U. S. DEPARTMENT OF COMMERCE
RADIO DIVISION

RADIO SERVICE BULLETIN

ISSUED MONTHLY

Washington, September 30, 1931—No. 174

CONTENTS

ABBREVIATIONS AND SYMBOLS

The necessary corrections to the List of Commercial and Government Radio Stations of the United States and to the International Lists of Radio Stations appearing in this bulletin under the heading "Alterations and Corrections," are published after the stations affected in the following order:

Name	=Name of station.
Loc.	=Geographical location: W=west longitude, N=north latitued, S=south latitude, E=east longitude.
Call	=Call signal (letters) assigned.
Type	=Type of wave classified as follows: A1=continuous wave (tube,) A arc=continuous wave, A2=interrupted continuous wave, A3=phone, B=spark.
Fy.	=Frequency in kilocycles; normal frequency in italics; wave length in meters in parentheses.
Power	=Height (meters) of antenna and intensity of current (meter-amperes) at its base (sample of manner in which published—100/100) or the normal radiated power expressed in meter-amperes (sample of manner in which published—100 m. amp.).
Service	=Nature of service maintained: PG=general public (ship to shore), PR=limited public (limited to public, correspondence between fixed stations), P=private (limited commercial and special), O=Government business exclusively.
Class	=FX=fixed station (point-to-point service), RG=radio-compass station, FA=aeronautical station, AB=aviation beacon, RF=circular radiobeacon, B=ship station, FC=coast station, A=aircraft.
Hours	=Hours of operation: N=continuous service, X=no regular hour, Y=sunrise to sunset.
Accts.	=Message accounts settled by.
M. R. T. Co.	=Mackay Radio & Telegraph Co.
R. C. A.	=Radio Corporation of America.
R. M. C. A.	=Radiomarine Corporation of America.
T. R. T. Co.	=Tropical Radio Telegraph Co.
C. w.	=Continuous wave.
I. c. w.	=Interrupted continuous wave.
A. C.	=Alternating current.
V. t.	=Vacuum tube.
M. a.	=Meter-amperes.
U. S. L.	=Applies only to the list of Commercial and Government Radio Stations of the United States.
Δ	=Equipped with a radio compass (direction finder).

NEW STATIONS

Commercial land stations, alphabetically, by names of stations

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations, published by the Berne bureau]

Station	Class	Call signal	Frequency, in kilocycles; meters in parentheses	Service	Hours	Licensee
Bolinas, Calif.[1]	FX	KET	9.480 (31.65)	PR	N	R.C.A. Communications (Inc.)
Columbus, Ohio [2]	FA, FX	WSDP	2,326 (128.97), 2,344 (127.98), 3,238 (92.64), 3,244 (92.47), 3,452 (86.9), 3,460 (86.7), 3,468 (86.5), 3,484 (86.1), 4,140 (72.46), 5,600 (53.57), 5,530 (53.29), 6,260 (47.92), 6,275 (47.8).	P	X	Aeronautical Radio (Inc.)
Fort Worth, Tex. [3]	FX	KGPR	1,712 (175.23)	P	N	City of Fort Worth (police station).
Honolulu, Hawaii [4]	FX	KGPQ	2,452 (122.35)	P	N	City of Honolulu (police station).
Orlando, Fla. (municipal airport). [5]	FA, FX	WEEO	3,070 (97.71), 3,076 (97.5), 4,164 (72.04), 5,690 (52.72), 6,320 (47.46).	P	X	Aeronautical Radio (Inc.)
Syracuse, N. Y. [6]	FA, FX	WSDN	2,326 (128.97), 2,344 (127.98), 3,238 (92.64), 3,244 (92.47), 3,452 (86.9), 3,460 (86.7), 3,468 (86.5), 3,484 (86.1), 4,140 (72.46), 5,600 (53.57), 5,630 (53.29), 6,260 (47.92), 6,275 (47.8).	P	X	Do
Portable						
Kenai-Kodiak Island, Alaska. [7]	FX	KGXV	1,564 (191.82)	P	X	Kodiak Guides Association (Charles Madsen & J. W. Walker).
Southwestern United States. [8]	FX	KGXS	1,600 (187.5), 1,652 (181.6), 1,664 (180.29), 1,680 (178.6), 1,704 (176.06).	P	X	Gulf Production Co.
Do	FX	KGXT	do	P	X	Do.
Do	FX	KGXY	do	P	X	Do.
Philippine Islands						
Balanga [9]	FX	KUI	4,955 (60.55)	PR		Philippine Insular Government.
Baybay radio [10]	FC, FX	KBH	580 (517), 500 (600)	PG, PR		Do.
Cabalian radio [11]	FC, FX	KTX	272.7 (1,100), 291.3 (1,030), 400 (750), 500 (600), 545 (550).	PG, PR		Do.
Cagayan (Misamis). [12]	FX	KZGQ	5,175 (57.90), 7,400 (40.54)	PR		Radio Corporation of the Philippines.
Casiguran radio [13]	FC, FX	KUA	353 (850), 400 (750), 500 (600)	PG, PR		Philippine Insular Government.
Dast [14]	FX	KUG	5,863 (50.885)	PR		Do.
Legaspi [7]	FX	KZGP	5,295 (56.66), 6,920 (43.35).	PR	N	Radio Corporation of the Philippines.

[1] Loc. (approximate) 122° 40′ 45″ W., 37° 54′ 30″ N.; type, A1.
[2] Loc. (approximate) 82° 52′ 40″ W., 39° 59′ 40″ N.; type, A1, A2, A3.
[3] Loc. 97° 20′ 08″ W., 32° 44′ 56″ N.; type, A3.
[4] Type, A3.
[5] Loc. 81° 20′ 51″ W., 28° 32′ 45″ N.; type, A1, A3.
[6] Loc. (approximate) 76° 16′ 00″ W., 43° 04′ 30″ N.; type, A1, A2, A3.
[7] Type, A1.
[8] Type, A1, A2, A3.
[9] Loc. (approximate) 120° 91′ 30″ E., 14° 40′ 45″ N.; type, A1; A2, power, 14.5/2; hours, 8 to 12 a. m., 2 to 5 p. m. daily; 9 to 11 a. m., Sundays and holidays.
[10] Loc. (approximate) 124° 40′ 00″ E., 10° 40′ 15″ N.; type, A1; power, 22.73/1.7; hours, 8 to 12 a. m., 2 to 5 p. m. daily; 9 to 11 a. m., Sundays and holidays; ship schedule 20th to 30th minutes of each hour; rates, 8 cents per word.
[11] Loc. (approximate) 125° 10′ 00″ E., 10° 17′ 00″ N.; type, A1; power, 27.27/.8; hours, 8 to 12 a. m., 2 to 5 p. m. daily; 9 to 11 a. m., Sundays and holidays; ship schedule 30th to 40th minutes of each hour; rates, 8 cents per word.
[12] Loc. (approximate) 124° 38′ 10″ E., 08° 27′ 40″ N.; type, A1.
[13] Loc. (approximate) 122° 10′ 00″ E., 16° 10′ 18″ N.; type, A1; power, 12.12/35; hours, 8 to 12 a. m., 2 to 5 p. m., daily, 9 to 11 a. m., Sundays and holidays; ship schedule first 10 minutes of each hour; rates, 8 cents per word.
[14] Loc. (approximate) 122° 57′ 30″ E., 14° 07′ 00″ N.; type, A1, A2; power, 15.24/.7; hours, 8 to 12 a. m., 2 to 5 p. m. daily; 9 to 11 a. m., Sundays and holidays.

Commercial land stations, alphabetically, by names of stations—Continued

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations, published by the Berne bureau]

Station	Class	Call signal	Frequency, in kilocycles; meters in parentheses	Service	Hours	Licensee
Philippine Islands—Continued.						
Lilean radio [15]	FC, FX	KBV	272.7 (1,100), 333 (900), 375 (800), 400 (750), 500 (600).	PG, PR	-------	Philippine Insular Government.
Lucena [16]	FX	KAE	4,955 (60.535), 5,960 (50.34)	PR	-------	Do.
Misamis radio [17]	FC, FX	KBE	333.3 (900), 500 (600).	PG, PR	-------	Do.
Panganiban radio [18]	FC, FX	KUQ	375 (800), 390 (770), 400 (750), 429 (700). 500 (600).	PG, PR	-------	Do.
Quazon radio [19]	FC, FX	KBF	385 (780), 500 (600)	PG, PR	-------	Do.
San Narciso radio [20]	FC, FX	KUE	306 (960), 500 (600)	PG, PR	-------	Do.

[15] Loc. (approximate) 125° 07′ 00″ E., 10° 09′ 00″ N.; power, 21.21/.3; hours, 8 to 12 a. m., 2 to 5 p. m., daily; 9 to 11 a. m., Sundays and holidays; ship shcedule, last 10 minutes of each hour.
[16] Loc. 120° 30′ 36″ E., 13° 50′ 42″ N.; type, A1, A2; power, 15/.5; hours, 8 to 12 a. m., 2 to 5 p. m., daily; 9 to 11 a. m., Sundays and holidays.
[17] Loc. (approximate) 123° 30′ 00″ E., 08° 10′ 00″ N.; type, A1; power, 22.73.5; hours, 8 to 12 a. m., 2 to 5 p. m., daily; 9 to 11 a. m., Sundays and holidays; ship schedule first 10 minutes of each hour; rates, 8 cents per word.
[18] Loc. (approximate) 124° 19′ 00″ E., 13° 54′ 00″ N.; type, A1; power, 22.73/.75; hours, 8 to 12 a. m., 2 to 5 p. m., daily; 9 to 11 a. m., Sundays and holidays; ship schedule 30th to 40th minutes of each hour; rates, 8 cents per word.
[19] Loc. (approximate) 122° 10′ 40″ E., 14° 01′ 00″ N.; type, A1; power, 27.27/1; hours, 8 to 12 a. m., 2 to 5 p. m., daily; 9 to 11 a. m., Sundays and holidays; ship schedule, 30th to 40th minutes of each hour; rates, 8 cents per word.
[20] Loc. (approximate) 122° 33′ 30″ E., 13° 24′ 00″ N.; type, A1, A2; power, 24.24/1.75; hours, 8 to 12 a. m., 2 to 5 p. m., daily; 9 to 11 a. m., Sundays and holidays; ship schedule 10th to 20th minutes of each hour; rates, 8 cents per word.

Commercial ship stations, alphabetically, by names of vessels

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Ship Stations, published by the Berne bureau]

Name of vessel	Call signal	Rates, all services (cents)	Service	Hours	Owner	Message account settled by—
Mariposa Lifeboat No. 1 [1]	WFEY	-------	P	X	Matson Navigation Co	R. M. C. A.
Mariposa Lifeboat No. 2 [1].	WFEZ	-------	P	X	----do----------	Do.
Messenger [2]	WGEC	-------	PG	X	H. L. Wood	Owner.
Southern Star [3]	WGEB	-------	P	X	C. M. Zoll	Do.
Tampico [4]	WGED	8	PG	X	Texas Co. (Inc.)	R. M. C. A.

[1] Type, A1, A2; fy., 500 (600), 5,525 (54.3); power, 7.3/1.
[2] Power, 8.6/2.
[3] Type, A1, A3; fy., 2,322 (129.19).
[4] Type, A1, A2; fy., 375 (800), 400 (750), 425 (705), 468 (640), 500 (600).

Commercial aircraft stations, alphabetically, by names of craft

[Additions to the List of Radio Stations of the United States, edition of June 30, 1931, and to the International List of Aircraft Stations published by the Berne bureau]

Station	Call signal	Frequency, in kilocycles; meters in parentheses	Service	Hours	License
C-875E [1]	KHUBY	3,106 (96.59), 3,160 (94.9), 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 5,570 (53.86), 5,660 (53)	P	X	Boeing Airplane Co.
NC-303N [1]	KHVGT	3,106 (96.59), 3,004 (99.86), 5,375 (55.81).	P	X	Northwest Airways (Inc.).
NC-430H	KHVHS		P	X	T. D. Harris, Continental Oil Co.
NC-585N [2]	KHWDW	3,070 (97.71), 3,076 (97.5), 5,690 (52.72).	P	X	Eastern Air Transport (Inc.).
NC-586N [2]	KHWEV	do	P	X	Do.
NC-588N [2]	KHWFU	do	P	X	Do.
NC-589N [2]	KHWGT	do	P	X	Do.
NC-599N [2]	KHWHS	do	P	X	Do.
NC-600V [2]	KHWIR	do	P	X	Do.
NC-601V [2]	KHWJQ	do	P	X	Do.
NC-602V [2]	KHWKP	do	P	X	Do
NC-620V [2]	KHWLO	do	P	X	Do.
NC-621V [2]	KHWMN	do	P	X	Do.
NC-622V [2]	KHWNM	do	P	X	Do.
NC-628V [2]	KHWOL	do	P	X	Do.
NC-629V [2]	KHWPK	do	P	X	Do.

[1] Type, A3. [2] Type, A1, A3.

Government land stations, alphabetically, by names of stations

[Addition to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations published by the Berne bureau]

Station	Class	Call signal	Frequency, in kilocycles; meters in parentheses	Service	Hours	Owner
Amarillo, Tex.[1]	FA FX	KCAG	209 (1,435), 248 (1,210), 3,370 (89), 3,395 (88.36), 5,940 (50.51), 5,960 (50.34).	O	N	Department of Commerce, Bureau of Lighthouses, Airways Division.
Charleston, S. C.[2]	FA FX	WWAW	206 (1,455), 332 (905), 3,340 (89.8), 3,370 (89), 5,925 (50.63), 5,940 (50.51).	O	N	Do.
Great Lakes, Ill. (U. S. N. R. air base).	FA	NBU		O		U. S. Navy.
Honolulu, Hawaii (fourteenth district U. S. N. R.).	FX	NIC		O	X	Do.
Little Rock, Ark.[3]	FA FX	KCAJ	224 (1,340), 272 (1,105), 3,350 (89.6), 3,370 (89), 5,940 (50.51), 5,960 (50.34).	O	N	Department of Commerce, Bureau of Lighthouses, Airways Division.
Martins Reef Light Station, Mich.[4]	FX	WWBY	3,410 (88)	O	X	Department of Commerce, Bureau of Lighthouses.
Miami, Fla. (U. S. N. R. air base).	FA	NBQ		O		U. S. Navy.
Miami, Fla. (Coast Guard air station).	FA	NOM		O		U. S. Coast Guard.
Minneapolis, Minn. (U. S. N. R. air base).	FA	NCG		O		U. S. Navy.
Mount Rainier National Park, Wash. (Longmire) radiotelephone.	FX	KGYA		O	X	Department of the Interior, National Park Service.
Do	FX	KGYB		O	X	Do.
Mount Rainier National Park, Wash. (Paradise) radiotelephone.	FX	KGYC		O	X	Do.

[1] Loc. (approximate) 101° 50′ 00″ W., 35° 13′ 00″ N.
[2] Loc. 80° 01′ 40″ W., 32° 54′ 43″ N.
[3] Loc. (approximate) 92° 13′ 00″ W., 34° 43′ 30″ N.
[4] Type, A3.

Government land stations, alphabetically, by names of stations—Continued

Station	Class	Call signal	Frequency, in kilocycles; meters in parentheses	Service	Hours	Owner
Mount Rainier National Park, Wash. (Sunrise) radiotelephone.	FX	KGYD		O	X	Department of the Interior, National Park Service.
Mount Rainier National Park, Wash. (White River entrance) radiotelephone.	FX	KGYE		O	X	Do.
Mount Rainier National Park, Wash. (Carbon River entrance) radiotelephone.	FX	KGYF		O	X	Do.
New York, N. Y. (U. S. N. R. air base).	FA	NBP		O		U. S. Navy.
Oakland, Calif. (U. S. N. R. air base).	FA	NBJ		O		Do.
St. Louis, Mo. (U. S. N. R. air base).	FA	NBO		O		Do.
San Diego, Calif. (Coast Guard air station).	FA	NON		O		U. S. Coast Guard.
Shreveport, La.[5]	FA FX	KCAK	224 (1,340), 320 (940), 3,370 (89), 3,385 (88.62), 5,920 (50.68), 5,940 (50.51).	O	N	Department of Commerce, Bureau of Lighthouses, Airways Division.
Spectacle Reef Light Station, Mich.[4]	FX	WWAY	3,410 (88)	O	X	Department of Commerce, Bureau of Lighthouses.
Squantum, Mass. (U. S. N. R. air base).	FA	NAG		O		U. S. Navy.
Portable						
Mount Rainier National Park, Wash., radiotelephone.	FX	KGYG		O	X	Department of the Interior, National Park Service.
Do	FX	KGYH		O	X	Do.
Do	FX	KGYI		O	X	Do.
Do	FX	KGYJ		O	X	Do.

[4] Type, A3.
[5] Loc. 93° 37′ 39″ W., 32° 28′ 51″ N.

Stations transmitting weather reports

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations, published by the Berne bureau]

Station	Call signal	Frequency, in kilocycles; meters in parentheses	Hours	Operated by
Manila, P. I.[1]	KBO	5,145 (58.31), 15,010 (19.987)		Philippine Insular Government.

[1] Loc. 120° 58′ 06″ E., 14° 35′ 20″ N.

Government ship stations, alphabetically, by names of stations

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations published by the Berne bureau]

Station	Call signal	Frequency, in kilocycles; meters in parentheses	Service	Hours	Owner
Vaga	NEVF				U. S. Navy.

Government aircraft stations, alphabetically, by names of craft

[Additions to the List of Radio Stations of the United States, edition of June 30, 1931, and to the International List of Aircraft Stations published by the Berne bureau]

Station	Call signal	Frequency, in kilocycles; meters in parentheses	Hours	Owner
K-1 (nonrigid airship)	NZNKO			U. S. Navy.

Commercial and Government land, ship, aircraft, radiobeacon, and direction-finding stations, alphabetically by call signals

Call signal	Name of station
KAE	Lucena, P. I. fx
KBE	Misamis, P. I., radio fc, fx
KBF	Quazon, P. I., radio fc, fx
KBH	Baybay, P. I., radio fc, fx
KBO	Manila, P. I.
KBV	Lilean, P. I., radio fc, fx
KCAG	Amarillo, Tex fa, fx
KCAJ	Little Rock, Ark fa, fx
KCAK	Shreveport, La fa, fx
KET	Bolinas, Calif fx
KGPQ	Honolulu, Hawaii fx
KGPR	Fort Worth, Tex fx
KGXS	Southwestern United States (portable) fx
KGXT	do fx
KGXV	Kenai-Kodiak Island, Alaska fx
KGXY	Southwestern United States (portable) fx
KGYA	Mount Rainier National Park, Wash. (Longmire) fx
KGYB	do fx
KGYC	Mount Rainier National Park, Wash. (Paradise) fx
KGYD	Mount Rainier National Park, Wash. (Sunrise) fx
KGYE	Mount Rainier National Park, Wash. (White River entrance) fx
KGYF	Mount Rainier National Park, Wash. (Carbon River entrance) fx
KGYG	Mount Rainier National Park, Wash. (portable) fx
KGYH	do fx
KGYI	do fx
KGYJ	do fx
KHUBY	C-875E a
KHVGT	NC-303N a
KHVHS	NC-430H a
KHWDW	NC-585N a
KHWEV	NC-586N a
KHWFU	NC-588N a
KHWGT	NC-589N a
KHWHS	NC-599N a
KHWIR	NC-600V a
KHWJQ	NC-601V a
KHWKP	NC-602V a
KHWLO	NC-620V a
KHWMN	NC-621V a
KHWNM	NC-622V a
KHWOL	NC-628V a
KHWPK	NC-629V a
KTX	Cabalian, P. I. radio fc, fx
KUA	Casiguran, P. I. radio fc, fx
KUE	San Narciso, P. I. radio fc, fx
KUG	Dast, P. I. fx
KUI	Balanga, P. I. fx
KUQ	Panganiban, P. I. fc, fx
KZGP	Legaspi, P. I. fx
KZGQ	Cagayan, P. I. (Misamis) fx
NAG	Squantum, Mass. (U. S. N. R. air base) fa
NBJ	Oakland, Calif. (U. S. N. R. air base) fa
NBO	St. Louis, Mo. (U. S. N. R. air base) fa
NBP	New York, N. Y. (U. S. N. R. air base) fa
NBQ	Miami, Fla. (U. S. N. R. air base) fa
NBU	Great Lakes, Ill. (U. S. N. R. air base) fa
NCG	Minneapolis, Minn. (U. S. N. R. air base) fa
NEVF	Vaga b
NIC	Honolulu, Hawaii (fourteenth district U. S. N. R.) fx
NOM	Miami, Fla. (Coast Guard air station) fa
NON	San Diego, Calif. (Coast Guard air station) fa
NZNKO	K-1 (nonrigid airship) a
WEEO	Orlando, Fla. (municipal air port) fa, fx
WEEY	Mariposa Lifeboat No. 1 b
WFEZ	Mariposa Lifeboat No. 2 b
WGEB	Southern Star b
WGEC	Messenger b
WGED	Tampico b
WSDN	Syracuse, N. Y. fa, fx
WSDP	Columbus, Ohio fa, fx
WWAW	Charleston, S. C. fa, fx
WWAY	Spectacle Reef Light Station, Mich. fx
WWBY	Martins Reef Light Station, Mich. fx

Experimental stations, alphabetically, by names of stations

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931]

Station	Call signal	Frequency in kilocycles, meters in parentheses	Power (watts)	License and post-office address
New Jersey: Whippany	W3XP	650 (460), 1,100 (270), 1,480 (200).	60,000	Bell Telephone Laboratories (Inc.).
Portable				
Ohio: Suffield (Wingfoot Lake).	W8XA	3,076 (97.53), 3,106 (96.59), 3,178 (94.39), 5,525 (54.3), 5,540 (54.15), 5,660 (53).	50	R. M. C. A.
United States, throughout.	W10XAN	17,300 (17.341), 25,700 (11.673), 34,600 (8.67), 51,400 (5.83), 60,000 (5) to 400,000 (0.75).	10	National Broadcasting Co. (Inc.), 711 Fifth Avenue, New York, N. Y.

Relay broadcasting stations, alphabetically, by names of stations

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931]

Station	Call signal	Frequency, in kilocycles; meters in parentheses	Power (watts)	Owner
Portable				
New York: New York	W2XDW	1,544 (194.3), 2,476 (121.16)	1	Atlantic Broadcasting Corporation.
Do	W2XDX	1,544 (194.3), 2,476 (121.16)	1	Do.
Do	W2XDY	1,544 (194.3), 2,476 (121.16)	50	Do.

Visual broadcasting stations, alphabetically, by names of stations

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931]

Station	Call signal	Frequency, in kilocycles; meters in parentheses	Power (watts)	Owner
New York: New York	W2XDS	43,000 (6.98) to 46,000 (6.52), 48,500 (6.19) to 50,300 (5.96), 60,000 (5) to 80,000 (3.75).	2,000	Jenkins Television Corporation, 655 Fifth Avenue.

Experimental, relay broadcasting, and visual broadcasting stations grouped by districts, alphabetically, by call signals

Call signal	District and station	Call signal	District and station
	Second district:	W8XA	Eighth district: Suffield, Ohio (Wingfoot Lake) (portable).
W2XDS	New York, N. Y.		
W2XDW	New York, N. Y. (portable).		*Portable*
W2XDX	Do.		
W2XDY	Do.	W10XAN	United States, throughout.
W3XP	Third district: Whippany, N. J.		

ALTERATIONS AND CORRECTIONS

COMMERCIAL LAND STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, eition of June 30, 1931, and to the International List of Fixed and Land Stations, published by the Berne bureau]

ALBANY, N. Y.—Power, 18/3.
BANGOR, ME. (Godfrey Field).—Power, 12.2/1.
BEREA, OHIO (CLEVELAND MUNICIPAL AIRPORT).—Power, 18/3.
BUFFALO, N. Y., RADIO WBL.—Fy., add 6,440 (46.58).
CALAIS, ME.—Power, 7.63/.25.
CHICAGO, ILL., WJC.–Loc., changed to Addison Township, Ill.
DETOUR, MICH.—Fy., add 6,440 (46.58).
DULUTH, MINN.—Power, 18/3.
DULUTH, MINN., RADIO WRL.—Fy., add 6,440 (46.58).
INDIANAPOLIS, IND., WMDZ.—Power, 28.4/2.
KOKOMO, IND.—Power, 28/2.
LEWISBURG, PA. (NEAR).—Loc., changed to Bellefonte, Pa., 77° 42′ 06″ W., 40° 53′ 42″ N.; type, add A1, A2.
LITTLE ROCK, ARK.—Power, 18/3.
LOS ANGELES, CALIF. (ALHAMBRA AIRPORT).—Loc., changed to Burbank, Calif.; fy., strike out 5,510 (54.44), add 5,540 (54.15).
MARION, MASS., RADIO WCC.—Fy., add 4,188 (71.63).
MAZAMA (permanently moored vessel at Herendeen Village, Alaska).—Power, 25/8; service, strike out P, add PR.
MEMPHIS, TENN., WPEC.—Power, 16/.85.

OKLAHOMA CITY, OKLA., KGPH.—Power, 49/1.5.
PILLAR BAY, ALASKA RADIO.—Power, 30/4; licensee, R. M. C. A.
PORT ALEXANDER, ALASKA RADIO.—Type, A3; fy., add 2,320 (129.31), 3,178 (94.39).
PORT ARMSTRONG, ALASKA.—Type, strike out B, add A3; fy., strike out 180 (1,665), 462 (650), 500 (600), add 3,178 (94.39).
PORTLAND, OREG., KGPP.—Fy., strike out 2,452 (122.34), add 2,416 (124.17).
ROBERTSON, MO. (ST. LOUIS) KGUT.—Power, 18/3.
UGANIK, ALASKA RADIO.—Fy., add 227 (1,320).
WAYNE, MICH.—Power, 15/2.
Strike out all particulars of the following-named stations: Akutan, Alaska (Aleutian Islands); Anchorage, Alaska, radio; Atlantic City, N. J. (municipal airport); Bear Creek, Alaska; Brooksville, Pa.; Chignik, Alaska, KJB; Columbus, Ohio, WHG; George Inlet, Alaska, radio; Heceta Island, Alaska; Hunters Bay, Alaska; Indianapolis, Ind., WHM; Karheen, Alaska, radio; Kasaan, Alaska; Killisnoo, Alaska; Lake Bay, Alaska; L. McN. & L. VI No. 1 (permanently moored vessel in Kvichak River, Alaska); Loring, Alaska; Naknek, Alaska, KOM; New York, N. Y. (North Beach), WOA; Port Hobron, Alaska, radio; Prince of Wales Island, Alaska; Seattle, Wash., KPA; Shakan, Alaska; Snag Point, Alaska; Todd, Alaska; Uganik, Alaska (Port O'Brien, Kodiak Island), KVF; Texas and Louisiana, WCM (portable).

COMMERCIAL SHIP STATIONS, ALPHABETICALLY, BY NAMES OF VESSELS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Ship Stations, published by the Berne bureau]

ALABAMA, WPCT.—Hours, add N.
ANCON.—Power, 24/13.
BUCCANEER.—Fy., add 375 (800); power, 14/12.
CAMOR.—Type, strike out B, add A1, A2; fy., add 400 (750), 468 (640)
CHICKASAW.—Hours, strike out N.
CITY OF HAMBURG.—Type, strike out B; power, 25/5.
CITY OF HAVRE.—Type, strike out A arc and B; add A1, A2; fy., strike out 143 (2,100), 151 (1,985), 153 (1,960), 157 (1,910), 159 (1,885), 160 (1,875), add 400 (750), 5,525 (54.3), 5,555 (54), 6,590 (45.52), 6,605 (45.42), 8,290 (36.19), 8,450 (35.5), 11,050 (27.15), 11,110 (27), 13,240 (22.66), 16,580 (18.094), 16,660 (18.007), 22,100 (13.575), 22,220 (13.501).
CITY of HOLLAND.—Hours, add N.
COLOMBUS.—Type, A1, A2; fy., 5,525 (54.3), 5,555 (54), 8,290 (36.19), 8,330 (36.01), 8,450 (35.5), 11,050 (27.15), 11,110 (27), 11,230 (26.71), 13,240 (22.66), 16,580 (18.094), 16,660 (18.007), 16,860 (17.794); power, 14.7/1.5.
DELNORTE.—Hours, strike out X, add N.
DELSUD.—Hours, strike out X, add N.
DERBLAY.—Service, strike out P; accts., M. R. T. Co.
EDGAR F. LUCKENBACH.—Fy., strike out 454 (660).
FRIEDA.—Type, A1, A2; power, 25/5.
GUAYAQUIL.—Power, 22/14.
HARPOON.—Fy., 375 (800), 425 (705), 500 (600).
LITTLE VIKING.—Type, A1, A2; fy., 410 (730), 5,525 (54.3), 5,555 (54); power, 4.2/.75.
MARGARET LYKES.—Hours, add X.
MAYFLOWER.—Accts., Mayflower Operating Co.
NIZINA.—Accts., M. R. T. Co.
ODUNA.—Accts., M. R. T. Co.
ORIENTE.—Fy., strike out 153 (1,960), 159 (1,885), 410 (730), 454 (660); power, 28/15.
PAM SCHNEIDER.—Power, 13/6.
POTTER.—Fy., add 159 (1,885).
SAN JUAN.—Fy., strike out 160 (1,875), add 159 (1,885); hours, add X.
SAN SIMEON.—Fy., add 410 (730).
SEEANDBEE.—Hours, N (first class), X (third class).
TAPPAWINGA II.—Type, A3; fy., 2,350 (127.7); power, 8/1; service, P; hours, X.
VELERO II.—Rates, 8 cents per word; accts., G. Allan Hancock.
Strike out all particulars of the following-named stations: Abacena, Albatross WSBL, Barlow, Buddy, Colombia, Crofton Hall, Dream Girl, Edna, Elia, Evangeline WIDW, Farwest, Frank Seither, Georgene, Ida Mae, Jeannette

E., Jitney, John Kendall, Keystone, Lassen, Mary Ellen, Nelson Traveler, Nomolas, President Warfield, Salt Lake City, Seven Seas, Sinaloa WGDC, Siskiyou, Southland, Suboatco, Sucarseco, Sudurco, Suedco, Sugillenco, Sulanierco, Sunewarkco, Suphenco, Suportco, Surailco, Surico, Suspearco, Sutermco, Sutorpco, Suwarinco, Wilson.

COMMERCIAL AIRCRAFT STATIONS, ALPHABETICALLY, BY NAMES OF CRAFT

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1931, and to the International List of Aircraft Stations, published by the Berne bureau]

NC–69E.—Call changed to KHLYB; type, A3; fy., 3,004 (99.86), 3,106 (96.59), 5,375 (55.81).
NC–75K.—Fy., strike out 414 (725), 2,662 (112.7), 8,015 (37.43).
NC–142M.—Fy., strike out 414 (725), 2,662 (112.7), 8,015 (37.43)..
NC–147H.—Fy., strike out 414 (725), 2,662 (112.7), 3,106 (96.59), 8,015 (37.43), add 8,650 (34.68).
NC–191E (NAT No. 83).—Fy., add 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 5,570 (53.86), 5,660 (53).
NC–231E.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 8,650 (34.68).
NC–395E.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 8,650 (34.68).
NC–396E.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 8,650 (34.68).
NC–414E (NAT No. 72).—Fy., add 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 5,570 (53.86), 5,660 (53).
NC–417E (NAT No. 84).—Fy., add 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 5,570 (53.86), 5,660 (53).
NC–423E (NAT No. 76).—Fy., add 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 5,570 (53.86), 5,660 (53).
NC–424E (NAT No. 77).—Fy., add 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 5,570 (53.86), 5,660 (53).
NC–425E, (NAT No. 74).—Fy., add 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 5,570 (53.86), 5,660 (53).
NC–454E.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 8,650 (34.68).
NC–584K.—Fy., strike out 3,160 (94.9), 3,166 (94.75), 3,172 (94.57), 3,178 (94.39), 5,570 (53.86), 5,660 (53), add 3,070 (97.71), 3,076 (97.5), 3,082 (97.33), 3,088 (97.15), 5,510 (54.45), 5,540 (54.15); licensee, Western Air Express.
NC–659M (Habana).—Fy., strike out 375 (800), 393 (765), 414 (725), 457 (655), 3,106 (96.59), add 5,690 (52.72), 8,650 (34.68).
NC–725K.—Fy., strike out all frequencies; add 3,070 (97.71), 3,076 (97.5), 5,690 (52.72); licensee, Eastern Air Transport (Inc.).
NC–811H.—Fy., strike out 414 (725), 2,662 (112.7), 3,106 (96.59), 8,015 (37.43), add 8,650 (34.68).
NC–812H.—Fy., strike out 414 (725), 2,662 (112.7), 3,106 (96.59), 8,015 (37.43), add 8,650 (34.68).
NC–813H.—Fy., strike out 414 (725), 2,662 (112.7), 8,015 (37.43), add 8,650 (34.68).
NC–814H.—Fy., strike out 414 (725), 2,662 (112.7), 8,015 (37.43), add 8,650 (34.68).
NC–945M.—Fy., 393 (765), 414 (725), 2,662 (112.7), 12,210 (24.57).
NC–966Y.—Fy., 3,070 (97.71), 3,076 (97.5), 3,082 (97.33), 3,088 (97.15), 3,106 (96.59), 5,510 (54.44), 5,540 (54.15).
NC–985Y.—Fy., 3,070 (97.71), 3,076 (97.5), 3,082 (97.33), 3,088 (97.15), 3,106 (96.59), 5,510 (54.44), 5,540 (54.15).
NC–986Y.—Fy., 3,070 (97.71), 3,076 (97.5), 3,082 (97.33), 3,088 (97.15), 3,106 (96.59), 5,510 (54.44), 5,540 (54.15).
NC–992Y.—Fy., 3,070 (97.71), 3,076 (97.5), 3,082 (97.33), 3,088 (97.15), 3,106 (96.59), 5,510 (54.44), 5,540 (54.15).
NC–993Y.—Fy., 3,070 (97.71), 3,076 (97.5), 3,082 (97.33), 3,088 (97.15), 3,106 (96.59), 5,510 (54.44), 5,540 (54.15).
NC–994Y.—Fy., 3,070 (97.71), 3,076 (97.5), 3,082 (97.33), 3,088 (97.15), 3,106 (96.59), 5,510 (54.44), 5,540 (54.15).
NC–3314.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 8,650 (34.68).
NC–8000.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43).
NC–8020.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43).
NC–8044.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43).
NC–9107.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43).
NC–9137.—Fy., strike out 414 (725), 2,662 (112.7), 3,106 (96.59), 8,015 (37.43).

NC–9151.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43).
NC–9637.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 1,688 (177.72), 8,650 (34.68).
NC–9664.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 1,688 (177.72), 8,650 (34.68).
NC–9685.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 1,688 (177.72), 8,650 (34.68).
NC–9688.—Fy., strike out 414 (725), 2,662 (112.7), 8,015 (37.43), add 1,688 (177.72), 8,650 (34.68).
NC–9701.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43), add 8,650 (34.68).
NC–9775.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43).
NC–9776.—Fy., strike out 393 (765), 414 (725), 8,015 (37.43).
NR–41V.—Fy., strike out 414 (725), 2,662 (112.69), 3,106 (96.59), 8,015 (37.43).
Strike out all particulars of the following-named station: NC–424H (NAT 101).

GOVERNMENT LAND STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Fixed and Land Stations, published by the Berne bureau]

GROSSE ISLE, MICH. (Naval Reserve air base).—Loc., changed to Detroit, Mich. (U. S. N. R. air base).
IDITAROD, ALASKA.—Loc., changed to Flat, Alaska.
Strike out all particulars of the following-named station: Clovis, N. Mex.

STATIONS TRANSMITTING TIME SIGNALS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Stations Performing Special Services, published by the Berne bureau]

SAN FRANCISCO, CALIF.—No longer transmits at 0555 to 0600 and 1955 to 2000 G. C. T. on 42.8 (7,005), 66 (4,543), and 108 (2,776).

STATIONS TRANSMITTING WEATHER REPORTS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1931, and to the International List of Aircraft Stations, published by the Berne bureau]

WASHINGTON, D. C. (Arlington, Va.).—Fy., 16,060 (18.67)—Marine bulletin, change to 16,820 (17.7); 4,435 (67.64)—Marine bulletin, change to 4,205 (71.4); 8,870 (33.82)—Marine bulletin, change to 8,410 (35.7); 13,305 (22.54)—Aviation bulletin, change to 12,225 (24.5); 4,015 (74.72)—European broadcast, change to 8,150 (36.8).

GOVERNMENT SHIP STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Ship Stations, published by the Berne bureau]

CG–296.—Name changed to CG–943.

MARINE RADIOBEACON STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and to the International List of Stations Performing Special Services, published by the Berne bureau]

ROCK OF AGES LIGHT STATION, MICH.—New method of distance finding: Whenever both the radiobeacon and the sound fog signal are in operation at this station, the radiobeacon will transmit a long distinctive dash (3 seconds) the termination of which is coincident with the beginning of a long blast (3 seconds) of the sound signal. This long blast is followed by a 1-second silence and a 1-second blast, to indicate definitely to the observer the particular long blast which is sounded at the termination of the long dash. The number of seconds elapsing between hearing the termination of the long radio dash and the beginning of this long blast of the sound signal divided by 5 will give the approximate distance of the observer from the light station in statute miles. The distance thus derived should be correct within a limit of error of 10 per cent. During the operating minute of the radiobeacon the sound signal characteristic will be as follows: Silent 55 seconds, blast 3 seconds, silent 1 second, blast 1 second. During the two minutes between operating minutes

of the radiobeacon, the regular station characteristic of the sound fog signal will be maintained, except that the silent period will in each case precede the blast. Hearing the long dash in the radiobeacon code of the station will indicate to the mariner the presence of fog conditions at that station.

COLUMBIA RIVER LIGHTSHIP, OREG.—Hours, operates first 15 minutes of each hour during clear weather.

GRAYS HARBOR LIGHTHOUSE, WASH.—Fy., strike out 295 (1,017), add 320 (940); hours, operates continuously during thick or foggy weather and daily in clear weather for the second 15 minutes of each hour; radiobeacon and sound-in-air fog signal to be synchronized for distance-finding purposes; the diaphone will sound groups of double blast and a single blast every 60 seconds, thus: Blast 2 seconds, silent 1 second, blast 2 seconds, silent 25 seconds, blast 2 seconds, silent 28 seconds. During the operating minute of the radiobeacon a long dash will be transmitted during fog or low visibility in the vicinity of the station. The end of the long dash will be coincident with the termination of the second blast of the double blast of the sound-in-air signal. The number of seconds elapsing beeween the termination of the long radio dash and the end of the blast of the sound-in-air fog signal divided by 5 will give the approximate distance in miles from the light station. The distance thus derived may have a possible maximum error of 10 per cent. Masters of vessels equipped with a radio receiver capable of receiving at about 300 kilocycles may utilize these signals for distance-finding purposes. The distance to which this method may be used will vary with atmospheric conditions.

COMMERCIAL AND GOVERNMENT LAND, SHIP, AIRCRAFT, RADIOBEACON, AND RADIO-COMPASS STATIONS, ALPHABETICALLY BY CALL SIGNALS

KHVFU, *read* KHLYB; KSI, *read* Burbank, Calif.; NFB, *read* Detroit, Mich. (U. S. N. R. air base); NRZU, *read* CG–943; WJC, *read* Addison Township, Ill.; WNAM, *read* Bellefonte, Pa.; WXL, *read* Flat, Alaska; strike out all particulars following the call signals KCAG, KDAS, KDBQ, KDBS, KDDA, KDDI, KDDP, KDEY, KDFI, KDLD, KDLS, KDNI, KDPC, KDRP, KFC, KFKG, KFNE, KFP, KFTS, KFZ, KGG, KGIT, KGJK, KGL, KGQC, KGQL, KGRN, KHF, KHSUF, KIPT, KJB, KMC, KMW, KOM, KPA, KQI, KQU, KRI, KTQ, KUPB, KURZ, KUSB, KUY, KUZK, KVF, KVN, KWL, KZC, WBCL, WCZ, WDCW, WGDC, WGDW, WHG, WHM, WIDC, WIDW, WIDX, WIDZ, WJDA, WJDC, WJDI, WJDP, WKDN, WKDV, WLAE, WMDL, WNAL, WNCT, WOA, WODY, WQBY, WSBL.

BROADCASTING STATIONS, BY CALL SIGNALS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1931, and the International List of Broadcasting Stations, published by the Berne bureau]

KABC (San Antonio, Tex.).—Loc., 98° 26′ 24″ W., 29° 27′ 34″ N.

KDB (Santa Barbara, Calif.).—Licensee, Santa Barbara Broadcasters (Ltd.).

KGFL (Raton, N. Mex.).—Licensee, KGFL (Inc.).

KGW (Portland, Oreg.).—Loc., transmitter changed to Faloma, Oreg., (approximate) 122° 41′ 00″ W., 45° 36′ 00″ N.

KMCS (Inglewood, Calif.).—Post-office address, 519 Title Insurance Building, Los Angeles, Calif.

KMLB (Monroe, La.).—Power, 100.

KPJM (Prescott, Ariz.).—Post-office address, 138 North Cortez Street.

KSEI (Pocatello, Idaho).—Licensee, Radio Service Corporation.

KSO (Clarinda, Iowa).—Loc., 95° 01′ 32″ W., 40° 44′ 44″ N.

KTFI (Twin Falls, Idaho).—Power, 250 night, 500 day.

KZRC (Cebu, P. I.).—Fy., strike out 1,300 (230.8), add 937.5 (320).

KZRM (Manila, P. I.).—Fy., strike out 11,830 (25.36), add 11,840 (25.34).

WABC–WBOQ (New York, N. Y.).—Loc., transmitter changed to Wayne, N. J., (approximate) 74° 15′ 00″ W., 40° 48′ 00″ N.; power, 25,000 normally, 50,000 experimentally.

WAIU (Columbus, Ohio).—Licensee, Associated Radiocasting Corporation.

WCMA (Culver, Ind.).—Loc., 86° 28′ 17″ W., 41° 14′ 06″ N.; post-office address, 648 Lake Shore Drive.

WDWF–WLSI (Cranston, R. I.).—Call changed to WPRO; licensee, Cherry & Webb Broadcasting Co.

WEAI (Ithaca, N. Y.).—Power, 1,000.

WPAP–WQAO (Cliffside, N. J.).—Post-office address, 125 West Fifty-seventh Street, New York, N. Y.
WSAZ (Huntington, W. Va.).—Loc., (approximate) 82° 29′ 00″ W., 38° 22′ 00″ N.
WTEL (Wissinoming, Pa.).—Loc., transmitter, Philadelpia, Pa., (approximate) 75° 06′ 00″ W., 40° 01′ 00″ N.
WTJS (Union City, Tenn.).—Change to Jackson, Tenn.
Strike out all particulars of the following-named stations: KFIU (Juneau, Alaska); WHDI (Minneapolis, Minn).

EXPERIMENTAL STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1931]

Massachusetts: Cambridge W1XO.—Strike out all particulars.
New Jersey:
Ocean Gate W2XDO.—Fy., strike out 8,630 (34.76), add 8,560 (35.05).
Passaic W2XCD.—Fy., add 23,100 (12.99), 25,700 (11.67), 26,000 (11.54), 27,100 (11.07), 34,600 (8.67), 41,000 (7.32), 51,400 (5.83), 60,000 (5) to 400,000 (.75), 401,000 (.74) and above.
New York:
Schenectady (airport) W2XCH.—Strike out all particulars.
South Schenectady W2XAK.—Strike out all particulars.
Ohio: West Dover W8XJ.—Fy., strike out 3,160 (94.93).

Portable

United States (throughout) W10XAT.—Fy., add 3,256 (92.5), 4,795 (62.57), 6,425 (46.7), 8,650 (34.68), 12,850 (23.35), 17,300 (17.34), 23,100 (12.99), 25,700 (11.67), 26,000 (11.54), 27,100 (11.07), 34,600 (8.67), 41,000 (7.32), 51,400 (5.83), 60,000 (5) to 400,000 (.75), 401,000 (.74) and above.

Vessels

Portable (operates on board vessels) W10XK.—Strike out all particulars.
William C. Atwater W10XAX.—Name changed to James MacNaughton.

RELAY BROADCASTING STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1931]

Portable

New York: New York W2XCZ.—Fy., add 1,584 (189.39).

MISCELLANEOUS

CHANGE IN THE LIST OF VESSELS EQUIPPED WITH A RADIOCOMPASS

The vessel *Helen Whittier*, call signal KJAO, owned by the Los Angeles S. S. Co. has been so equipped.

GENERAL ORDERS OF THE FEDERAL RADIO COMMISSION

Frequency allocations, band widths and tolerances specified, General Order No. 119, September 3, 1931.—It is ordered that on or after February 1, 1932, every radio station license, or other instrument of authorization, shall be granted and issued in conformity with the frequencies, communication band widths, and tolerances hereinafter specified, provided, however, that where interference will not result thereby, instruments of authorization may be made before February 1, 1932, in conformity with the terms of this order. As the frequency allocations and other data contained in this order are rather voluminous they are not published in this pamphlet; however, particulars relative thereto may be obtained from the Federal Radio Commission.

REGULATIONS GOVERNING THE ISSUANCE OF RADIO OPERATORS' LICENSES AMENDED

Paragraph 13 of the regulations governing the issuance of radio operators' licenses, dated January 2, 1931, is hereby amended to read as follows: No applicant who fails to qualify will be reexamined within three months from the date of the previous examination. However, when an applicant for the commercial first-class license fails in the code examination he may be reexamined the same day for any other one class of license desired. Those who fail in the code examination for the broadcast-class license may be examined the same day for the broadcast limited, radiotelephone, or amateur-class license, if desired. All examination papers will be retained by the district office where the examination is taken, and a record of each examination will be forwarded to the Department of Commerce, Radio Division, Washington, D. C., for filing.

TEST PERIOD OF DIRECTION-FINDER STATIONS CHANGED

The Navy Department recently changed the test period of direction-finder stations from the first 10 minutes of each hour to the last 10 minutes of each hour during clear weather, in order to facilitate tracking problems and enable the ship being tracked to observe the Navy's intercept schedule without interference. Page 224 of the June 30, 1930, edition of the annual list of "Commercial and Government Radio Stations of the United States," should be changed accordingly.

The attention of radio operators on shipboard is also invited to the international abbreviations pertaining to direction finding contained on pages 229 and 230 of the above-named list of stations.

RADIO OPERATOR EXAMINATION GIVEN AT WASHINGTON OFFICE ONLY BY APPOINTMENT

The attention of all concerned is invited to the fact that such examinations are only given by appointment and are only held on Thursday of each week.

RADIO OPERATOR'S LICENSE SUSPENDED

License No. 5,944 issued March 21, 1931, has been suspended for a period of three months as the holder thereof violated section 27 of the radio act of 1927, in that he divulged the contents of a message to a person other than to whom the message was directed.

MEDICAL ADVICE BY SCHEVENINGEN RADIO, HOLLAND

This station now accepts requests for medical consultations free of charge (questions and replies). The requests should be addressed "Radio-Medical Scheveningen Radio." In urgent cases the urgent signal (XXX) may be used in order to assure priority over any other communication except those referring to an SOS call.

A message asking for such service should be signed by the captain and bear as its first words, the indication of the medical chest at the disposal of the ship (Dutch chest, Belgian, etc.) and if the ship is to touch at a port in a tropical country, the name of the port. Then, it is necessary to indicate the status and age of the patient, the duration of the sickness and the manner in which it began; in case of an accident, the circumstances should be described. The number of respirations and pulse beats as well as the patient's temperature, in degrees centigrade, should also be given. Lastly, it should be stated concisely and clearly what the patient complains of and the symptoms of the illness.

The radiogram may be sent in either Dutch, French, English, or German. The answer will be sent in the language used in the request message.

NEW PHILIPPINE AMATEUR STATIONS

The following-named have been permitted to operate such stations using the call signal indicated following their name: Jacinto B. Chong, KA1DD; I. Stewart Linor, KA1SL; Simeon B. Palino, KA1SP; Carlton P. Smith, KA1NF; Anderson A. Werner, KA1CO; Harry Schwartzberg, KA1SX, and Raymond W. Beckley, KA3RB.

PHILIPPINE GOVERNMENT COASTAL STATION TRAFFIC RATES

Effective since June 16, last, these stations charge a flat rate of 8 cents per word for interisland ships in addition to the ship charge, irrespective of office of origin or destination; 10 cents per word for foreign ships in addition to the ship charge, irrespective of office of origin or destination. There is no land-line charge for forwarding messages over the Philippine Government telegraph system.

BROADCASTING STATION FREQUENCY MEASUREMENTS DURING AUGUST

Considerable improvement is shown in the report of measurements during this month in that the number of stations in the class deviating under 50 cycles increased by 20 stations to 117 stations over the month of June, the best month previously reported when 97 stations entered this class. Nearly 2 out of every 5 stations measured, or 38.5% of those measured during August, kept under the 50-cycle mark.

A total of 304 stations were measured during August for an aggregate of 5,201 times.

The following table gives the figures for August of those deviating under 50, 100, and 200, and over 200 cycles:

Month	Number measured	Under 50	Under 100	Under 200	Over 200
December	339		35 (13.5%)	66 (16.5%)	238 (70%).
January	363		54 (15%)	102 (27%)	207 (58%).
February	367		99 (27%)	55 (15%)	213 (58%).
March	337	65 (19.3%)	63 (18.8%)	77 (22.8%)	132 (39.1%).
April	314	72 (22.9%)	54 (17.2%)	92 (29.3%)	96 (30.6%).
May	326	78 (23.9%)	89 (27.3%)	68 (20.9%)	91 (27.9%).
June	330	97 (29.4%)	71 (21.5%)	69 (20.9%)	93 (28.2%).
July	294	94 (32%)	70 (23.8%)	60 (20.4%)	70 (23.8%).
August	304	117 (38.5%)	64 (21%)	67 (22%)	56 (18.5%).

UNDER 50 CYCLES

Call signal	Transmitter location, studio location in parentheses
KDKA	Saxonburg, Pa. (Pittsburgh).
KFBB	Great Falls, Mont.
KFDM	Beaumont, Tex.
KFEQ	St. Joseph, Mo.
KFI	Los Angeles, Calif.
KFJI	Astoria, Oreg.
KFJR	Portland, Oreg.
KFKA	Greeley, Colo.
KFKX, KYW	Bloomingdale Township, Ill. (Chicago).
KFLV	Rockford, Ill.
KFQU	Alma-Holy City, Calif.
KFSD	San Diego, Calif.
KFVD	Culver City, Calif.
KFWB	Hollywood, Calif.
KFYR	Bismarck, N. Dak.
KGBZ	York, Nebr.
KGEF	Los Angeles, Calif.
KGFJ	Do.
KGGF	Coffeyville, Okla.
KGHI	Little Rock, Ark.
KGIZ	Grant City, Mo.
KGW	Portland, Oreg.
KHQ	Spokane, Wash.
KLX	Oakland, Calif.
KLZ	Denver, Colo.
KMBC	Independence, Mo. (Kansas City).
KMO	Tacoma, Wash.
KMOX	St. Louis, Mo.
KMPC	Beverly Hills, Calif.
KOIL	Council Bluffs, Iowa.
KPO	San Francisco, Calif.
KSAC	Manhattan, Kans.
KSTP	Radio Center, Minn. (St. Paul).
KTAR	Phoenix, Ariz.
KTRH	Houston, Tex.
KTSM	El Paso, Tex.
KVOO	Tulsa, Okla.
KXO	El Centro, Calif.
KYA	San Francisco, Calif.
WAAB	Lexington, Mass. (Boston).
WABC	New York, N. Y.
WADC	Tallmadge, Ohio (Akron).
WAWZ	Zarepath, N. J.
WBSO	Needham, Mass.
WBT	Charlotte, N. C.
WBZ, WBZA	Millis Township, Mass. (Boston).
WCAM	Camden, N. J.
WCAO	Baltimore, Md.
WCBA	Allentown, Pa.
WCBM	Baltimore, Md.
WCFL	Chicago, Ill.
WCHI	Deerfield, Ill. (Chicago).
WCRW	Chicago, Ill.
WCSH	Scarboro, Me. (Portland).
WDAF	Kansas City, Mo.
WEAF	Bellmore, N. Y. (New York City).
WEAN	Providence, R. I.
WEBC	Superior, Wis.
WEEI	Weymouth, Mass. (Boston).
WENR	Downers Grove, Ill. (Chicago).
WFAA	Grapevine, Tex. (Dallas).
WFAN, WIP	Philadelphia, Pa.
WFI	Do.
WFOX	Brooklyn, N. Y.
WGES	Chicago, Ill.
WGN	Elgin, Ill. (Chicago).
WGR	Amherst, N. Y. (Buffalo).
WGST	Atlanta, Ga.
WGY	Schenectady, N. Y.
WHAP	New York, N. Y.
WHAS	Louisville, Ky.

UNDER 50 CYCLES—Continued

Call signal	Transmitter location, studio location in parentheses
WHO	Des Moines, Iowa.
WHP	Lemoyne, Pa. (Harrisburg).
WIBW	Topeka, Kans.
WISN	Milwaukee, Wis.
WJAY	Cleveland, Ohio.
WJDX	Jackson, Miss.
WJKS	Gary, Ind.
WJR	Sylvan Lake Village, Mich. (Detroit).
WJSV	Mount Vernon Hills, Va. (Alexandria).
WJZ	Bound Brook, N. J. (New York City).
WKBF	Clermont, Ind. (Indianapolis).
WKBI	Chicago, Ill.
WKBN	Youngstown, Ohio.
WKBW	Amherst, N. Y. (Buffalo).
WKRC	Cincinnati, Ohio.
WLAP	Louisville, Ky.
WLBZ	Bangor, Me.
WLIT	Philadelphia, Pa.
WLS	Downers Grove, Ill. (Chicago).
WLW	Mason, Ohio (Cincinnati).
WMAL	Washington, D. C.
WMAQ	Addison, Ill. (Chicago).
WMT	Waterloo, Iowa.
WNBH	Fair Haven, Mass. (New Bedford).
WOAI	Selma, Tex. (San Antonio).
WOC	Davenport, Iowa.
WOI	Ames, Iowa.
WOL	Washington, D. C.
WOR	Kearny, N. J. (Newark).
WOS	Jefferson City, Mo.
WOWO	Fort Wayne, Ind.
WPAW	Pawtucket, R. I.
WPTF	Raleigh, N. C.
WQAM	Miami, Fla.
WRAX	Philadelphia, Pa.
WREC	Whitehaven, Tenn. (Memphis).
WRUF	Gainesville, Fla.
WRVA	Mechanicsville, Va. (Richmond).
WSB	Atlanta, Ga.
WSMB	New Orleans, La.
WTAG	Worcester, Mass.
WTAM	Brecksville Village, Ohio (Cleveland).
WTAR	Norfolk, Va.
WPOR	Norfolk, Va.
WTMJ	Brookfield, Wis. (Milwaukee).
WWJ	Detroit, Mich.
WWVA	Wheeling, W. Va.

UNDER 100 CYCLES

KBTM	Paragould, Ark.
KELW	Burbank, Calif.
KFAC	Los Angeles, Calif.
KFEL	Denver, Colo.
KFRC	San Francisco, Calif.
KFSG	Los Angeles, Calif.
KFXF	Denver, Colo.
KGA	Spokane, Wash.
KGAR	Tucson, Ariz.
KGB	San Diego, Calif.
KGER	Long Beach, Calif.
KGO	Oakland, Calif. (San Francisco).
KHJ	Los Angeles, Calif.
KICK	Red Oak, Iowa.
KJR	Seattle, Wash.
KMA	Shenandoah, Iowa.
KMED	Medford, Oreg.
KMJ	Fresno, Calif.
KNX	Los Angeles, Calif. (Hollywood).
KOA	Denver, Colo.
KOMO	Harbor Island, Wash. (Seattle).
KRLD	Dallas, Tex.
KRMD	Shreveport, La.
KROW	Richmond, Calif. (Oakland).
KSOO	Sioux Falls, S. Dak.
KTBS	Shreveport, La.
KTM	Santa Monica, Calif. (Los Angeles).
WAAF	Chicago, Ill.
WBAK	Harrisburg, Pa.
WBAP	Grapevine, Tex. (Fort Worth).
WBEN	Martinsville, N. Y. (Buffalo).
WCAU	Byberry, Pa. (Philadelphia).
WCKY	Crescent Springs, Ky. (Covington).
WCOD	Harrisburg, Pa.
WDBO	Orlando, Fla.
WDEL	Wilmington, Del.
WDOD	Brainerd, Tenn. (Chattanooga).
WDRC	Bloomfield, Conn. (Hartford).
WFBR	Baltimore, Md.
WGAR	Akron, Ohio.
WHAM	Rochester, N. Y.
WHB	Kansas City, Mo.
WHBL	Sheboygan, Wis.
WHDH	Gloucester, Mass. (Boston).
WIBA	Madison, Wis.
WILM	Carrcroft-Edgemoor, Del. (Wilmington).
WJAG	Norfolk, Nebr.
WJAX	Jacksonville, Fla.
WJBO	New Orleans, La.
WJBW	Do.
WJJD	Mooseheart, Ill.
WJTL	Oglethorpe University, Ga.
WLEY	Lexington, Mass.
WMBI	Addison, Ill. (Chicago).
WMCA	Hoboken, N. J. (New York City).
WNAX	Yankton, S. Dak.
WOW	Omaha, Nebr.
WRC	Washington, D. C.
WRHM	Fridley, Minn. (Minneapolis).
WSBC	Chicago, Ill.
WSM	Nashville, Tenn.
WTAD	Quincy, Ill.
WTIC	Mount Avon, Conn. (Hartford).
WWAE	Hammond, Ind.

UNDER 200 CYCLES

KDYL	Salt Lake City, Utah.
KECA	Los Angeles, Calif.
KEX	Portland, Oreg.
KFAB	Lincoln, Nebr.
KFBK	Sacramento, Calif.
KFH	Wichita, Kans.
KFNF	Shenandoah, Iowa.
KFOR	Lincoln, Nebr.
KFOX	Long Beach, Calif.
KFPY	Spokane, Wash.
KFXM	San Bernardino, Calif.
KGDM	Stockton, Calif.
KGGC	San Francisco, Calif.
KJBS	Do.
KLS	Oakland, Calif.
KMCS	Inglewood, Calif.
KMMJ	Clay Center, Nebr.
KOAC	Corvallis, Oreg.
KOH	Reno, Nev.
KOIN	Portland, Oreg.
KOL	Seattle, Wash.
KPCB	Do.
KPRC	Houston, Tex.
KREG	Santa Ana, Calif.
KRSC	Seattle, Wash.
KSCJ	Sioux City, Iowa.
KSEI	Pocatello, Idaho.
KSL	Salt Lake City, Utah.
KSO	Clarinda, Iowa.
KTAB	Oakland, Calif. (San Francisco).
KTAT	Birdville, Tex. (Fort Worth).
KTBR	Portland, Oreg.
KTHS	Hot Springs, Ark.
KWK	Kirkwood, Mo. (St. Louis).

UNDER 200 CYCLES—Continued

Call signal	Transmitter location, studio location in parentheses	Call signal	Transmitter location, studio location in parentheses
KWKH	Kennonwood, La. (Shreveport).	WKJC	Lancaster, Pa.
WABZ	New Orleans, La.	WKY	Oklahoma City, Okla.
WACO	Waco, Tex.	WLAC	Nashville, Tenn.
WAIU	Columbus, Ohio.	WLOE	Chelsea, Mass. (Boston).
WAPI	Birmingham, Ala.	WMBD	Peoria Heights, Ill.
WBBM	Glenview, Ill. (Chicago).	WMC	Bartlett, Tenn. (Memphis).
WBBR	Rossville, N. Y. (Brooklyn).	WNAC	Quincy, Mass. (Boston).
WCCO	Anoka, Minn. (Minneapolis).	WOV	Secaucus, N. J. (New York City).
WDAY	Fargo, N. Dak.	WPCH	Hoboken, N. J. (New York City).
WDBJ	Roanoke, Va.	WPEN	Philadelphia, Pa.
WDSU	Gretna, La. (New Orleans).	WPG	Atlantic City, N. J.
WEXL	Royal Oak, Mich.	WREN	Lawrence, Kans.
WFBM	Indianapolis, Ind.	WRNY	Coytesville, N. J. (New York City).
WGBF	Evansville, Ind.	WSAR	Fall River, Mass.
WGBI	Scranton, Pa.	WWL	New Orleans, La.
WGCM	Mississippi City, Miss. (Gulfport).	WXYZ	Detroit, Mich.
WIBO	Des Plaines, Ill. (Chicago).		

SECOND MEETING OF THE INTERNATIONAL TECHNICAL CONSULTING COMMITTEE ON RADIO COMMUNICATIONS

On July 3, 1931, Senator Wallace H. White, jr., of Maine, filed with the Department of State his report as chairman of the delegation of the United States to the meeting of the International Technical Consulting Committee on Radio Communications (C. C. I. R.) which was held in Copenhagen from May 27 to June 8, 1931.

The agenda of the conference contained 25 questions, in addition to certain matters of organization. The first 21 of these questions are listed in Bulletin No. 170, May, 1931, page 19. The last four, together with the names of the administrations proposing them, are:

22. Assignment of a call signal to each frequency used in the fixed service. (Great Britain.)
23. Classification of the telephone system which insures the connection of a train in motion with the wire telephone network. (Canada.)
24. Study of the setting up and of the publication in principal languages of a list of symbols with a description referring exclusively to the wireless telephone and telegraph technique. (Dutch Indies.)
25. Study of the setting up and of the publication in the principal languages of a technical radio vocabulary. (Dutch Indies.)

The results of the committee's work are embodied in 21 opinions and 14 new questions proposed for study by the next meeting of the committee. Most of the opinions relate to engineering aspects of the communication phase of radio. Four of the opinions adopted and two of the questions proposed by the Copenhagen meeting are of general interest as relating to the organization of the committee or to its operation. They are:

Opinion No. 30.[1]*—Time limit fixed for sending proposals for the meetings of the C. C. I. R.*

The C. C. I. R. recognizing the necessity of establishing definite time limits for the forwarding of proposals to be discussed in its meetings, expresses the opinion that no question may be included in the program of a meeting of the C. C. I. R. unless it has been forwarded to the organizing administration at least three months before the date of the meeting.

Opinion No. 31.—Forwarding of proposals concerning questions not solved and new questions

The C. C. I. R. considering—
1. That the next meeting of the C. C. I. R. will take place after the Madrid Conference, and
2. That all questions proposed should be submitted to the Madrid Conference—
expresses the opinion that the questions recorded at the closing of this meeting, in the list of questions to be solved, should be handled as soon as possible by the centralizing administrations with the collaboration of the interested administrations and private enterprises. All the proposals which are ready before May 1, 1932, and all new questions which it is possible to propose before that date, will be forwarded to the International Bureau to be communicated to all the interested administrations and private enterprises.

[1] At its first meeting (The Hague, 1919) the committee adopted 29 opinions. The second meeting decided that the opinions should be numbered consecutively. The first opinion adopted at Copenhagen is therefore numbered 30.

Opinion No. 32.—Normal procedure for forwarding reports on questions to be studied

The C. C. I. R., recognizing that it would be useful to provide rules for the exact determination as to whom reports must be sent concerning questions to be studied, expresses the opinion that when the study of a question has been entrusted to a centralizing administration, it is to this administration that all administrations and organizations must directly send a copy of their report on this question, five months before the date of the meeting of the C. C. I. R., in order that the said administration may take them into account in its report and in its proposals. The administrations and organizations are free, of course, to send also a copy of their report to the International Bureau, if they wish these reports to be communicated immediately and separately to all interested administrations and companies.

Opinion No. 33.—Proposals of the C. C. I. R. for the international radiotelegraph conference of Madrid

The C. C. I. R., not being able to reach an agreement as to whether it may itself present drafts of modifications to the International Radiotelegraph Regulations on the basis of opinions it has expressed, suggests that the opinions expressed in the present meeting of the C. C. I. R. should be brought, before July 1, 1931, to the knowledge of all administrations and companies by the International Bureau. The said bureau is requested to include the opinions issued by the two sessions of the C. C. I. R. (The Hague, 1929, and Copenhagen, 1931), as an appendix in the Book of Proposals for the World Conference of Madrid.

Question 1.—Organization regulations for the C. C. I. R.

The C. C. I. R. expresses the opinion that it is necessary to make a study of its organization regulations with a view to improving and completing them, and that the Italian administration as centralizing administration, will be kind enough to send, on or before May 1, 1932, its report to the International Bureau, to be forwarded to all interested administrations and companies.

Collaborating Administrations: Germany, United States of America, France, Great Britain, Japan, Portugal, Czechoslovakia, and the Union of Soviet Socialist Republics.

Question 2.—Admission of representatives of international organizations in the work of the C. C. I. R.

The C. C. I. R. not having reached an agreement on the question as to whether or not representatives of international organizations should be allowed in the future to take part in its meetings (art. 2, pars. 1 and 2, and art. 6, par. 5 of the Internal Regulations of the Copenhagen meeting, 1931), suggests that the participation of said organizations in its work—a participation which is not provided for in article 33 of the General Regulations of Washington—be considered by the administrations before the Madrid conference, to be the subject of discussions at the said conference.

Centralizing administration: Italy.

Collaborating administrations: Germany, United States of America, France, Great Britain, Netherlands, Czechoslovakia, and the Union of Soviet Socialist Republics.

The other opinions bear the following titles:

34. Organization of a commercial radiotelephone service between mobile stations and the land network.
35. Coordination of radiotelephony between fixed stations with telephone over the land network.
36. Extension of a radiotelephone connection in case of unfavorable radio conditions.
37. Frequency list.
38. Precision in the indication of frequencies and of wave lengths.
39. Assignment of a separate call signal to each frequency used in the fixed service.
40. Definition of the power of a transmitter.
41. Tolerances.
42. Definition of terms relating to frequency. Measurement methods of comparison of frequency standards.
43. Degree of precision of radiofrequency meters and frequency indicators.
44. Reduction of interference in the shared bands, for frequencies above 6,000 kc.
45. Technical methods of stabilization.
46. Reduction of nonessential emissions.
47. Reduction of the frequency bank of a transmitter.
48. Suppression of harmonics and permissible tolerance for their intensity.
49. Tolerance of overmodulation of radiotelephone transmitters.
50. Suppression of negative currents in arc transmitters.

The other questions bear the following titles:

3. Study of economic and technical means enabling a mobile station to operate with more accuracy on the frequency of any land station with which it wishes to correspond.
4. Allocation of frequency bands.
5. The fixing of permissible tolerances for the intensity of harmonics. Study of harmonics of various stations and their action on receivers of various services.
6. Reduction of parasitic currents in receivers.
7. Selectivity and stability of receiving apparatus.
8. Reduction of interference in the shared bands.
9. Modulated telegraph emissions.
10. Key clicks.
11. Study of technical considerations necessary for the establishment of a suitable system of standard frequency transmissions for the checking of wave meters.
12. Studies relating to the measurement of noises and voice levels.
13. Radiotelephony between small vessels and land stations.
14. Radiotelephony with moving trains.

The next meeting of the committee will be held in Portugal. No time was set for the meeting, but, under article 33 of the general regulations annexed to the international radio convention of 1927, in principle the meetings of the committee are to be held at 2-year intervals.

List of Canadian Broadcasting Stations (Sept. 22, 1931)

PRIVATE COMMERCIAL BROADCASTING STATIONS

Call signal	Name of owner and address of main studio	Location of transmitter	Frequency (kilocycles)	Power antenna input (watts)
CFAC	Calgary Herald, Herald Building, Calgary, Alberta.	Calgary, Alberta	690	500
CFBO	C. A. Munro (Ltd.), Canterbury Street, St. John, New Brunswick.	St. John, New Brunswick	890	500
CFCA	Star Publishing & Printing Co. (Ltd.), Corner Yonge Street and St. Clair Avenue, Toronto, Ontario.	Toronto, Ontario	840	500
CFCF	Canadian Marconi Co., Mount Royal Hotel, Montreal, Quebec.	Montreal, Quebec	1,030	500
CFCH	Northern Supplies (Ltd.), Capital Theater, Main Street East, North Bay, Ontario.	North Bay, Ontario	930	100
CFCN	W. W. Grant & H. G. Love, Calgary, Alberta	Strathmore, Alberta (near)	985	10,000
CFCO	John Beardall, William Pitt Hotel, Chatham, Ontario.	Chatham, Ontario	1,210	100
CFCT	Victoria Broadcasting Association, 1405 Douglas Street, Victoria, British Columbia.	Victoria, British Columbia	630	50
CFCY	Island Radio Broadcasting Co. (Ltd.), 143 Great George Street, Charlottetown, Prince Edward Island.	Charlottetown, Prince Edward Island.	580	500
CFJC	D. S. Dalgleish & Sons (Ltd.), Connaught Road, Kamloops, British Columbia.	Kamloops, British Columbia.	1,120	100
CFLC	Radio Association of Prescott, Victoria Hall, Prescott, Ontario.	Prescott, Ontario	930	50
CFNB	James S. Neill & Sons (Ltd.), Queen Street, Fredericton, New Brunswick.	Fredericton, New Brunswick.	1,210	50
CFQC	Electric Shop (Ltd.), Saskatoon, Saskatchewan.	Saskatoon, Saskatchewan.	910	500
CFRB	Rogers Majestic Corporation (Ltd.), Toronto, Ontario.	Township of King, Ontario.	960	4,000
CFRC	Queen's University, Fleming Hall, Kingston, Ontario.	Kingston, Ontario	930	(1)
CHCK	W. E. Burke & J. A. Gesner, 36 Upper Hillsboro Street, Charlottetown, Prince Edward Island.	Charlottetown, Prince Edward Island.	960	100
CHCS	Hamilton Spectator, Hamilton, Ontario	Fruitland, Ontario (near)	1,010	(2)
CHGS	R. T. Holman (Ltd.), Holman Building, Summerside, Prince Edward Island.	Summerside, Prince Edward Island.	1,120	100
CHLS	W. G. Hassell, Vancouver, British Columbia	Vancouver, British Columbia.	730	50
CHMA	Christian & Missionary Alliance, One hundred and forty-sixth Street and Ninety-ninth Avenue, Edmonton, Alberta.	Edmonton, Alberta	580	250
CHML	Maple Leaf Radio Co. (Ltd.), Thirteenth Street, Mount Hamilton, Ontario.	Mount Hamilton, Ontario	880	50
CHNS	Maritime Broadcasting Co., Lord Nelson Hotel, Halifax, Nova Scotia.	Halifax, Nova Scotia	3 930	500
CHRC	C. H. R. C. (Ltd.), Victoria Hotel, Quebec, Quebec.	Quebec, Quebec	645	100
CHWC	R. H. Williams & Sons (Ltd.), Regina, Saskatchewan.	Pilot Butte, Saskatchewan (near).	960	500
CHWK	Chilliwack Broadcasting Co. (Ltd.), Wellington Avenue, Chilliwack, British Columbia.	Chilliwack, British Columbia.	665	100
CHYC	Northern Electric Co. (Ltd.), Montreal, Quebec.	St. Hyacinthe, Quebec (near).	730	5,000
CJBC	Jarvis St. Baptist Church, Toronto, Ontario.	Bowmanville, Ontario	690	5,000
CJBR	Saskatchewan Cooperative Wheat Producers (Ltd.), Regina, Saskatchewan.	Regina, Saskatchewan	960	500
CJCA	Edmonton Journal, Edmonton, Alberta	Oliver, Alberta	930	500
CJCB	N. Nathanson, 318 Charlotte Street, Sydney, Nova Scotia.	Sydney, Nova Scotia	880	50
CJCJ	Albertan Publishing Co. (Ltd.), Calgary, Alberta.	Calgary, Alberta	690	500
CJGC	London Free Press & Printing Co. (Ltd.), London, Ontario.	Strathburn, Ontario (near)	910	500
CJGX	Winnipeg Grain Exchange, 188 Grain Exchange, Winnipeg, Manitoba.	Yorkton, Saskatchewan	630	500
CJOC	H. R. Carson, Marquis Hotel, Lethbridge, Alberta.	Lethbridge, Alberta	1,120	100
CJOR	G. C. Chandler, 804 Hornby Street, Vancouver, British Columbia.	Sea Island, British Columbia.	1,210	500
CJRM	James Richardson & Sons (Ltd.), Moose Jaw, Saskatchewan.	Old City, Moose Jaw, Saskatchewan.	665	500
CJRW	James Richardson & Sons (Ltd.), Royal Alexandra Hotel, Winnipeg, Manitoba.	Fleming, Saskatchewan	665	500

[1] 250 day, 50 night.
[2] 1,000 day, 500 night.
[3] Licensed for 930 kilocycles, using 910 kilocycles temporarily.

List of Canadian Broadcasting Stations (Sept. 22, 1931)—Continued

PRIVATE COMMERCIAL BROADCASTING STATIONS—Continued

Call signal	Name of owner and address of main studio	Location of transmitter	Frequency (kilocycles)	Power antenna input (watts)
CKAC	LaPresse Publishing Co. (Ltd.), Montreal, Quebec.	St. Hyacinthe, Quebec (near).	730	5,000
CKCD	Vancouver Daily Province, Vancouver, British Columbia.	Vancouver, British Columbia.	730	50
CKCI	"LeSoleil" (Ltd.), Quebec, Quebec	Quebec, Quebec	645	100
CKCK	Leader Publishing Co. (Ltd.), 1853 Hamilton Street, Regina, Saskatchewan.	Regina, Saskatchewan	960	500
CKCL [4]	Dominion Battery Co. (Ltd.), 20 Trinity Street, Toronto, Ontario.	Toronto, Ontario	580	500
CKCO	Dr. G. M. Geldert, 282 Somerset Street west, Ottawa, Ontario.	Ottawa, Ontario	890	100
CKCR	William C. Mitchell & Gilbert Liddle, Wehkel Block, King Street, Waterloo, Ontario.	Waterloo, Ontario	645	50
CKCV	Vandry (Inc.), 155 St. Paul St., Quebec, Quebec	Quebec, Quebec	880	50
CKFC	United Church of Canada, Twelfth Ave. and Hemlock St., Vancouver, British Columbia.	Vancouver, British Columbia.	730	50
CKGW	Gooderham & Worts (Ltd.), King Edward Hotel, Toronto, Ontario.	Bowmanville, Ontario	690	5,000
CKIC	Acadia University, Wolfville, Nova Scotia	Wolfville, Novia Scotia	1,010	50
CKLC	Alberta Pacific Grain Co., Calgary, Alberta	Red Deer, Alberta	840	1,000
CKMC	R. L. MacAdam, Cobalt, Ontario	Cobalt, Ontario	1,210	100
CKMO	Sprott-Shaw Radio Co., room 1604, Bekins Building, Vancouver, British Columbia.	Vancouver, British Columbia.	730	100
CKNC	Canadian National Carbon Co., Hillcrest Park, Toronto, Ontario.	Toronto, Ontario	580	500
CKOC	Wentworth Radio Broadcasting Co. (Ltd.), Hamilton, Ontario.	Fruitland, Ontario (near)	1,010	[5]
CKOV	J. W. B. Browne, Bernard Avenue and Pendozi Street, Kelowna, British Columbia.	Kelowna, British Columbia	1,200	100
CKPC	Cyrus Dolph, 268 Guelph Street, Preston, Ontario.	Preston, Ontario	1,210	50
CKPR	Dougall Motor Car Co. (Ltd.), Fort William, Ontario.	Port Arthur, Ontario	890	50
CKUA	University of Alberta, Edmonton, Alberta	Edmonton, Alberta	580	500
CKWX	A. Holstead & William Hanlon, 1220 Seymour Street, Vancouver, British Columbia.	Vancouver, British Columbia.	730	100
CKX	Manitoba Telephone System, Brandon, Manitoba.	Brandon, Manitoba	540	500
CKY	Manitoba Telephone System, Winnipeg, Manitoba.	Winnipeg, Manitoba	780	5,000
CNRA	Canadian National Railways, Moncton, New Brunswick.	Moncton, New Brunswick.	630	500
CNRD	Canadian National Railways, Red Deer, Alberta.	Red Deer, Alberta	840	1,000
CNRH	Canadian National Railways, Halifax, Nova Scotia.	Halifax, Nova Scotia	[3] 930	500
CNRL	Canadian National Railways, London, Ontario	Strathburn, Ontario (near)	910	500
CNRM	Canadian National Railways, Montreal, Quebec.	St. Hyacinthe, Quebec (near).	730	5,000
CNRO	Canadian National Railways, Chateau Laurier, Ottawa, Ontario.	Ottawa, Ontario	600	500
CNRQ	Canadian National Railways, Quebec, Quebec	Quebec, Quebec	880	50
CNRR	Canadian National Railways, Regina, Saskatchewan.	Regina, Saskatchewan	960	500
CNRS	Canadian National Railways, Saskatoon, Saskatchewan.	Saskatoon, Saskatchewan	910	500
CNRT	Canadian National Railways, Toronto, Ontario	Toronto, Ontario	840	500
CNRV	Canadian National Railways, Vancouver, British Columbia.	Lulu Island, British Columbia.	1,030	500
CNRW	Canadian National Railways, Winnipeg, Manitoba.	Winnipeg, Manitoba	780	5,000
CNRX	Canadian Nationsl Railways, Toronto, Ontario	Township of King, Ontario.	960	4,000
CPRY	Canadian Pacific Railway Co., Toronto, Ontario	Bowmanville, Ontario	690	5,000

[3] Licensed for 930 kilocycles, using 910 kilocycles temporarily.
[4] Call signal CFCL is used by this station during Sunday broadcasts only.
[5] 1,000 day, 500 night.

List of Canadian Broadcasting Stations (Sept. 22, 1931)—Continued

AMATEUR BROADCASTING STATIONS

Call signal	Name of owner and address of main studio	Location of transmitter	Frequency (kilocycles)	Power antenna input (watts)
10AK	Classic Radio Club, 151 Ontario Street, Stratford, Ontario.	Stratford, Ontario	1,200	10
10BU	Canora Radio Association, Railway Avenue east, Canora, Saskatchewan.	Canora, Saskatchewan	1,200	15
10BP	Wingham Radio Club, Brunswick Hotel Building, Wingham, Ontario.	Wingham, Ontario	1,200	15
10BI	Prince Albert Radio Club, Orpheum Theater Building, Prince Albert, Saskatchewan.	Prince Albert, Saskatchewan.	1,200	25
10BQ	Telephone City Radio Association, 12 Terrace Hill, Brantford, Ontario.	Brantford, Ontario	1,200	5
10AB	Moose Jaw Radio Association, Grant Hall Hotel, Moose Jaw, Saskatchewan.	Moose Jaw, Saskatchewan.	1,425	25

SHORT WAVE EXPERIMENTAL BROADCASTING STATIONS

Call signal	Name and address of owner	Location	Frequency (kilocycles)
VE9AK	Alberta Pacific Grain Co., Calgary, Alberta	Red Deer, Alberta	2,830
VE9CF	William C. Borrett for CHNS, Halifax, Nova Scotia.	Halifax, Nova Scotia	6,050
VE9CS	United Church of Canada, Vancouver, British Columbia.	Vancouver, British Columbia.	6,070
VE9CG	Calgary Herald (Ltd.), Calgary, Alberta	Calgary, Alberta	6,110
VE9BJ	C. A. Munro (Ltd.), St. John, New Brunswick	St. John, New Brunswick	6,090
VE9CL	James Richardson & Sons (Ltd.), Winnipeg, Manitoba.	Middlechurch, Manitoba	6,150
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U. S. GOVERNMENT PRINTING OFFICE: 1931

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