P. O. Box 2389
<b>WNOX</b> 560 1000 Knoxville, Tenn. WNOX, Inc., Hotel Andrew Johnson	<b>WRC</b> 950 500 Washington, D. C. National Press Bldg.
<b>WNRA</b> 1420 100 Muscle Shoals, Ala. Kathryn Jones, P. O. Box 486, Sheffield, Ala.	<b>WRDO</b> 1370 100 Augusta, Me. WRDO, Inc., Augusta House
<b>WNYC</b> 810 500 New York, N. Y. Centre & Duane Sts.	<b>WRDW</b> 1500 100 Augusta, Ga. Virgil V. Evans Co., 309 8th St.
<b>WOAI</b> 1190 50000 San Antonio, Texas Southland Industries, Inc., 1038 Navarro	<b>WREC</b> 600 500 Memphis, Tenn. WREC, Inc., Hotel Peabody
<b>WOCL</b> 1210 50 Jamestown, N. Y. A. E. Newton, 840 N. Main St.	<b>WREN</b> 1220 1000 Lawrence, Kans. Jenny Wren Co., 8th and Vermont St.
<b>WOI</b> 640 5000 Ames, Iowa Iowa State College	<b>WRGA</b> 1500 100 Rome, Ga. 10 Third Ave.
<b>WOKO</b> 1430 500 Albany, N. Y. WOKO, Inc., Hotel Ten Eyck	<b>WRHM</b> 1250 1000 Minneapolis, Minn. Westley Temple Bldg.
<b>WOL</b> 1310 100 Washington, D. C. American Broadcasting Co., Annapolis Hotel	<b>WRJN</b> 1370 100 Racine, Wis. Racine Broadcasting Corp., Hotel Racine
<b>WOMT</b> 1210 100 Manitowoc, Wis. Francis M. Kadow, Box 326	<b>WROK</b> 1410 500 Rockford, Ill. 109 So. Water St.
<b>WOOD</b> 1270 500 Grand Rapids, Mich. Grand Rapids Natl. Bank Bldg.	<b>WROL</b> 1310 100 Knoxville, Tenn. Stuart Broadcasting Corp., 524 S. Gay
<b>WOPI</b> 1500 100 Bristol, Tenn. 22nd & State Sts.	<b>WRR</b> 1280 500 Dallas, Texas City of Dallas, Hilton Hotel
<b>WOR</b> 710 5000 Newark, N. J. 147 Market St.	<b>WRUF</b> 830 5000 Gainesville, Fla. State University
<b>WORC</b> 1280 500 Worcester, Mass. Alfred F. Kieindienst, 60 Franklin St.	<b>WRVA</b> 1110 5000 Richmond, Va. Larus & Bros Co., Inc., 22nd and Gary St.
<b>WORK</b> 1000 1000 York, Pa. York Broadcasting Co., 15 S. Beaver St.	<b>WSAI</b> 1330 1000 Cincinnati, Ohio Crosley Radio Corp., 1329 Arlington
<b>WOS</b> 630 500 Jefferson City, Mo. State Highway Control, Capitol Bldg.	<b>WSAJ</b> 1310 100 Grove City, Pa. Grove City College, 418 Poplar St.
<b>WOSU</b> 570 750 Columbus, Ohio Ohio State University	<b>WSAN</b> 1440 250 Allentown, Pa. WSAN, Inc., 39 10th St.
<b>WOV</b> 1130 1000 New York, N. Y. 16 E. 42nd St.	<b>WSAR</b> 1450 250 Fall River, Mass. Academy of Music Bldg.
<b>WOW</b> 590 1000 Omaha, Neb. Woodmen of the World, 4th and Farnam	<b>WSAZ</b> 1190 1000 Huntington, W. Va. WSAZ, Inc., P. O. Box 729
<b>WOWO</b> 1160 10000 Fort Wayne, Ind. Main Auto Supply Co., 213 W. Main	<b>WSB</b> 740 50000 Atlanta, Ga. Atlanta Journal, 7 N. Forsyth St.
<b>WPAD</b> 1420 100 Paducah, Ky. 2201 Broadway	<b>WSBC</b> 1210 100 Chicago, Ill. Gene T. Dyer, 1258 S. Michigan Ave.
<b>WPEN</b> 920 100 Philadelphia, Pa. 22nd & Walnut Sts.	<b>WSBT</b> 1360 500 South Bend, Ind. South Bend Tribune, 225 W. Colfax Ave.
<b>WPFB</b> 1370 100 Hattiesburg, Miss. Otis P. Eure, Box 530	<b>WSEN</b> 1210 100 Columbus, Ohio Columbus Broadcasting Corp., 144 S. High
<b>WPG</b> 1100 5000 Atlantic City, N. J. Convention Hall	<b>WSFA</b> 1410 500 Montgomery, Ala. Jefferson Davis Hotel
<b>WPHR</b> 880 100 Petersburg, Va. WLBG, Inc., Medical Arts Bldg.	<b>WSGN</b> 1310 100 Birmingham, Ala. R. B. Broyles, Tutwiler Hotel
<b>WPRO</b> 630 100 Providence, R. I. Cherry & Webb Brdcastg. Co., 15 Chestnut	<b>WSIX</b> 1210 100 Springfield, Tenn. 638 Tire & Vulcanizing Co.

INDEX BY CALL LETTERS

<b>WSJS 1310 100</b> Winston-Salem, N. C. Winston-Salem Journal Co., 416 N. Marshall	<b>WVVA 1160 5000</b> Wheeling, W. Va. Hawley Bldg.
<b>WSM 650 50000</b> Nashville, Tenn. 301—7th Ave. No.	<b>WXYZ 1240 1000</b> Detroit, Mich. Madison Theatre Bldg.
<b>WSMB 1320 500</b> New Orleans, La. WSMB, Inc., Maison Blanche Bldg.	<b>W1XBS 1530 1000</b> Waterbury, Conn. American Republican, Inc.
<b>WSMK 1380 200</b> Dayton, Ohio S. M. Krohn, Jr., 4th and Main St.	<b>W2XR 1550 1000</b> Long Island City, N. Y. John V. L. Hogan
<b>WSOC 1210 100</b> Charlotte, N. C. WSOC, Inc., Box 730	<b>W6XAI 1550 1000</b> Bakersfield, Calif.
<b>WSPA 1420 100</b> Spartanburg, S. C. Virgil V. Evans, Ravenel and Avant St.	<b>W9XBY 1530 1000</b> Kansas City, Mo. First National Television Inc.
<b>WSPD 1340 1000</b> Toledo, Ohio Toledo Broadcasting Co., 505 Jefferson	<b>XEA 1060 125</b> Guadalajara, Jal. Alberto Palos Souza, Apdo. 197
<b>WSUI 880 500</b> Iowa City, Iowa State University of Iowa	<b>XEAA 920 200</b> Mexicali, B. C. Apdo. 42
<b>WSUN 620 1000</b> St. Petersburg, Fla. Chamber of Commerce	<b>XEAE 980 250</b> Tijuana, B. C. Apt. 42
<b>WSVA 550 500</b> Staunton, Va. Marian Gilliam	<b>XEAF 1080 750</b> Negales, Son. Francisco G. Elias, Hotel Central
<b>WSVS 1370 50</b> Buffalo, N. Y. 666 E. Delavan Ave.	<b>XEAI 1240 100</b> Mexico City, D. F. Carlos Gonzales Caballero, Insurgentes 366
<b>WSYB 1500 100</b> Rutland, Vt. Philip Weiss Music Co., 80 West St.	<b>XEAL 660 1000</b> Mexico City, D. F. Apdo. 1903
<b>WSYR 570 250</b> Syracuse, N. Y. E. Onondaga & S. Warren Sts.	<b>XEAO 560 250</b> Mexicali, B. C. Luis L. Castro, C. Altamirano 156
<b>WTAD 1440 500</b> Quincy, Ill. Illinois Brdcastg. Corp., State and 6th	<b>XEAW 950 10000</b> Reynosa, Tams. Internacional Broadcasting Co., S. A.
<b>WTAG 580 500</b> Worcester, Mass. 18 Franklin St.	<b>XEAZ 1420 7</b> Leon, Guan. Poictos 47
<b>WTAM 1070 50000</b> Cleveland, Ohio 1367 E. 6th St.	<b>XEB 1030 10000</b> Mexico City, D. F. El Buen Tono, S. A., Apdo. 79-44
<b>WTAQ 1330 1000</b> Eau Claire, Wis. Gillette Rubber Co., Hotel Eau Claire	<b>XEBC 760 2500</b> Agua Caliente, B. C. Agua Caliente Hotel
<b>WTAR 780 500</b> Norfolk, Va. WTAR Radio Corp., Wainwright Bldg.	<b>XECW 1310 10</b> Mexico City, D. F. Maria Elena Bravo de Cordero Ave. Juarez 104
<b>WTAW 1120 500</b> College Station, Tex. Agricultural and Mechanical College	<b>XED 1160 500</b> Guadalajara, Jal. Cla. Radiofonografica, Apdo. 197
<b>WTAX 1210 100</b> Springfield, Ill. WTAX, Inc., 416 E. Capitol Ave.	<b>XEE 1210 50</b> Durango, Dgo. 20 de Nov. 112 (Apdo. 148)
<b>WTBO 800 250</b> Cumberland, Md. Associated Brdcastg. Corp., Box 794	<b>XEFA 1180 500</b> Mexico City, D. F. Eduardo Limon Segui, Meditarraneo 236
<b>WTEL 1310 100</b> Philadelphia, Pa. Broad & Erie Ave.	<b>XEFB 1420 100</b> Monterrey, N. L. Jesus Quintanilla, P. O. Box 317
<b>WTFI 1450 500</b> Athens, Ga. 133 E. Washington St.	<b>XEFC 1310 100</b> Merida, Yuc. J. Molina Font, Calle 59, 517
<b>WTIC 1040 50000</b> Hartford, Conn. 26 Grove St.	<b>XEFE 1370 100</b> Laredo, Tams. R. T. Carranza, Km. 4 Carretera Laredo Mt.
<b>WTJS 1310 100</b> Jackson, Tenn. Sun Publishing Co., Sun Bldg.	<b>XEFG 1100 250</b> Mexico City, D. F. Ricardo Gonzales Montero, Teple 48
<b>WTMJ 620 1000</b> Milwaukee, Wis. The Journal Co., 333 W. State St.	<b>XEFI 720 250</b> Chihuahua, Chih. Feliciano Lopez Isles, Ap. 157
<b>WTNJ 1280 500</b> Trenton, N. J. Trenton Brdcastg. Co., Stacy Trent Hotel	<b>XEFJ 1210 100</b> Monterrey, N. L. R. Junco de la Vega, P. O. Box 186
<b>WTOC 1260 1000</b> Savannah, Ga. Savannah Brdcastg. Co., P. O. Box 704	<b>XEFO 940 5000</b> Mexico City, D. F. Reforma No. 137
<b>WTRC 1310 50</b> Elkhart, Ind. Truth Radio Corp., Hotel Elkhart	<b>XEFV 1210 100</b> Jaurez, Chih. J. Onofre Meza Ave., Tlaxcala 1013
<b>WVFW 1400 500</b> Brooklyn, N. Y. Paramount Brdcastg. Co., 1 Nevins St.	<b>XEFW 1310 70</b> Tampico, Tams. J. E. Martinez, Salvador Diaz Miron 6
<b>WWAE 1200 100</b> Hammond, Ind. 402 Hammond Bldg.	<b>XEFZ 1370 100</b> Mexico City, D. F. Manuel Zetina, Calzada Nonoalco 481
<b>WWJ 920 1000</b> Detroit, Mich. Evening News Assn., 616 Lafayette Blvd.	<b>XEH 1150 250</b> Monterrey, N. L. Tarnava y Cia, P. O. Box 147
<b>WWL 850 10000</b> New Orleans, La. Loyola University, Roosevelt Hotel	<b>XEI 1370 125</b> Morelia, Mich. Carlos Gutierrez M., F. I. Madero 545
<b>WWNC 570 1000</b> Asheville, N. C. Citizen Brdcastg. Co., Inc., Flatiron Bldg.	<b>XEJ 1020 250</b> Juarez, Chih. Juan G. Buttner, P. O. Box 111
<b>WWRL 1500 100</b> Woodside, N. Y. 4130—58th St.	<b>XEK 990 100</b> Mexico City, D. F. Arturo Martinez, Jalapa No. 51
<b>WWSW 1500 100</b> Pittsburgh, Pa. Hotel Schenley	<b>XEKL 920 500</b> Leon, Guan. 5 de Mayo 26

INDEX BY CALL LETTERS

<b>XEMA</b> 1080 50 Tampico, Tams. Manuel M. Pier, Aretsanos 10
<b>XEMO</b> 860 1500 Tijuana, B. C. Savoy Theatre Bldg., San Diego, Calif.
<b>XEMZ</b> 1210 30 Tijuana, B. C. Adolfo Labsatida, Jr., Ave. D, 542
<b>XEN</b> 710 1000 Mexico City, D. F. Cerveceria Modelo Ave. Juarez 77
<b>XENT</b> 1120 50000 Nuevo Laredo, Tams. Box 410, Laredo, Texas
<b>XEOK</b> 920 2500 Tijuana, B. C. Carlos de la Sierra, Calle 5 a 312
<b>XEOX</b> 640 250 Saltillo, Coah. Victoria No. 4, Altos.
<b>XEP</b> 820 500 Mexico City, D. F. Cla Difusora de Mexico S. A., Rembrandt 11
<b>XEPN</b> 590 50000 Piedras Negras, Coah. Piedras Negras Brdstg. Co., Madero 53
<b>XES</b> 970 250 Tampico, Tams. Fernando Sada, Box 309
<b>XET</b> 690 500 Monterrey, N. L. P. O. Box 203, Hidalgo
<b>XETB</b> 1310 125 Torreon, Coah. Jose A. Berumen, R. Corona 317
<b>XETH</b> 1210 100 Puebla, Pue. Ramon Huerta G., Calle 17, Oriente 11
<b>XETW</b> 820 500 Mexico City, D. F. Rafael M. Pena, Ave. 16 de Sep. 83
<b>XEU</b> 980 250 Veracruz, Ver. Fernando Pazos Sosa, Independencia 98
<b>XEW</b> 890 50000 Mexico City, D. F. P. O. Box 2516

<b>XEWZ</b> 1150 100 Mexico City, D. F. Medellin e Insurgentes
<b>XEX</b> 1310 125 Monterrey, N. L. L. F. Petit Jean, P. O. Box 10
<b>XEXX</b> 850 500 Mexico City, D. F. Av. Pino Suarez 9
<b>XEYZ</b> 780 10000 Mexico City, D. F. Angel M. Diez, Ave. Juarez 48
<b>XEZZ</b> 1370 100 San Luis Potosi, SLP Emilio Delgado R. Ave. Chicoseln 32
<b>XFA</b> 1310 5 Aguascalientes Ags- Apartado Postal 92
<b>XFB</b> 1270 1000 Jalapa, Ver. Gobierno del Estado de Veracruz
<b>XFC</b> 810 350 Aguascalientes, Ags. Gobierno del Estado de Aguascalientes
<b>XFD</b> 1340 350 Orizaba, Ver. Gobierno Estado de Veracruz
<b>XFO</b> 940 5000 Mexico City, D. F. Nat. Rev. Party, Ave. Morelos 110
<b>XFX</b> 610 1000 Mexico City, D. F. Secretaria de Educacion Publica
<b>10-AK</b> 1200 15 Stratford, Ont. M. I. Higgins, 151 Ontario St.
<b>10-BP</b> 1200 25 Wingham, Ont. W. T. Cruickshank, Box 65
<b>10-BQ</b> 1200 15 Brantford, Ont. 12 Terrace Hill St.
<b>10-BU</b> 1200 50 Canora, Sask. Canora Radio Assn.

The Summer DX

(Continued from page 36)

LR5, YV1BC and PP. I have one or more stations verified in each of the Canadian provinces and Newfoundland and in 45 of the 48 states. I use an 8-tube Edison with 130-foot aerial n. e. and s.w. with a water-pipe ground." This excellent report comes from Frank W. Hoxie, Box 15, South Orrington, Maine.

"I have a Midwest 16-34 receiver which I have been using for about five weeks. On the broadcast band, my log is 103 stations. I consider my best catches to be KTBS, CKCD, CKWX, KLRA, KGIW and KWK. WCKY and KSTP come in regularly every night." This report is from William C. Vestal, 1120 Cedar Ave., Redlands, Calif., who sends his log of 103 stations. These completely cover the U. S., Canada and Mexico. Although located in the extreme West his receiver is keeping him in touch with the entire continent.

The Summer's Changes

(Continued from Front Cover)

1310 KIFH Juneau, Alaska	
1340 WLEC Portland, Maine	
1370 XEL Saltillo, Coah.	
1420 WAMC Anniston, Ala.	
<b>NEW</b>	
550 WSWA Staunton, Va.	
620 WHJB Greensburg, Pa.	
620 Pittsburg, Pa.	
840 NEXX Mexico City, D. F.	
890 CJIC Sault Ste. Marie, Ont.	
920 NEAA Mexicali, B. C.	
920 XEKL Leon, Guan.	
1050 CRCK Quebec, Que.	
1200 Ada, Okla.	
1225 CMHK Cruces, Cuba	
1370 CKCW Moncton, N. B.	
1370 KSLM Salem, Ore.	
1530 W1XBS Waterbury, Conn.	
1530 W9NBY Kansas City, Mo.	
1550 W2XR Long Island City, N. Y.	
1550 W6XAI Bakersfield, Calif.	
<b>LOCATION</b>	
1200 WJBC Bloomington, Ill., from LaSalle, Ill.	
1210 WGCM Gulfport, Miss., from Mississippi City, Miss.	
1260 KRGV Weslaco, Texas, from Hartlingen, Texas	
1260 KWVG Port Arthur, Texas, from Brownsville, Texas	
1420 WEED Rocky Mount, N. C., from Greenville, N. C.	
1500 WKBZ Muskegon, Mich., from Ludington, Mich.	
<b>CALLS</b>	
920 KQVD Denver, Colo., from KFXF	
1210 KWTN Watertown, S. D., from KGCR	
1370 KRKO Everett, Wash., from KFBL	
1370 WAGF Dothan, Ala., from W1ET	
1420 WGPC Albany, Ga., from WENC	

# AROUND *the* CLOCK on *the* SHORT WAVES

## MIDNIGHT TO NOON (EST)

GMT	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
	W1XAZ W3XAU W8XK W9XF	GSB GSB VK2ME W1XAZ W9XF	GSB GSB VK2ME	RV15	DJA DJB PK1WK RV15 VK3LR	DJA DJB HVJ RV15 VK2ME VK3LR VK3ME	HSJ RV15 VK2ME VK3LR W1XAZ ZGE ZHI	GSF GSG H1X PHI Rabat RV15 VK2ME VK3LR W1XAZ ZGE	DJA DJB GSF GSG H1X PHI Pont. VE9GW W1XAZ W3XAL	DJA DJB GSE GSF PHI Pont. VE9GW W1XAZ W3XAL	DJA DJB GSE GSF Pont. VE9GW W1XAL W1XAZ W8XK W3XAL	GSB GSE I2RO Pont. VE9GW W1XAL W2XE W3XAL W3XL W8XK W9XAA

## NOON TO MIDNIGHT (EST)

GMT	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	1:00	2:00	3:00	4:00
AST	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
EST	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
CST	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
MST	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
PST	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00
	DJC DJD GSB GSE I2RO Pont. VE9GW W1XAL W2XE W3XAL W3XAU W3XL W8XK W9XAA	DJC DJD GSB GSD I2RO ORK OXY Pont. VE9GW W1XAZ W3XAL W3XAU W3XL W8XK W9XAA	DJC DJD GSA GSB GSD I2RO ORK OXY Pont. Rabat RV59 VE9GW W1XAZ W3XAU W3XL W8XK W9XAA	DJC DJD GSA GSB GSD I2RO OXY Pont. Rabat RV59 HBP HIZ HJ1ABB I2RO OXY Pont. RV59 VE9GW VE9HX W1XAL W3XAL W3XAU W8XK W9XF W9XAA YV3RC	CT1AA DJA DJD EAQ GSA GSB HBL HBP HIZ HJ1ABB I2RO OXY Pont. RV59 VE9GW VE9HX W1XAL W3XAL W3XAU W8XK W9XF W9XAA YV2RC YV3RC	CT1AA DJA DJD EAQ GSA GSB HBL HBP HIZ HJ1ABB I2RO OXY Pont. RV59 VE9GW VE9HX W1XAL W3XAL W3XAU W8XK W9XF W9XAA YV2RC YV3RC	COC CP5 CT1AA DJA DJD DJD EAQ GSA GSC HC2RL HJ1ABB 4ABE HBL HJ4ABE HBP HC2RL HJ1ABB VE9GW OXY Pont. VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK W9XAA W9XF W9XAA YV2RC YV3RC	COC CP5 DJA DJD GSA GSC HC2RL HJ1ABB 4ABE HBL HJ4ABE HBP HC2RL HJ1ABB VE9GW OXY Pont. VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK W9XAA W9XF W9XAA YV2RC YV3RC	CJRO CJRX DJC DJD HCJB HJ1ABB Pont. VE9CW VE9GW W1XAL W2XAF W2XE W3XAL W3XAU W8XK W9XAA XEBT XETE YV2RC YV3RC	CJRO CJRX CP5 DJC DJD HCJB HC2RL HIX HJ1ABB Pont. VE9CW PRADO VE9GW VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK W9XAA XEBT XETE YV2RC YV3RC	CJRO CJRX CP5 DJC DJD HCJB HC2RL HIX HJ1ABB Pont. VE9CW PRADO VE9GW VE9HX W1XAL W2XAF W2XE W3XAL W3XAU W8XK W9XAA XEBT XETE YV2RC YV3RC	CJRO CJRX Pont. VE9DN W1XAZ W3XAL W3XAU W8XK W9XAA W9XF XETE

# 100 Best Shortwave Stations by Call Letters

Frequencies are given in megacycles and the time is Eastern Standard. In this list, the location of the transmitter is given.

Amateur phones are heard between 1.875 and 2.000 megs. 3.900 and 4.000 megs. 7.000 and 7.300 megs. (Foreign only). 14.150 and 14.250 megs.	GSB, Daventry, England, 9.510. 1-5:30 p.m.; 11:30 p.m. to 1:30 a.m. GSC, Daventry, England, 9.585. 6-8 p.m. GSD, Daventry, England, 11.750. 6-8 p.m.; 11:30 p.m. to 1:30 a.m. GSE, Daventry, England, 11.865. 10:45 a.m. to 12:45 p.m. GSF, Daventry, England, 15.140. 8:45 a.m. to 12:45 p.m.; 1-5:30 p.m. GSG, Daventry, England, 17.790. 6-10:45 a.m. GSH, Daventry, England, 21.470. 6-8:30 a.m. HBL, Prangins, Switzerland, 9.595. Sat. 5:30-6:15 p.m. HBP, Prangins, Switzerland, 7.797. Sat. 6:30-6:15 p.m. HC2RL, Guayaquil, Ecuador, 6.659. Tues. 9:14-11:14 p.m.; Sun. 5:45-7:45 p.m. HIX, Santo Domingo, D. R., 5.948. Tues. and Fri., 8-10 p.m. HIIA, Santiago de los Caballeros, D. R., 7:30-9:30 p.m., and Special DX programs at 1 a.m. Sundays. HJA2, Bogota, Colombia, 5.825. HJA3, Barranquilla, Colombia, 12.830 HJB, Bogota, Colombia, 14.930. HJIAB, Barranquilla, Colombia, 6.447. 5-10 p.m. HJ2ABC, Cucuta, Norte de Santander, Colombia, "La Voz de Cucuta," 5.975 megs. 6-9 p.m. daily exc. Sunday.	HJ3ABD, Bogota, Colombia, 7.406. "Colombia Broadcasting." 6-9 p.m. daily. HJ3ABF, Bogota, Colombia, 6.200. "La Voz de Bogota." Daily 7-11 p.m. HJ4ABE, Medellin, Colombia, 5.900. 7-11 p.m. HVJ, Vatican City, 15.120. 5-5:15 a.m. daily except Sunday. Occasionally from 10-10:30 a.m. I2RO, Cecchignola, Italy, 11:30 a.m. to 12:30 p.m.; 1:15 to 6 p.m. "Radio Roma-Napoli." JVE, Nazaki, Japan, 15.650. Phone. JVL, Nazaki, Japan, 6.750. Phones California. JVM, Nazaki, Japan, 10.740. Phones California. JVN, Nazaki, Japan, 10.660. Phones England. JVQ, Nazaki, Japan, 7.470. Phone. JVS, Nazaki, Japan, 15.620. Phone. JVT, Nazaki, Japan, 6.680. Phone. JYK, Kemikawa-Cbo, Chiba-Ken, Japan, 13.610. 4-8 a.m. JYM, Kemikawa-Cbo, Chiba-Ken, Japan, 11.660. 4-8 a.m. JYR, Kemikawa-Cbo, Chiba-Ken, Japan, 7.890. 4-8 a.m. JYS, Kemikawa-Cbo, Chiba-Ken, Japan, 15.620. 4-8 a.m. JYT, Kemikawa-Cbo, Chiba-Ken, Japan, 15.782. 4-8 a.m. KAY, Manila, P. I., 14.980. Phones Dixon.
CGA4, Drummondville, P. Q., 9.332. Phones London. CJRO, Middlechurch, Man., 6.150. Relays Canadian Radio Com. programs, 8-11 p.m. and 11:30 to midnight. CJRX, Middlechurch, Man., 11.720. Same schedule as CJRO, q. v. COC, Havana, Cuba, 6.010. 4-6 p.m. daily. CP5, La Paz, Bolivia, 6.080. 6:30 to 8 p.m. 9:120, 7:30-10:30 p.m. CTIAA, Lisbon, Portugal, 9.600. Tues., Fri., 4:30-7 p.m. DJA, Zeesen, Germany, 9.560. Sun., 4-5:30 a.m.; daily, 8-11 a.m. and 5-8:15 p.m. DJB, Zeesen, Germany, 15.200. 12:30-2:30 a.m.; 8-11 a.m. DJC, Zeesen, Germany, 6.020. Noon to 4 p.m. and 8:45 to 10:30 p.m. DJD, Zeesen, Germany, 11.760. Noon to 4 p.m. and 5-10:30 p.m. EAQ, Aranjuez, Spain, 9.862. 5:30-7 p.m.; Sat. noon to 2 p.m. GSA, Daventry, England, 6.050.		

## KIND WORDS *and* WELCOME

"I am a constant reader of RADEX and I get more enjoyment out of it than any other radio magazine."

D. A. Chilton, P. O. Box 310, Draper, N. C.

"I surely would hate to miss even one copy of RADEX or the DX Log of the World. They are the best books of their kind."

David H. Beverly, 132 Chestnut Ave., Long Beach, Calif.

"The finest radio journal I have ever seen."  
F. R. Crowder, 12, Belle Vue Place, Belle Vue Road, Leeds 3, Yorkshire, England.

"I enjoy every page of RADEX. I would hate to think of ever having to do without it."

M. R. Billings, 785a Querbes Ave., Outremont, Montreal, P. Q.

"I can't tell you how much I enjoy having such a magazine to help me in my hobby. It is invaluable."

Nathan Handler, 642 Ave. C, Bayonne, N. J.

"I have to use two car tickets and an hour's time to get my copy of RADEX each month. When you said 'it doubles the enjoyment of radio' you told the whole truth."

Patrick J. Burke, 3149 Rosemont Blvd., Rosemont, Quebec.

"RADEX is indispensable in our home. It is the only magazine we have found which gives a reliable account of radio in all its branches."

Albert Sandham, 99 Page St., St. Catherines, Ont.

"The Governor of one Carolina remarked to the Governor of the other, 'It's a long time between drinks.' I want to change that historic remark to 'It's a long time between RADEX.'"

James T. Spalding, 2012 Alexander, Louisville, Ky.

"Have been wanting to tell you just how much I have enjoyed your magazine. I owned an old model Philco with which I was not entirely satisfied. Then you came out with a plea that folks should buy a new set and help to stimulate trade. Now I have a new All-Wave Philco."

Chas. A. Steele, 3119 Seventh St., Port Arthur, Texas.

"The new radio season is at hand for which RADEX is indispensable. I would be lost without it."

Herbert Van Duyne, P. O. Box 88, Towaco, N. J.

KKII, Kahuku, T. H., 7.520. Phones Dixon.

KFZ, Main Base, Little America, 5.740; 6.650; 6.660; 6.670; 8.820; 8.840; 11.850; 13.185; 13.200; 13.245; 13.260.

KKP, Kahuku, T. H., 16.030. Phones Dixon.

KWO, Dixon, Calif., 15.415. Phones Hawaii and Manila.

KWU, Dixon, Calif., 15.355. Phones Japan.

KWX, Dixon, Calif., 7.610. Phones Hawaii.

LSX, Monte Grande, Argentina, 10.350. Broadcasts 3-4 and 8-9 p.m. daily; Phones New York and Byrd.

PHI, Hilversum, Netherlands, 17.775. 7-10:30 a.m.

Police Stations, on frequencies: 1.596; 1.634; 1.642; 1.658; 1.666; 1.674; 1.682; 1.706; 1.712; 2.382; 2.406; 2.414; 2.416; 2.422; 2.430; 2.442; 2.450; 2.452; 2.458; 2.466; 2.474; 2.482; 2.490.

PRADO, Riobamba, Ecuador, 6.618. Thurs., 9-11:30 p.m.

Radio Coloniale, Pointoise, France, 11.711, 3-6 p.m.; 6:15-9 p.m.; 10 p.m. to midnight, 11.898, 3-6 p.m.; 15.234, 8-11 a.m.

RKI, Moscow, U.S.S.R., 7.520. Phones USA. (Replaces RNE temporarily).

RNE, Moscow, U.S.S.R., 12.000. Temporarily off the air.

RV15, Khabarovsk, U.S.S.R., 4.273. 3-9 a.m.

RV59, Moscow, U.S.S.R., 5.996. 3-6 p.m.

TGW, Guatemala City, Guatemala, 5.940. Supposed to commence tests soon.

VE9BJ, St. John, N. B., 6.090. Irregular.

VE9DN, Drummondville, P. Q., 6.005.

VE9GW, Bowmanville, Ont., 6.095. Fri., Sat., 8-noon; Sun., noon to 9 p.m.; other days, 2-11 p.m. Relays CRCT and Canadian Radio Commission programs.

VE9HX, Halifax, N. S., 6.110. 5-11 p.m.

VK2ME, Pennant Hills, Australia, 9.585. Mid. to 2 a.m. and 4:30-8:30 a.m., Sundays only.

VK3LR, Melbourne, Australia, 9.580. Daily exc. Sun., 4-8 a.m.

VK3ME, Braybank, Australia, 9.503. Wed., 5-6:30 a.m.; Sat. 5-7 a.m.

WOO, Ocean Gate, N. J., 4.273; 4.753; 8.560; 12.840. Phones Ships.

W1XAL, Boston, Mass., 6.040. Irregular. 15.250. 10 a.m. to 1 p.m. Sunday.

W1XAZ, Mills, Mass., 9.570. 6:30-10:30 a.m.; 1:30-3:30 p.m.; 6 p.m. to 2 a.m.

W2XAD, Schenectady, N. Y., 15.340. Sun., Mon., Wed., Fri., 4-5 p.m.

W2XAF, Schenectady, N. Y., 9.530. 7:40-11 p.m.

W2XE, Wayne, N. J., 6.120. 6-11 p.m. 11.830. 3-5 p.m. 15.270. 11 a.m. to 1 p.m.

W3XAL, Boundbrook, N. J., 6.100. Mon., Wed., Sat., 5 p.m. to 1 a.m. 17.780. Daily exc. Fri., 8 a.m. to 2 p.m.

W3XAU, Newton Sq., Pa., 6.060. 8 p.m. to 1 a.m. 9.590. Noon to 6 p.m.

W3XL, Boundbrook, N. J., 17.310. Fri., 11 a.m. to 5 p.m.

W4XB, Miami, Fla., 6.040. 4 p.m. to 1 a.m.; (Not heard now, probably off the air).

W8XAL, Mason, Ohio, 6.060. Irregular.

WSXK, Sayonburg, Pa., 6.140. 4:30 p.m. to 12:30 a.m. 11.870. 4:30-10 p.m. 15.210. 10 a.m. to 5:15 p.m.

W9XAA, Chicago, Ill., 6.050. Sun., 11:30 a.m. to 9 p.m. Tues., Thur., Sat., 4-12 p.m. Mon., Wed., Fri., 4:30-7 p.m.

W9XFB, Downer's Grove, Ill., 6.100. Daily exc. Sat. and Sun., 4:30-8 p.m.; 9:30 p.m. to 2 a.m. Sunday, 4:30-7 p.m. and 9 p.m. to 2 a.m.

XEBT, Mexico City, D. F., 6.010. Relays XEB, commencing at 10 a.m.

XETE, Mexico City, D. F., 9.600. 6:30 p.m. to midnight.

XGL, Shanghai, China, 7.960.

XGN, Shanghai, China, 16.350.

XGO, Shanghai, China, 7.575.

YVQ, Maracay, Venezuela, 6.672.

YV2RC, Caracas, Venezuela, 6.112. 5:15-10 p.m.

YV3RC, Caracas, Venezuela, 6.150. 5-10 p.m.

YV5RMO, Maracay, Venezuela, 6.070. and 9.600.

ZFB, St. George, Bermuda, 10.060.

ZFS, Nassua, Bahamas, 4.513.

**QUICK INDEX**

Mall Addresses of S. W. Stations  
Page 77 May

Foreign Relay Stations  
Page 94 April

Foreign Stations by Countries  
Page 94 January

U. S. Airport Stations  
Page 84 November

The May-June-July Edition of the DX Radio Log of the World was devoted entirely to the short waves. All principal stations of the world listed three ways.

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Write Name Plainly.....

Street and Number.....

81 City and State.....

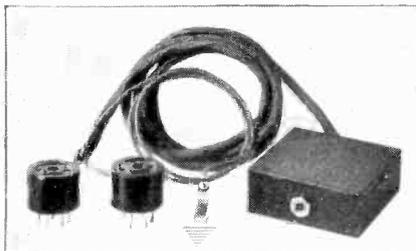
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# For Real DX Work USE HEAD PHONES

Loud Speaker volume brings out the static. Use phones and keep the signals above the noise level.

## THE PERFECT PHONE ADAPTER

may be used on any receiver without any change in the wiring or in the load or balance of the set. Not necessary to remove and put back tubes. Socket adapters go under the power tubes; the little clip goes to the ground and the Adapter is installed. Pushing in the phone-plug automatically switches the signals to phones and silences speaker. Pulling it out returns the set to loud speaker operation. The jack-box may be placed in back of set or screwed underneath out of sight and yet convenient for instant use.



### PRICES

Perfect Phone Adapter, postpaid .....	\$ 3.95
Adapter with Phones and Plug .....	5.95
Adapter with 2000-ohm Phones and Plug .....	6.70
Adapter with Plug and 24000-ohm featherweight phones (made especially for sensitive work)....	12.50

*With a few circuits, it is necessary to use a small B battery in the ground lead to provide grid bias. There is no drain on the battery and it should last indefinitely.*

We now have a model of the Adapter for midget sets using 5-, 6-, or 7-prong tubes which uses the volume of all the tubes. It is not suitable for power tubes with four prongs.

*When ordering give make and model of your receiver and number and type of power tubes. It will help us if you can send diagram of your set.*

## RADIO PARTS CO.

1401 Prospect Ave.

CLEVELAND, OHIO

# MOVIE STARS *Enthuse* OVER THE **New 1935 MIDWEST-16**

**World-Wide Entertainment**  
*Hollywood Gals* "I received my new Midwest radio. I had never thought it possible to bring an entertainment from half way around the world so clearly."  
**Jean Harlow**  
 (Paramount-Falwell-Tiger)

**Amazing All-Wave Performance**  
*Hollywood Gals* "My Midwest is the best set I have ever tried. It gives me super foreign reception and new radio adventure. Its reception is so clear all far away bands amaze me!"  
**Richard Dix**  
 (Paramount-Falwell-Tiger)

**Thrilling Foreign Reception**  
*Hollywood Gals* "You and I tried out my Midwest. It did it really appreciate what radio reception was. It brings in to here in distant foreign stations so clearly as local programs."  
**Clayton Colby**  
 (Paramount)

**Better Foreign Reception**  
*Hollywood Gals* "I am quite impressed with my Midwest. Many friends who have heard it are delighted with its performance. It brings in with but a doubt, the finest all-wave reception I have ever heard!"  
 (Signature)

**Thrill to Unequalled World-Wide Performance with this—**

# Amazing NEW 1935 SUPER Deluxe All-Wave Radio

**9 TO 24,000 METERS (12,000 MILE TUNING RANGE)**

**30 DAYS FREE TRIAL**



**Guaranteed WORLD-WIDE RECEPTION!**

**BEFORE** you buy any radio, write for FREE copy of the new 1935 Midwest "Fifteenth Anniversary" catalog. See for yourself the many reasons why over 110,000 satisfied customers have bought their radios direct from Midwest Laboratories... and saved from 1/3 to 1/2. Learn why Midwest radios out-perform sets costing up to \$200 and more. You, too, can make a positive saving of from 30% to 50% by buying this more economical way. Why be content with ordinary so-called "All-Wave", "Dial Wave", "Skip Wave" or "Tri-Wave" receivers when Midwest gives you more wave lengths in today's most perfectly developed 10-tube Super **ALL-WAVE** radio that are proven by four years of success... that carry an iron-clad guarantee of foreign reception! These bigger, better, more powerful, clearer-toned, super selective radios have FIVE distinct wave bands; ultra short, short, medium, broadcast, and long. Their greater all-wave tuning of 9 to 24000 meters (33 megarcycles to 125 KC) enables you to tune in stations 12,000 miles away with clear loud speaker reception. Write **TODAY** for new FREE catalog!

Now, you can enjoy super American, Canadian, police, amateur, commercial, airplane and ship broadcasts... and derive new delight and new excitement from unequalled world-wide performance. Now, you can enjoy the listening hobby and secure verifications from more of the world's most distant stations. Thrill to the chimes of Big Ben from GBR, London, England... tune in on the "Marsillaise" from F.A. Pointoise, France... hear sparkling music from EAO, Madrid, Spain... delight in lively tunes from VYBC, Caracas, Venezuela... listen to the call of the Kookaburra bird from VIZMF, Sydney, Australia, etc. Send today for money-saving facts!

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with New **Deluxe Auditorium-Type SPEAKER**

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**TERMS AS LOW AS \$30 DOWN**



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